

## 敬愛的諸位先進前輩：

我們大伙兒，在經營切削工具這一行業，備嘗艱辛萬難，業已有30有9載，我們願意繼續努力，用心的經營下去。

我們大伙兒，在此恭候著您，願意傾聽您的吩咐及指教，當作我們無價之寶，我們誠懇願意虛心的自我探討及改善，而致零缺點，無瑕疵，專業、品質、精度、信譽，是我們一直追求的信念及執著，敬請您的支持與鞭策。

閣下之選擇，是匯聚、匯穎莫大之鼓舞及榮幸。 謝謝！

我們大伙兒懇望您的牽成  
台北匯聚貿易股份有限公司  
匯穎國際貿易（上海）有限公司  
員工一齊向您鞠躬

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超無敵鍍膜刀具切削條件參考表  
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## 5 高鈷鋼刀具系列 HSS End Mills : **NS** TOOL **EIKO** **G**

|                  |   |  |         |
|------------------|---|--|---------|
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| <b>PES-2、3、4</b> |    | 二刃、三刃&四刃型、50度螺旋角、強力短刃銑刀<br>50° · 2、3&4 Flute Power Short End Mills   | 97      |
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| <b>LS-4</b>      |  | 四刃型、45度螺旋角、超長柄銑刀<br>45° · 4 Flute Extra Long Reach End Mills         | 100     |
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| 高鈷鋼刀具切削條件參考表<br>Recommended Cutting Condition for HSS End Mills |   |  | 124~129 |

## 6 夾具、巡邊器、量具等系列 Chuck · Magic Center Bar · Pre-setter :

|                 |   |   |     |
|-----------------|---|---|-----|
| <b>NT CHUCK</b> |  | NT強力銑刀夾頭、配件及套筒<br>NT Endmill Chuck Sets & Spare Parts | 130 |
| <b>MCB</b>      |  | 巡邊器<br>Magic Center Bars                              | 131 |
| <b>MCZ</b>      | Z軸工具長度測定計<br>Z-Block Pre-setters  |   | 132 |

## 7 沈頭銑刀、鑽頭系列 Counter Bores Series :

|  |   |  |         |
|--|---|--|---------|
| <b>RC</b>  |    | 球面銑刀<br>R Cutters for Sprue Bushes         | 133頁    |
| <b>CCB</b>   |    | 鎢鋼沈頭銑刀<br>Carbide Tipped Counterbore       | 133     |
| <b>CB</b>  |    | 直柄沈頭銑刀<br>Counterbore with Straight Shank  | 134、136 |
| <b>CBT</b>   |    | 斜柄沈頭銑刀<br>Counterbore with Taper Shank     | 134、136 |
| <b>CB-JM</b>   |    | 直柄沈頭銑刀<br>Counterbore with JIS             | 135     |
| <b>CB-TSM</b>  |    | 斜柄沈頭銑刀<br>Counterbore with TSM             | 135     |
| <b>CBLS</b>  |    | 長柄沈頭銑刀<br>Long Shank Counterbore           | 137     |
| <b>CBO、OCB</b>   |   | 押梢沈頭銑刀<br>Push Pin Counterbore             | 137、138 |
| <b>SCB、CBS</b>   |  | 皿頭沈頭銑刀<br>Screw Countersink                | 138、140 |
| <b>DCBR、DCB</b>  |  | 直柄沈頭鑽頭<br>Counterbore with Drill           | 139、140 |
| <b>DCBS</b>  |  | 皿頭沈頭鑽頭<br>Screw Countersink with Drill     | 139、142 |
| <b>DCBTA</b>   |  | 直柄沈頭鑽頭<br>TAS Counterbore with Drill       | 141     |
| <b>DCBSTA</b>  |  | 皿頭沈頭鑽頭<br>TAS Screw Countersink with Drill | 141     |
| 沈頭銑刀、鑽頭系列切削條件參考表<br>Recommended Cutting Condition for Counter Bores Series |   |  | 161~165 |

## 8 溝槽刀具系列 Cutters :

|             |   |   |         |
|-------------|---|---|---------|
| <b>ACST</b> |  | 強力型長柄鳩尾槽銑刀<br>Long Shank Strong Angular Cutters with Straight Shank | 142     |
| <b>SACS</b> |  | 鎢鋼刀鳩尾槽銑刀<br>Carbide Tipped Angular Cutters with Straight Shank      | 143     |
| <b>ACS</b>  |  | 鳩尾槽銑刀<br>Angular Cutters with Straight Shank                        | 144~145 |
























|  |  |  |         |
|--|--|--|---------|
| <b>ACSW</b>  |   | <b>W型鳩尾槽銑刀</b><br>W Angular Cutters with Straight Shank                | 146 頁   |
| <b>VEX-S</b>   |   | <b>外圓槽銑刀</b><br>Convex Milling Cutters with Straight Shank             | 147~148 |
| <b>STC</b>   |   | <b>鎢鋼刀千鳥刀T型槽銑刀</b><br>Carbide Tipped Staggered T-Slot Cutters          | 149~150 |
| <b>CSKCP</b>   |   | <b>全鎢鋼直柄T型槽銑刀</b><br>Solid Carbide Straight Shank T-Slot Cutters       | 151~152 |
| <b>FCKCT</b>   |   | <b>全鎢鋼直柄T型槽銑刀、千鳥刀型</b><br>Solid Carbide T-Slot Cutters                 | 153~154 |
| <b>FCKC</b>  |   | <b>全鎢鋼直柄T型槽銑刀、30度螺旋刀型</b><br>30° · Solid Carbide Spiral T-Slot Cutters | 153~154 |
| <b>TC</b>  |   | <b>直柄千鳥刀T型槽銑刀</b><br>Staggered Tooth T-Slot Cutters                    | 155     |
| <b>KC</b>  |   | <b>直柄鍵槽銑刀</b><br>Keyseat Cutters                                       | 156~159 |
| <b>KCLS</b>  |  | <b>長柄鍵槽銑刀</b><br>Long Shank Keyseat Cutters                            | 160     |
| <b>溝槽刀具系列切削條件參考表</b><br>Recommended Cutting Condition for Cutters Series |  |  | 161~167 |

**9 斜面倒角刀系列 Countersinks :**  

|              |   |  |     |
|--------------|---|--|-----|
| <b>CDI</b>   |  | <b>HTD軟質斜面銑刀</b><br>Conical Drills CD I              | 168 |
| <b>CDII</b>  |  | <b>HTD硬質斜面銑刀</b><br>Conical Drills CD II             | 169 |
| <b>CDIII</b> |  | <b>HTD三刃型硬質斜面銑刀</b><br>3 Flute Conical Drills CD III | 170 |
| <b>CF</b>    |  | <b>中心倒角刀</b><br>Countersinks with Straight Shank     | 171 |

**10 絞刀刀具系列 Reamers :**   

|            |   |  |     |
|------------|---|--|-----|
| <b>PGR</b> |  | <b>先端圓球R灌嘴絞刀</b><br>Reamers for Pin Gate | 172 |
| <b>SPR</b> |  | <b>灌嘴絞刀</b><br>Sprue Reamers             | 173 |

|                |   |  |          |
|----------------|---|--|----------|
| <b>COR</b>     |    | 全鈳鋼直刀機械絞刀<br>Solid Carbide Straight Reamers  | 174~175頁 |
| <b>CSPSCR</b>  |    | 全鈳鋼直柄機械絞刀<br>Solid Carbide Spiral Chucking Reamers   | 176~178  |
| <b>CSPSCR</b>  |    | 先端刀全鈳鋼直柄機械絞刀<br>Carbide Tipped Spiral Chucking Reamers   | 179~180  |
| <b>FHR</b>     |    | 先端無銑刀刀全鈳鋼高螺旋角直柄拉式絞刀<br>Solid Carbide Straight Shank Spiral Reamers without End Mills Function on Tip | 181      |
| <b>FEHR</b>    |    | 先端銑刀刀全鈳鋼高螺旋角直柄拉式絞刀<br>Solid Carbide Straight Shank Spiral Reamers with End Mills Function on Tip     | 181      |
| <b>TD</b>      |    | 折斷絲攻取出用全鈳鋼鑽頭<br>Tap Remover  | 181      |
| <b>HLX</b>     |    | 直柄拉式絞刀<br>Helix Reamers  | 182~185  |
| <b>HLXT</b>    |    | 斜柄拉式絞刀<br>Helix Reamers with MT Shank  | 186      |
| <b>MTR</b>     |   | 手動式莫耳斯推拔絞刀<br>Morse Taper Reamers (Hand)   | 187      |
| <b>MTRT</b>    |  | 機械式莫耳斯推拔絞刀<br>Morse Taper Reamers (Machine)  | 187      |
| <b>HR</b>      |  | 小徑手絞刀<br>Hand Reamers  | 187      |
| <b>HR</b>      |  | 百分位、拾分位、整數位、直刀手絞刀<br>Hand Reamers  | 188~195  |
| <b>SPHR</b>    |  | 螺旋刀手絞刀<br>Spiral Hand Reamers  | 188~195  |
| <b>LHR</b>     |  | 長刀手絞刀<br>Long Hand Reamers   | 196      |
| <b>TPR</b>     |  | 1/48 推拔、直刀推拔刀絞刀<br>1/48 Taper · Straight Taper Pin Reamers   | 197      |
| <b>SPTPR</b>   |  | 1/48 推拔、螺旋刀推拔刀絞刀<br>1/48 Taper · Spiral Taper Pin Reamers  | 197      |
| <b>HTPR</b>    |  | 1/48 推拔、強螺旋角推拔刀絞刀<br>1/48 Taper · Helical Taper Pin Reamers  | 198      |
| <b>TPR</b>     |  | 1/50 推拔、直刀推拔刀絞刀<br>1/50 Taper · Straight Taper Pin Reamers   | 198      |
| <b>SPTPR</b>   |  | 1/50 推拔、螺旋刀推拔刀絞刀<br>1/50 Taper · Spiral Taper Pin Reamers  | 198      |
| <b>CSSPSCR</b> |  | 全鈳鋼直柄機械絞刀<br>Solid Carbide Chucking Reamers  | 199      |
| <b>CSCR</b>    |  | 鈳鋼刀超硬直刀機械絞刀<br>Carbide Tipped Straight Chucking Reamers  | 199      |
| <b>SCR</b>     |  | 全鈳鋼直柄機械絞刀<br>Solid Carbide Spiral Chucking Reamers   | 200~201  |

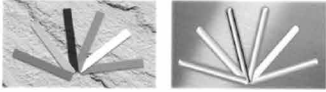
|  |   |   |           |
|--|---|---|-----------|
| <b>SPSCR</b>   |  | 直柄螺旋刃機械絞刀<br>Straight Shank Spiral Chucking Reamers         | 202~203 頁 |
| <b>MCR</b>   |  | 直柄短刃螺旋刃機械絞刀<br>Straight Shank Short Spiral Chucking Reamers | 204~205   |
| <b>SPTCR</b>   |  | 短刃螺旋刃斜柄機械絞刀<br>Taper Shank Spiral Chucking Reamers          | 206       |
| <b>MR</b>  |  | 直刃斜柄機械絞刀<br>Straight Flute Machine Reamers                  | 207~208   |
| <b>SPMR</b>  |  | 螺旋刃斜柄機械絞刀<br>Spiral Machine Reamers                         | 207~208   |
| <b>SPLMR</b>   |  | 長刃螺旋刃斜柄機械絞刀<br>Spiral Long Machine Reamers                  | 209       |
| 絞刀刀具系列切削條件參考表<br>Recommended Cutting Condition for Reamers |   |   | 210~212   |

## 11 鑽頭刀具系列 Drills :

|                |   |   |         |
|----------------|---|---|---------|
| <b>TR-P</b>    |    | 折斷絲攻取出用鎢鋼鑽頭<br>Tap Remover Plus Regular Size  | 213~214 |
| <b>TRL-P</b>   |   | 折斷絲攻取出用鎢鋼長刃鑽頭<br>Tap Remover Plus Long Size   | 213~214 |
| <b>MGD</b>     |  | 全鎢鋼鑽頭百分位規格<br>Carbide Stub Length Drills (1/100 Size)   | 215~216 |
| <b>MGD(LH)</b> |  | 全鎢鋼左螺旋刃鑽頭<br>Carbide Stub Length Drills with Left Hand  | 217     |
| <b>SSD</b>     |  | 直柄標準刃鑽頭 (mm規格)<br>HSS Straight Shank Regular Length Twist Drills (Metric Size)                        | 218     |
| <b>SSD</b>     |  | 直柄標準刃鑽頭 (吋規格)<br>HSS Straight Shank Regular Length Twist Drills (Inch Size)                           | 219     |
| <b>TSD</b>     |  | 斜柄標準刃鑽頭<br>HSS Morse Taper Shank Regular Length Twist Drills  | 219     |
| <b>SSDG</b>    |  | 先端鈦覆膜直柄標準刃鑽頭 (mm規格)<br>HSS Straight Shank Regular Length Twist Drills with TiN Coating                | 220     |
| <b>SSDG</b>    |  | 先端鈦覆膜百分位直柄精密鑽頭 (mm規格)<br>HSS Straight Shank Regular Length Twist Drills with TiN Coating (5/100 Size) | 221     |
| <b>GSD</b>     |  | 先端鈦覆膜直柄不銹鋼專用高鈷鋼鑽頭 (mm規格)<br>HSSCo8 Straight Shank Regular Length Twist Drills with TiN Coating        | 222     |
| <b>PSD</b>     |  | 自動斷屑直柄鑽頭 (mm規格)<br>HSSCo5 Straight Shank Stub Length Twist Drills for Deep Hole                       | 223     |
| <b>PJD</b>     |  | 自動斷屑直柄中長刃鑽頭 (mm規格)<br>HSSCo5 Straight Shank Jobber Length Twist Drills for Deep Hole                  | 224     |
| <b>PSDG</b>    |  | 鈦覆膜自動斷屑直柄鑽頭 (mm規格)<br>HSSCo5 Straight Shank Stub Length Twist Drills for Deep Hole with TiN Coating   | 225     |

|   |   |  |         |
|---|---|--|---------|
| <b>PJDG</b>   |  | 鍍覆膜自動斷屑直柄中長刃鑽頭 (mm規格)<br>HSSCo5 Straight Shank Jobber Length Twist Drills for Deep Hole with TiN Coating | 226 頁   |
| <b>SSLD</b>   |  | 直柄長刃鑽頭<br>HSS Straight Shank Long Drills   | 227~233 |
| 鑽頭刀具系列切削條件參考表<br>Recommended Cutting Condition for Drills                         |   |  | 234~236 |
|  |   | 森島大口徑深孔鑽頭<br>Super Drills  | 237     |
|  |   | 大口徑深孔鑽頭專用油環、中心鑽頭<br>Oil Ring & Center Drill for Super Drills   | 238     |
|  |   | 大口徑深孔鑽頭專用押金、替刃<br>Clamp & Set Bolt & New Blade for Super Drills  | 238~239 |
| <b>LD</b>   |  | 鈦鋼深孔直柄長刃鑽頭 (螺旋槳刃型)<br>Long Drills for Deep Hole  | 240     |

## 12 研磨砂輪、油石系列 Rabins & Oil Stones :

|   |   |  |         |
|---|---|--|---------|
|  |  | 彈性平面研磨砂輪 & 彈性研磨砂輪<br>Offset Type Rabins & Mounted Point Standard Type Rabins | 240~241 |
| <b>N.G.C</b>  |  | N.G.C 超級纖維油石<br>Mould Grinding Stones  | 242~243 |
|  |  | 支型研磨油石<br>Oil Stones   | 243     |

## 13 參考資料 Reference Material :

|   |         |
|---|---------|
| 攻牙時之切削速度及切削油建議參考表<br>Recommended Tapping Speed and Cutting Fluids | 244     |
| 無屑絲攻鑽頭孔徑對照表<br>Recommended Tap Drill Sizes for Fluteless Taps     | 245     |
| 攻牙問題解決指南<br>Trouble Shooting for Tapping                          | 246~248 |
| 銑削問題解決指南<br>Factors for End Mills Operation                       | 249~250 |

# 圖案之解說及索引

## Description of Icons

### 刀具材質 Tool Materials



奈米極細微粒子超硬合金  
Nano Grain Carbide



超微粒子超硬合金  
Micro Grain Carbide



超微粒子超硬合金  
Micro Grain Carbide (K10)



NPM、HPM、PPM優質粉末高速鋼  
Premium Powder Metallurgy HSS



含鈷13%高級高速鋼  
Cobalt 13% HSS



含鈷8%高速鋼  
Cobalt 8% HSS



含鈷8%高速鋼  
Cobalt 8% HSS



含鈷5%高速鋼  
Cobalt 5% HSS



含鈷高速鋼  
Cobalt HSS



特級高速鋼  
Extra HSS



特級高速鋼  
Extra HSSE



高速鋼  
HSS



高速鋼  
HSS

### 表面處理 Surface Treatment



TiAlN鍍膜  
TiAlN Coating



ALTiSiN鍍膜  
ALTiSiN Coating



BLUE鍍膜  
BLUE Coating



P鍍膜  
P Coating



N鍍膜  
N Coating



TiN鍍膜  
TiN Coating



TiCN鍍膜  
TiCN Coating



PVD鑽石鍍膜  
PVD Diamond Coating



氧化處理  
Homo Treatment



無氧化處理  
Bright Treatment

### 刃數 Number of Flutes



二刀刃型  
2 Flutes



三刀刃型  
3 Flutes



四刀刃型  
4 Flutes



六刀刃型  
6 Flutes



八刀刃型  
8 Flutes



四 & 五刀刃型  
4 & 5 Flutes



四 & 六刀刃型  
4 & 6 Flutes



四~六刀刃型  
4~6 Flutes

# 圖案之解說及索引

## Description of Icons



四~八刀刃型  
4~8 Flutes



四~十刀刃型  
4~10 Flutes



五&六刀刃型  
5&6 Flutes



六~十刀刃型  
6~10 Flutes



六~十二刀刃型  
6~12 Flutes



八~十二刀刃型  
8~12 Flutes

## 刃部螺旋角 Helix Angle



左40°螺旋角  
Left 40° Helix Angle



左19°螺旋角  
Left 19° Helix Angle



左12°螺旋角  
Left 12° Helix Angle



左7°螺旋角  
Left 7° Helix Angle



0°螺旋角  
0° Helix Angle



7°螺旋角  
7° Helix Angle



12°螺旋角  
12° Helix Angle



20°螺旋角  
20° Helix Angle



20°~30°螺旋角  
20°~30° Helix Angle



25°螺旋角  
25° Helix Angle



30°螺旋角  
30° Helix Angle



33°螺旋角  
33° Helix Angle



35°螺旋角  
35° Helix Angle



40°螺旋角  
40° Helix Angle



42°螺旋角  
42° Helix Angle



45°螺旋角  
45° Helix Angle



50°螺旋角  
50° Helix Angle

## 先端頂角角度 Point Angle



118°先端頂角  
118° Point Angle



130°先端頂角  
130° Point Angle



135°先端頂角  
135° Point Angle

## 導角角度 Chamfer Angle



1°導角角度  
1° Chamfer Angle



45°導角角度  
45° Chamfer Angle

## 外緣形狀 Type of Periphery



粗齒型  
Roughing、Coarse Pitch Type



極細齒型  
Roughing、Extra Fine Pitch Type

# 圖案之解說及索引

## Description of Icons

### 端角形狀 Corner Shape



### 可加工硬度 Machinable Hardness



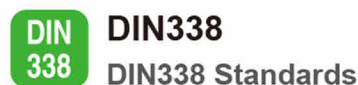
### 柄徑公差 Tolerance of SD



### 刃部精度公差 Tolerance of OD



### 標準規範 Standard



### 柄部形狀 Type of Shank



### 切削條件頁數 Cutting Conditions








**手絞絲攻**  
Hand Taps

**螺旋絲攻**  
Spiral Taps

**先端絲攻**  
Pointed Taps

**螺帽絲攻**  
Nut Taps

| 公制牙M         | H.T    |        |   | S.F.T.  |               | P.O.T.  |               | N.T SKS |        |
|--------------|--------|--------|---|---|---------------|---|---------------|---------|--------|
|              | SKS(支) | SKS(組) | SKH(支)  | SKS(支)  | SKH(支)        | SKS(支)  | SKH(支)        | 長(支)    | 短(支)   |
| M 1 × 0.2    |        |        | <b>692.00</b>   |   | <b>829.00</b> |   | <b>790.00</b> |         |        |
| " 1 × 0.25   | 102.00 | 306.00 | <b>494.00</b>   |   | <b>592.00</b> |   | <b>564.00</b> |         |        |
| " 1.1 × 0.25 |        |        | <b>494.00</b>   |  | <b>592.00</b> |  | <b>564.00</b> |         |        |
| " 1.2 × 0.2  |        |        | <b>647.00</b>   |   | <b>776.00</b> |   | <b>740.00</b> |         |        |
| " 1.2 × 0.25 | 95.00  | 285.00 | <b>462.00</b>   |   | <b>554.00</b> |   | <b>528.00</b> |         |        |
| M 1.4 × 0.2  |        |        | <b>551.00</b>   |  | <b>660.00</b> |   | <b>628.00</b> |         |        |
| " 1.4 × 0.25 |        |        | <b>551.00</b>   |   | <b>660.00</b> |   | <b>628.00</b> |         |        |
| " 1.4 × 0.3  | 78.00  | 234.00 | <b>393.00</b>   |   | <b>527.00</b> |   | <b>470.00</b> |         |        |
| " 1.6 × 0.35 | 83.00  | 249.00 | <b>425.00</b>   |   | <b>510.00</b> |   | <b>486.00</b> |         |        |
| " 1.7 × 0.2  |        |        | <b>499.00</b>   |   | <b>598.00</b> |   | <b>570.00</b> |         |        |
| M 1.7 × 0.25 |        |        | <b>499.00</b>   |   | <b>598.00</b> |   | <b>570.00</b> |         |        |
| " 1.7 × 0.3  |        |        | <b>499.00</b>   |   | <b>598.00</b> |   | <b>570.00</b> |         |        |
| " 1.7 × 0.35 | 65.00  | 195.00 | <b>356.00</b>   |   | <b>470.00</b> |   | <b>420.00</b> |         |        |
| " 1.8 × 0.35 |        |        | <b>386.00</b>   |   | <b>463.00</b> |   | <b>441.00</b> |         |        |
| " 2 × 0.4    | 59.00  | 177.00 | <b>288.00</b>   |   | <b>325.00</b> |   | <b>315.00</b> |         |        |
| M 2.3 × 0.4  | 69.00  | 207.00 | <b>269.00</b>   |   | <b>317.00</b> |   | <b>295.00</b> |         |        |
| " 2.5 × 0.45 | 65.00  | 195.00 | <b>235.00</b>   |   | <b>291.00</b> |   | <b>272.00</b> |         |        |
| " 2.6 × 0.45 | 57.00  | 171.00 | <b>205.00</b>   |   | <b>237.00</b> |   | <b>232.00</b> |         | 113.00 |
| " 3 × 0.35   | 85.00  | 255.00 |   |   |               |   |               |         |        |
| " 3 × 0.5*   | 43.00  | 129.00 | <b>146.00</b>   |   | <b>196.00</b> |   | <b>193.00</b> | 150.00  | 100.00 |
| M 3 × 0.6    | 43.00  | 129.00 |   | 83.00   | <b>196.00</b> | 83.00   | <b>193.00</b> | 150.00  | 100.00 |
| " 3.5 × 0.35 | 81.00  | 243.00 |  |   |               |   |               |         |        |
| " 3.5 × 0.6  | 52.00  | 156.00 |   | 88.00   | <b>206.00</b> |   | <b>203.00</b> | 160.00  | 120.00 |
| " 4 × 0.5    | 82.00  | 246.00 |   |   | <b>280.00</b> |   | <b>280.00</b> |         |        |
| " 4 × 0.7*   | 43.00  | 129.00 | <b>146.00</b>   |   | <b>186.00</b> |   | <b>184.00</b> | 150.00  | 100.00 |
| M 4 × 0.75   | 43.00  | 129.00 |   |   | <b>186.00</b> |   | <b>184.00</b> | 150.00  | 100.00 |
| " 4.5 × 0.5  | 65.00  | 195.00 |  |   |               |   |               |         |        |
| " 4.5 × 0.75 | 54.00  | 162.00 |   |   | <b>234.00</b> |   | <b>230.00</b> | 200.00  | 140.00 |
| " 5 × 0.5    | 61.00  | 183.00 |   |   | <b>280.00</b> |   | <b>280.00</b> |         |        |
| " 5 × 0.75   | 76.00  | 228.00 |   |   | <b>308.00</b> |   | <b>308.00</b> |         |        |
| M 5 × 0.8*   | 46.00  | 138.00 | <b>149.00</b>   | 83.00   | <b>190.00</b> |   | <b>184.00</b> | 170.00  | 115.00 |
| " 5 × 0.9    | 46.00  | 138.00 |   |   | <b>190.00</b> | 83.00   | <b>184.00</b> | 170.00  | 115.00 |
| " 5.5 × 0.5  | 75.00  | 225.00 |   |   |               |   |               |         |        |
| " 5.5 × 0.75 | 88.00  | 264.00 | <b>*SKH(組)</b>  |   |               |   |               |         |        |




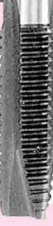


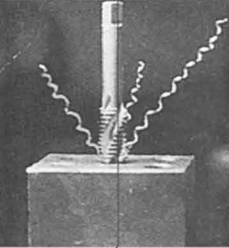



**手絞絲攻**  
Hand Taps

**螺旋絲攻**  
Spiral Taps

**先端絲攻**  
Pointed Taps

**螺帽絲攻**  
Nut Taps







| 公制牙M         | H.T    |          |   | S.F.T.  |               | P.O.T.  |               | N.T SKS   |        |
|--------------|--------|----------|---|---|---------------|---|---------------|---|--------|
|              | SKS(支) | SKS(組)   | SKH(支)  | SKS(支)  | SKH(支)        | SKS(支)  | SKH(支)        | 長(支)  | 短(支)   |
| M 5.5 × 0.9  | 64.00  | 192.00   |   | 86.00   | <b>242.00</b> | 86.00   | <b>242.00</b> | 200.00  | 160.00 |
| " 6 × 0.5    | 93.00  | 279.00   |   |   |               |   |               |   |        |
| " 6 × 0.75   | 67.00  | 201.00   |   |    | <b>280.00</b> |  | <b>280.00</b> |   |        |
| " 6 × 1.0*   | 50.00  | 150.00   | <b>166.00</b>   |   | <b>201.00</b> |   | <b>199.00</b> | 185.00  | 130.00 |
| " 7 × 0.5    | 134.00 | 402.00   |   |   |               |   |               |   |        |
| M 7 × 0.75   | 103.00 | 309.00   |   |    | <b>320.00</b> |  |               |   |        |
| " 7 × 1.0    | 86.00  | 258.00   |   |   | <b>267.00</b> |   | <b>260.00</b> | 275.00  | 190.00 |
| " 7 × 1.25   | 141.00 | 423.00   |   |   |               |   |               |   |        |
| " 8 × 0.5    | 206.00 | 618.00   |   |   |               |   |               |   |        |
| " 8 × 0.75   | 148.00 | 444.00   |   |   | <b>420.00</b> |   | <b>420.00</b> |   | 210.00 |
| M 8 × 1.0    | 103.00 | 309.00   |   | 170.00  | <b>368.00</b> | 170.00  | <b>360.00</b> |   | 210.00 |
| " 8 × 1.25*  | 77.00  | 231.00   | <b>205.00</b>   |   | <b>275.00</b> |   | <b>265.00</b> | 275.00  | 190.00 |
| " 8 × 1.5    | 142.00 | 426.00   |   |   |               |   |               |   |        |
| " 9 × 0.5    | 372.00 | 1,116.00 |   |   |               |   |               |   |        |
| " 9 × 0.75   | 267.00 | 801.00   |   |   |               |   |               |   |        |
| M 9 × 1.0    | 184.00 | 552.00   |   |   | <b>490.00</b> |   | <b>480.00</b> |   |        |
| " 9 × 1.25   | 115.00 | 345.00   |  | 200.00  | <b>436.00</b> | 200.00  | <b>436.00</b> | 340.00  | 240.00 |
| " 9 × 1.5    | 202.00 | 606.00   |   |   |               |   |               |   |        |
| " 10 × 0.5   | 267.00 | 801.00   |   |   |               |   |               |   |        |
| " 10 × 0.75  | 193.00 | 579.00   |   |   |               |   |               |   |        |
| M 10 × 1.0   | 122.00 | 366.00   |   |   | <b>510.00</b> |   | <b>495.00</b> |   | 260.00 |
| " 10 × 1.25* | 99.00  | 297.00   | <b>260.00</b>   |   | <b>365.00</b> | 152.00  | <b>355.00</b> | 370.00  | 240.00 |
| " 10 × 1.5*  | 99.00  | 297.00   | <b>260.00</b>   |   | <b>365.00</b> | 152.00  | <b>355.00</b> | 370.00  | 240.00 |
| " 11 × 0.5   | 403.00 | 1,209.00 |   |   |               |   |               |   |        |
| " 11 × 0.75  | 291.00 | 873.00   |   |   |               |   |               |   |        |
| M 11 × 1.0   | 192.00 | 576.00   |   |  |               |   |               |   |        |
| " 11 × 1.25  | 146.00 | 438.00   |   |   |               |   |               |   |        |
| " 11 × 1.5   | 146.00 | 438.00   |   |   |               |   |               |   |        |
| " 12 × 0.5   | 340.00 | 1,020.00 |   |   |               |   |               |   |        |
| " 12 × 0.75  | 261.00 | 783.00   |   |   |               |   |               |   |        |
| M 12 × 1.0   | 167.00 | 501.00   |   |   | <b>592.00</b> |   | <b>592.00</b> |   | 445.00 |
| " 12 × 1.25* | 142.00 | 426.00   | <b>375.00</b>   |   | <b>490.00</b> | 260.00  | <b>490.00</b> |  | 370.00 |
| " 12 × 1.5*  | 142.00 | 426.00   | <b>375.00</b>   | 260.00  | <b>490.00</b> | 260.00  | <b>490.00</b> | 570.00  | 370.00 |
| " 12 × 1.75* | 142.00 | 426.00   | <b>375.00</b>   |   | <b>490.00</b> | 260.00  | <b>490.00</b> | 570.00  | 370.00 |
| " 13 × 1.0   | 247.00 | 741.00   | *SKH(組)   |   |               |   |               |   |        |

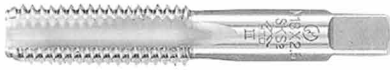
**手絞絲攻**  
Hand Taps

**螺旋絲攻**  
Spiral Taps

**先端絲攻**  
Pointed Taps

**螺帽絲攻**  
Nut Taps

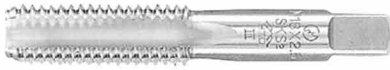
| 公制牙M         | H.T      |          |   | S.F.T.  |                 | P.O.T.  |                 | N.T SKS  |        |
|--------------|----------|----------|---|---|-----------------|---|-----------------|----------|--------|
|              | SKS(支)   | SKS(組)   | SKH(支)  | SKS(支)  | SKH(支)          | SKS(支)  | SKH(支)          | 長(支)     | 短(支)   |
| M 13 × 1.25  | 247.00   | 741.00   |   |   |                 |   |                 |          |        |
| " 13 × 1.5   | 247.00   | 741.00   |   |   |                 |   |                 |          |        |
| " 13 × 1.75  | 270.00   | 810.00   |   |   |                 |   |                 |          |        |
| " 14 × 1.0   | 209.00   | 627.00   |   | 370.00  | <b>837.00</b>   |   | <b>837.00</b>   |          |        |
| " 14 × 1.25* | 206.00   | 618.00   | <b>600.00</b>   |   | <b>819.00</b>   |   | <b>780.00</b>   |          | 580.00 |
| M 14 × 1.5*  | 184.00   | 552.00   | <b>503.00</b>   | 350.00  | <b>654.00</b>   | 320.00  | <b>640.00</b>   | 810.00   | 530.00 |
| " 14 × 1.75  | 206.00   | 618.00   |   |   |                 |   |                 |          |        |
| " 14 × 2.0*  | 184.00   | 552.00   | <b>503.00</b>   | 350.00  | <b>654.00</b>   | 320.00  | <b>640.00</b>   | 810.00   | 530.00 |
| " 15 × 1.0   | 320.00   | 960.00   |   |   | <b>1,596.00</b> |   | <b>1,484.00</b> |          |        |
| " 15 × 1.5   | 320.00   | 960.00   |   |   | <b>1,214.00</b> |   | <b>1,190.00</b> |          |        |
| M 15 × 2.0   | 320.00   | 960.00   |   |   |                 |   |                 |          |        |
| " 16 × 1.0   | 311.00   | 933.00   |   |   | <b>1,140.00</b> |   | <b>1,060.00</b> |          |        |
| " 16 × 1.25  | 311.00   | 933.00   |   |   | <b>1,140.00</b> |   | <b>1,060.00</b> |          |        |
| " 16 × 1.5*  | 260.00   | 780.00   | <b>725.00</b>   | 500.00  | <b>867.00</b>   | 470.00  | <b>850.00</b>   | 1,055.00 | 675.00 |
| " 16 × 2.0*  | 260.00   | 780.00   | <b>725.00</b>   |  | <b>867.00</b>   |   | <b>850.00</b>   | 1,055.00 | 675.00 |
| M 17 × 1.0   | 366.00   | 1,098.00 |  |  |                 |   |                 |          |        |
| " 17 × 1.5   | 366.00   | 1,098.00 |   |   |                 |   |                 |          |        |
| " 17 × 2.0   | 390.00   | 1,170.00 |   |   |                 |   |                 |          |        |
| " 18 × 1.0   | 413.00   | 1,239.00 |   |   | <b>1,846.00</b> |   | <b>1,796.00</b> |          |        |
| " 18 × 1.5*  | 359.00   | 1,077.00 | <b>898.00</b>   |   | <b>1,188.00</b> |   | <b>1,158.00</b> |          | 880.00 |
| M 18 × 2.0   | 368.00   | 1,104.00 |   | 620.00  | <b>1,375.00</b> |   | <b>1,307.00</b> |          | 880.00 |
| " 18 × 2.5*  | 359.00   | 1,077.00 | <b>898.00</b>   | 570.00  | <b>1,188.00</b> |   | <b>1,158.00</b> |          | 880.00 |
| " 19 × 1.0   | 459.00   | 1,377.00 |   |   |                 |  |                 |          |        |
| " 19 × 1.5   | 421.00   | 1,263.00 |   |   |                 |   |                 |          |        |
| " 19 × 2.5   | 421.00   | 1,263.00 |   |   |                 |   |                 |          |        |
| M 20 × 0.5   | 1,057.00 | 3,171.00 |   |   |                 |   |                 |          |        |
| " 20 × 1.0   | 504.00   | 1,512.00 |   |   | <b>2,106.00</b> |   | <b>2,066.00</b> |          |        |
| " 20 × 1.5*  | 430.00   | 1,290.00 | <b>1,075.00</b>   |   | <b>1,601.00</b> |   | <b>1,560.00</b> |          |        |
| " 20 × 2.0   | 441.00   | 1,323.00 |   | 858.00  | <b>1,860.00</b> |   | <b>1,840.00</b> |          |        |
| " 20 × 2.5*  | 430.00   | 1,290.00 | <b>1,075.00</b>   |   | <b>1,601.00</b> |   | <b>1,560.00</b> |          |        |
| M 22 × 1.0   | 616.00   | 1,848.00 |   |   | <b>2,696.00</b> |   | <b>2,646.00</b> |          |        |
| " 22 × 1.5*  | 526.00   | 1,578.00 | <b>1,315.00</b>   |   | <b>2,062.00</b> |   | <b>2,062.00</b> |          |        |
| " 22 × 2.0   | 539.00   | 1,617.00 |   | 1,350.00  | <b>2,410.00</b> |   | <b>2,410.00</b> |          |        |
| " 22 × 2.5*  | 526.00   | 1,578.00 | <b>1,315.00</b>   |   | <b>2,062.00</b> |   | <b>2,062.00</b> |          |        |
| " 24 × 1.0   | 785.00   | 2,355.00 | *SKH(組)   |   |                 |   |                 |          |        |



**手絞絲攻**  
Hand Taps

**螺旋絲攻 先端絲攻**  
Spiral Taps Pointed Taps

| 公制牙M        | H.T      |          |                 | S.F.T.          | P.O.T.          |
|-------------|----------|----------|-----------------|-----------------|-----------------|
|             | SKS(支)   | SKS(組)   | SKH(支)          | SKH(支)          | SKH(支)          |
| M 24 × 1.5* | 683.00   | 2,049.00 | <b>1,708.00</b> | <b>2,720.00</b> | <b>2,720.00</b> |
| " 24 × 2.0  | 701.00   | 2,103.00 | <b>1,880.00</b> | <b>3,100.00</b> | <b>3,050.00</b> |
| " 24 × 3.0* | 683.00   | 2,049.00 | <b>1,708.00</b> | <b>2,720.00</b> | <b>2,720.00</b> |
| " 25 × 1.0  | 1,079.00 | 3,237.00 |                 |                 |                 |
| " 25 × 1.5  | 768.00   | 2,304.00 | <b>2,170.00</b> | <b>4,320.00</b> | <b>4,320.00</b> |
| M 25 × 2.0  | 768.00   | 2,304.00 |                 | <b>4,320.00</b> | <b>4,320.00</b> |
| " 26 × 1.0  | 1,090.00 | 3,270.00 |                 |                 |                 |
| " 26 × 1.5  | 835.00   | 2,505.00 | <b>2,350.00</b> | <b>3,410.00</b> | <b>3,410.00</b> |
| " 26 × 2.0  | 835.00   | 2,505.00 |                 | <b>3,410.00</b> | <b>3,410.00</b> |
| " 26 × 3.0  | 835.00   | 2,505.00 |                 | <b>3,410.00</b> | <b>3,410.00</b> |
| M 27 × 1.0  | 1,020.00 | 3,060.00 |                 |                 |                 |
| " 27 × 1.5  | 930.00   | 2,790.00 | <b>2,850.00</b> | <b>3,640.00</b> | <b>3,640.00</b> |
| " 27 × 2.0  | 930.00   | 2,790.00 |                 |                 |                 |
| " 27 × 3.0  | 930.00   | 2,790.00 | <b>2,650.00</b> | <b>3,640.00</b> | <b>3,640.00</b> |
| " 28 × 1.0  | 990.00   | 2,970.00 |                 | <b>4,920.00</b> | <b>4,920.00</b> |
| M 28 × 1.5  | 980.00   | 2,940.00 |                 | <b>4,610.00</b> | <b>4,610.00</b> |
| " 28 × 2.0  | 980.00   | 2,940.00 |                 | <b>4,610.00</b> | <b>4,610.00</b> |
| " 30 × 1.0  | 1,250.00 | 3,750.00 |                 | <b>5,820.00</b> | <b>5,820.00</b> |
| " 30 × 1.5  | 982.00   | 2,946.00 | <b>3,420.00</b> | <b>4,490.00</b> | <b>4,490.00</b> |
| " 30 × 2.0  | 982.00   | 2,946.00 | <b>3,420.00</b> | <b>4,742.00</b> | <b>4,742.00</b> |
| M 30 × 3.0  | 982.00   | 2,946.00 | <b>3,420.00</b> | <b>4,742.00</b> | <b>4,742.00</b> |
| " 30 × 3.5  | 982.00   | 2,946.00 | <b>3,120.00</b> | <b>4,490.00</b> | <b>4,490.00</b> |
| " 32 × 1.0  | 2,600.00 | 7,800.00 |                 | <b>7,490.00</b> | <b>7,490.00</b> |
| " 32 × 1.5  | 2,260.00 | 6,780.00 | <b>5,050.00</b> | <b>5,760.00</b> | <b>5,760.00</b> |
| " 32 × 2.0  | 2,260.00 | 6,780.00 | <b>5,050.00</b> | <b>5,760.00</b> | <b>5,760.00</b> |
| M 32 × 3.0  | 2,260.00 | 6,780.00 | <b>5,050.00</b> | <b>5,760.00</b> | <b>5,760.00</b> |
| " 33 × 1.5  | 2,420.00 | 7,260.00 | <b>5,050.00</b> | <b>5,940.00</b> | <b>5,940.00</b> |
| " 33 × 2.0  | 2,550.00 | 7,650.00 |                 | <b>7,130.00</b> | <b>7,130.00</b> |
| " 33 × 3.0  | 2,420.00 | 7,260.00 | <b>5,320.00</b> | <b>7,130.00</b> | <b>7,130.00</b> |
| " 33 × 3.5  | 2,420.00 | 7,260.00 | <b>5,050.00</b> | <b>5,850.00</b> | <b>5,850.00</b> |
| M 34 × 1.0  | 2,910.00 | 8,730.00 |                 | <b>8,350.00</b> | <b>8,350.00</b> |
| " 34 × 1.5  | 2,640.00 | 7,920.00 | <b>5,870.00</b> | <b>7,130.00</b> | <b>7,130.00</b> |
| " 34 × 2.0  | 2,640.00 | 7,920.00 | <b>5,870.00</b> | <b>7,130.00</b> | <b>7,130.00</b> |
| " 34 × 3.0  | 2,640.00 | 7,920.00 | <b>5,870.00</b> | <b>7,130.00</b> | <b>7,130.00</b> |



**手絞絲攻**  
Hand Taps





**螺旋絲攻 先端絲攻**  
Spiral Taps Pointed Taps

| 公制牙M       | H.T      |           |                  | S.F.T.           | P.O.T.           |
|------------|----------|-----------|------------------|------------------|------------------|
|            | SKS(支)   | SKS(組)    | SKH(支)           | SKH(支)           | SKH(支)           |
| M 35 × 1.5 | 2,690.00 | 8,070.00  | <b>6,080.00</b>  | <b>7,425.00</b>  | <b>7,425.00</b>  |
| " 35 × 2.0 | 2,690.00 | 8,070.00  | <b>6,080.00</b>  | <b>7,730.00</b>  | <b>7,730.00</b>  |
| " 35 × 3.0 | 2,690.00 | 8,070.00  | <b>6,080.00</b>  | <b>7,730.00</b>  | <b>7,730.00</b>  |
| " 36 × 1.5 | 2,750.00 | 8,250.00  | <b>5,750.00</b>  | <b>6,450.00</b>  | <b>6,450.00</b>  |
| " 36 × 2.0 | 2,750.00 | 8,250.00  | <b>5,750.00</b>  | <b>6,250.00</b>  | <b>6,250.00</b>  |
| " 36 × 3.0 | 2,750.00 | 8,250.00  | <b>5,750.00</b>  | <b>6,250.00</b>  | <b>6,250.00</b>  |
| M 36 × 4.0 | 2,750.00 | 8,250.00  | <b>5,550.00</b>  | <b>6,450.00</b>  | <b>6,450.00</b>  |
| " 38 × 1.5 | 2,970.00 | 8,910.00  | <b>6,300.00</b>  | <b>7,830.00</b>  | <b>7,830.00</b>  |
| " 38 × 2.0 | 3,030.00 | 9,090.00  | <b>6,900.00</b>  | <b>7,830.00</b>  | <b>7,830.00</b>  |
| " 38 × 3.0 | 3,030.00 | 9,090.00  | <b>6,900.00</b>  | <b>8,820.00</b>  | <b>8,820.00</b>  |
| " 38 × 4.0 | 3,030.00 | 9,090.00  | <b>6,900.00</b>  | <b>8,820.00</b>  | <b>8,820.00</b>  |
| " 39 × 1.5 | 3,080.00 | 9,240.00  | <b>6,600.00</b>  | <b>8,080.00</b>  | <b>8,080.00</b>  |
| M 39 × 2.0 | 3,220.00 | 9,660.00  | <b>7,050.00</b>  | <b>8,080.00</b>  | <b>8,080.00</b>  |
| " 39 × 3.0 | 3,220.00 | 9,660.00  | <b>7,050.00</b>  | <b>8,080.00</b>  | <b>8,080.00</b>  |
| " 39 × 4.0 | 3,080.00 | 9,240.00  | <b>6,600.00</b>  | <b>8,080.00</b>  | <b>8,080.00</b>  |
| " 40 × 1.5 | 3,390.00 | 10,170.00 | <b>7,150.00</b>  | <b>8,700.00</b>  | <b>8,700.00</b>  |
| " 40 × 2.0 | 3,390.00 | 10,170.00 | <b>7,600.00</b>  | <b>9,800.00</b>  | <b>9,800.00</b>  |
| " 40 × 3.0 | 3,390.00 | 10,170.00 | <b>7,600.00</b>  | <b>9,800.00</b>  | <b>9,800.00</b>  |
| M 40 × 4.0 | 3,390.00 | 10,170.00 | <b>7,150.00</b>  | <b>8,700.00</b>  | <b>8,700.00</b>  |
| " 42 × 1.5 | 3,710.00 | 11,130.00 | <b>8,100.00</b>  | <b>9,710.00</b>  | <b>9,710.00</b>  |
| " 42 × 2.0 | 3,710.00 | 11,130.00 | <b>8,560.00</b>  | <b>10,940.00</b> | <b>10,940.00</b> |
| " 42 × 3.0 | 3,710.00 | 11,130.00 | <b>8,560.00</b>  | <b>10,940.00</b> | <b>10,940.00</b> |
| " 42 × 4.0 | 3,710.00 | 11,130.00 | <b>8,560.00</b>  | <b>10,940.00</b> | <b>10,940.00</b> |
| " 42 × 4.5 | 3,710.00 | 11,130.00 | <b>8,100.00</b>  | <b>9,710.00</b>  | <b>9,710.00</b>  |
| M 45 × 1.5 | 4,330.00 | 12,990.00 | <b>9,040.00</b>  | <b>10,970.00</b> | <b>10,970.00</b> |
| " 45 × 2.0 | 4,330.00 | 12,990.00 | <b>9,670.00</b>  | <b>12,360.00</b> | <b>12,360.00</b> |
| " 45 × 3.0 | 4,330.00 | 12,990.00 | <b>9,670.00</b>  | <b>12,360.00</b> | <b>12,360.00</b> |
| " 45 × 4.0 | 4,150.00 | 12,450.00 | <b>9,670.00</b>  | <b>12,360.00</b> | <b>12,360.00</b> |
| " 45 × 4.5 | 4,150.00 | 12,450.00 | <b>9,040.00</b>  | <b>10,970.00</b> | <b>10,970.00</b> |
| " 48 × 1.5 | 5,270.00 | 15,810.00 | <b>11,380.00</b> | <b>14,000.00</b> | <b>14,000.00</b> |
| M 48 × 2.0 | 5,500.00 | 16,500.00 | <b>12,100.00</b> | <b>15,790.00</b> | <b>15,790.00</b> |
| " 48 × 4.0 | 5,500.00 | 16,500.00 | <b>12,100.00</b> | <b>15,790.00</b> | <b>15,790.00</b> |
| " 48 × 5.0 | 5,270.00 | 15,810.00 | <b>11,380.00</b> | <b>14,000.00</b> | <b>14,000.00</b> |
| " 52 × 4.0 |          |           |                  | <b>19,800.00</b> | <b>19,800.00</b> |
| " 56 × 5.5 |          |           |                  | <b>22,600.00</b> | <b>22,600.00</b> |
| " 64 × 6.0 |          |           |                  | <b>30,480.00</b> | <b>30,480.00</b> |

**手絞絲攻**  
Hand Taps

**螺旋絲攻**  
Spiral Taps

**先端絲攻**  
Pointed Taps

| UNF牙<br>美制細牙   | H.T  |           | S.F.T.  |                 | P.O.T.  |
|----------------|--|-----------|---|-----------------|---|
|                | SKS(支)   | SKS(組)    | SKS(支)  | SKH(支)          | SKH(支)  |
| NO. 0 - 80 UNF |  121.00 | 363.00    |  |                 |  |
| " 1 - 72 "     | 102.00   | 306.00    |   |                 |   |
| " 2 - 64 "     | 95.00  | 285.00    |   |                 |   |
| " 3 - 56 "     | 88.00  | 264.00    |   |                 |   |
| " 4 - 48 "     | 83.00  | 249.00    |   | <b>225.00</b>   | <b>216.00</b>   |
| NO. 5 - 44 UNF | 60.00  | 180.00    |   | <b>216.00</b>   | <b>208.00</b>   |
| " 6 - 40 "     | 50.00  | 150.00    |   | <b>214.00</b>   | <b>205.00</b>   |
| " 8 - 36 "     | 50.00  | 150.00    |  | <b>214.00</b>   | <b>205.00</b>   |
| " 10 - 32 "    | 52.00  | 156.00    |   | <b>220.00</b>   | <b>210.00</b>   |
| " 12 - 28 "    | 60.00  | 180.00    |   | <b>225.00</b>   | <b>216.00</b>   |
| 1/8 - 44 UNF   | 65.00  | 195.00    |   |                 |   |
| 5/32 - 36 "    | 65.00  | 195.00    |   |                 |   |
| 3/16 - 32 "    | 60.00  | 180.00    |   | <b>225.00</b>   | <b>216.00</b>   |
| 7/32 - 32 "    | 110.00   | 330.00    |   |                 |   |
| 1/4 - 28 "     | 71.00  | 213.00    |   | <b>230.00</b>   | <b>218.00</b>   |
| 5/16 - 24 UNF  | 83.00  | 249.00    |   | <b>303.00</b>   | <b>279.00</b>   |
| 3/8 - 18 UNS   | 106.00   | 318.00    |   |                 |   |
| 3/8 - 24 UNF   | 106.00   | 318.00    | 230.00  | <b>370.00</b>   | <b>337.00</b>   |
| 7/16 - 20 "    | 146.00   | 438.00    |   | <b>475.00</b>   | <b>465.00</b>   |
| 1/2 - 20 "     | 167.00   | 501.00    | 340.00  | <b>570.00</b>   | <b>557.00</b>   |
| 9/16 - 18 UNF  | 228.00   | 684.00    |   | <b>840.00</b>   | <b>826.00</b>   |
| 9/16 - 20 UNS  | 287.00   | 861.00    |   |                 |   |
| 5/8 - 18 UNF   | 240.00   | 720.00    | 520.00  | <b>886.00</b>   | <b>872.00</b>   |
| 5/8 - 20 UNS   | 304.00   | 912.00    |   |                 |   |
| 3/4 - 16 UNF   | 359.00   | 1,077.00  | 795.00  | <b>1,357.00</b> | <b>1,312.00</b>   |
| 7/8 - 14 UNF   | 478.00   | 1,434.00  |   | <b>2,100.00</b> | <b>2,034.00</b>   |
| 1 - 12 "       | 610.00   | 1,830.00  |   | <b>3,010.00</b> | <b>2,920.00</b>   |
| 1 - 14 UNS     | 690.00   | 2,070.00  |   |                 |   |
| 1 1/8 - 12 UNF | 1,032.00   | 3,096.00  |   | <b>4,498.00</b> | <b>4,498.00</b>   |
| 1 1/4 - 12 "   | 1,309.00   | 3,927.00  |   | <b>5,286.00</b> | <b>5,286.00</b>   |
| 1 3/8 - 12 UNF | 1,520.00   | 4,560.00  |   | <b>6,690.00</b> | <b>6,690.00</b>   |
| 1 1/2 - 12 "   | 2,049.00   | 6,147.00  |   | <b>8,235.00</b> | <b>8,235.00</b>   |
| 1 3/4 - 12 "   | 4,130.00   | 12,390.00 |   |                 |   |
| 1 7/8 - 12 "   | 4,790.00   | 14,370.00 |   |                 |   |
| 2 - 12 "       | 6,090.00   | 18,270.00 |   |                 |   |

## 手絞絲攻

Hand Taps

## 螺旋絲攻 先端絲攻 螺帽絲攻

Spiral Taps Pointed Taps Nut Taps

| UNC 牙<br>美制粗牙 | H.T      |           |   | S.F.T.          | P.O.T.          | N.T(短)  |
|---------------|----------|-----------|---|-----------------|-----------------|---|
|               | SKS(支)   | SKS(組)    | SKH(支)  | SKH(支)          | SKH(支)          | SKS(支)  |
| NO.1 -64 UNC  | 102.00   | 306.00    |  |                 |                 |  |
| " 2 -56 "     | 92.00    | 276.00    |   | <b>390.00</b>   | <b>390.00</b>   |   |
| " 3 -48 "     | 86.00    | 258.00    |   |                 |                 |   |
| " 4 -40 "     | 83.00    | 249.00    |   | <b>225.00</b>   | <b>216.00</b>   |   |
| " 5 -40 "     | 60.00    | 180.00    |   | <b>216.00</b>   | <b>208.00</b>   |   |
| NO.6 -32 UNC  | 50.00    | 150.00    |   | <b>214.00</b>   | <b>205.00</b>   |   |
| " 8 -32 "     | 50.00    | 150.00    |   | <b>214.00</b>   | <b>205.00</b>   |   |
| " 10 -24 "    | 52.00    | 156.00    |   | <b>220.00</b>   | <b>210.00</b>   |   |
| " 12 -24 "    | 60.00    | 180.00    |   | <b>225.00</b>   | <b>216.00</b>   |   |
| 1/8 -40 "     | 65.00    | 195.00    |   |                 |                 |   |
| 3/16 -24 UNC  | 60.00    | 180.00    |   |                 |                 |   |
| 1/4 -20 "     | 71.00    | 213.00    | <b>178.00</b>   | <b>230.00</b>   | <b>218.00</b>   | 165.00  |
| 5/16 -18 "    | 83.00    | 249.00    | <b>193.00</b>   | <b>303.00</b>   | <b>279.00</b>   | 200.00  |
| 3/8 -16 "     | 106.00   | 318.00    | <b>234.00</b>   | <b>370.00</b>   | <b>337.00</b>   | 245.00  |
| 7/16 -14 "    | 146.00   | 438.00    |   | <b>475.00</b>   | <b>465.00</b>   |   |
| 1/2 -13 UNC   | 167.00   | 501.00    | <b>411.00</b>   | <b>570.00</b>   | <b>557.00</b>   |   |
| 9/16 -12 "    | 228.00   | 684.00    |   | <b>840.00</b>   | <b>826.00</b>   |   |
| 5/8 -11 "     | 240.00   | 720.00    | <b>671.00</b>   | <b>886.00</b>   | <b>872.00</b>   |   |
| 3/4 -10 "     | 359.00   | 1,077.00  | <b>968.00</b>   | <b>1,357.00</b> | <b>1,312.00</b> |   |
| 7/8 -9 "      | 478.00   | 1,434.00  |   | <b>2,100.00</b> | <b>2,034.00</b> |   |
| 1 -8 UNC      | 610.00   | 1,830.00  |   | <b>3,010.00</b> | <b>2,920.00</b> |   |
| 1 1/8 -7 "    | 1,032.00 | 3,096.00  |   |                 |                 |   |
| 1 1/4 -7 "    | 1,309.00 | 3,927.00  |   |                 |                 |   |
| 1 3/8 -6 "    | 1,520.00 | 4,560.00  |   |                 |                 |   |
| 1 1/2 -6 "    | 2,049.00 | 6,147.00  |   |                 |                 |   |
| 1 3/4 -5 UNC  | 4,130.00 | 12,390.00 |   |                 |                 |   |
| 2 -4 1/2 "    | 6,090.00 | 18,270.00 |   |                 |                 |   |

**手絞絲攻**  
Hand Taps

**螺旋絲攻**  
Spiral Taps

**先端絲攻**  
Pointed Taps

**螺帽絲攻**  
Nut Taps

| 英制牙W            | H.T      |           |                 | S.F.T. |                  | P.O.T. |                 | N.T SKS  |          |
|-----------------|----------|-----------|-----------------|--------|------------------|--------|-----------------|----------|----------|
|                 | SKS(支)   | SKS(組)    | SKH(支)          | SKS(支) | SKH(支)           | SKS(支) | SKH(支)          | 長(支)     | 短(支)     |
| W 1/16 - 60     | 203.00   | 609.00    |                 |        |                  |        |                 |          |          |
| " 3/32 - 48     | 158.00   | 474.00    |                 |        |                  |        |                 |          |          |
| " 1/8 - 40      | 49.00    | 147.00    | <b>148.00</b>   | 90.00  | <b>203.00</b>    | 90.00  | <b>196.00</b>   | 170.00   | 130.00   |
| " 5/32 - 32     | 49.00    | 147.00    | <b>148.00</b>   |        | <b>203.00</b>    | 90.00  | <b>196.00</b>   | 170.00   | 130.00   |
| W 3/16 - 24     | 51.00    | 153.00    | <b>156.00</b>   |        | <b>196.00</b>    | 90.00  | <b>192.00</b>   | 170.00   | 150.00   |
| " 7/32 - 24     | 116.00   | 348.00    |                 |        | <b>291.00</b>    |        | <b>291.00</b>   |          |          |
| " 1/4 - 20      | 57.00    | 171.00    | <b>178.00</b>   |        | <b>249.00</b>    |        | <b>224.00</b>   | 210.00   | 180.00   |
| " 5/16 - 18     | 67.00    | 201.00    | <b>193.00</b>   |        | <b>328.00</b>    |        | <b>318.00</b>   | 310.00   | 225.00   |
| W 3/8 - 16      | 84.00    | 252.00    | <b>234.00</b>   |        | <b>395.00</b>    | 170.00 | <b>385.00</b>   | 355.00   | 270.00   |
| " 7/16 - 14     | 125.00   | 375.00    |                 | 218.00 | <b>479.00</b>    | 218.00 | <b>469.00</b>   | 382.00   | 350.00   |
| " 1/2 - 12      | 145.00   | 435.00    | <b>411.00</b>   |        | <b>658.00</b>    | 284.00 | <b>638.00</b>   | 570.00   | 470.00   |
| " 9/16 - 12     | 227.00   | 681.00    |                 | 437.00 | <b>1,020.00</b>  | 437.00 | <b>1,000.00</b> |          |          |
| W 5/8 - 11      | 227.00   | 681.00    | <b>671.00</b>   |        | <b>1,020.00</b>  | 437.00 | <b>1,000.00</b> | 1,055.00 | 765.00   |
| " 11/16 - 11    | 345.00   | 1,035.00  |                 |        |                  |        |                 |          |          |
| " 3/4 - 10      | 314.00   | 942.00    | <b>968.00</b>   |        | <b>1,544.00</b>  | 640.00 | <b>1,500.00</b> | 1,410.00 | 1,155.00 |
| " 13/16 - 10    |          | 1,353.00  |                 |        |                  |        |                 |          |          |
| W 7/8 - 9       | 440.00   | 1,320.00  | <b>1,320.00</b> |        | <b>2,390.00</b>  |        | <b>2,320.00</b> |          |          |
| " 15/16 - 9     |          | 2,493.00  |                 |        |                  |        |                 |          |          |
| " 1 - 8         | 600.00   | 1,800.00  | <b>1,760.00</b> |        | <b>3,426.00</b>  |        | <b>3,330.00</b> |          |          |
| " 1 1/8 - 7     | 933.00   | 2,799.00  |                 |        | <b>4,693.00</b>  |        | <b>4,510.00</b> |          |          |
| W 1 1/4 - 7     | 1,161.00 | 3,483.00  |                 |        | <b>5,773.00</b>  |        | <b>5,550.00</b> |          |          |
| " 1 3/8 - 6     | 1,426.00 | 4,278.00  |                 |        | <b>7,791.00</b>  |        | <b>7,500.00</b> |          |          |
| " 1 1/2 - 6     | 1,814.00 | 5,442.00  |                 |        | <b>9,357.00</b>  |        | <b>9,250.00</b> |          |          |
| " 1 5/8 - 5     | 2,990.00 | 8,970.00  |                 |        |                  |        |                 |          |          |
| W 1 3/4 - 5     | 3,590.00 | 10,770.00 |                 |        | <b>14,080.00</b> |        |                 |          |          |
| " 1 7/8 - 4 1/2 | 4,420.00 | 13,260.00 |                 |        |                  |        |                 |          |          |
| " 2 - 4 1/2     | 5,620.00 | 16,860.00 |                 |        | <b>21,720.00</b> |        |                 |          |          |



## 美制特細牙・手紋絲攻・螺旋絲攻・牙板

Hand Taps · Spiral Fluted Taps · Round Dies

| UNEF牙          | H.T SKS(支) | H.T SKS(組) | SFT.SKH(支)      | 25徑SKS(只) | 50徑SKS(只) |
|----------------|------------|------------|-----------------|-----------|-----------|
| UNEF 1/4 - 32  | 146.00     | 438.00     | <b>271.00</b>   | 500.00    |           |
| " 5/16 - 32    | 150.00     | 450.00     | <b>349.00</b>   | 500.00    |           |
| " 3/8 - 32     | 157.00     | 471.00     | <b>422.00</b>   | 500.00    | 1,300.00  |
| " 7/16 - 24    | 193.00     | 579.00     | <b>630.00</b>   |           | 1,300.00  |
| " 7/16 - 28    | 203.00     | 609.00     | <b>655.00</b>   |           | 1,300.00  |
| UNEF 7/16 - 32 | 222.00     | 666.00     | <b>676.00</b>   |           | 1,300.00  |
| UNS 1/2 - 24   | 221.00     | 663.00     | <b>870.00</b>   |           | 1,300.00  |
| UNEF 1/2 - 28  | 239.00     | 717.00     | <b>905.00</b>   |           | 1,300.00  |
| " 1/2 - 32     | 254.00     | 762.00     | <b>932.00</b>   |           | 1,300.00  |
| " 9/16 - 24    | 280.00     | 840.00     | <b>1,390.00</b> |           | 1,300.00  |
| UNEF 5/8 - 24  | 320.00     | 960.00     | <b>1,463.00</b> |           | 1,400.00  |
| " 3/4 - 20     | 463.00     | 1,389.00   | <b>2,180.00</b> |           | 1,400.00  |
| " 7/8 - 20     | 620.00     | 1,860.00   | <b>3,360.00</b> |           | 1,400.00  |
| " 1 - 20       | 814.00     | 2,442.00   | <b>4,820.00</b> |           | 1,400.00  |

## 針車牙・手紋・螺旋・先端・長柄絲攻・牙板

Taps & Round Dies for Screw Threads used on Sewing Machines

| 針車牙SM             | SKS (支)    | SKH長柄 (支)     | SFT.SKH (支)   | POT.SKH (支)   | 牙板25徑 SKS(只) |
|-------------------|------------|---------------|---------------|---------------|--------------|
| SM 5/64 - 64      | 190.00     |               |               |               |              |
| " 3/32 - 56       | 89.00      |               | <b>428.00</b> | <b>428.00</b> |              |
| " 3/32 - 100      | 149.00     |               |               |               |              |
| " 1/8 - 40        | 49.00      |               | <b>356.00</b> | <b>356.00</b> | 500.00       |
| " 1/8 - 44        | 49.00      |               | <b>356.00</b> | <b>356.00</b> | 500.00       |
| SM 9/64 - 40      | 49.00      |               | <b>262.00</b> | <b>262.00</b> | 500.00       |
| " 9/64 - 40-100L  | 218.00     | <b>515.00</b> |               |               |              |
| " 11/64 - 32      | 110.00     |               |               |               | 500.00       |
| " 11/64 - 40      | 54.00      |               | <b>262.00</b> | <b>262.00</b> | 500.00       |
| " 11/64 - 40-100L | 218.00     | <b>515.00</b> |               |               |              |
| SM 3/16 - 24      | 84.00      |               |               |               | 500.00       |
| " 3/16 - 28       | 84.00      |               | <b>311.00</b> | <b>311.00</b> | 500.00       |
| " 3/16 - 28-110L  | 280.00     | <b>465.00</b> |               |               |              |
| " 3/16 - 40       | 107.00     |               |               |               | 500.00       |
| " 13/64 - 32      | 84.00      |               | <b>443.00</b> | <b>443.00</b> | 500.00       |
| SM 15/64 - 28     | 84.00      |               | <b>311.00</b> | <b>311.00</b> | 500.00       |
| " 15/64 - 28-120L | 305.00     |               |               |               |              |
| " 1/4 - 24        | 84.00      |               | <b>375.00</b> | <b>375.00</b> | 500.00       |
| " 1/4 - 28        | 84.00      |               | <b>398.00</b> | <b>398.00</b> | 500.00       |
| " 1/4 - 40        | 107.00     |               | <b>423.00</b> | <b>423.00</b> | 500.00       |
| SM 9/32 - 20      | 85.00      |               | <b>457.00</b> | <b>457.00</b> | 500.00       |
| " 9/32 - 28       | 85.00      |               | <b>457.00</b> | <b>457.00</b> | 500.00       |
| " 9/32 - 28-120L  | 350.00     |               |               |               |              |
| " 5/16 - 28       | 159.00     |               |               |               | 500.00       |
| " 3/8 - 28        | 159.00     |               | <b>595.00</b> | <b>595.00</b> | 500.00       |
| " 3/8 - 28-180L   | 595.00(d7) |               |               |               |              |
| " 3/8 - 28-180L   | 595.00(d8) |               |               |               |              |



# 特殊用途鋒鋼螺旋・先端絲攻

Spiral Fluted Taps & Spiral Pointed Taps for Special Purpose

**高耐磨專用**

TiN Coating

**不鏽鋼專用**

for SUS

**深孔專用**

for Deep Holes

**非鐵金屬專用**

for Non-Ferrous Metals

| 規 格          | 鍍鈦SFT・POT | SUS-SFT・POT | DH-SFT・POT | 鋁・銅SFT・POT |
|--------------|-----------|-------------|------------|------------|
| M 2 × 0.4    | 408.00    | 342.00      | 342.00     | 342.00     |
| " 2.5 × 0.45 | 365.00    | 306.00      | 306.00     | 306.00     |
| " 2.6 × 0.45 | 298.00    | 250.00      | 250.00     | 250.00     |
| " 3 × 0.5    | 246.00    | 204.00      | 204.00     | 204.00     |
| " 3.5 × 0.6  | 260.00    | 225.00      | 225.00     | 225.00     |
| M 4 × 0.7    | 235.00    | 196.00      | 196.00     | 196.00     |
| " 5 × 0.8    | 238.00    | 200.00      | 200.00     | 200.00     |
| " 6 × 1.0    | 252.00    | 212.00      | 212.00     | 212.00     |
| " 8 × 1.0    | 462.00    | 383.00      | 383.00     | 383.00     |
| " 8 × 1.25   | 345.00    | 290.00      | 290.00     | 290.00     |
| M 10 × 1.0   | 640.00    | 525.00      | 525.00     | 525.00     |
| " 10 × 1.25  | 458.00    | 380.00      | 380.00     | 380.00     |
| " 10 × 1.5   | 458.00    | 380.00      | 380.00     | 380.00     |
| " 12 × 1.0   | 743.00    | 617.00      | 617.00     | 617.00     |
| " 12 × 1.25  | 615.00    | 515.00      | 515.00     | 515.00     |
| M 12 × 1.5   | 615.00    | 515.00      | 515.00     | 515.00     |
| " 12 × 1.75  | 615.00    | 515.00      | 515.00     | 515.00     |
| " 14 × 1.0   | 1,050.00  | 863.00      | 863.00     | 863.00     |
| " 14 × 1.5   | 820.00    | 680.00      | 680.00     | 680.00     |
| " 14 × 2.0   | 820.00    | 680.00      | 680.00     | 680.00     |
| M 16 × 1.0   | 1,430.00  | 1,169.00    | 1,169.00   | 1,169.00   |
| " 16 × 1.5   | 1,090.00  | 896.00      | 896.00     | 896.00     |
| " 16 × 2.0   | 1,090.00  | 896.00      | 896.00     | 896.00     |
| " 18 × 1.5   | 1,490.00  | 1,245.00    | 1,245.00   | 1,245.00   |
| " 18 × 2.5   | 1,490.00  | 1,245.00    | 1,245.00   | 1,245.00   |
| M 20 × 1.5   | 2,020.00  | 1,680.00    | 1,680.00   | 1,680.00   |
| " 20 × 2.5   | 2,020.00  | 1,680.00    | 1,680.00   | 1,680.00   |
| " 22 × 1.5   | 2,620.00  | 2,240.00    | 2,240.00   | 2,240.00   |
| " 22 × 2.5   | 2,620.00  | 2,240.00    | 2,240.00   | 2,240.00   |
| " 24 × 1.5   | 3,540.00  | 2,860.00    | 2,860.00   | 2,860.00   |
| M 24 × 3.0   | 3,540.00  | 2,860.00    | 2,860.00   | 2,860.00   |
| W 1/8 - 40   | 262.00    | 215.00      | 215.00     | 215.00     |
| " 5/32 - 32  | 262.00    | 215.00      | 215.00     | 215.00     |
| " 3/16 - 24  | 250.00    | 210.00      | 210.00     | 210.00     |

## 特殊用途鋒鋼螺旋・先端絲攻

Spiral Fluted Taps & Spiral Pointed Taps for Special Purpose

**高耐磨專用**

TiN Coating

**不鏽鋼專用**

for SUS

**深孔專用**

for Deep Holes

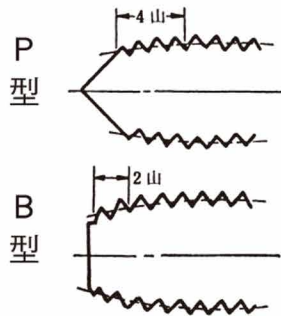
**非鐵金屬專用**

for Non-Ferrous Metals

| 規 格           | 鍍鈦SFT・POT | SUS-SFT・POT | DH-SFT・POT | 鋁・銅SFT・POT |
|---------------|-----------|-------------|------------|------------|
| W 1/4 - 20    | 320.00    | 265.00      | 265.00     | 265.00     |
| " 5/16 - 18   | 425.00    | 346.00      | 346.00     | 346.00     |
| " 3/8 - 16    | 510.00    | 416.00      | 416.00     | 416.00     |
| " 1/2 - 12    | 846.00    | 698.00      | 698.00     | 698.00     |
| " 5/8 - 11    | 1,330.00  | 1,090.00    | 1,090.00   | 1,090.00   |
| W 3/4 - 10    | 2,000.00  | 1,640.00    | 1,640.00   | 1,640.00   |
| " 7/8 - 9     | 3,030.00  | 2,530.00    | 2,530.00   | 2,530.00   |
| " 1 - 8       | 4,350.00  | 3,650.00    | 3,650.00   | 3,650.00   |
| UNC 2 - 56    | 500.00    | 408.00      | 408.00     | 408.00     |
| " 4 - 40      | 290.00    | 243.00      | 243.00     | 243.00     |
| UNC 6 - 32    | 275.00    | 230.00      | 230.00     | 230.00     |
| " 8 - 32      | 275.00    | 230.00      | 230.00     | 230.00     |
| " 10 - 24     | 285.00    | 242.00      | 242.00     | 242.00     |
| " 12 - 24     | 290.00    | 247.00      | 247.00     | 247.00     |
| " 1/4 - 20    | 295.00    | 246.00      | 246.00     | 246.00     |
| UNC 5/16 - 18 | 390.00    | 321.00      | 321.00     | 321.00     |
| " 3/8 - 16    | 475.00    | 391.00      | 391.00     | 391.00     |
| " 1/2 - 13    | 730.00    | 610.00      | 610.00     | 610.00     |
| " 5/8 - 11    | 1,155.00  | 956.00      | 956.00     | 956.00     |
| " 3/4 - 10    | 1,760.00  | 1,453.00    | 1,453.00   | 1,453.00   |
| UNC 7/8 - 9   | 2,665.00  | 2,240.00    | 2,240.00   | 2,240.00   |
| " 1 - 8       | 3,825.00  | 3,234.00    | 3,234.00   | 3,234.00   |
| UNF 8 - 36    | 275.00    | 236.00      | 236.00     | 236.00     |
| " 10 - 32     | 285.00    | 242.00      | 242.00     | 242.00     |
| " 12 - 28     | 290.00    | 247.00      | 247.00     | 247.00     |
| UNF 3/16 - 32 | 290.00    | 240.00      | 240.00     | 240.00     |
| " 1/4 - 28    | 295.00    | 246.00      | 246.00     | 246.00     |
| " 5/16 - 24   | 390.00    | 321.00      | 321.00     | 321.00     |
| " 3/8 - 24    | 475.00    | 391.00      | 391.00     | 391.00     |
| " 1/2 - 20    | 730.00    | 610.00      | 610.00     | 610.00     |
| UNF 5/8 - 18  | 1,155.00  | 956.00      | 956.00     | 956.00     |
| " 3/4 - 16    | 1,760.00  | 1,453.00    | 1,453.00   | 1,453.00   |
| " 7/8 - 14    | 2,665.00  | 2,240.00    | 2,240.00   | 2,240.00   |
| " 1 - 12      | 3,825.00  | 3,234.00    | 3,234.00   | 3,234.00   |

# 無屑絲攻

## Fluteless Taps



P型 絲攻先端導角部是4山，且還是完全牙山。

貫通牙孔時，或牙孔底尚有充裕可供攻牙時選用。

B型 絲攻先端導角部是2山，且還是完全牙山。

不貫通牙孔時，或牙孔底沒有充裕可供攻牙時選用。



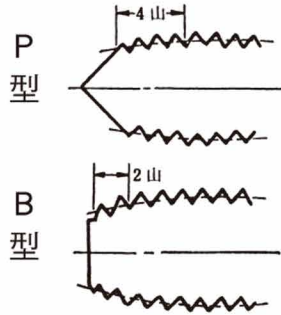
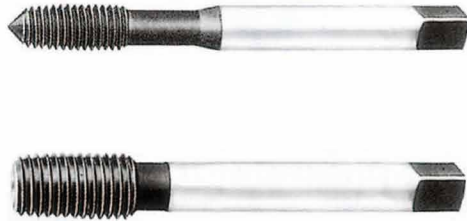
\* 鑽頭孔徑對照表請參考P245

| 規格           | 精度 | HSSCo8(高鈷高速鋼) |          |        | HSS-PM(粉末高速鋼) |          |        |
|--------------|----|---------------|----------|--------|---------------|----------|--------|
|              |    | P·B型(支)       | TiN鍍膜(支) | N鍍膜(支) | P·B型(支)       | TiN鍍膜(支) | N鍍膜(支) |
| M 1 × 0.25   | F4 | 430.00        | 472.00   | 519.00 | 473.00        | 515.00   | 566.00 |
| " 1 × 0.25   | F5 | 430.00        | 472.00   | 519.00 | 473.00        | 515.00   | 566.00 |
| " 1.2 × 0.25 | F4 | 372.00        | 414.00   | 464.00 | 409.00        | 451.00   | 512.00 |
| " 1.2 × 0.25 | F5 | 372.00        | 414.00   | 464.00 | 409.00        | 451.00   | 512.00 |
| " 1.4 × 0.3  | F4 | 341.00        | 383.00   | 431.00 | 375.00        | 417.00   | 475.00 |
| M 1.4 × 0.3  | F5 | 341.00        | 383.00   | 431.00 | 375.00        | 417.00   | 475.00 |
| " 1.6 × 0.35 | F4 | 326.00        | 368.00   | 414.00 | 359.00        | 401.00   | 456.00 |
| " 1.6 × 0.35 | F5 | 326.00        | 368.00   | 414.00 | 359.00        | 401.00   | 456.00 |
| " 1.7 × 0.35 | F3 | 326.00        | 368.00   | 414.00 | 359.00        | 401.00   | 456.00 |
| " 1.7 × 0.35 | F4 | 326.00        | 368.00   | 414.00 | 359.00        | 401.00   | 456.00 |
| M 2 × 0.4    | F3 | 278.00        | 320.00   | 362.00 | 306.00        | 348.00   | 399.00 |
| " 2 × 0.4    | F4 | 278.00        | 320.00   | 362.00 | 306.00        | 348.00   | 399.00 |
| " 2 × 0.4    | F5 | 278.00        | 320.00   | 362.00 | 306.00        | 348.00   | 399.00 |
| " 2.3 × 0.4  | F5 | 319.00        | 361.00   | 408.00 | 352.00        | 394.00   | 448.00 |
| " 2.5 × 0.45 | F4 | 264.00        | 306.00   | 347.00 | 290.00        | 332.00   | 382.00 |
| M 2.5 × 0.45 | F5 | 264.00        | 306.00   | 347.00 | 290.00        | 332.00   | 382.00 |
| " 2.5 × 0.45 | F6 | 264.00        | 306.00   | 347.00 | 290.00        | 332.00   | 382.00 |
| " 2.6 × 0.45 | F5 | 258.00        | 300.00   | 341.00 | 284.00        | 326.00   | 375.00 |
| " 2.6 × 0.45 | F6 | 258.00        | 300.00   | 341.00 | 284.00        | 326.00   | 375.00 |
| " 3 × 0.5    | F5 | 213.00        | 255.00   | 292.00 | 236.00        | 278.00   | 322.00 |
| M 3 × 0.5    | F6 | 213.00        | 255.00   | 292.00 | 236.00        | 278.00   | 322.00 |
| " 3 × 0.5    | F7 | 213.00        | 255.00   | 292.00 | 236.00        | 278.00   | 322.00 |
| " 3.5 × 0.6  | F5 | 223.00        | 265.00   | 304.00 | 246.00        | 288.00   | 334.00 |
| " 4 × 0.7    | F6 | 229.00        | 271.00   | 310.00 | 253.00        | 295.00   | 341.00 |
| " 4 × 0.7    | F7 | 229.00        | 271.00   | 310.00 | 253.00        | 295.00   | 341.00 |
| M 4 × 0.7    | F8 | 229.00        | 271.00   | 310.00 | 253.00        | 295.00   | 341.00 |
| " 5 × 0.8    | F6 | 242.00        | 284.00   | 330.00 | 267.00        | 309.00   | 363.00 |
| " 5 × 0.8    | F7 | 242.00        | 284.00   | 330.00 | 267.00        | 309.00   | 363.00 |
| " 6 × 1.0    | F7 | 260.00        | 302.00   | 351.00 | 288.00        | 330.00   | 385.00 |
| " 6 × 1.0    | F8 | 260.00        | 302.00   | 351.00 | 288.00        | 330.00   | 385.00 |

※型錄未刊載之規格與價格，敬請另外洽詢。

# 無屑絲攻

## Fluteless Taps



絲攻先端導角部是4山，且還是完全牙山。

貫通牙孔時，或牙孔底尚有充裕可供攻牙時選用。

絲攻先端導角部是2山，且還是完全牙山。

不貫通牙孔時，或牙孔底沒有充裕可供攻牙時選用。



\* 鑽頭孔徑對照表請參考P245

| 規格           | 精度 | HSSCo8(高鈷高速鋼) |          |        | HSS-PM(粉末高速鋼) |          |        |
|--------------|----|---------------|----------|--------|---------------|----------|--------|
|              |    | P·B型(支)       | TiN鍍膜(支) | N鍍膜(支) | P·B型(支)       | TiN鍍膜(支) | N鍍膜(支) |
| M 8 × 1.25   | F8 | 395.00        | 445.00   | 501.00 | 434.00        | 484.00   | 552.00 |
| " 10 × 1.25  | F8 | 448.00        | 506.00   | 571.00 | 493.00        | 551.00   | 630.00 |
| " 10 × 1.5   | F8 | 448.00        | 506.00   | 571.00 | 493.00        | 551.00   | 630.00 |
| " 12 × 1.75  | F8 | 701.00        | 776.00   | 869.00 | 772.00        | 847.00   | 957.00 |
| UNF 0 - 80   | F4 | 555.00        | 597.00   | 648.00 | 611.00        | 653.00   | 713.00 |
| UNF 1 - 72   | F4 | 444.00        | 486.00   | 536.00 | 490.00        | 532.00   | 592.00 |
| " 10 - 32    | F6 | 283.00        | 325.00   | 369.00 | 312.00        | 354.00   | 406.00 |
| " 1/4 - 28   | F6 | 305.00        | 355.00   | 398.00 | 336.00        | 386.00   | 439.00 |
| " 5/16 - 24  | F8 | 434.00        | 484.00   | 543.00 | 478.00        | 528.00   | 598.00 |
| " 3/8 - 24   | F8 | 518.00        | 576.00   | 623.00 | 571.00        | 629.00   | 688.00 |
| UNC 1 - 64   | F4 | 444.00        | 486.00   | 536.00 | 490.00        | 532.00   | 592.00 |
| " 2 - 56     | F4 | 371.00        | 413.00   | 463.00 | 408.00        | 450.00   | 510.00 |
| " 4 - 40     | F5 | 298.00        | 340.00   | 385.00 | 329.00        | 371.00   | 423.00 |
| " 4 - 40     | F6 | 298.00        | 340.00   | 385.00 | 329.00        | 371.00   | 423.00 |
| " 5 - 40     | F5 | 397.00        | 439.00   | 486.00 | 437.00        | 479.00   | 535.00 |
| UNC 6 - 32   | F5 | 241.00        | 283.00   | 323.00 | 265.00        | 307.00   | 355.00 |
| " 6 - 32     | F6 | 241.00        | 283.00   | 323.00 | 265.00        | 307.00   | 355.00 |
| " 8 - 32     | F6 | 264.00        | 306.00   | 347.00 | 290.00        | 332.00   | 382.00 |
| " 10 - 24    | F7 | 283.00        | 325.00   | 369.00 | 312.00        | 354.00   | 406.00 |
| " 12 - 24    | F7 | 294.00        | 336.00   | 386.00 | 324.00        | 366.00   | 425.00 |
| UNC 1/4 - 20 | F6 | 305.00        | 355.00   | 398.00 | 336.00        | 386.00   | 439.00 |
| " 5/16 - 18  | F8 | 434.00        | 484.00   | 543.00 | 478.00        | 528.00   | 598.00 |
| " 3/8 - 16   | F8 | 518.00        | 576.00   | 623.00 | 571.00        | 629.00   | 688.00 |

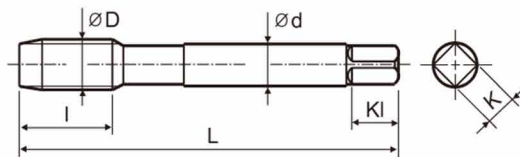
# 長柄無屑絲攻

## Long Shank Fluteless Taps

| 規格          | HSSCo8(高鈷高速鋼) |        | HSS-PM(粉末高速鋼) |        | 規格               | HSSCo8(高鈷高速鋼) |          | HSS-PM(粉末高速鋼) |          |
|-------------|---------------|--------|---------------|--------|------------------|---------------|----------|---------------|----------|
|             | P·B型          | TiN鍍膜  | P·B型          | TiN鍍膜  |                  | P·B型          | TiN鍍膜    | P·B型          | TiN鍍膜    |
| M 3×0.5×100 | 710.00        | 782.00 | 746.00        | 818.00 | M 6×1.0×100      | 855.00        | 927.00   | 898.00        | 970.00   |
| " 4×0.7×100 | 735.00        | 807.00 | 772.00        | 844.00 | UNC 4 - 40 - 100 | 950.00        | 1,022.00 | 998.00        | 1,070.00 |
| " 5×0.8×100 | 830.00        | 902.00 | 872.00        | 944.00 | " 6 - 32 - 100   | 920.00        | 992.00   | 966.00        | 1,038.00 |

# 鎂合金加工專用長柄機械絲攻

## Long Shank Machine Taps for Magnesium Alloys



\* 針對加工非鐵金屬合金所設計的切削刃角，切削性能更加優異。

### 直刃型(Straight Flute)

| 規 格          | 全長(L) | 刃長(l) | 柄徑(d) | 四角寬(K) | 四角長(KI) | 刃數(N) | 價(支)格         |
|--------------|-------|-------|-------|--------|---------|-------|---------------|
| M 2 × 0.4    | 55    | 15    | 3     | 2.5    | 5       | 3     | <b>325.00</b> |
| " 2.5 × 0.45 | 55    | 16    | 3     | 2.5    | 5       | 3     | <b>292.00</b> |
| " 2.6 × 0.45 | 60    | 16    | 3     | 2.5    | 5       | 3     | <b>245.00</b> |
| " 2 × 0.4    | 70    | 15    | 3     | 2.5    | 5       | 3     | <b>494.00</b> |
| " 2.5 × 0.45 | 70    | 16    | 3     | 2.5    | 5       | 3     | <b>441.00</b> |
| " 2.6 × 0.45 | 70    | 16    | 3     | 2.5    | 5       | 3     | <b>400.00</b> |
| " 3 × 0.5    | 70    | 18    | 4     | 3.2    | 6       | 3     | <b>300.00</b> |

### 螺旋刃型(Spiral Flute)

| 規 格          | 全長(L) | 刃長(l) | 柄徑(d) | 四角寬(K) | 四角長(KI) | 刃數(N) | 價(支)格         |
|--------------|-------|-------|-------|--------|---------|-------|---------------|
| M 2 × 0.4    | 80    | 15    | 3     | 2.5    | 5       | 3     | <b>624.00</b> |
| " 2.5 × 0.45 | 80    | 16    | 3     | 2.5    | 5       | 3     | <b>591.00</b> |
| " 2.6 × 0.45 | 80    | 16    | 3     | 2.5    | 5       | 3     | <b>553.00</b> |
| " 3 × 0.5    | 80    | 18    | 4     | 3.2    | 6       | 3     | <b>495.00</b> |

| 材質編號        |              | 常用高速鋼成分表(%) |       |       |      |       |      |
|-------------|--------------|-------------|-------|-------|------|-------|------|
| 歐美編號        | 日本編號         | 碳(C)        | 鉻(Cr) | 鉬(Mo) | 鎢(W) | 鈷(Co) | 鈮(V) |
| HSS(M2)     | SKH9 · SKH51 | 0.9         | 4.2   | 5     | 6.4  | —     | 1.8  |
| HSS-EX      | HSS-E        | 1.2         | 4.2   | 8.5   | 3.5  | —     | 2.7  |
| HSSCo5(M35) | SKH55        | 0.93        | 4.2   | 5     | 6.4  | 4.8   | 1.8  |
| HSSCo8(M42) | SKH56        | 1.08        | 3.8   | 9.4   | 1.5  | 8     | 1.2  |
| HSS-PM      | PM           | 1.28        | 4.2   | 5     | 6.4  | 8.5   | 3    |

# 加大規格螺旋絲攻 · 先端絲攻

Oversize Spiral Fluted Taps & Spiral Pointed Taps



| 規 格          | 螺旋絲攻 <b>S.F.T</b> · 先端絲攻 <b>P.O.T</b> |          |          |          |          |          |
|--------------|---------------------------------------|----------|----------|----------|----------|----------|
|              | +0.03                                 | +0.05    | +0.07    | +0.1     | +0.12    | +0.15    |
| M 2 × 0.4    | 430.00                                | 430.00   | 460.00   | 460.00   | 552.00   | 552.00   |
| " 2.5 × 0.45 | 382.00                                | 382.00   | 413.00   | 413.00   | 496.00   | 496.00   |
| " 2.6 × 0.45 | 323.00                                | 323.00   | 348.00   | 348.00   | 418.00   | 418.00   |
| " 3 × 0.5    | 257.00                                | 257.00   | 278.00   | 278.00   | 334.00   | 334.00   |
| " 3.5 × 0.6  | 293.00                                | 293.00   | 316.00   | 316.00   | 379.00   | 379.00   |
| " 4 × 0.7    | 244.00                                | 244.00   | 263.00   | 263.00   | 316.00   | 316.00   |
| M 5 × 0.8    | 249.00                                | 249.00   | 268.00   | 268.00   | 322.00   | 322.00   |
| " 6 × 1.0    | 264.00                                | 264.00   | 284.00   | 284.00   | 341.00   | 341.00   |
| " 8 × 1.25   | 361.00                                | 361.00   | 388.00   | 388.00   | 466.00   | 466.00   |
| " 10 × 1.25  | 478.00                                | 478.00   | 515.00   | 515.00   | 618.00   | 618.00   |
| " 10 × 1.5   | 478.00                                | 478.00   | 515.00   | 515.00   | 618.00   | 618.00   |
| " 12 × 1.5   | 640.00                                | 640.00   | 689.00   | 689.00   | 827.00   | 827.00   |
| M 12 × 1.75  | 640.00                                | 640.00   | 689.00   | 689.00   | 827.00   | 827.00   |
| " 14 × 1.5   | 854.00                                | 854.00   | 920.00   | 920.00   | 1,104.00 | 1,104.00 |
| " 14 × 2.0   | 854.00                                | 854.00   | 920.00   | 920.00   | 1,104.00 | 1,104.00 |
| " 16 × 1.5   | 1,132.00                              | 1,132.00 | 1,220.00 | 1,220.00 | 1,464.00 | 1,464.00 |
| " 16 × 2.0   | 1,132.00                              | 1,132.00 | 1,220.00 | 1,220.00 | 1,464.00 | 1,464.00 |
| W 3/16 – 24  | 258.00                                | 258.00   | 280.00   | 280.00   | 336.00   | 336.00   |
| W 1/4 – 20   | 328.00                                | 328.00   | 352.00   | 352.00   | 422.00   | 422.00   |
| " 5/16 – 18  | 432.00                                | 432.00   | 465.00   | 465.00   | 558.00   | 558.00   |
| " 3/8 – 16   | 520.00                                | 520.00   | 558.00   | 558.00   | 670.00   | 670.00   |
| " 1/2 – 12   | 861.00                                | 861.00   | 930.00   | 930.00   | 1,116.00 | 1,116.00 |
| UNC 2 – 56   | 527.00                                | 527.00   | 570.00   | 570.00   | 684.00   | 684.00   |
| " 4 – 40     | 305.00                                | 305.00   | 320.00   | 320.00   | 384.00   | 384.00   |
| UNC 6 – 32   | 283.00                                | 283.00   | 306.00   | 306.00   | 367.00   | 367.00   |
| " 8 – 32     | 283.00                                | 283.00   | 306.00   | 306.00   | 367.00   | 367.00   |
| " 10 – 24    | 292.00                                | 292.00   | 314.00   | 314.00   | 377.00   | 377.00   |
| " 1/4 – 20   | 328.00                                | 328.00   | 352.00   | 352.00   | 422.00   | 422.00   |
| " 5/16 – 18  | 432.00                                | 432.00   | 465.00   | 465.00   | 558.00   | 558.00   |
| " 3/8 – 16   | 520.00                                | 520.00   | 558.00   | 558.00   | 670.00   | 670.00   |
| UNC 1/2 – 13 | 861.00                                | 861.00   | 930.00   | 930.00   | 1,116.00 | 1,116.00 |
| UNF 10 – 32  | 292.00                                | 292.00   | 314.00   | 314.00   | 377.00   | 377.00   |
| " 1/4 – 28   | 328.00                                | 328.00   | 352.00   | 352.00   | 422.00   | 422.00   |
| " 5/16 – 24  | 432.00                                | 432.00   | 465.00   | 465.00   | 558.00   | 558.00   |
| " 3/8 – 24   | 520.00                                | 520.00   | 558.00   | 558.00   | 670.00   | 670.00   |
| " 1/2 – 20   | 861.00                                | 861.00   | 930.00   | 930.00   | 1,116.00 | 1,116.00 |

# 鋒鋼長柄機械絲攻

## Long Shank Machine Taps


 長柄直刃型**LHT**

 長柄螺旋刃型**LSFT**

 長柄先端型**LPOT**

| 規 格            | LHT(支)          | LSFT.LPOT(支)    | 鍍膜LSFT.LPOT(支)  |
|----------------|-----------------|-----------------|-----------------|
| M 2×0.4 ×100   | —               | <b>1,020.00</b> | <b>1,130.00</b> |
| " 2.5×0.45×100 | —               | <b>910.00</b>   | <b>1,020.00</b> |
| " 2.6×0.45× 85 | <b>667.00</b>   | —               | —               |
| " " 100        | —               | <b>760.00</b>   | <b>870.00</b>   |
| " 3×0.5 ×100   | <b>490.00</b>   | <b>630.00</b>   | <b>730.00</b>   |
| M 3×0.5 ×120   | <b>620.00</b>   | <b>730.00</b>   | <b>845.00</b>   |
| " 3.5×0.6 ×100 | —               | <b>680.00</b>   | <b>780.00</b>   |
| " 4×0.7 ×100   | <b>440.00</b>   | <b>580.00</b>   | <b>670.00</b>   |
| " " 120        | <b>565.00</b>   | <b>728.00</b>   | <b>833.00</b>   |
| " " 150        | <b>785.00</b>   | <b>1,030.00</b> | <b>1,155.00</b> |
| M 5×0.8 ×100   | <b>400.00</b>   | <b>500.00</b>   | <b>585.00</b>   |
| " " 120        | <b>525.00</b>   | <b>676.00</b>   | <b>771.00</b>   |
| " " 150        | <b>620.00</b>   | <b>790.00</b>   | <b>905.00</b>   |
| " 6×1.0 ×100   | <b>345.00</b>   | <b>440.00</b>   | <b>520.00</b>   |
| " " 120        | <b>435.00</b>   | <b>645.00</b>   | <b>735.00</b>   |
| M 6×1.0 ×150   | <b>575.00</b>   | <b>840.00</b>   | <b>950.00</b>   |
| " " 200        | —               | <b>1,050.00</b> | <b>1,180.00</b> |
| " 8×1.25×100   | <b>425.00</b>   | <b>535.00</b>   | <b>625.00</b>   |
| " " 120        | <b>535.00</b>   | <b>756.00</b>   | <b>856.00</b>   |
| " " 150        | <b>715.00</b>   | <b>1,055.00</b> | <b>1,175.00</b> |
| M 8×1.25×200   | —               | <b>1,319.00</b> | <b>1,459.00</b> |
| " 10×1.25×100  | <b>510.00</b>   | <b>670.00</b>   | <b>770.00</b>   |
| " " 120        | <b>615.00</b>   | <b>888.00</b>   | <b>1,003.00</b> |
| " " 150        | <b>840.00</b>   | <b>1,242.00</b> | <b>1,377.00</b> |
| " 10×1.5 ×100  | <b>510.00</b>   | <b>637.00</b>   | <b>737.00</b>   |
| M 10×1.5 ×120  | <b>615.00</b>   | <b>862.00</b>   | <b>977.00</b>   |
| " " 150        | <b>840.00</b>   | <b>1,242.00</b> | <b>1,377.00</b> |
| " " 200        | —               | <b>1,553.00</b> | <b>1,713.00</b> |
| " 12×1.25×100  | <b>750.00</b>   | <b>920.00</b>   | <b>1,040.00</b> |
| " " 120        | <b>890.00</b>   | <b>1,220.00</b> | <b>1,355.00</b> |
| M 12×1.25×150  | <b>1,100.00</b> | <b>1,750.00</b> | <b>1,910.00</b> |
| " 12×1.5 ×100  | <b>730.00</b>   | <b>900.00</b>   | <b>1,020.00</b> |
| " " 120        | <b>850.00</b>   | <b>1,106.00</b> | <b>1,241.00</b> |
| " " 150        | <b>1,090.00</b> | <b>1,612.00</b> | <b>1,772.00</b> |

# 鋒鋼長柄機械絲攻

Long Shank Machine Taps



長柄直刃型**LHT**



長柄螺旋刃型**LSFT**



長柄先端型**LPOT**

| 規 格           | LHT(支)   | LSFT.LPOT(支) | 鍍膜LSFT.LPOT(支) |
|---------------|----------|--------------|----------------|
| M 12×1.75×100 | 730.00   | 837.00       | 957.00         |
| " " 120       | 850.00   | 1,072.00     | 1,207.00       |
| " " 150       | 970.00   | 1,580.00     | 1,740.00       |
| " " 200       | —        | 1,975.00     | 2,165.00       |
| " 14×1.0 ×100 | 950.00   | —            | —              |
| M 14×1.5 ×100 | 830.00   | —            | —              |
| " " 120       | 970.00   | 1,214.00     | 1,364.00       |
| " " 150       | 1,390.00 | 1,860.00     | 2,035.00       |
| " 14×2.0 ×100 | 830.00   | —            | —              |
| " " 120       | 970.00   | 1,210.00     | 1,360.00       |
| M 14×2.0 ×150 | 1,390.00 | 1,720.00     | 1,895.00       |
| " " 200       | —        | 2,150.00     | 1,915.00       |
| " 16×1.5 ×120 | 1,210.00 | 1,740.00     | 2,360.00       |
| " " 150       | 1,420.00 | 2,045.00     | 2,250.00       |
| " " 200       | 1,860.00 | 2,355.00     | 2,605.00       |
| M 16×2.0 ×120 | 1,210.00 | 1,698.00     | 1,873.00       |
| " " 150       | 1,420.00 | 1,928.00     | 2,133.00       |
| " " 200       | 1,860.00 | 2,355.00     | 2,605.00       |
| " 18×1.5 ×150 | 2,060.00 | 2,385.00     | 2,615.00       |
| " " 200       | 2,560.00 | 3,060.00     | 3,340.00       |
| M 18×2.5 ×150 | 1,980.00 | 2,200.00     | 2,430.00       |
| " " 200       | 2,560.00 | 3,060.00     | 3,340.00       |
| " 20×1.5 ×150 | 2,520.00 | 2,960.00     | 3,225.00       |
| " " 200       | 3,280.00 | 3,896.00     | 4,216.00       |
| " 20×2.5 ×150 | 2,520.00 | 2,960.00     | 3,225.00       |
| M 20×2.5 ×200 | 3,280.00 | 3,896.00     | 4,216.00       |
| " 22×1.5 ×150 | 2,875.00 | 3,350.00     | 3,635.00       |
| " " 200       | 3,520.00 | 4,210.00     | 4,560.00       |
| " 22×2.5 ×150 | 2,875.00 | 3,350.00     | 3,635.00       |
| " " 200       | 3,520.00 | 4,210.00     | 4,560.00       |
| M 24×1.5 ×150 | 3,310.00 | 3,870.00     | 4,275.00       |
| " " 200       | 4,070.00 | 4,865.00     | 5,270.00       |
| " 24×3.0 ×150 | 3,310.00 | 3,870.00     | 4,275.00       |
| " " 200       | 4,070.00 | 4,865.00     | 5,270.00       |



# 鋒鋼長柄機械絲攻

## Long Shank Machine Taps



長柄直刃型**LHT**



長柄螺旋刃型**LSFT**



長柄先端型**LPOT**

| 規 格             | LHT(支)   | LSFT.LPOT(支) | 鍍膜LSFT.LPOT(支) |
|-----------------|----------|--------------|----------------|
| W 1/8 - 40-100  | 770.00   | 910.00       | 1,010.00       |
| " 5/32 - 32-100 | 690.00   | 835.00       | 925.00         |
| " " 120         | 795.00   | 950.00       | 1,055.00       |
| " " 150         | 1,110.00 | 1,380.00     | 1,505.00       |
| " 3/16 - 24-100 | 630.00   | 730.00       | 815.00         |
| W 3/16 - 24-120 | 760.00   | 885.00       | 980.00         |
| " " -150        | 875.00   | 1,070.00     | 1,185.00       |
| " 1/4 - 20-100  | 535.00   | 640.00       | 720.00         |
| " " 120         | 680.00   | 835.00       | 925.00         |
| " " 150         | 900.00   | 1,120.00     | 1,230.00       |
| W 5/16 - 18-100 | 665.00   | 770.00       | 860.00         |
| " " 120         | 835.00   | 980.00       | 1,080.00       |
| " " 150         | 1,120.00 | 1,405.00     | 1,525.00       |
| " 3/8 - 16-100  | 770.00   | 900.00       | 1,000.00       |
| " " 120         | 965.00   | 1,110.00     | 1,225.00       |
| W 3/8 - 16-150  | 1,300.00 | 1,655.00     | 1,790.00       |
| " 1/2 - 12-100  | 1,030.00 | 1,120.00     | 1,240.00       |
| " " 120         | 1,330.00 | 1,405.00     | 1,540.00       |
| " " 150         | 1,705.00 | 2,135.00     | 2,295.00       |
| " 5/8 - 11-120  | 1,720.00 | -            | -              |
| W 5/8 - 11-150  | 2,210.00 | 2,705.00     | 2,910.00       |
| " " 200         | 2,540.00 | 3,045.00     | 3,295.00       |
| " 3/4 - 10-150  | 3,810.00 | 4,590.00     | 4,840.00       |
| " " 200         | 4,660.00 | 5,330.00     | 5,635.00       |
| " 7/8 - 9-150   | 4,750.00 | -            | -              |
| W 7/8 - 9-200   | 5,020.00 | 5,830.00     | 6,180.00       |
| " 1 - 8-150     | 5,960.00 | -            | -              |
| " " 200         | 6,350.00 | 7,320.00     | 7,730.00       |

# 鋒鋼長柄機械絲攻

Long Shank Machine Taps



長柄直刃型**LHT**



長柄螺旋刃型**LSFT**



長柄先端型**LPOT**

| 規 格                | LHT(支)   | LSFT.LPOT(支) | 鍍膜LSFT.LPOT(支) |
|--------------------|----------|--------------|----------------|
| UNC 4 - 40 - 100   | 815.00   | 985.00       | 1,085.00       |
| " 6 - 32 - 100     | 745.00   | 915.00       | 1,005.00       |
| " " 120            | 985.00   | 1,130.00     | 1,235.00       |
| " 8 - 32 - 100     | 745.00   | 915.00       | 1,000.00       |
| " " 120            | 985.00   | 1,130.00     | 1,225.00       |
| UNC 8 - 32 - 150   | 1,365.00 | 1,585.00     | 1,700.00       |
| " 10 - 24 - 100    | 650.00   | 795.00       | 880.00         |
| " " 120            | 915.00   | 1,030.00     | 1,125.00       |
| " " 150            | 1,080.00 | 1,295.00     | 1,410.00       |
| " 1/4 - 20 - 100   | 535.00   | 640.00       | 720.00         |
| UNC 1/4 - 20 - 120 | 680.00   | 835.00       | 925.00         |
| " " 150            | 900.00   | 1,120.00     | 1,230.00       |
| " 5/16 - 18 - 100  | 665.00   | 770.00       | 860.00         |
| " " 120            | 835.00   | 980.00       | 1,080.00       |
| " " 150            | 1,120.00 | 1,405.00     | 1,525.00       |
| UNC 3/8 - 16 - 100 | 770.00   | 900.00       | 1,000.00       |
| " " 120            | 965.00   | 1,110.00     | 1,225.00       |
| " " 150            | 1,300.00 | 1,655.00     | 1,790.00       |
| " 1/2 - 13 - 100   | 1,030.00 | 1,120.00     | 1,240.00       |
| " " 120            | 1,330.00 | 1,405.00     | 1,540.00       |
| UNC 1/2 - 13 - 150 | 1,705.00 | 2,135.00     | 2,295.00       |
| UNF 10 - 32 - 100  | 650.00   | 795.00       | 880.00         |
| " " 120            | 915.00   | 1,030.00     | 1,125.00       |
| " " 150            | 1,080.00 | 1,295.00     | 1,410.00       |
| " 1/4 - 28 - 100   | 535.00   | 640.00       | 720.00         |
| UNF 1/4 - 28 - 120 | 680.00   | 835.00       | 925.00         |
| " " 150            | 900.00   | 1,120.00     | 1,230.00       |
| " 5/16 - 24 - 100  | 665.00   | 770.00       | 860.00         |
| " " 120            | 835.00   | 980.00       | 1,080.00       |
| " " 150            | 1,120.00 | 1,405.00     | 1,525.00       |
| UNF 3/8 - 24 - 100 | 770.00   | 900.00       | 1,000.00       |
| " " 120            | 965.00   | 1,110.00     | 1,225.00       |
| " " 150            | 1,300.00 | 1,655.00     | 1,790.00       |
| " 1/2 - 20 - 100   | 1,030.00 | 1,120.00     | 1,240.00       |
| " " 120            | 1,330.00 | 1,405.00     | 1,540.00       |
| " " 150            | 1,705.00 | 2,135.00     | 2,295.00       |

## 管牙絲攻

Pipe Taps



跳牙型



標準型

單位：支

| 英制牙        | PS直牙     |                  |                 | PT斜牙     |                  |                 |                 |                 | PF直牙     |                  |                 |
|------------|----------|------------------|-----------------|----------|------------------|-----------------|-----------------|-----------------|----------|------------------|-----------------|
|            | SKS      | SKH              | HSS<br>鈦金處理     | SKS      | SKH              | HSS<br>鈦金處理     | SKH<br>短牙       | SKH<br>跳牙       | SKS      | SKH              | HSS<br>鈦金處理     |
| 1/16 - 28  | 150.00   |                  |                 | 170.00   | <b>425.00</b>    |                 |                 |                 |          |                  |                 |
| 1/8 - 28   | 134.00   | <b>341.00</b>    | <b>445.00</b>   | 155.00   | <b>390.00</b>    | <b>510.00</b>   | <b>450.00</b>   | <b>733.00</b>   | 147.00   | <b>341.00</b>    | <b>445.00</b>   |
| 1/4 - 19   | 200.00   | <b>486.00</b>    | <b>635.00</b>   | 231.00   | <b>557.00</b>    | <b>725.00</b>   | <b>650.00</b>   | <b>1,053.00</b> | 220.00   | <b>486.00</b>    | <b>635.00</b>   |
| 3/8 - 19   | 330.00   | <b>780.00</b>    | <b>1,020.00</b> | 370.00   | <b>910.00</b>    | <b>1,185.00</b> | <b>1,080.00</b> | <b>1,651.00</b> | 344.00   | <b>780.00</b>    | <b>1,020.00</b> |
| 1/2 - 14   | 475.00   | <b>1,207.00</b>  | <b>1,570.00</b> | 546.00   | <b>1,390.00</b>  | <b>1,810.00</b> | <b>1,640.00</b> | <b>2,580.00</b> | 497.00   | <b>1,207.00</b>  | <b>1,570.00</b> |
| 5/8 - 14   | 650.00   |                  |                 | 760.00   | <b>2,014.00</b>  |                 |                 |                 | 700.00   |                  |                 |
| 3/4 - 14   | 685.00   | <b>1,713.00</b>  | <b>2,230.00</b> | 778.00   | <b>2,014.00</b>  | <b>2,620.00</b> | <b>2,970.00</b> | <b>4,328.00</b> | 703.00   | <b>1,713.00</b>  | <b>2,230.00</b> |
| 1 - 11     | 1,120.00 | <b>2,662.00</b>  | <b>3,465.00</b> | 1,247.00 | <b>3,058.00</b>  | <b>3,980.00</b> | <b>4,510.00</b> | <b>8,125.00</b> | 1,170.00 | <b>2,662.00</b>  | <b>3,465.00</b> |
| 1 1/4 - 11 | 1,880.00 | <b>3,900.00</b>  |                 | 1,812.00 | <b>4,420.00</b>  |                 |                 |                 | 1,794.00 | <b>3,900.00</b>  |                 |
| 1 1/2 - 11 | 2,760.00 | <b>5,390.00</b>  |                 | 2,792.00 | <b>6,240.00</b>  |                 |                 |                 |          | <b>5,390.00</b>  |                 |
| 2 - 11     | 5,465.00 | <b>10,200.00</b> |                 | 6,432.00 | <b>11,568.00</b> |                 |                 |                 |          | <b>10,200.00</b> |                 |

## 管牙絲攻

Pipe Taps



標準型



標準型

單位：支

| 美制牙            | NPS直牙    |                  |                 | NPT斜牙    |                  |                 | NPTF斜牙   |                 |                 |
|----------------|----------|------------------|-----------------|----------|------------------|-----------------|----------|-----------------|-----------------|
|                | SKS      | SKH              | HSS<br>鈦金處理     | SKS      | SKH              | HSS<br>鈦金處理     | SKS      | SKH             | HSS<br>鈦金處理     |
| 1/16 - 27      | 154.00   |                  |                 | 181.00   | <b>505.00</b>    |                 |          |                 |                 |
| 1/8 - 27       | 154.00   | <b>402.00</b>    | <b>525.00</b>   | 181.00   | <b>463.00</b>    | <b>605.00</b>   | 200.00   | <b>510.00</b>   | <b>665.00</b>   |
| 1/4 - 18       | 233.00   | <b>563.00</b>    | <b>735.00</b>   | 270.00   | <b>662.00</b>    | <b>865.00</b>   | 297.00   | <b>729.00</b>   | <b>950.00</b>   |
| 3/8 - 18       | 377.00   | <b>903.00</b>    | <b>1,175.00</b> | 435.00   | <b>1,102.00</b>  | <b>1,435.00</b> | 479.00   | <b>1,213.00</b> | <b>1,580.00</b> |
| 1/2 - 14       | 546.00   | <b>1,302.00</b>  | <b>1,695.00</b> | 644.00   | <b>1,644.00</b>  | <b>2,140.00</b> | 709.00   | <b>1,809.00</b> | <b>2,355.00</b> |
| 3/4 - 14       | 742.00   | <b>1,800.00</b>  | <b>2,340.00</b> | 861.00   | <b>2,120.00</b>  | <b>2,760.00</b> | 947.00   | <b>2,515.00</b> | <b>3,270.00</b> |
| 1 - 11 1/2     | 1,217.00 | <b>2,840.00</b>  | <b>3,695.00</b> | 1,405.00 | <b>3,210.00</b>  | <b>4,175.00</b> | 1,546.00 | <b>3,749.00</b> | <b>4,875.00</b> |
| 1 1/4 - 11 1/2 | 1,951.00 | <b>4,100.00</b>  |                 | 2,137.00 | <b>4,640.00</b>  |                 |          |                 |                 |
| 1 1/2 - 11 1/2 | 2,790.00 | <b>5,660.00</b>  |                 | 3,292.00 | <b>6,454.00</b>  |                 |          |                 |                 |
| 2 - 11 1/2     | 6,467.00 | <b>10,980.00</b> |                 | 7,904.00 | <b>13,250.00</b> |                 |          |                 |                 |

# 螺旋牙管牙絲攻

Spiral Fluted Pipe Taps



單位：支

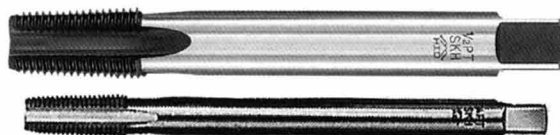
**HSS**  
鈦金處理高硬度用

| 英制牙    | PS · PF直牙 |             | PT斜牙     |             | 美制牙      | NPS直牙    |             | NPT斜牙    |             |
|--------|-----------|-------------|----------|-------------|----------|----------|-------------|----------|-------------|
|        | SKH       | HSS<br>鈦金處理 | SKH      | HSS<br>鈦金處理 |          | SKH      | HSS<br>鈦金處理 | SKH      | HSS<br>鈦金處理 |
| 1/8-28 | 410.00    | 535.00      | 468.00   | 610.00      | 1/8-27   | 483.00   | 630.00      | 560.00   | 730.00      |
| 1/4-19 | 583.00    | 760.00      | 670.00   | 875.00      | 1/4-18   | 676.00   | 880.00      | 795.00   | 1,035.00    |
| 3/8-19 | 936.00    | 1,220.00    | 1,092.00 | 1,420.00    | 3/8-18   | 1,085.00 | 1,415.00    | 1,325.00 | 1,725.00    |
| 1/2-14 | 1,450.00  | 1,890.00    | 1,670.00 | 2,175.00    | 1/2-14   | 1,580.00 | 2,055.00    | 1,975.00 | 2,570.00    |
| 3/4-14 | 2,060.00  | 2,680.00    | 2,660.00 | 3,460.00    | 3/4-14   | 2,290.00 | 2,980.00    | 2,784.00 | 3,620.00    |
| 1-11   | 3,195.00  | 4,155.00    | 4,030.00 | 5,240.00    | 1-11 1/2 | 3,580.00 | 4,655.00    | 4,090.00 | 5,320.00    |

**SKH**

# 鋒鋼長柄管牙機械絲攻

Long Shank Pipe Taps



| 規 格        | 100長(支)  | 120長(支)  | 150長(支)  | 200長(支)   |
|------------|----------|----------|----------|-----------|
| PS 1/8-28  | 770.00   | 1,000.00 | 1,370.00 | -         |
| " 1/4-19   | 1,035.00 | 1,365.00 | 1,400.00 | -         |
| " 3/8-19   | 1,320.00 | 1,720.00 | 2,330.00 | -         |
| " 1/2-14   | -        | 2,175.00 | 2,760.00 | -         |
| " 3/4-14   | -        | 4,080.00 | 4,420.00 | 6,050.00  |
| " 1-11     | -        | 5,890.00 | 6,510.00 | 8,780.00  |
| PT 1/8-28  | 950.00   | 1,185.00 | 1,700.00 | -         |
| " 1/4-19   | 1,230.00 | 1,625.00 | 1,720.00 | -         |
| " 3/8-19   | 1,680.00 | 2,095.00 | 2,870.00 | -         |
| " 1/2-14   | -        | 2,560.00 | 3,330.00 | -         |
| " 3/4-14   | -        | 4,780.00 | 5,320.00 | 7,255.00  |
| " 1-11     | -        | 6,730.00 | 7,600.00 | 10,140.00 |
| NPS 1/8-27 | 910.00   | 1,130.00 | 1,650.00 | -         |
| " 1/4-18   | 1,220.00 | 1,535.00 | 1,705.00 | -         |
| " 3/8-18   | 1,535.00 | 1,975.00 | 2,770.00 | -         |
| " 1/2-14   | -        | 2,500.00 | 3,270.00 | -         |
| " 3/4-14   | -        | 4,590.00 | 5,230.00 | 6,950.00  |
| " 1-11 1/2 | -        | 6,670.00 | 7,600.00 | 10,090.00 |
| NPT 1/8-27 | 1,070.00 | 1,340.00 | 1,965.00 | -         |
| " 1/4-18   | 1,470.00 | 1,850.00 | 1,990.00 | -         |
| " 3/8-18   | 1,890.00 | 2,370.00 | 3,280.00 | -         |
| " 1/2-14   | -        | 2,890.00 | 3,840.00 | -         |
| " 3/4-14   | -        | 5,390.00 | 6,140.00 | 8,165.00  |
| " 1-11 1/2 | -        | 7,710.00 | 8,775.00 | 11,410.00 |

# 鋒鋼左牙螺旋絲攻・先端絲攻

Spiral Fluted Taps & Spiral Pointed Taps for Left Hand



單位：支

| 規 格            | 螺旋絲攻            | 先端絲攻            | 規 格           | 螺旋絲攻            | 先端絲攻            |
|----------------|-----------------|-----------------|---------------|-----------------|-----------------|
| M 2 × 0.4 左    | <b>535.00</b>   | <b>535.00</b>   | M 20 × 1.5 左  | <b>2,725.00</b> | <b>2,725.00</b> |
| " 2.5 × 0.45 " | <b>475.00</b>   | <b>475.00</b>   | " 20 × 2.5 "  | <b>2,725.00</b> | <b>2,725.00</b> |
| " 2.6 × 0.45 " | <b>404.00</b>   | <b>404.00</b>   | " 22 × 1.5 "  | <b>3,510.00</b> | <b>3,510.00</b> |
| " 3 × 0.5 "    | <b>315.00</b>   | <b>315.00</b>   | " 22 × 2.5 "  | <b>3,510.00</b> | <b>3,510.00</b> |
| " 3.5 × 0.6 "  | <b>364.00</b>   | <b>364.00</b>   | " 24 × 1.5 "  | <b>4,625.00</b> | <b>4,625.00</b> |
| M 4 × 0.7 左    | <b>300.00</b>   | <b>300.00</b>   | M 24 × 3.0 左  | <b>4,625.00</b> | <b>4,625.00</b> |
| " 5 × 0.8 "    | <b>305.00</b>   | <b>305.00</b>   | W 3/16 - 24 " | <b>342.00</b>   | <b>342.00</b>   |
| " 6 × 1.0 "    | <b>325.00</b>   | <b>325.00</b>   | " 1/4 - 20 "  | <b>418.00</b>   | <b>418.00</b>   |
| " 8 × 1.25 "   | <b>468.00</b>   | <b>468.00</b>   | " 5/16 - 18 " | <b>559.00</b>   | <b>559.00</b>   |
| " 10 × 1.25 "  | <b>598.00</b>   | <b>598.00</b>   | " 3/8 - 16 "  | <b>656.00</b>   | <b>656.00</b>   |
| M 10 × 1.5 左   | <b>598.00</b>   | <b>598.00</b>   | W 1/2 - 12左   | <b>1,120.00</b> | <b>1,120.00</b> |
| " 12 × 1.25 "  | <b>833.00</b>   | <b>833.00</b>   | UNC 2 - 56 "  | <b>661.00</b>   | <b>661.00</b>   |
| " 12 × 1.5 "   | <b>833.00</b>   | <b>833.00</b>   | " 4 - 40 "    | <b>384.00</b>   | <b>384.00</b>   |
| " 12 × 1.75 "  | <b>833.00</b>   | <b>833.00</b>   | " 6 - 32 "    | <b>356.00</b>   | <b>356.00</b>   |
| " 14 × 1.5 "   | <b>1,114.00</b> | <b>1,114.00</b> | " 8 - 32 "    | <b>356.00</b>   | <b>356.00</b>   |
| M 14 × 2.0 左   | <b>1,114.00</b> | <b>1,114.00</b> | UNC 10 - 24左  | <b>368.00</b>   | <b>368.00</b>   |
| " 16 × 1.5 "   | <b>1,476.00</b> | <b>1,476.00</b> | UNF 10 - 32 " | <b>368.00</b>   | <b>368.00</b>   |
| " 16 × 2.0 "   | <b>1,476.00</b> | <b>1,476.00</b> | " 1/4 - 28 "  | <b>418.00</b>   | <b>418.00</b>   |
| " 18 × 1.5 "   | <b>2,020.00</b> | <b>2,020.00</b> | " 5/16 - 24 " | <b>559.00</b>   | <b>559.00</b>   |
| " 18 × 2.5 "   | <b>2,020.00</b> | <b>2,020.00</b> | " 3/8 - 24 "  | <b>656.00</b>   | <b>656.00</b>   |



# 使用螺紋護套之概要

## Description of Helical Inserts

### 1 螺紋護套之功能：

- A** 螺紋護套是利用彈簧張力之特性，把護套鎖入母件螺紋裡，使其螺紋啮合之動力，靜力負荷均衡，而能使整個螺紋之強度增加，達到其巧妙之締緊效果。
- B** 鋁、銅、鑄鐵、塑膠、木材等低強度之母材，使用護套，可增加其螺紋之強度，提高產品之品質及價值。
- C** 因腐蝕、振動、磨耗等作用而引起之螺紋潰牙之維修。

### 2 螺紋護套之用途：

- A** 在所有製造過程中，因錯誤設計之孔徑，或損壞之牙徑，補救其短缺，達到原精度之螺紋，保持產品之品質。
- B** 在機械五金零件中，有鋁、銅、鑄鐵、塑膠、木材等，其螺紋部位，因母材之強度不足，常造成潰牙，螺紋護套可補足這個缺失，提高產品價值。
- C** 有使用螺絲之產品，都有其蹤跡，如汽、機車工業、各式機械、國防工業、飛機工業、五金工業等，使用螺紋護套可提高其價值及確保其安全。

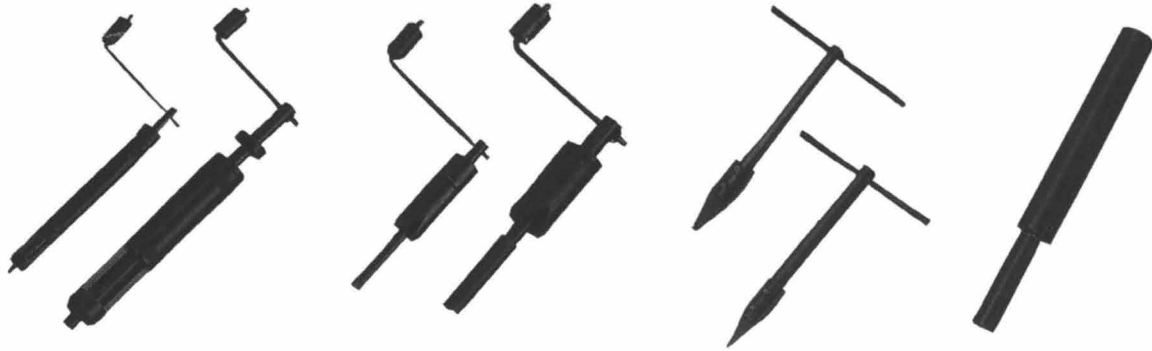
| 規 格          | 護套長度(條) |        |        |        |        | 鎖入工具(支)  |          | 敲斷工具<br>(支) | 拔取工具<br>(支) |
|--------------|---------|--------|--------|--------|--------|----------|----------|-------------|-------------|
|              | 1D      | 1.5D   | 2D     | 2.5D   | 3D     | P型       | S型       |             |             |
| M 2 × 0.4    | 13.00   | 14.50  | 16.00  | 17.00  | 18.00  | 4,820.00 |          | 400.00      | 1,350.00    |
| " 2.5 × 0.45 | 12.00   | 13.00  | 14.00  | 15.00  | 16.00  | 2,860.00 |          | 400.00      | 1,350.00    |
| " 2.6 × 0.45 | 12.00   | 13.00  | 14.00  | 15.00  | 16.00  | 2,860.00 |          | 400.00      | 1,350.00    |
| " 3 × 0.5    | 12.00   | 13.00  | 14.00  | 15.00  | 16.00  | 2,570.00 |          | 400.00      | 1,350.00    |
| " 4 × 0.7    | 10.50   | 11.00  | 11.80  | 13.00  | 14.00  | 2,570.00 |          | 400.00      | 1,350.00    |
| " 5 × 0.8    | 10.50   | 11.00  | 11.80  | 13.00  | 14.00  | 2,570.00 |          | 400.00      | 1,350.00    |
| M 6 × 1.0    | 10.50   | 11.00  | 11.80  | 13.00  | 14.00  | 2,570.00 | 1,350.00 | 400.00      | 1,670.00    |
| " 7 × 1.0    | 12.80   | 14.00  | 15.00  | 17.00  | 19.00  | 2,850.00 | 1,350.00 | 400.00      | 1,670.00    |
| " 8 × 1.25   | 12.80   | 14.00  | 15.00  | 17.00  | 19.00  | 2,850.00 | 1,350.00 | 400.00      | 1,670.00    |
| " 10 × 1.0   | 18.00   | 20.00  | 22.00  | 25.00  | 28.00  | 3,150.00 | 1,350.00 | 400.00      | 1,670.00    |
| " 10 × 1.25  | 18.00   | 20.00  | 22.00  | 25.00  | 28.00  | 3,150.00 | 1,350.00 | 400.00      | 1,670.00    |
| M 10 × 1.5   | 18.00   | 20.00  | 22.00  | 25.00  | 28.00  | 3,150.00 | 1,350.00 | 400.00      | 1,670.00    |
| " 12 × 1.25  | 22.50   | 27.50  | 32.50  | 38.00  | 43.00  | 3,420.00 | 1,500.00 | 450.00      | 1,940.00    |
| " 12 × 1.5   | 22.50   | 27.50  | 32.50  | 38.00  | 43.00  | 3,420.00 | 1,500.00 | 450.00      | 1,940.00    |
| " 12 × 1.75  | 22.50   | 27.50  | 32.50  | 38.00  | 43.00  | 3,420.00 | 1,500.00 | 450.00      | 1,940.00    |
| " 14 × 1.25  | 31.50   | 42.50  | 50.50  | 60.00  | 70.00  | 3,710.00 | 1,700.00 | 500.00      | 1,940.00    |
| M 14 × 1.5   | 31.50   | 42.50  | 50.50  | 60.00  | 70.00  | 3,710.00 | 1,700.00 | 500.00      | 1,940.00    |
| " 14 × 2.0   | 31.50   | 42.50  | 50.50  | 60.00  | 70.00  | 3,710.00 | 1,700.00 | 500.00      | 1,940.00    |
| " 16 × 1.5   | 45.00   | 52.50  | 62.00  | 70.00  | 80.00  | 3,990.00 | 1,980.00 | 500.00      | 1,940.00    |
| " 16 × 2.0   | 45.00   | 52.50  | 62.00  | 70.00  | 80.00  | 3,990.00 | 1,980.00 | 500.00      | 1,940.00    |
| " 18 × 2.5   | 68.00   | 82.00  | 97.00  | 120.00 | 135.00 | 4,750.00 | 1,980.00 | 500.00      | 1,940.00    |
| M 20 × 2.5   | 85.00   | 100.00 | 115.00 | 148.00 | 160.00 | 4,750.00 | 2,370.00 | 500.00      | 1,940.00    |
| " 22 × 2.5   | 135.00  | 150.00 | 168.00 | 185.00 | 200.00 | 4,750.00 | 2,570.00 | 500.00      | 1,940.00    |
| " 24 × 3.0   | 220.00  | 240.00 | 265.00 | 290.00 | 320.00 | 4,750.00 | 2,570.00 | 500.00      | 1,940.00    |

註D=刃徑 1D=刃徑×1 2D=刃徑×2 3D=刃徑×3



# 螺紋護套及其使用工具

Helical Inserts & Tools



P型鎖入工具

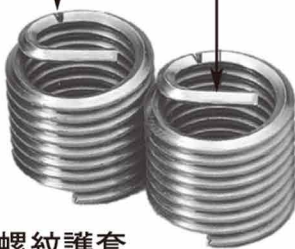
S型鎖入工具

拔取工具

敲斷工具

敲斷切口

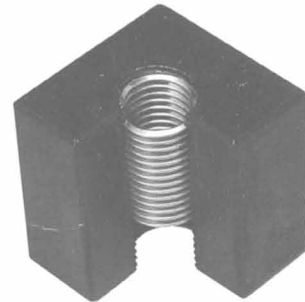
敲斷橫桿



螺紋護套



拔取護套情形



鎖入護套完成

| 規格           | 護套長度(條) |        |        |        |        | 鎖入工具(支)  |          | 敲斷工具<br>(支) | 拔取工具<br>(支) |
|--------------|---------|--------|--------|--------|--------|----------|----------|-------------|-------------|
|              | 1D      | 1.5D   | 2D     | 2.5D   | 3D     | P型       | S型       |             |             |
| UNC 4 -40    | 16.50   | 18.50  | 21.50  | 24.00  | 27.00  | 3,600.00 |          | 350.00      | 1,710.00    |
| " 5 -40      | 16.50   | 18.50  | 21.50  | 24.00  | 27.00  | 2,570.00 |          | 350.00      | 1,710.00    |
| " 6 -32      | 16.50   | 18.50  | 21.50  | 24.00  | 27.00  | 2,570.00 |          | 350.00      | 1,710.00    |
| " 8 -32      | 10.50   | 11.00  | 11.50  | 12.60  | 14.00  | 2,570.00 |          | 350.00      | 1,710.00    |
| " 10 -24     | 10.50   | 11.00  | 11.50  | 12.60  | 14.00  | 2,570.00 |          | 350.00      | 1,710.00    |
| UNC 1/4 -20  | 10.50   | 11.00  | 11.50  | 12.60  | 14.00  | 2,570.00 | 1,550.00 | 350.00      | 2,110.00    |
| " 5/16 -18   | 12.60   | 14.00  | 15.00  | 17.00  | 18.50  | 2,850.00 | 1,550.00 | 350.00      | 2,110.00    |
| " 3/8 -16    | 17.20   | 19.50  | 22.00  | 25.00  | 28.00  | 3,150.00 | 1,550.00 | 350.00      | 2,110.00    |
| " 1/2 -13    | 26.00   | 32.00  | 38.00  | 46.00  | 55.00  | 3,420.00 | 1,710.00 | 400.00      | 2,450.00    |
| " 5/8 -11    | 51.50   | 60.00  | 69.00  | 80.00  | 92.00  | 3,990.00 | 2,050.00 | 460.00      | 2,450.00    |
| UNC 3/4 -10  | 97.00   | 115.00 | 135.00 | 155.00 | 170.00 | 4,150.00 | 2,280.00 | 460.00      | 2,450.00    |
| " 7/8 -9     | 138.00  | 152.00 | 175.00 | 200.00 | 230.00 | 4,150.00 | 3,300.00 | 600.00      | 2,650.00    |
| " 1 -8       | 195.00  | 234.00 | 280.00 | 337.00 | 370.00 | 4,150.00 | 3,300.00 | 600.00      | 2,650.00    |
| UNF 10 -32   | 10.50   | 11.00  | 11.50  | 12.60  | 14.00  | 2,570.00 | 1,550.00 | 350.00      | 1,710.00    |
| " 1/4 -28    | 10.50   | 11.00  | 11.50  | 12.60  | 14.00  | 2,570.00 | 1,550.00 | 350.00      | 2,110.00    |
| UNF 5/16 -24 | 12.60   | 14.00  | 15.00  | 17.00  | 18.50  | 2,850.00 | 1,550.00 | 350.00      | 2,110.00    |
| " 3/8 -24    | 17.20   | 19.50  | 22.00  | 25.00  | 28.00  | 3,150.00 | 1,550.00 | 350.00      | 2,110.00    |
| " 1/2 -20    | 26.00   | 32.00  | 38.00  | 46.00  | 55.00  | 3,420.00 | 1,710.00 | 400.00      | 2,450.00    |
| " 5/8 -18    | 51.50   | 60.00  | 69.00  | 80.00  | 92.00  | 3,990.00 | 2,050.00 | 460.00      | 2,450.00    |
| " 3/4 -16    | 97.00   | 115.00 | 135.00 | 155.00 | 170.00 | 4,150.00 | 2,280.00 | 460.00      | 2,450.00    |
| UNF 7/8 -14  | 138.00  | 152.00 | 175.00 | 200.00 | 230.00 | 4,150.00 | 3,300.00 | 600.00      | 2,650.00    |
| " 1 -12      | 195.00  | 234.00 | 280.00 | 337.00 | 370.00 | 4,150.00 | 3,300.00 | 600.00      | 2,650.00    |

註D=刃徑 1D=刃徑×1 2D=刃徑×2 3D=刃徑×3



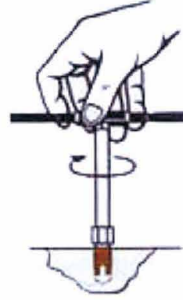
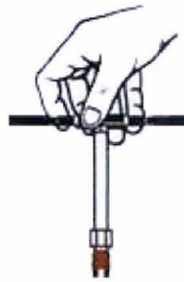
# 自攻螺紋襯套及其使用工具

## Self Tapping Inserts & Tools

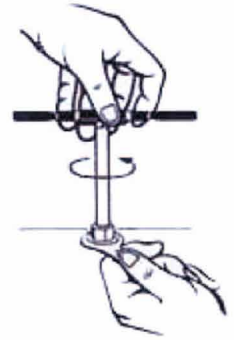
302槽型



少量時的裝配方式示意圖



扳手固定不動



手動裝入工具



NO.610

| 規 格          | 長度 | 價(條)格  |        | 裝入工具(支)  |
|--------------|----|--------|--------|----------|
|              |    | 鋼槽用    | 白鐵槽用   | 手動型      |
| M 2.5 × 0.45 | 6  | 17.00  | 33.50  | —        |
| " 3 × 0.5    | 6  | 14.00  | 29.50  | 1,600.00 |
| " 4 × 0.7    | 8  | 17.00  | 39.50  | 1,600.00 |
| " 5 × 0.8    | 10 | 22.50  | 48.00  | 1,600.00 |
| " 6 × 1.0(薄) | 12 | 30.50  | 60.00  | 1,600.00 |
| M 6 × 1.0    | 14 | 30.50  | 60.00  | 1,600.00 |
| " 8 × 1.25   | 15 | 36.00  | 69.00  | 1,600.00 |
| " 10 × 1.5   | 18 | 57.00  | 108.00 | 1,600.00 |
| " 12 × 1.75  | 22 | 87.50  | 180.00 | 1,780.00 |
| " 14 × 2.0   | 24 | 142.50 | 210.00 | —        |
| M 16 × 2.0   | 22 | 180.00 | 311.50 | —        |
| UNC 2 – 56   | 6  | —      | 36.00  | 1,600.00 |
| " 4 – 40     | 6  | —      | 31.50  | 1,600.00 |
| " 6 – 32     | 8  | —      | 40.00  | 1,600.00 |
| " 8 – 32     | 8  | —      | 42.50  | 1,600.00 |
| UNC 10 – 24  | 10 | —      | 51.50  | 1,600.00 |
| " 1/4 – 20   | 14 | —      | 69.00  | 1,600.00 |
| " 5/16 – 18  | 15 | —      | 90.50  | 1,600.00 |
| " 3/8 – 16   | 18 | 57.00  | 133.50 | 1,600.00 |
| " 1/2 – 13   | 24 | —      | 244.50 | —        |
| UNF 10 – 32  | 10 | —      | 51.50  | 1,600.00 |
| " 5/16 – 24  | 15 | —      | 90.50  | 1,600.00 |





# 自攻螺紋襯套鑽頭孔徑參考表

## Recommended Drill Size for Self Tapping Inserts

### 1 自攻螺紋襯套的功能：

非鐵金屬如銅、鋁、鋅、鎂、塑膠、電木等因母材強度不夠，成品往往容易潰牙，影響到產品的品質，使用自攻襯套，可強化軟質金屬的螺紋強度，提高產品之品質。廣泛使用於汽車工業、航太工業、生產設備、醫療設備、視聽器材、手提電話、運動器材、電腦設備等。

### 2 自攻襯套特點：

- A** 超高強度，具自攻螺紋能力，母材不需要預先攻牙，節省成本支出。
- B** 對於潰牙或已磨耗之母螺紋具有修護作用，使用自攻螺紋襯套，可繼續使用原尺寸的螺絲。
- C** 極佳的氣密性及耐震性，可防止螺紋鬆動。
- D** 安裝簡便迅速，只要一種裝配工具，成本低，幾乎無不良率。
- E** 裝置總成本較低。

| 自攻螺紋襯套<br>內螺紋規格 | 外螺紋          | 鑽頭孔徑      |           |           | 最小鑽孔<br>深度 |
|-----------------|--------------|-----------|-----------|-----------|------------|
|                 |              | 塑膠        | 鋁合金       | 鑄鐵        |            |
| M 2.5 × 0.45    | M 4.5 × 0.5  | 4.0~ 4.1  | 4.1~ 4.2  | 4.2~ 4.3  | 8          |
| " 3 × 0.5       | " 5 × 0.5    | 4.5~ 4.6  | 4.6~ 4.7  | 4.7~ 4.8  | 8          |
| " 4 × 0.7       | " 6.5 × 0.75 | 5.8~ 5.9  | 6.0~ 6.1  | 6.1~ 6.2  | 10         |
| " 5 × 0.8       | " 8 × 1.0    | 7.1~ 7.2  | 7.3~ 7.5  | 7.5~ 7.6  | 13         |
| " 6 × 1.0       | " 10 × 1.5   | 9.0~ 9.2  | 9.2~ 9.3  | 9.3~ 9.4  | 17         |
| M 8 × 1.25      | M 12 × 1.5   | 10.6~10.8 | 11.0~11.2 | 11.2~11.4 | 18         |
| " 10 × 1.5      | " 14 × 1.5   | 12.6~12.8 | 13.0~13.3 | 13.2~13.4 | 22         |
| " 12 × 1.75     | " 16 × 1.5   | 14.6~14.8 | 15.0~15.3 | 15.2~15.4 | 26         |
| " 14 × 2.0      | " 18 × 1.5   | 16.6~16.8 | 17.0~17.3 | 17.2~17.5 | 28         |
| " 16 × 2.0      | " 20 × 1.5   | 18.6~18.8 | 19.0~19.3 | 19.2~19.5 | 27         |
| UNC 2 – 56      | M 4.5 × 0.5  | 4.0~ 4.1  | 4.1~ 4.2  | 4.2~ 4.3  | 8          |
| " 4 – 40        | " 5 × 0.5    | 4.5~ 4.6  | 4.6~ 4.7  | 4.7~ 4.8  | 8          |
| " 6 – 32        | " 6 × 0.75   | 5.3~ 5.4  | 5.5~ 5.6  | 5.6~ 5.7  | 10         |
| " 8 – 32        | " 6.5 × 0.75 | 5.8~ 5.9  | 6.0~ 6.1  | 6.1~ 6.2  | 10         |
| " 10 – 24       | " 8 × 1.0    | 7.1~ 7.2  | 7.3~ 7.5  | 7.5~ 7.6  | 13         |
| UNC 1/4 – 20    | M 10 × 1.5   | 9.0~ 9.2  | 9.2~ 9.3  | 9.3~ 9.4  | 17         |
| " 5/16 – 18     | " 12 × 1.5   | 10.6~10.8 | 11.0~11.2 | 11.2~11.4 | 18         |
| " 3/8 – 16      | " 14 × 1.5   | 12.6~12.8 | 13.0~13.3 | 13.2~13.4 | 22         |
| " 1/2 – 13      | " 18 × 1.5   | 16.6~16.8 | 17.0~17.3 | 17.2~17.5 | 28         |
| UNF 10 – 32     | M 8 × 1.0    | 7.1~ 7.2  | 7.3~ 7.5  | 7.5~ 7.6  | 13         |
| " 5/16 – 24     | " 12 × 1.5   | 10.6~10.8 | 11.0~11.2 | 11.2~11.4 | 18         |

# 左牙手紋絲攻・牙板

Hand Taps & Round Dies for Left Hand



| 規 格         | 絲攻SKS    |          | 牙板SKS  |          | 規 格           | 絲攻SKS    |          | 牙板SKS  |          |
|-------------|----------|----------|--------|----------|---------------|----------|----------|--------|----------|
|             | 支        | 組        | 25徑(只) | 50徑(只)   |               | 支        | 組        | 25徑(只) | 50徑(只)   |
| M 3×0.5 左   | 70.00    | 210.00   | 650.00 |          | M 24 ×3.0左    | 966.00   | 2,898.00 |        | 1,250.00 |
| " 3×0.6 "   | 70.00    | 210.00   | 650.00 |          | " 27 ×3.0 "   | 1,460.00 |          |        | 1,350.00 |
| " 4×0.7 "   | 70.00    | 210.00   | 650.00 |          | " 30 ×1.5 "   | 2,160.00 |          |        |          |
| " 4×0.75 "  | 70.00    | 210.00   | 650.00 |          | " 30 ×3.5 "   | 2,030.00 |          |        |          |
| " 5×0.8 "   | 77.00    | 231.00   | 650.00 |          | W 1/8 -40 "   | 84.00    | 252.00   | 650.00 |          |
| M 5×0.9 左   | 77.00    | 231.00   | 650.00 |          | W 5/32-32 左   | 91.00    | 273.00   | 650.00 |          |
| " 6×1.0 "   | 85.00    | 255.00   | 650.00 |          | " 3/16-24 "   | 84.00    | 252.00   | 650.00 | 1,250.00 |
| " 8×1.0 "   | 166.00   | 498.00   | 650.00 |          | " 7/32-24 "   | 175.00   | 525.00   | 700.00 |          |
| " 8×1.25 "  | 139.00   | 417.00   | 650.00 | 1,250.00 | " 1/4 -20 "   | 104.00   | 312.00   | 650.00 | 1,250.00 |
| " 10×1.0 "  | 198.00   | 594.00   | 700.00 | 1,350.00 | " 5/16-18 "   | 126.00   | 378.00   | 650.00 | 1,250.00 |
| M 10×1.25左  | 184.00   | 552.00   | 700.00 | 1,350.00 | W 3/8 -16 左   | 173.00   | 519.00   | 650.00 | 1,250.00 |
| " 10×1.5 "  | 184.00   | 552.00   | 650.00 | 1,250.00 | " 7/16-14 "   | 204.00   | 612.00   |        | 1,250.00 |
| " 12×1.0 "  | 272.00   | 816.00   |        | 1,350.00 | " 1/2 -12 "   | 238.00   | 714.00   |        | 1,250.00 |
| " 12×1.25 " | 233.00   | 699.00   |        | 1,350.00 | " 9/16-12 "   | 320.00   | 960.00   |        | 1,250.00 |
| " 12×1.5 "  | 233.00   | 699.00   |        | 1,350.00 | " 5/8 -11 "   | 320.00   | 960.00   |        | 1,250.00 |
| M 12×1.75左  | 233.00   | 699.00   |        | 1,250.00 | W 3/4 -10 左   | 445.00   | 1,335.00 |        | 1,250.00 |
| " 14×1.0 "  | 300.00   | 900.00   |        | 1,350.00 | " 7/8 - 9 "   | 620.00   | 1,860.00 |        | 1,250.00 |
| " 14×1.25 " | 300.00   | 900.00   |        | 1,350.00 | " 1 - 8 "     | 847.00   | 2,541.00 |        | 1,250.00 |
| " 14×1.5 "  | 283.00   | 849.00   |        | 1,350.00 | UNF 3/16-32 " | 99.00    | 297.00   | 650.00 |          |
| " 14×2.0 "  | 283.00   | 849.00   |        | 1,250.00 | " 1/4 -28 "   | 116.00   | 348.00   | 650.00 | 1,250.00 |
| M 16×1.0 左  | 478.00   | 1,434.00 |        | 1,350.00 | UNF 5/16-24 左 | 137.00   | 411.00   | 650.00 | 1,250.00 |
| " 16×1.5 "  | 367.00   | 1,101.00 |        | 1,350.00 | " 3/8 -24 "   | 191.00   | 573.00   | 650.00 | 1,250.00 |
| " 16×2.0 "  | 367.00   | 1,101.00 |        | 1,250.00 | " 7/16-20 "   | 233.00   | 699.00   |        | 1,250.00 |
| " 18×1.5 "  | 507.00   | 1,521.00 |        | 1,350.00 | " 1/2 -20 "   | 272.00   | 816.00   |        | 1,250.00 |
| " 18×2.0 "  | 507.00   | 1,521.00 |        | 1,350.00 | " 9/16-18 "   | 322.00   | 966.00   |        | 1,250.00 |
| M 18×2.5 左  | 507.00   | 1,521.00 |        | 1,250.00 | UNS 9/16-20 左 | 443.00   | 1,329.00 |        | 1,450.00 |
| " 20×1.5 "  | 607.00   | 1,821.00 |        | 1,350.00 | UNF 5/8 -18 " | 339.00   | 1,017.00 |        | 1,250.00 |
| " 20×2.0 "  | 607.00   | 1,821.00 |        | 1,350.00 | " 3/4 -16 "   | 507.00   | 1,521.00 |        | 1,250.00 |
| " 20×2.5 "  | 607.00   | 1,821.00 |        | 1,250.00 | " 7/8 -14 "   | 674.00   | 2,022.00 |        | 1,250.00 |
| " 22×1.5 "  | 742.00   | 2,226.00 |        | 1,350.00 | " 1 -12 "     | 936.00   | 2,808.00 |        | 1,250.00 |
| M 22×2.0 左  | 742.00   | 2,226.00 |        | 1,350.00 | UNS 1 -14 左   | 995.00   | 2,985.00 |        | 1,450.00 |
| " 22×2.5 "  | 742.00   | 2,226.00 |        | 1,250.00 | UNC 1/2 -13 " | 272.00   | 816.00   |        | 1,250.00 |
| " 24×1.5 "  | 966.00   | 2,898.00 |        | 1,350.00 | SM 9/64-40 "  | 73.00    |          | 850.00 |          |
| " 24×2.0 "  | 1,001.00 | 3,003.00 |        | 1,350.00 |               |          |          |        |          |

## 管牙左牙絲攻

Pipe Taps for Left Hand



| 英制管牙左牙   | PS直牙     |                 | PT斜牙     |                 |
|----------|----------|-----------------|----------|-----------------|
|          | SKS(支)   | SKH(支)          | SKS(支)   | SKH(支)          |
| 1/8-28 左 | 250.00   | <b>500.00</b>   | 284.00   | <b>820.00</b>   |
| 1/4-19 " | 360.00   | <b>750.00</b>   | 419.00   | <b>1,000.00</b> |
| 3/8-19 " | 566.00   | <b>1,080.00</b> | 669.00   | <b>1,280.00</b> |
| 1/2-14 左 | 832.00   | <b>1,255.00</b> | 985.00   | <b>1,500.00</b> |
| 3/4-14 " | 1,175.00 | <b>1,970.00</b> | 1,405.00 | <b>2,315.00</b> |
| 1-11 "   | 1,969.00 | <b>3,060.00</b> | 2,263.00 | <b>3,510.00</b> |

## 管牙·左牙螺絲牙板

Round Dies for Left Hand



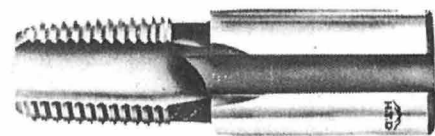
## 輪胎風嘴仔牙絲攻·牙板

Hand Taps & Round Dies for CTV Threads

| 英制管牙左牙   | 徑  | PS直牙SKS(只) | PT斜牙SKS(只) | 風嘴仔牙CTV      | 絲攻SKS(支) | 牙板25徑SKS(只) |
|----------|----|------------|------------|--------------|----------|-------------|
| 1/8-28 左 | 38 |            | 1,300.00   | CTV 5 m/m-24 | 136.00   | 500.00      |
| 1/4-19 " | 38 |            | 1,300.00   | " 5 -36      | 136.00   | 500.00      |
| 1/8-28 " | 50 | 1,760.00   |            | " 8 -30      | 145.00   | 500.00      |
| 1/4-19 " | 50 | 1,760.00   |            | " 8 -32      | 145.00   | 500.00      |
| 3/8-19 左 | 50 | 1,760.00   | 2,160.00   |              |          |             |
| 1/2-14 " | 50 | 1,760.00   | 2,160.00   |              |          |             |
| 3/4-14 " | 50 | 1,760.00   | 2,160.00   |              |          |             |
| 1-11 "   | 63 | 3,950.00   | 4,860.00   |              |          |             |

## 倍安管牙絲攻

Pipe Taps



短牙型有串仔溝

柄徑 1/8, 1/4, 1/2 係 17m/m  
3/4, 1" 係 25m/m

| 英制牙       | SKH(支)          | 美制牙        | SKH(支)          |
|-----------|-----------------|------------|-----------------|
| PT 1/8-28 | <b>303.00</b>   | NPT 1/8-27 | <b>365.00</b>   |
| " 1/4-19  | <b>340.00</b>   | " 3/8-18   | <b>520.00</b>   |
| " 3/8-19  | <b>400.00</b>   | " 1/2-14   | <b>630.00</b>   |
| " 3/4-14  | <b>820.00</b>   | " 3/4-14   | <b>1,050.00</b> |
| " 1-11    | <b>1,100.00</b> | " 1-11 1/2 | <b>1,460.00</b> |

# 公制牙螺絲牙板

Round Dies for Metric Coarse Thread



| 規 格        | 20徑(只) | 25徑(只) | 38徑(只) | 50徑(只) | 規 格       | 25徑(只) | 38徑(只) | 50徑(只) |
|------------|--------|--------|--------|--------|-----------|--------|--------|--------|
| M 2×0.4    | 550.00 | 400.00 |        |        | M 11×0.5  | 460.00 |        | 950.00 |
| " 2.3×0.4  | 550.00 | 400.00 |        |        | " 11×0.75 | 460.00 |        | 950.00 |
| " 2.5×0.45 | 550.00 | 400.00 |        |        | " 11×1.0  | 460.00 |        | 850.00 |
| " 2.6×0.45 | 550.00 | 400.00 |        |        | " 11×1.25 | 460.00 |        | 850.00 |
| " 3×0.35   | 400.00 | 460.00 |        |        | " 11×1.5  | 460.00 |        | 850.00 |
| M 3×0.5    | 330.00 | 370.00 |        |        | M 12×0.5  | 460.00 |        | 950.00 |
| " 3×0.6    | 330.00 | 370.00 |        |        | " 12×0.75 | 460.00 |        | 950.00 |
| " 3.5×0.35 | 400.00 | 460.00 |        |        | " 12×1.0  | 460.00 |        | 850.00 |
| " 3.5×0.6  | 330.00 | 370.00 |        |        | " 12×1.25 | 460.00 | 650.00 | 850.00 |
| " 4×0.5    | 400.00 | 460.00 |        |        | " 12×1.5  | 460.00 | 650.00 | 850.00 |
| M 4×0.7    | 330.00 | 370.00 |        |        | M 12×1.75 | 370.00 |        | 720.00 |
| " 4×0.75   | 330.00 | 370.00 |        |        | " 13×1.0  |        |        | 850.00 |
| " 4.5×0.5  | 400.00 | 460.00 |        |        | " 13×1.25 |        |        | 850.00 |
| " 4.5×0.75 | 400.00 | 460.00 |        |        | " 13×1.5  |        |        | 850.00 |
| " 5×0.5    | 400.00 | 460.00 |        |        | " 13×1.75 |        |        | 720.00 |
| M 5×0.8    | 330.00 | 370.00 |        |        | M 14×1.0  |        |        | 850.00 |
| " 5×0.9    | 330.00 | 370.00 |        |        | " 14×1.25 |        |        | 850.00 |
| " 5.5×0.5  | 400.00 | 460.00 |        |        | " 14×1.5  |        |        | 850.00 |
| " 5.5×0.9  | 330.00 | 370.00 |        |        | " 14×2.0  |        | 550.00 | 720.00 |
| " 6×0.5    | 400.00 | 460.00 |        |        | " 15×1.0  |        |        | 850.00 |
| M 6×0.75   | 400.00 | 460.00 |        |        | M 15×1.5  |        |        | 850.00 |
| " 6×1.0    | 330.00 | 370.00 |        | 720.00 | " 15×2.0  |        |        | 720.00 |
| " 7×0.5    |        | 460.00 |        |        | " 16×1.0  |        |        | 850.00 |
| " 7×0.75   |        | 460.00 |        |        | " 16×1.5  |        | 650.00 | 850.00 |
| " 7×1.0    |        | 370.00 |        |        | " 16×2.0  |        | 550.00 | 720.00 |
| M 8×0.5    |        | 460.00 |        |        | M 17×1.0  |        |        | 850.00 |
| " 8×0.75   |        | 460.00 |        |        | " 17×1.5  |        |        | 850.00 |
| " 8×1.0    |        | 460.00 |        | 850.00 | " 17×2.0  |        |        | 720.00 |
| " 8×1.25   |        | 370.00 |        | 720.00 | " 18×1.0  |        |        | 850.00 |
| " 9×0.5    |        | 460.00 |        | 950.00 | " 18×1.5  |        |        | 850.00 |
| M 9×0.75   |        | 460.00 |        | 950.00 | M 18×2.0  |        |        | 850.00 |
| " 9×1.0    |        | 460.00 |        | 850.00 | " 18×2.5  |        |        | 720.00 |
| " 9×1.25   |        | 460.00 | 650.00 | 850.00 | " 19×1.0  |        |        | 950.00 |
| " 10×0.5   |        | 460.00 |        | 950.00 | " 20×0.5  |        |        | 950.00 |
| " 10×0.75  |        | 460.00 |        | 950.00 | " 20×1.0  |        |        | 950.00 |
| M 10×1.0   |        | 460.00 |        | 850.00 | M 20×1.5  |        |        | 850.00 |
| " 10×1.25  |        | 460.00 | 650.00 | 850.00 | " 20×2.0  |        |        | 850.00 |
| " 10×1.5   |        | 370.00 | 550.00 | 720.00 | " 20×2.5  |        |        | 720.00 |

## 公制牙螺絲牙板

Round Dies for Metric Coarse Thread



| 規 格        | 50徑(只)        | 規 格        | 50徑(只)          | 63徑(只)          |
|------------|---------------|------------|-----------------|-----------------|
| M 22 × 1.0 | <b>950.00</b> | M 26 × 2.0 | <b>850.00</b>   | <b>2,350.00</b> |
| " 22 × 1.5 | <b>850.00</b> | " 27 × 1.0 | <b>950.00</b>   |                 |
| " 22 × 2.0 | <b>850.00</b> | " 27 × 1.5 | <b>850.00</b>   |                 |
| " 22 × 2.5 | <b>720.00</b> | " 27 × 2.0 | <b>850.00</b>   |                 |
| M 24 × 1.0 | <b>950.00</b> | M 27 × 3.0 | <b>850.00</b>   | <b>2,350.00</b> |
| " 24 × 1.5 | <b>850.00</b> | " 28 × 1.0 | <b>950.00</b>   | <b>2,920.00</b> |
| " 24 × 2.0 | <b>850.00</b> | " 28 × 1.5 | <b>850.00</b>   | <b>2,350.00</b> |
| " 24 × 3.0 | <b>720.00</b> | " 28 × 2.0 | <b>850.00</b>   | <b>2,350.00</b> |
| M 25 × 1.0 | <b>950.00</b> | M 30 × 1.0 | <b>1,050.00</b> | <b>2,920.00</b> |
| " 25 × 1.5 | <b>850.00</b> | " 30 × 1.5 | <b>1,050.00</b> | <b>2,420.00</b> |
| " 25 × 2.0 | <b>850.00</b> | " 30 × 2.0 | <b>1,050.00</b> | <b>2,420.00</b> |
| " 26 × 1.0 | <b>950.00</b> | " 30 × 3.0 | <b>1,050.00</b> |                 |
| " 26 × 1.5 | <b>850.00</b> | " 30 × 3.5 | <b>850.00</b>   | <b>2,350.00</b> |

## 美制粗牙螺絲牙板

Round Dies for Unified Coarse Thread



| UNC規格         | SKS<br>20徑(只) | SKS<br>25徑(只) | SKS<br>50徑(只) | UNC規格       | SKS<br>25徑(只) | SKS<br>50徑(只) |
|---------------|---------------|---------------|---------------|-------------|---------------|---------------|
| NO 4 -40 UNC  | <b>770.00</b> | <b>370.00</b> |               | 3/8 -16 UNC | <b>370.00</b> | <b>760.00</b> |
| " 5 -40 "     |               | <b>370.00</b> |               | 7/16 -14 "  |               | <b>760.00</b> |
| " 6 -32 "     | <b>400.00</b> | <b>370.00</b> |               | 1/2 -13 "   |               | <b>760.00</b> |
| " 8 -32 "     | <b>400.00</b> | <b>370.00</b> |               | 9/16 -12 "  |               | <b>760.00</b> |
| NO 10 -24 UNC | <b>400.00</b> | <b>370.00</b> |               | 5/8 -11 UNC |               | <b>760.00</b> |
| " 12 -24 "    |               | <b>370.00</b> |               | 3/4 -10 "   |               | <b>760.00</b> |
| 1/4 -20 "     |               | <b>370.00</b> | <b>760.00</b> | 7/8 - 9 "   |               | <b>760.00</b> |
| 5/16-18 "     |               | <b>370.00</b> | <b>760.00</b> | 1 - 8 "     |               | <b>760.00</b> |

## 美制細牙螺絲牙板

Round Dies for Unified Coarse Thread



| UNF規格         | SKS<br>25徑(只) | SKS<br>50徑(只) | UNF規格        | SKS<br>50徑(只) | SKS<br>63徑(只)   |
|---------------|---------------|---------------|--------------|---------------|-----------------|
| NO 3 -56 UNF  | <b>480.00</b> |               | 7/16 -20 UNF | <b>760.00</b> |                 |
| " 4 -48 "     | <b>370.00</b> |               | 1/2 -20 "    | <b>760.00</b> |                 |
| " 5 -44 "     | <b>370.00</b> |               | 9/16 -18 "   | <b>760.00</b> |                 |
| " 6 -40 "     | <b>370.00</b> |               | 9/16 -20 "   | <b>950.00</b> |                 |
| " 8 -36 "     | <b>370.00</b> |               | 5/8 -18 "    | <b>760.00</b> |                 |
| NO 10 -32 UNF | <b>370.00</b> |               | 5/8 -20 UNF  | <b>950.00</b> |                 |
| " 12 -28 "    | <b>370.00</b> |               | 3/4 -16 "    | <b>760.00</b> |                 |
| 1/8 -44 "     | <b>420.00</b> |               | 7/8 -14 "    | <b>760.00</b> |                 |
| 5/32-36 "     | <b>420.00</b> |               | 1 -12 "      | <b>760.00</b> |                 |
| 3/16-32 "     | <b>420.00</b> |               | 1 -14 UNS    | <b>950.00</b> |                 |
| 7/32-32 UNF   | <b>480.00</b> |               | 1 1/8-12 UNF |               | <b>2,760.00</b> |
| 1/4 -28 "     | <b>370.00</b> | <b>760.00</b> | 1 1/4-12 "   |               | <b>2,760.00</b> |
| 5/16-24 "     | <b>370.00</b> | <b>760.00</b> | 1 1/2-12 "   |               | <b>2,760.00</b> |
| 3/8 -24 "     | <b>370.00</b> | <b>760.00</b> |              |               |                 |

## 英制粗牙螺絲牙板

Round Dies for Whitworth Coarse Thread



| W規格        | 20徑(只)        | 25徑(只)        | 38徑(只)        | 50徑(只)        | W規格        | 50徑(只)          | 63徑(只)          |
|------------|---------------|---------------|---------------|---------------|------------|-----------------|-----------------|
| W 1/16-60  |               | <b>450.00</b> |               |               | W 5/8 - 11 | <b>720.00</b>   |                 |
| " 3/32-48  |               | <b>450.00</b> |               |               | " 11/16-11 | <b>880.00</b>   |                 |
| " 1/8 - 40 | <b>400.00</b> | <b>370.00</b> |               |               | " 3/4 - 10 | <b>720.00</b>   |                 |
| " 5/32-32  | <b>400.00</b> | <b>370.00</b> |               |               | " 13/16-10 | <b>880.00</b>   |                 |
| W 3/16-24  | <b>400.00</b> | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | W 7/8 - 9  | <b>720.00</b>   |                 |
| " 7/32-24  |               | <b>450.00</b> |               |               | " 15/16- 9 | <b>880.00</b>   |                 |
| " 1/4 - 20 | <b>400.00</b> | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | " 1 - 8    | <b>720.00</b>   |                 |
| " 5/16-18  |               | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | " 1 1/8- 7 | <b>1,100.00</b> | <b>2,350.00</b> |
| W 3/8 - 16 |               | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | W 1 1/4- 7 | <b>1,100.00</b> | <b>2,350.00</b> |
| " 7/16-14  |               | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | " 1 3/8- 6 |                 | <b>2,350.00</b> |
| " 1/2 - 12 |               | <b>370.00</b> | <b>520.00</b> | <b>720.00</b> | " 1 1/2- 6 |                 | <b>2,350.00</b> |
| " 9/16-12  |               |               | <b>590.00</b> | <b>790.00</b> |            |                 |                 |

## 英制管牙螺絲牙板

Round Dies for Pipe Thread



## 美制管牙螺絲牙板

Round Dies for Pipe Thread

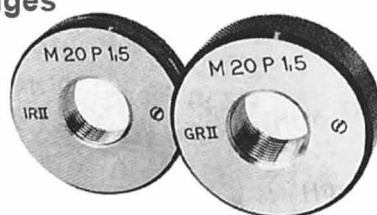
| 規 格      | 徑  | PS<br>直牙(只)     | PT<br>斜牙(只)     | PF<br>直牙(只)     | 規 格          | 徑  | NPS<br>直牙(只)    | NPT<br>斜牙(只)    | NPTF<br>斜牙(只)   |
|----------|----|-----------------|-----------------|-----------------|--------------|----|-----------------|-----------------|-----------------|
| 1/8-28   | 25 | <b>380.00</b>   | <b>450.00</b>   | <b>420.00</b>   | 1/8-27       | 25 | <b>520.00</b>   | <b>620.00</b>   | <b>690.00</b>   |
| 1/8-28   | 38 | <b>500.00</b>   | <b>810.00</b>   | <b>680.00</b>   | 1/8-27       | 38 | <b>730.00</b>   | <b>1,150.00</b> | <b>1,160.00</b> |
| 1/4-19   | 38 | <b>500.00</b>   | <b>810.00</b>   | <b>680.00</b>   | 1/4-18       | 38 | <b>730.00</b>   | <b>1,150.00</b> | <b>1,160.00</b> |
| 3/8-19   | 38 | <b>500.00</b>   | <b>810.00</b>   | <b>680.00</b>   | 3/8-18       | 38 | <b>730.00</b>   | <b>1,150.00</b> | <b>1,160.00</b> |
| 1/8-28   | 50 | <b>810.00</b>   | <b>1,300.00</b> | <b>950.00</b>   | 1/8-27       | 50 | <b>1,100.00</b> | <b>1,700.00</b> | <b>1,770.00</b> |
| 1/4-19   | 50 | <b>810.00</b>   | <b>1,300.00</b> | <b>950.00</b>   | 1/4-18       | 50 | <b>1,100.00</b> | <b>1,700.00</b> | <b>1,770.00</b> |
| 3/8-19   | 50 | <b>810.00</b>   | <b>1,300.00</b> | <b>950.00</b>   | 3/8-18       | 50 | <b>1,100.00</b> | <b>1,700.00</b> | <b>1,770.00</b> |
| 1/2-14   | 50 | <b>810.00</b>   | <b>1,300.00</b> | <b>950.00</b>   | 1/2-14       | 50 | <b>1,100.00</b> | <b>1,700.00</b> | <b>1,770.00</b> |
| 5/8-14   | 50 | <b>810.00</b>   | <b>1,300.00</b> |                 | 3/4-14       | 50 | <b>1,100.00</b> | <b>1,700.00</b> | <b>1,770.00</b> |
| 3/4-14   | 50 | <b>810.00</b>   | <b>1,300.00</b> | <b>950.00</b>   | 1 - 11 1/2   | 63 | <b>3,180.00</b> | <b>4,220.00</b> | <b>4,630.00</b> |
| 1 - 11   | 63 | <b>2,430.00</b> | <b>3,240.00</b> | <b>2,840.00</b> | 1 1/4-11 1/2 | 63 | <b>3,180.00</b> | <b>4,220.00</b> | <b>4,630.00</b> |
| 1 1/4-11 | 63 | <b>2,430.00</b> | <b>3,240.00</b> | <b>2,840.00</b> |              |    |                 |                 |                 |

# 限界螺紋牙規

Plug Gauges & Ring Gauges



限界螺紋栓規



限界螺紋環規

公制牙(M)

| 規 格          | 限界螺紋栓規   |           | 規 格         | 限界螺紋環規   |           |
|--------------|----------|-----------|-------------|----------|-----------|
|              | 價(支)格    | 價(組)格     |             | 價(支)格    | 價(組)格     |
| M 2 × 0.4    | 4,500.00 | 10,700.00 | M 11 × 1.0  | 3,150.00 | 6,300.00  |
| " 2.3 × 0.4  | 4,500.00 | 10,700.00 | " 11 × 1.25 | 3,000.00 | 3,000.00  |
| " 2.5 × 0.45 | 4,000.00 | 10,000.00 | " 11 × 1.5  | 2,950.00 | 5,900.00  |
| " 2.6 × 0.45 | 4,000.00 | 10,000.00 | " 12 × 0.5  | 5,500.00 | 11,000.00 |
| " 3 × 0.35   | 7,000.00 | —         | " 12 × 0.75 | 5,150.00 | 10,300.00 |
| M 3 × 0.5    | 3,200.00 | 6,400.00  | M 12 × 1.0  | 3,200.00 | 6,400.00  |
| " 3 × 0.6    | 3,600.00 | 7,200.00  | " 12 × 1.25 | 3,000.00 | 6,000.00  |
| " 3.5 × 0.35 | 6,000.00 | 12,000.00 | " 12 × 1.5  | 2,950.00 | 5,900.00  |
| " 3.5 × 0.6  | 3,600.00 | 7,200.00  | " 12 × 1.75 | 2,950.00 | 5,900.00  |
| " 4 × 0.5    | 3,700.00 | 7,400.00  | " 13 × 1.0  | 3,500.00 | 7,000.00  |
| M 4 × 0.7    | 2,750.00 | 5,500.00  | M 13 × 1.25 | 3,600.00 | 7,200.00  |
| " 4 × 0.75   | 2,850.00 | 5,700.00  | " 13 × 1.5  | 3,250.00 | 6,500.00  |
| " 4.5 × 0.5  | 3,800.00 | 7,600.00  | " 14 × 1.0  | 3,400.00 | 6,800.00  |
| " 4.5 × 0.75 | 3,000.00 | 6,000.00  | " 14 × 1.25 | 3,300.00 | 6,600.00  |
| " 5 × 0.5    | 3,900.00 | 7,800.00  | " 14 × 1.5  | 3,050.00 | 6,100.00  |
| M 5 × 0.8    | 2,700.00 | 5,400.00  | M 14 × 2.0  | 3,100.00 | 6,200.00  |
| " 5.5 × 0.5  | 4,000.00 | 8,000.00  | " 15 × 1.0  | 3,500.00 | 7,000.00  |
| " 6 × 0.5    | 4,100.00 | 8,200.00  | " 15 × 1.5  | 3,100.00 | 6,200.00  |
| " 6 × 0.75   | 3,150.00 | 6,300.00  | " 15 × 2.0  | 3,200.00 | 6,400.00  |
| " 6 × 1.0    | 2,700.00 | 5,400.00  | " 16 × 1.0  | 3,550.00 | 7,100.00  |
| M 7 × 0.5    | 4,250.00 | 8,500.00  | M 16 × 1.5  | 3,200.00 | 6,400.00  |
| " 7 × 0.75   | 3,250.00 | 6,500.00  | " 16 × 2.0  | 3,300.00 | 6,600.00  |
| " 7 × 1.0    | 2,700.00 | 5,400.00  | " 17 × 1.0  | 3,700.00 | 7,400.00  |
| " 8 × 0.5    | 4,350.00 | 8,700.00  | " 17 × 1.5  | 3,300.00 | 6,600.00  |
| " 8 × 0.75   | 3,350.00 | 6,700.00  | " 18 × 1.0  | 3,750.00 | 7,500.00  |
| M 8 × 1.0    | 2,750.00 | 5,500.00  | M 18 × 1.5  | 3,350.00 | 6,700.00  |
| " 8 × 1.25   | 2,750.00 | 5,500.00  | " 18 × 2.0  | 3,500.00 | 7,000.00  |
| " 9 × 0.5    | 4,800.00 | 9,600.00  | " 18 × 2.5  | 3,550.00 | 7,100.00  |
| " 9 × 0.75   | 3,500.00 | 7,000.00  | " 19 × 1.0  | 4,100.00 | 8,200.00  |
| " 9 × 1.0    | 2,850.00 | 5,700.00  | " 19 × 1.5  | 3,550.00 | 7,100.00  |
| M 9 × 1.25   | 2,850.00 | 5,700.00  | M 19 × 2.5  | 3,900.00 | 7,800.00  |
| " 10 × 0.5   | 4,850.00 | 9,700.00  | " 20 × 0.5  | 7,800.00 | 15,600.00 |
| " 10 × 0.75  | 3,650.00 | 7,300.00  | " 20 × 1.0  | 4,000.00 | 8,000.00  |
| " 10 × 1.0   | 2,900.00 | 5,800.00  | " 20 × 1.5  | 3,550.00 | 7,100.00  |
| " 10 × 1.25  | 2,850.00 | 5,700.00  | " 20 × 2.0  | 3,650.00 | 7,300.00  |
| M 10 × 1.5   | 2,800.00 | 5,600.00  | M 20 × 2.5  | 3,900.00 | 7,800.00  |
| " 11 × 0.5   | 5,200.00 | 10,400.00 | " 22 × 1.0  | 4,250.00 | 8,500.00  |
| " 11 × 0.75  | 4,000.00 | 8,000.00  | " 22 × 1.5  | 3,700.00 | 7,400.00  |

# 限界螺紋牙規

Plug Gauges & Ring Gauges



限界螺紋栓規

公制牙(M)



限界螺紋環規

| 規 格        | 限界螺紋栓規          | 限界螺紋環規           | 規 格        | 限界螺紋栓規           | 限界螺紋環規           |
|------------|-----------------|------------------|------------|------------------|------------------|
|            | 價(支)格           | 價(組)格            |            | 價(支)格            | 價(組)格            |
| M 22 × 2.0 | <b>3,800.00</b> | <b>7,600.00</b>  | M 32 × 1.5 | <b>4,900.00</b>  | <b>9,800.00</b>  |
| " 22 × 2.5 | <b>4,050.00</b> | <b>8,100.00</b>  | " 32 × 2.0 | <b>5,000.00</b>  | <b>10,000.00</b> |
| " 24 × 1.0 | <b>4,550.00</b> | <b>9,100.00</b>  | " 33 × 1.5 | <b>5,500.00</b>  | <b>11,000.00</b> |
| " 24 × 1.5 | <b>3,900.00</b> | <b>7,800.00</b>  | " 33 × 2.0 | <b>6,000.00</b>  | <b>12,000.00</b> |
| " 24 × 2.0 | <b>4,000.00</b> | <b>8,000.00</b>  | " 33 × 3.0 | <b>5,900.00</b>  | <b>11,800.00</b> |
| M 24 × 3.0 | <b>4,600.00</b> | <b>9,200.00</b>  | M 33 × 3.5 | <b>6,200.00</b>  | <b>12,400.00</b> |
| " 25 × 1.0 | <b>4,700.00</b> | <b>9,400.00</b>  | " 35 × 1.5 | <b>5,300.00</b>  | <b>10,600.00</b> |
| " 25 × 1.5 | <b>4,000.00</b> | <b>8,000.00</b>  | " 35 × 2.0 | <b>7,600.00</b>  | <b>15,200.00</b> |
| " 25 × 2.0 | <b>4,050.00</b> | <b>8,100.00</b>  | " 36 × 1.5 | <b>5,400.00</b>  | <b>10,800.00</b> |
| " 26 × 1.0 | <b>4,850.00</b> | <b>9,700.00</b>  | " 36 × 2.0 | <b>5,400.00</b>  | <b>10,800.00</b> |
| M 26 × 1.5 | <b>4,100.00</b> | <b>8,200.00</b>  | M 36 × 3.0 | <b>6,300.00</b>  | <b>12,600.00</b> |
| " 27 × 1.0 | <b>4,950.00</b> | <b>9,900.00</b>  | " 36 × 4.0 | <b>6,700.00</b>  | <b>13,400.00</b> |
| " 27 × 1.5 | <b>4,200.00</b> | <b>8,400.00</b>  | " 38 × 1.5 | <b>6,400.00</b>  | <b>12,800.00</b> |
| " 27 × 2.0 | <b>4,250.00</b> | <b>8,500.00</b>  | " 38 × 2.0 | <b>5,900.00</b>  | <b>11,800.00</b> |
| " 27 × 3.0 | <b>5,000.00</b> | <b>10,000.00</b> | " 38 × 3.0 | <b>6,500.00</b>  | <b>13,000.00</b> |
| M 28 × 1.0 | <b>5,150.00</b> | <b>10,300.00</b> | M 40 × 1.5 | <b>7,350.00</b>  | <b>14,700.00</b> |
| " 28 × 1.5 | <b>4,350.00</b> | <b>8,700.00</b>  | " 40 × 2.0 | <b>8,350.00</b>  | <b>16,700.00</b> |
| " 28 × 2.0 | <b>4,400.00</b> | <b>8,800.00</b>  | " 40 × 3.0 | <b>7,100.00</b>  | <b>14,200.00</b> |
| " 30 × 1.0 | <b>5,400.00</b> | <b>10,800.00</b> | " 42 × 1.5 | <b>7,900.00</b>  | <b>15,800.00</b> |
| " 30 × 1.5 | <b>4,500.00</b> | <b>9,000.00</b>  | " 42 × 2.0 | <b>8,600.00</b>  | <b>17,200.00</b> |
| M 30 × 2.0 | <b>4,600.00</b> | <b>9,200.00</b>  | M 45 × 1.5 | <b>8,800.00</b>  | <b>17,600.00</b> |
| " 30 × 3.0 | <b>5,400.00</b> | <b>10,800.00</b> | " 45 × 2.0 | <b>9,000.00</b>  | <b>18,000.00</b> |
| " 30 × 3.5 | <b>5,500.00</b> | <b>11,000.00</b> | " 48 × 1.5 | <b>9,450.00</b>  | <b>18,900.00</b> |
| " 32 × 1.0 | <b>6,350.00</b> | <b>12,700.00</b> | " 48 × 2.0 | <b>10,000.00</b> | <b>20,000.00</b> |

英制牙(W)

|             |                 |                  |                 |                  |                  |
|-------------|-----------------|------------------|-----------------|------------------|------------------|
| W 1/8 - 40  | <b>4,350.00</b> | <b>8,700.00</b>  | W 7/8 - 9       | <b>6,600.00</b>  | <b>13,200.00</b> |
| " 5/32 - 32 | <b>4,350.00</b> | <b>8,700.00</b>  | " 1 - 8         | <b>7,200.00</b>  | <b>14,400.00</b> |
| " 3/16 - 24 | <b>4,350.00</b> | <b>8,700.00</b>  | " 1 1/8 - 7     | <b>8,500.00</b>  | <b>17,000.00</b> |
| " 1/4 - 20  | <b>4,350.00</b> | <b>8,700.00</b>  | " 1 1/4 - 7     | <b>9,300.00</b>  | <b>18,600.00</b> |
| " 5/16 - 18 | <b>4,350.00</b> | <b>8,700.00</b>  | " 1 3/8 - 6     | <b>10,000.00</b> | <b>25,000.00</b> |
| W 3/8 - 16  | <b>4,350.00</b> | <b>8,700.00</b>  | W 1 1/2 - 6     | <b>10,800.00</b> | <b>27,000.00</b> |
| " 7/16 - 14 | <b>4,600.00</b> | <b>9,200.00</b>  | " 1 5/8 - 5     | <b>11,800.00</b> | <b>29,500.00</b> |
| " 1/2 - 12  | <b>4,800.00</b> | <b>9,600.00</b>  | " 1 3/4 - 5     | <b>12,700.00</b> | <b>31,800.00</b> |
| " 5/8 - 11  | <b>5,200.00</b> | <b>10,400.00</b> | " 1 7/8 - 4 1/2 | <b>15,000.00</b> | <b>37,500.00</b> |
| " 3/4 - 10  | <b>6,200.00</b> | <b>12,400.00</b> | " 2 - 4 1/2     | <b>17,000.00</b> | <b>42,500.00</b> |

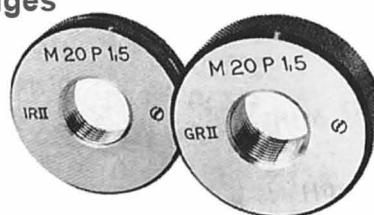


# 限界螺紋牙規

Plug Gauges & Ring Gauges



限界螺紋栓規



限界螺紋環規

## 美制粗牙(UNC)

| 規 格           | 限界螺紋栓規          | 限界螺紋環規           | 規 格          | 限界螺紋栓規          | 限界螺紋環規           |
|---------------|-----------------|------------------|--------------|-----------------|------------------|
|               | 價(支)格           | 價(組)格            |              | 價(支)格           | 價(組)格            |
| NO 1 - 64 UNC | <b>6,300.00</b> | —                | 3/8 - 16 UNC | <b>3,150.00</b> | <b>6,300.00</b>  |
| " 2 - 56 "    | <b>5,000.00</b> | <b>13,000.00</b> | 7/16 - 14 "  | <b>3,300.00</b> | <b>6,600.00</b>  |
| " 3 - 48 "    | <b>4,500.00</b> | —                | 1/2 - 13 "   | <b>3,350.00</b> | <b>6,700.00</b>  |
| " 4 - 40 "    | <b>4,000.00</b> | <b>8,000.00</b>  | 9/16 - 12 "  | <b>3,550.00</b> | <b>7,100.00</b>  |
| " 5 - 40 "    | <b>4,000.00</b> | <b>8,450.00</b>  | 5/8 - 11 "   | <b>3,750.00</b> | <b>7,500.00</b>  |
| NO 6 - 32 UNC | <b>3,350.00</b> | <b>6,700.00</b>  | 3/4 - 10 UNC | <b>4,350.00</b> | <b>8,700.00</b>  |
| " 8 - 32 "    | <b>3,300.00</b> | <b>6,600.00</b>  | 7/8 - 9 "    | <b>4,700.00</b> | <b>9,400.00</b>  |
| " 10 - 24 "   | <b>3,000.00</b> | <b>6,000.00</b>  | 1 - 8 "      | <b>5,200.00</b> | <b>10,400.00</b> |
| " 12 - 24 "   | <b>3,100.00</b> | <b>6,200.00</b>  | 1 1/8 - 7 "  | <b>5,950.00</b> | <b>11,900.00</b> |
| 1/4 - 20 "    | <b>3,100.00</b> | <b>6,200.00</b>  | 1 1/4 - 7 "  | <b>6,750.00</b> | <b>13,500.00</b> |
| 5/16 - 18 "   | <b>3,100.00</b> | <b>6,200.00</b>  | 1 1/2 - 6 "  | <b>8,900.00</b> | —                |

## 美制細牙(UNF)

|               |                 |                 |                |                 |                  |
|---------------|-----------------|-----------------|----------------|-----------------|------------------|
| NO 1 - 72 UNF | <b>6,300.00</b> | —               | 7/16 - 20 UNF  | <b>3,300.00</b> | <b>6,600.00</b>  |
| " 2 - 64 "    | <b>5,100.00</b> | —               | 1/2 - 20 "     | <b>3,350.00</b> | <b>6,700.00</b>  |
| " 3 - 56 "    | <b>5,300.00</b> | —               | 9/16 - 18 "    | <b>3,500.00</b> | <b>7,000.00</b>  |
| " 4 - 48 "    | <b>4,300.00</b> | <b>9,500.00</b> | 9/16 - 20 UNS  | <b>4,800.00</b> | <b>9,600.00</b>  |
| " 5 - 44 "    | <b>4,300.00</b> | —               | 5/8 - 18 UNF   | <b>3,650.00</b> | <b>7,300.00</b>  |
| NO 6 - 40 UNF | <b>3,350.00</b> | <b>6,700.00</b> | 3/4 - 16 UNF   | <b>4,050.00</b> | <b>8,100.00</b>  |
| " 8 - 36 "    | <b>3,300.00</b> | <b>6,600.00</b> | 7/8 - 14 "     | <b>4,200.00</b> | <b>8,400.00</b>  |
| " 10 - 32 "   | <b>3,100.00</b> | <b>6,200.00</b> | 1 - 12 "       | <b>4,700.00</b> | <b>9,400.00</b>  |
| " 12 - 28 "   | <b>3,100.00</b> | <b>6,200.00</b> | 1 - 14 UNS     | <b>7,100.00</b> | <b>14,200.00</b> |
| 3/16 - 32 UNS | <b>3,200.00</b> | <b>6,400.00</b> | 1 1/8 - 12 UNF | <b>4,950.00</b> | <b>9,900.00</b>  |
| 1/4 - 28 UNF  | <b>3,100.00</b> | <b>6,200.00</b> | 1 1/4 - 12 UNF | <b>5,650.00</b> | <b>11,300.00</b> |
| 5/16 - 24 "   | <b>3,150.00</b> | <b>6,300.00</b> | 1 3/8 - 12 "   | <b>6,050.00</b> | <b>12,100.00</b> |
| 3/8 - 24 "    | <b>3,300.00</b> | <b>6,600.00</b> | 1 1/2 - 12 "   | <b>7,000.00</b> | <b>14,000.00</b> |

## 美制特細牙(UNEF)

|               |                 |                  |               |                 |                  |
|---------------|-----------------|------------------|---------------|-----------------|------------------|
| 1/4 - 32 UNEF | <b>4,300.00</b> | <b>8,600.00</b>  | 1/2 - 32 UNEF | <b>4,600.00</b> | <b>9,200.00</b>  |
| 5/16 - 32 "   | <b>4,350.00</b> | <b>8,700.00</b>  | 9/16 - 24 "   | <b>4,800.00</b> | <b>9,600.00</b>  |
| 3/8 - 32 "    | <b>4,100.00</b> | <b>8,200.00</b>  | 5/8 - 24 "    | <b>4,850.00</b> | <b>9,700.00</b>  |
| 7/16 - 24 "   | <b>5,050.00</b> | <b>10,100.00</b> | 3/4 - 20 "    | <b>5,550.00</b> | <b>11,100.00</b> |
| 7/16 - 28 "   | <b>4,550.00</b> | <b>9,100.00</b>  | 7/8 - 20 "    | <b>6,050.00</b> | <b>12,100.00</b> |
| 1/2 - 28 "    | <b>4,550.00</b> | <b>9,100.00</b>  | 1 - 20 "      | <b>6,500.00</b> | <b>13,000.00</b> |

# 限界螺紋牙規

Plug Gauges & Ring Gauges



限界螺紋栓規



限界螺紋環規

針車牙(SM)

| 規 格           | 限界螺紋栓規          | 限界螺紋環規 | 規 格           | 限界螺紋栓規          | 限界螺紋環規          |
|---------------|-----------------|--------|---------------|-----------------|-----------------|
|               | 價(支)格           | 價(組)格  |               | 價(支)格           | 價(組)格           |
| 3/32 - 56 SM  | <b>5,400.00</b> | —      | 15/64 - 28 SM | <b>4,100.00</b> | <b>8,200.00</b> |
| 1/8 - 40 "    | <b>4,100.00</b> | —      | 1/4 - 24 "    | <b>4,100.00</b> | <b>8,200.00</b> |
| 1/8 - 44 "    | <b>4,200.00</b> | —      | 1/4 - 28 "    | <b>4,100.00</b> | <b>8,200.00</b> |
| 9/64 - 40 "   | <b>4,100.00</b> | —      | 1/4 - 40 "    | <b>4,100.00</b> | <b>8,200.00</b> |
| 11/64 - 40 SM | <b>4,100.00</b> | —      | 9/32 - 20 SM  | <b>4,100.00</b> | <b>8,200.00</b> |
| 3/16 - 24 "   | <b>4,100.00</b> | —      | 9/32 - 28 "   | <b>4,100.00</b> | <b>8,200.00</b> |
| 3/16 - 28 "   | <b>4,100.00</b> | —      | 5/16 - 28 "   | <b>4,300.00</b> | <b>8,600.00</b> |
| 3/16 - 32 "   | <b>4,100.00</b> | —      | 3/8 - 28 "    | <b>4,400.00</b> | <b>8,800.00</b> |

英制管用直牙

|                 |                  |                  |
|-----------------|------------------|------------------|
| PS(PF) 1/8 - 28 | <b>4,300.00</b>  | <b>8,600.00</b>  |
| " 1/4 - 19      | <b>4,500.00</b>  | <b>9,000.00</b>  |
| " 3/8 - 19      | <b>4,800.00</b>  | <b>9,600.00</b>  |
| " 1/2 - 14      | <b>5,700.00</b>  | <b>11,400.00</b> |
| " 5/8 - 14      | <b>6,600.00</b>  | <b>13,200.00</b> |
| PS(PF) 3/4 - 14 | <b>6,400.00</b>  | <b>12,800.00</b> |
| " 1 - 11        | <b>8,400.00</b>  | <b>16,800.00</b> |
| " 1 1/4 - 11    | <b>10,500.00</b> | <b>21,000.00</b> |
| " 1 1/2 - 11    | <b>12,000.00</b> | <b>24,000.00</b> |
| " 2 - 11        | <b>17,000.00</b> | <b>34,000.00</b> |

美制管用直牙

|                  |                  |                  |
|------------------|------------------|------------------|
| NPSM 1/8 - 27    | <b>5,590.00</b>  | <b>11,180.00</b> |
| " 1/4 - 18       | <b>5,850.00</b>  | <b>11,700.00</b> |
| " 3/8 - 18       | <b>6,240.00</b>  | <b>12,480.00</b> |
| " 1/2 - 14       | <b>7,410.00</b>  | <b>14,820.00</b> |
| " 5/8 - 14       | <b>8,580.00</b>  | <b>17,160.00</b> |
| NPSM 3/4 - 14    | <b>8,320.00</b>  | <b>16,640.00</b> |
| " 1 - 11 1/2     | <b>10,920.00</b> | <b>21,840.00</b> |
| " 1 1/4 - 11 1/2 | <b>13,650.00</b> | <b>27,300.00</b> |
| " 1 1/2 - 11 1/2 | <b>15,600.00</b> | <b>31,200.00</b> |
| " 2 - 11 1/2     | <b>22,100.00</b> | <b>44,200.00</b> |

英制管用斜牙

|              |                  |                  |
|--------------|------------------|------------------|
| PT 1/16 - 28 | <b>7,385.00</b>  | <b>11,075.00</b> |
| " 1/8 - 28   | <b>5,350.00</b>  | <b>8,020.00</b>  |
| " 1/4 - 19   | <b>5,610.00</b>  | <b>8,405.00</b>  |
| " 3/8 - 19   | <b>6,495.00</b>  | <b>9,675.00</b>  |
| " 1/2 - 14   | <b>7,260.00</b>  | <b>10,820.00</b> |
| PT 3/4 - 14  | <b>8,530.00</b>  | <b>12,730.00</b> |
| " 1 - 11     | <b>10,060.00</b> | <b>15,025.00</b> |
| " 1 1/4 - 11 | <b>11,970.00</b> | <b>17,950.00</b> |
| " 1 1/2 - 11 | <b>13,625.00</b> | <b>20,370.00</b> |
| " 2 - 11     | <b>16,295.00</b> | <b>24,445.00</b> |

美制管用斜牙

| PT/NPT 環規：只      |                  |                  |
|------------------|------------------|------------------|
| NPT 1/16 - 27    | <b>9,550.00</b>  | <b>14,260.00</b> |
| " 1/8 - 27       | <b>6,875.00</b>  | <b>10,315.00</b> |
| " 1/4 - 18       | <b>7,260.00</b>  | <b>10,820.00</b> |
| " 3/8 - 18       | <b>8,405.00</b>  | <b>12,605.00</b> |
| " 1/2 - 14       | <b>9,420.00</b>  | <b>14,130.00</b> |
| NPT 3/4 - 14     | <b>11,075.00</b> | <b>16,550.00</b> |
| " 1 - 11 1/2     | <b>12,985.00</b> | <b>19,480.00</b> |
| " 1 1/4 - 11 1/2 | <b>15,530.00</b> | <b>23,300.00</b> |
| " 1 1/2 - 11 1/2 | <b>17,695.00</b> | <b>26,480.00</b> |
| " 2 - 11 1/2     | <b>21,135.00</b> | <b>31,700.00</b> |

# 限界螺紋牙規之種類及記號

Type & Symbol for Plug Gauges & Ring Gauges

## 限界螺紋栓規：專測母螺牙之有效徑用

| 檢查螺紋之有效徑   |   | 記號        | 種類          |
|--|---|-----------|-------------|
| 母螺牙<br> |    | <b>GP</b> | 工作、檢查共用貫通栓規 |
|  |    | <b>WP</b> | 工作用不貫通栓規    |
|  |    | <b>GP</b> | 工作、檢查共用貫通栓規 |
|  |    | <b>IP</b> | 檢查用不貫通栓規    |
|  |    | <b>GP</b> | 工作、檢查共用貫通栓規 |
|  |    | <b>WP</b> | 工作用不貫通栓規    |
|  |  | <b>IP</b> | 檢查用不貫通栓規    |

## 限界螺紋環規：專測公螺牙之有效徑用

|  |   |           |             |
|--|---|-----------|-------------|
| 公螺牙<br> |  | <b>GR</b> | 工作、檢查共用貫通環規 |
|  |  | <b>WR</b> | 工作用不貫通環規    |
|  |  | <b>IR</b> | 檢查用不貫通環規    |

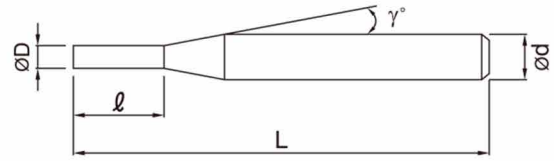
### 使用說明：

1. 限界螺紋牙規，每一組是由貫通側(GO)及不貫通側(NO GO)組成。
2. 檢查時，貫通側需全部旋轉通過，不貫通側旋轉以不超過2牙為標準合格品。
3. 栓環規貫通側與不貫通測之辨認：  
栓規及環規之貫通側，螺紋較長(厚)；不貫通側較短(薄)，且有刻紋。

| 螺紋規格     | 記號      | 牙山角度 | 螺紋等級                         |
|----------|---------|------|------------------------------|
| 公制牙(ISO) | M       | 60°  | 4H/5H/6H/7H(栓規)              |
| 公制牙(JIS) | M       | 60°  | 4h/5h/6h/7h(環規)              |
| 英制粗牙     | W       | 55°  | 3B/2B/1B(栓規)<br>3A/2A/1A(環規) |
| 美制粗牙     | UNC     | 60°  |                              |
| 美制細牙     | UNF、UNS | 60°  |                              |
| 美制特細牙    | UNEF    | 60°  |                              |
| 針車牙      | SM      | 60°  | 1級/2級/3級                     |

# FDSE-2 · 4 鑽石鍍膜全鎢鋼超硬立銑刀

2&4-Flute End Mills



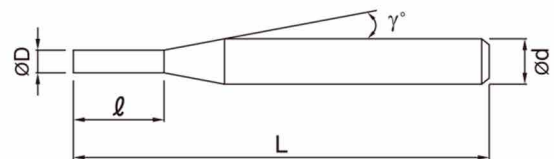
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 刃數 (T) | 價(支)格           | 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 刃數 (T) | 價(支)格            |
|--------|--------|--------|--------|--------|-----------------|--------|--------|--------|--------|--------|------------------|
| 0.5    | 1.25   | 4      | 45     | 2      | <b>3,950.00</b> | 5      | 15     | 6      | 50     | 2      | <b>4,280.00</b>  |
| 0.8    | 2      | 4      | 45     | 2      | <b>3,930.00</b> | 5      | 20     | 6      | 60     | 2      | <b>5,010.00</b>  |
| 1      | 3      | 4      | 45     | 2      | <b>3,740.00</b> | 6      | 12     | 6      | 50     | 4      | <b>4,130.00</b>  |
| 1.5    | 4.5    | 4      | 45     | 2      | <b>3,740.00</b> | 6      | 18     | 6      | 60     | 4      | <b>4,330.00</b>  |
| 2      | 8      | 4      | 50     | 2      | <b>3,540.00</b> | 8      | 20     | 8      | 60     | 4      | <b>6,850.00</b>  |
| 2.5    | 10     | 4      | 50     | 2      | <b>3,540.00</b> | 8      | 24     | 8      | 90     | 4      | <b>7,560.00</b>  |
| 3      | 12     | 6      | 55     | 2      | <b>4,750.00</b> | 8      | 40     | 8      | 90     | 4      | <b>8,640.00</b>  |
| 4      | 8      | 4      | 50     | 4      | <b>3,540.00</b> | 10     | 25     | 10     | 100    | 4      | <b>9,540.00</b>  |
| 4      | 12     | 4      | 50     | 4      | <b>3,770.00</b> | 12     | 25     | 12     | 110    | 4      | <b>11,740.00</b> |
| 4      | 16     | 6      | 55     | 2      | <b>4,750.00</b> |        |        |        |        |        |                  |

# FDCSE-2 · 4 鑽石鍍膜全鎢鋼超硬立銑刀

2&4-Flute End Mills



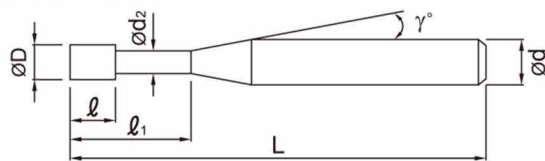
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 刃數 (T) | 價(支)格           | 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 刃數 (T) | 價(支)格            |
|--------|--------|--------|--------|--------|-----------------|--------|--------|--------|--------|--------|------------------|
| 0.8    | 2      | 4      | 45     | 2      | <b>3,570.00</b> | 2.5    | 10     | 4      | 50     | 2      | <b>3,220.00</b>  |
| 1      | 3      | 4      | 45     | 2      | <b>3,400.00</b> | 12     | 25     | 12     | 110    | 4      | <b>10,670.00</b> |
| 2      | 8      | 4      | 50     | 2      | <b>3,220.00</b> |        |        |        |        |        |                  |

# FDSHR-2 鑽石鍍膜全鎢鋼超硬深溝立銑刀

## 2-Flute Long Neck End Mills



- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

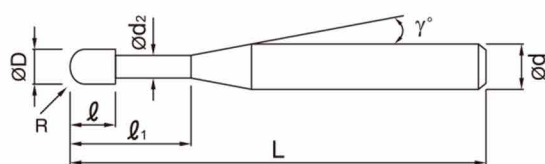
單位：mm

| 刃徑 (D) | 有效長 ( $\ell_1$ ) | 刃長 ( $\ell$ ) | 首下徑 ( $d_2$ ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|------------------|---------------|---------------|--------|--------|-----------------|
| 0.2    | 2                | 0.3           | 0.18          | 4      | 40     | <b>7,130.00</b> |
| 0.3    | 3                | 0.45          | 0.28          | 4      | 40     | <b>6,670.00</b> |
| 0.4    | 4                | 0.6           | 0.37          | 4      | 40     | <b>5,750.00</b> |
| 0.5    | 4                | 0.7           | 0.46          | 4      | 45     | <b>4,270.00</b> |
| 0.5    | 6                | 0.7           | 0.46          | 4      | 45     | <b>4,270.00</b> |
| 0.6    | 4                | 0.9           | 0.56          | 4      | 45     | <b>4,130.00</b> |
| 0.6    | 6                | 0.9           | 0.56          | 4      | 45     | <b>4,130.00</b> |
| 0.6    | 8                | 0.9           | 0.56          | 4      | 45     | <b>4,130.00</b> |
| 0.8    | 6                | 1.2           | 0.76          | 4      | 45     | <b>4,090.00</b> |
| 0.8    | 8                | 1.2           | 0.76          | 4      | 45     | <b>4,140.00</b> |

| 刃徑 (D) | 有效長 ( $\ell_1$ ) | 刃長 ( $\ell$ ) | 首下徑 ( $d_2$ ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|------------------|---------------|---------------|--------|--------|-----------------|
| 1      | 4                | 1.5           | 0.95          | 4      | 45     | <b>4,040.00</b> |
| 1      | 6                | 1.5           | 0.95          | 4      | 45     | <b>4,040.00</b> |
| 1      | 8                | 1.5           | 0.95          | 4      | 45     | <b>4,040.00</b> |
| 1      | 12               | 1.5           | 0.95          | 4      | 45     | <b>4,100.00</b> |
| 1.5    | 8                | 2.5           | 1.45          | 4      | 45     | <b>4,030.00</b> |
| 1.5    | 12               | 2.5           | 1.45          | 4      | 45     | <b>4,100.00</b> |
| 2      | 8                | 3             | 1.93          | 4      | 50     | <b>3,710.00</b> |
| 2      | 12               | 3             | 1.93          | 4      | 50     | <b>3,710.00</b> |
| 2      | 16               | 3             | 1.93          | 4      | 50     | <b>3,710.00</b> |
| 3      | 18               | 4.5           | 2.85          | 6      | 55     | <b>4,840.00</b> |

# FDSRB-2 鑽石鍍膜全鎢鋼超硬深溝圓球立銑刀

## 2-Flute Long Neck Ball End Mills



- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

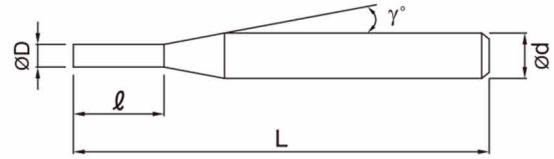
單位：mm

| R角 (R) | 有效長 ( $\ell_1$ ) | 刃長 ( $\ell$ ) | 首下徑 ( $d_2$ ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|------------------|---------------|---------------|--------|--------|-----------------|
| 0.2    | 4                | 0.6           | 0.36          | 4      | 45     | <b>5,740.00</b> |
| 0.2    | 6                | 0.6           | 0.36          | 4      | 45     | <b>5,740.00</b> |
| 0.3    | 4                | 1             | 0.56          | 4      | 45     | <b>5,510.00</b> |
| 0.3    | 6                | 1             | 0.56          | 4      | 45     | <b>5,510.00</b> |
| 0.3    | 8                | 1             | 0.56          | 4      | 45     | <b>5,510.00</b> |
| 0.5    | 6                | 1.5           | 0.95          | 4      | 45     | <b>4,860.00</b> |
| 0.5    | 8                | 1.5           | 0.95          | 4      | 45     | <b>4,860.00</b> |

| R角 (R) | 有效長 ( $\ell_1$ ) | 刃長 ( $\ell$ ) | 首下徑 ( $d_2$ ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|------------------|---------------|---------------|--------|--------|-----------------|
| 0.5    | 12               | 1.5           | 0.95          | 4      | 45     | <b>5,030.00</b> |
| 0.75   | 12               | 1.5           | 1.75          | 4      | 45     | <b>4,680.00</b> |
| 1      | 8                | 3             | 1.95          | 4      | 60     | <b>3,980.00</b> |
| 1      | 12               | 3             | 1.95          | 4      | 60     | <b>3,980.00</b> |
| 1      | 16               | 3             | 1.95          | 4      | 60     | <b>4,100.00</b> |
| 2      | 16               | 6             | 3.9           | 4      | 60     | <b>4,100.00</b> |

# FDCSEL-2 鑽石鍍膜全鎢鋼超硬長刃立銑刀

## 2-Flute Long End Mills



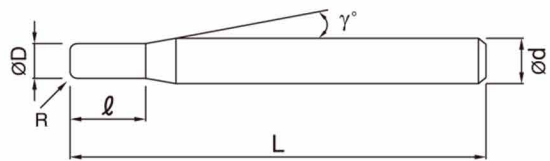
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刃徑  | 有效長       | 刃長      | 首下徑       | 柄徑  | 全長  | 價(支)格            |
|-----|-----------|---------|-----------|-----|-----|------------------|
| (D) | ( $l_1$ ) | ( $l$ ) | ( $d_2$ ) | (d) | (L) |                  |
| 0.5 | 2         | 1       | 0.45      | 3   | 40  | <b>2,920.00</b>  |
| 0.6 | 3         | 2       | 0.55      | 3   | 40  | <b>2,920.00</b>  |
| 0.7 | 4         | 2       | 0.65      | 3   | 40  | <b>2,760.00</b>  |
| 0.8 | 5         | 2       | 0.75      | 3   | 40  | <b>2,760.00</b>  |
| 0.9 | 6         | 2       | 0.85      | 3   | 40  | <b>2,760.00</b>  |
| 1   | 8         | 3       | 0.95      | 4   | 75  | <b>3,910.00</b>  |
| 1.5 | 10        | 4       | 1.45      | 4   | 75  | <b>3,910.00</b>  |
| 2   | 16        | 6       | 1.9       | 4   | 100 | <b>3,990.00</b>  |
| 2.5 | 20        | 8       | 2.4       | 4   | 100 | <b>3,990.00</b>  |
| 3   | 30        | 8       | 2.8       | 6   | 100 | <b>5,850.00</b>  |
| 3.5 | 35        | 10      | 3.2       | 6   | 100 | <b>5,850.00</b>  |
| 4   | 40        | 20      | 3.7       | 6   | 100 | <b>5,960.00</b>  |
| 5   | 50        | 25      | 4.6       | 6   | 125 | <b>6,650.00</b>  |
| 6   | 60        | 30      | 5.6       | 6   | 140 | <b>6,650.00</b>  |
| 7   | -         | 35      | -         | 6   | 140 | <b>11,330.00</b> |
| 8   | 80        | 40      | 7.4       | 8   | 150 | <b>10,300.00</b> |
| 9   | -         | 45      | -         | 8   | 150 | <b>13,420.00</b> |
| 10  | 80        | 50      | 9.4       | 10  | 150 | <b>12,200.00</b> |
| 11  | -         | 50      | -         | 10  | 150 | <b>17,490.00</b> |
| 12  | 80        | 55      | 11.4      | 12  | 150 | <b>15,900.00</b> |

# FDSR-3 鑽石鍍膜全鎢鋼超硬端角R立銑刀

## 3-Flute Radius End Mills



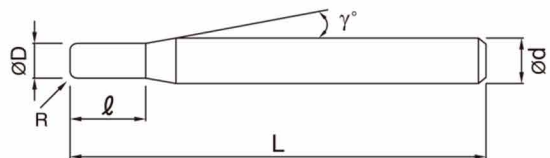
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刀徑<br>(D) | R角<br>(R) | 刀長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|------------------|
| 2         | 0.15      | 6         | 3         | 40        | <b>2,430.00</b>  |
| 3         | 0.15      | 12        | 3         | 40        | <b>2,520.00</b>  |
| 4         | 0.2       | 14        | 4         | 50        | <b>3,470.00</b>  |
| 5         | 0.3       | 16        | 5         | 50        | <b>3,870.00</b>  |
| 6         | 0.3       | 20        | 6         | 65        | <b>4,830.00</b>  |
| 8         | 0.5       | 20        | 8         | 65        | <b>7,180.00</b>  |
| 10        | 0.5       | 25        | 10        | 75        | <b>8,790.00</b>  |
| 12        | 0.5       | 25        | 12        | 75        | <b>10,770.00</b> |

# FDLSR-3 鑽石鍍膜全鎢鋼超硬長刃端角R立銑刀

## 3-Flute Long Radius End Mills



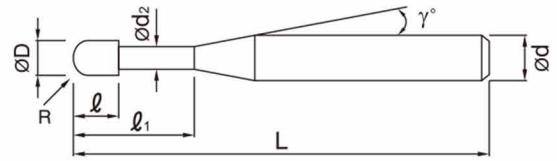
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刀徑<br>(D) | R角<br>(R) | 刀長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|------------------|
| 2         | 0.15      | 9         | 3         | 60        | <b>2,830.00</b>  |
| 3         | 0.15      | 30        | 3         | 60        | <b>3,110.00</b>  |
| 4         | 0.2       | 30        | 4         | 60        | <b>4,020.00</b>  |
| 5         | 0.3       | 35        | 5         | 70        | <b>5,370.00</b>  |
| 6         | 0.3       | 40        | 6         | 100       | <b>6,000.00</b>  |
| 8         | 0.5       | 40        | 8         | 100       | <b>8,760.00</b>  |
| 10        | 0.5       | 40        | 10        | 100       | <b>10,320.00</b> |
| 12        | 0.5       | 45        | 12        | 100       | <b>13,070.00</b> |

# FDCB-2 鑽石鍍膜全鎢鋼超硬圓球立銑刀

## 2-Flute Ball End Mills



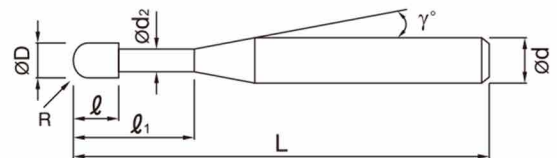
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| R角<br>(R) | 有效長<br>(ℓ <sub>1</sub> ) | 刃長<br>(ℓ) | 首下徑<br>(d <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|-----------|--------------------------|-----------|--------------------------|-----------|-----------|------------------|
| 1         | 5                        | 3         | 1.9                      | 6         | 60        | <b>5,860.00</b>  |
| 1.25      | 6                        | 4         | 2.4                      | 6         | 60        | <b>5,860.00</b>  |
| 1.5       | 6.5                      | 4.5       | 2.8                      | 6         | 60        | <b>5,860.00</b>  |
| 1.75      | 7                        | 5         | 3.2                      | 6         | 65        | <b>5,860.00</b>  |
| 2         | 8                        | 6         | 3.7                      | 6         | 65        | <b>5,860.00</b>  |
| 2.5       | 10                       | 7.5       | 4.6                      | 6         | 65        | <b>5,860.00</b>  |
| 3         | 12                       | 9         | 5.6                      | 6         | 75        | <b>5,860.00</b>  |
| 4         | 25                       | 12        | 7.4                      | 8         | 75        | <b>8,940.00</b>  |
| 5         | 30                       | 15        | 9.4                      | 10        | 80        | <b>11,910.00</b> |
| 6         | 36                       | 18        | 11.4                     | 12        | 90        | <b>13,920.00</b> |

# FDCSB-2 · 4 鑽石鍍膜全鎢鋼超硬深溝圓球立銑刀

## 2&4-Flute Long Neck Ball End Mills



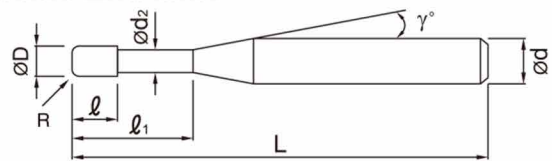
單位：mm

| R角<br>(R) | 有效長<br>(ℓ <sub>1</sub> ) | 刃長<br>(ℓ) | 首下徑<br>(d <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格            |
|-----------|--------------------------|-----------|--------------------------|-----------|-----------|-----------|------------------|
| 1         | 20                       | 10        | 1.95                     | 4         | 80        | 2         | <b>4,630.00</b>  |
| 1         | 20                       | 10        | 1.95                     | 4         | 100       | 2         | <b>4,860.00</b>  |
| 1.5       | 25                       | 15        | 2.9                      | 4         | 80        | 2         | <b>4,630.00</b>  |
| 2         | 30                       | 20        | 3.9                      | 4         | 80        | 2         | <b>4,630.00</b>  |
| 2         | 30                       | 20        | 3.9                      | 4         | 100       | 2         | <b>4,860.00</b>  |
| 2.5       | 50                       | 30        | 4.9                      | 6         | 100       | 2         | <b>6,820.00</b>  |
| 3         | 50                       | 30        | 5.5                      | 6         | 100       | 2         | <b>6,820.00</b>  |
| 3         | 50                       | 30        | 5.5                      | 6         | 150       | 2         | <b>7,360.00</b>  |
| 4         | 60                       | 40        | 7.5                      | 8         | 110       | 2         | <b>10,340.00</b> |
| 4         | 60                       | 40        | 7.5                      | 8         | 150       | 2         | <b>10,880.00</b> |
| 5         | 70                       | 50        | 9.5                      | 10        | 120       | 2         | <b>12,630.00</b> |
| 5         | 70                       | 50        | 9.5                      | 10        | 180       | 4         | <b>16,670.00</b> |
| 6         | 75                       | 55        | 11.5                     | 12        | 130       | 2         | <b>16,950.00</b> |
| 6         | 75                       | 55        | 11.5                     | 12        | 200       | 2         | <b>20,770.00</b> |



# FDCMDR-2 鑽石鍍膜全鎢鋼超硬深溝端角R立銑刀

## 2-Flute Long Neck Radius End Mills



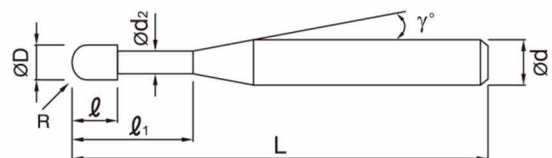
- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|------------------|---------------|------------------|-----------|-----------|-----------------|
| 0.6       | 0.05      | 3                | 0.9           | 0.55             | 3         | 40        | <b>3,260.00</b> |
| 0.8       | 0.05      | 4                | 1.2           | 0.75             | 3         | 40        | <b>3,110.00</b> |
| 1         | 0.1       | 5                | 1.5           | 0.95             | 3         | 40        | <b>2,910.00</b> |
| 1         | 0.1       | 8.5              | 1.5           | 0.95             | 3         | 40        | <b>2,910.00</b> |
| 1.2       | 0.1       | 6                | 1.8           | 1.15             | 3         | 50        | <b>2,930.00</b> |
| 1.5       | 0.15      | 7.5              | 2.2           | 1.4              | 3         | 50        | <b>2,930.00</b> |
| 1.5       | 0.15      | 12               | 2.2           | 1.4              | 3         | 50        | <b>3,020.00</b> |
| 2         | 0.15      | 10               | 2.2           | 1.9              | 3         | 60        | <b>2,840.00</b> |
| 2         | 0.15      | 16               | 2.2           | 1.9              | 3         | 60        | <b>2,960.00</b> |

# FDCRB-2 鑽石鍍膜全鎢鋼超硬深溝圓球立銑刀

## 2-Flute Long Neck Ball End Mills



- \* 高表面硬度及優異的抗磨耗性能，提高刀具使用壽命10倍以上。
- \* 適合於石墨、陶瓷、纖維塑膠、鋁合金、銅等非鐵金屬加工材之高速輕切削加工，不適合於切削鋼材及重切削加工。
- \* 加工面更光滑及精度超群。

單位：mm

| R角<br>(R) | 有效長<br>( $l_1$ ) | 刃徑<br>(D) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|------------------|-----------|---------------|------------------|-----------|-----------|-----------------|
| 0.3       | 3                | 0.6       | 0.6           | 0.55             | 3         | 40        | <b>4,180.00</b> |
| 0.4       | 4                | 0.8       | 0.8           | 0.75             | 3         | 40        | <b>3,470.00</b> |
| 0.5       | 5                | 1         | 1             | 0.95             | 3         | 40        | <b>3,300.00</b> |
| 0.5       | 8.5              | 1         | 1             | 0.95             | 3         | 40        | <b>3,300.00</b> |
| 0.6       | 6                | 1.2       | 1.2           | 1.15             | 3         | 50        | <b>3,320.00</b> |
| 0.75      | 7.5              | 1.5       | 1.5           | 1.4              | 3         | 50        | <b>3,320.00</b> |
| 0.75      | 12               | 1.5       | 1.5           | 1.4              | 3         | 50        | <b>3,440.00</b> |
| 1         | 10               | 2         | 2.2           | 1.9              | 3         | 60        | <b>3,180.00</b> |
| 1         | 16               | 2         | 2.2           | 1.9              | 3         | 60        | <b>3,320.00</b> |

# FDSE · FDCSEL · FDSR · FDLR 切削條件參考表

## Recommended Cutting Condition

| 被削材          | 石墨                       |                         |
|--------------|--------------------------|-------------------------|
| 刃徑           | 回轉數<br>$\text{min}^{-1}$ | 進刀速度<br>$\text{mm/min}$ |
| 1            | 40,000                   | 2,500                   |
| 2            | 40,000                   | 3,000                   |
| 3            | 40,000                   | 4,200                   |
| 4            | 40,000                   | 6,000                   |
| 5            | 40,000                   | 7,200                   |
| 6            | 40,000                   | 8,400                   |
| 8            | 32,000                   | 8,400                   |
| 10           | 26,000                   | 8,600                   |
| 12           | 21,000                   | 8,200                   |
| 切削深度<br>D=刃徑 |                          |                         |

# FDSHR 切削條件參考表

## Recommended Cutting Condition

| 被削材          |     | 石墨                       |                         |
|--------------|-----|--------------------------|-------------------------|
| 刃徑           | 有效長 | 回轉數<br>$\text{min}^{-1}$ | 進刀速度<br>$\text{mm/min}$ |
| 0.6          | 4   | 40,000                   | 600                     |
| 0.6          | 6   | 40,000                   | 520                     |
| 0.6          | 8   | 40,000                   | 480                     |
| 0.8          | 6   | 40,000                   | 620                     |
| 0.8          | 8   | 40,000                   | 560                     |
| 1            | 4   | 40,000                   | 820                     |
| 1            | 6   | 40,000                   | 760                     |
| 1            | 8   | 40,000                   | 720                     |
| 1            | 12  | 40,000                   | 680                     |
| 2            | 8   | 40,000                   | 1,200                   |
| 2            | 12  | 40,000                   | 1,000                   |
| 3            | 18  | 40,000                   | 2,800                   |
| 切削深度<br>D=刃徑 |     |                          |                         |

# FDCB · FDCSB 切削條件參考表

Recommended Cutting Condition

| 被削材          |  | 石墨                |        |
|--------------|--|-------------------|--------|
| R角           |  | 回轉數               | 進刀速度   |
|              |  | min <sup>-1</sup> | mm/min |
| 1            |  | 16,000            | 800    |
| 1.5          |  | 16,000            | 1,450  |
| 2            |  | 16,000            | 2,100  |
| 2.5          |  | 15,000            | 2,500  |
| 3            |  | 15,000            | 2,900  |
| 4            |  | 13,000            | 3,000  |
| 5            |  | 11,000            | 3,000  |
| 6            |  | 10,000            | 3,100  |
| 切削深度<br>D=刃徑 |  |                   |        |

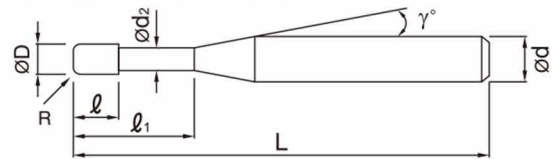
# FDSRB 切削條件參考表

Recommended Cutting Condition

| 被削材          |     | 石墨                |        |
|--------------|-----|-------------------|--------|
| R角           | 有效長 | 回轉數               | 進刀速度   |
|              |     | min <sup>-1</sup> | mm/min |
| 0.2          | 4   | 20,000            | 320    |
| 0.2          | 6   | 20,000            | 260    |
| 0.3          | 4   | 20,000            | 400    |
| 0.3          | 6   | 20,000            | 300    |
| 0.3          | 8   | 20,000            | 200    |
| 0.5          | 6   | 15,000            | 480    |
| 0.5          | 8   | 15,000            | 320    |
| 0.5          | 12  | 15,000            | 180    |
| 1            | 8   | 15,000            | 880    |
| 1            | 12  | 15,000            | 720    |
| 1            | 16  | 15,000            | 600    |
| 1            | 20  | 15,000            | 480    |
| 2            | 16  | 15,000            | 1,200  |
| 切削深度<br>D=刃徑 |     |                   |        |

# FRSR-2 超無敵全鎢鋼超硬端角R立銑刀

## 2-Flute Radius End Mills for Hardened Steels



$R \leq 3 \pm 0.01$   
 $R > 3 \pm 0.015$

$D \leq 6 \quad 0 \sim 0.012$   
 $D > 6 \quad 0 \sim 0.015$

切削條件 P74

- \* 採用新開發之奈米鎢鋼母材及新鍍膜方式，適用乾式及高速加工。
- \* 端角R設計，可防止高速加工時的崩刃，並具有高耐磨耗性。
- \* 在頸部施以有效長之研磨，亦適用於溝槽加工。

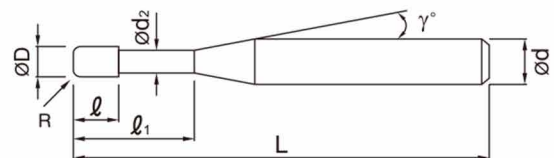
單位：mm

| 刃徑 (D) | R角 (R) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 0.3    | -      | -                     | 0.45   | -                     | 3      | 40     | <b>2,745.00</b> |
| 0.4    | -      | -                     | 0.6    | -                     | 3      | 40     | <b>2,185.00</b> |
| 0.5    | 0.05   | -                     | 1      | -                     | 4      | 40     | <b>2,130.00</b> |
| 0.6    | 0.05   | -                     | 1.2    | -                     | 4      | 40     | <b>1,995.00</b> |
| 0.8    | 0.05   | -                     | 1.6    | -                     | 4      | 40     | <b>1,625.00</b> |
| 1      | 0.1    | -                     | 1.5    | -                     | 4      | 40     | <b>1,575.00</b> |
| 1.5    | 0.1    | -                     | 2.2    | -                     | 6      | 40     | <b>2,090.00</b> |
| 2      | 0.1    | 6                     | 3      | 1.95                  | 4      | 40     | <b>1,425.00</b> |
| 2.5    | 0.1    | 6                     | 4      | 2.4                   | 6      | 40     | <b>1,550.00</b> |

| 刃徑 (D) | R角 (R) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|-----------------------|--------|-----------------------|--------|--------|------------------|
| 3      | 0.1    | 7                     | 4      | 2.85                  | 6      | 45     | <b>1,550.00</b>  |
| 4      | 0.1    | 9                     | 5      | 3.85                  | 6      | 45     | <b>1,550.00</b>  |
| 5      | 0.2    | 11                    | 6      | 4.85                  | 6      | 50     | <b>1,550.00</b>  |
| 6      | 0.2    | 14                    | 7      | 5.85                  | 6      | 50     | <b>1,550.00</b>  |
| 8      | 0.2    | 18                    | 9      | 7.7                   | 8      | 60     | <b>2,775.00</b>  |
| 10     | 0.2    | 25                    | 12     | 9.7                   | 10     | 75     | <b>3,790.00</b>  |
| 12     | 0.3    | 30                    | 15     | 11.7                  | 12     | 75     | <b>5,050.00</b>  |
| 16     | 0.3    | 38                    | 18     | 15.7                  | 16     | 90     | <b>7,870.00</b>  |
| 20     | 0.3    | 45                    | 24     | 19.7                  | 20     | 100    | <b>13,415.00</b> |

# FRSR-4 超無敵全鎢鋼超硬端角R立銑刀

## 4-Flute Radius End Mills for Hardened Steels



$R \leq 3 \pm 0.01$   
 $R > 3 \pm 0.015$

$D \leq 6 \quad 0 \sim 0.012$   
 $D > 6 \quad 0 \sim 0.015$

切削條件 P75

- \* 採用新開發之奈米鎢鋼母材及新鍍膜方式，適用乾式及高速加工。
- \* 端角R設計，可防止高速加工時的崩刃，並具有高耐磨耗性。
- \* 在頸部施以有效長之研磨，亦適用於溝槽加工。

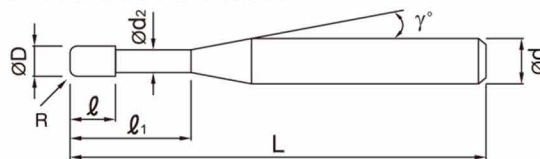
單位：mm

| 刃徑 (D) | R角 (R) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 1      | 0.1    | -                     | 1.5    | -                     | 6      | 40     | <b>2,090.00</b> |
| 1.5    | 0.1    | -                     | 2.2    | -                     | 6      | 40     | <b>2,090.00</b> |
| 2      | 0.1    | 6                     | 3      | 1.95                  | 6      | 40     | <b>1,550.00</b> |
| 2.5    | 0.1    | 6                     | 4      | 2.4                   | 6      | 40     | <b>1,550.00</b> |
| 3      | 0.1    | 7                     | 4      | 2.85                  | 6      | 45     | <b>1,550.00</b> |
| 4      | 0.1    | 9                     | 5      | 3.85                  | 6      | 45     | <b>1,550.00</b> |
| 5      | 0.2    | 11                    | 6      | 4.85                  | 6      | 50     | <b>1,550.00</b> |

| 刃徑 (D) | R角 (R) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|-----------------------|--------|-----------------------|--------|--------|------------------|
| 6      | 0.2    | 14                    | 7      | 5.85                  | 6      | 50     | <b>1,550.00</b>  |
| 8      | 0.2    | 18                    | 9      | 7.7                   | 8      | 60     | <b>2,775.00</b>  |
| 10     | 0.2    | 25                    | 12     | 9.7                   | 10     | 75     | <b>3,790.00</b>  |
| 12     | 0.3    | 30                    | 15     | 11.7                  | 12     | 75     | <b>5,050.00</b>  |
| 16     | 0.3    | 38                    | 18     | 15.7                  | 16     | 90     | <b>7,870.00</b>  |
| 20     | 0.3    | 45                    | 24     | 19.7                  | 20     | 100    | <b>13,415.00</b> |

# FRSR-6 超無敵全鎢鋼超硬端角R立銑刀

6-Flute Radius End Mills for Hardened Steels



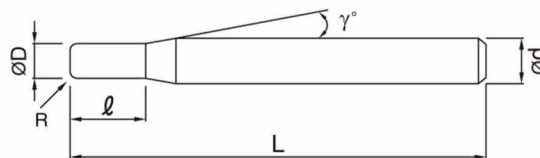
- \* 採用新開發之奈米鎢鋼母材及新鍍膜方式，適用乾式及高速加工。
- \* 端角R設計，可防止高速加工時的崩刃，並具有高耐磨耗性。
- \* 在頸部施以有效長之研磨，亦適用於溝槽加工。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|------------------|---------------|------------------|-----------|-----------|-----------------|
| 6         | 0.25      | 14               | 6             | 5.85             | 6         | 50        | <b>3,100.00</b> |
| 6         | 0.5       | 14               | 6             | 5.85             | 6         | 50        | <b>3,100.00</b> |
| 8         | 0.5       | 24               | 8             | 7.7              | 8         | 60        | <b>3,700.00</b> |
| 10        | 1         | 30               | 10            | 9.7              | 10        | 70        | <b>5,775.00</b> |
| 12        | 1         | 30               | 12            | 11.7             | 12        | 75        | <b>6,900.00</b> |

# FRNSR-6 超無敵全鎢鋼超硬端角R立銑刀

6-Flute Radius End Mills for Hardened Steels



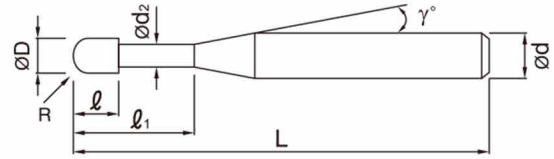
- \* 採用新開發之奈米鎢鋼母材及新鍍膜方式，適用乾式及高速加工。
- \* 端角R設計，可防止高速加工時的崩刃，並具有高耐磨耗性。
- \* 在頸部施以有效長之研磨，亦適用於溝槽加工。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 刃長<br>( $l$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           | 刃徑<br>(D) | R角<br>(R) | 刃長<br>( $l$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|-----------|-----------|---------------|-----------|-----------|-----------------|-----------|-----------|---------------|-----------|-----------|------------------|
| 6         | 0.5       | 13            | 6         | 70        | <b>3,345.00</b> | 12        | 1         | 56            | 12        | 110       | <b>11,665.00</b> |
| 6         | 0.5       | 26            | 6         | 70        | <b>4,030.00</b> | 16        | 1         | 32            | 16        | 130       | <b>14,570.00</b> |
| 8         | 0.5       | 19            | 8         | 90        | <b>4,195.00</b> | 16        | 1.5       | 32            | 16        | 130       | <b>15,915.00</b> |
| 8         | 0.5       | 36            | 8         | 90        | <b>5,210.00</b> | 16        | 1.5       | 66            | 16        | 130       | <b>20,445.00</b> |
| 10        | 0.5       | 22            | 10        | 100       | <b>6,335.00</b> | 20        | 1         | 38            | 20        | 140       | <b>21,330.00</b> |
| 10        | 1         | 22            | 10        | 100       | <b>6,335.00</b> | 20        | 1.5       | 38            | 20        | 140       | <b>23,300.00</b> |
| 10        | 1         | 46            | 10        | 100       | <b>8,230.00</b> | 20        | 2         | 38            | 20        | 140       | <b>23,300.00</b> |
| 12        | 0.5       | 26            | 12        | 110       | <b>8,640.00</b> | 20        | 2         | 76            | 20        | 140       | <b>31,895.00</b> |
| 12        | 1         | 26            | 12        | 110       | <b>8,640.00</b> |           |           |               |           |           |                  |

# FRSB-2 超無敵全鎢鋼超硬圓角立銑刀

## 2-Flute Ball End Mills for Hardened Steels



- \* 採用新開發之奈米鎢鋼母材及新鍍膜方式，適用乾式及高速加工。
- \* 可充分發揮高精密性能之高速加工。
- \* 高耐磨耗性能。

單位：mm

| R角 (R) | 有效長 (ℓ <sub>1</sub> ) | 刃長 (ℓ) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 0.5    | 2.2                   | 1      | 0.95                  | 4      | 50     | <b>2,365.00</b> |
| 0.6    | 2.6                   | 1.2    | 1.15                  | 4      | 50     | <b>2,365.00</b> |
| 0.75   | 3                     | 1.5    | 1.45                  | 4      | 50     | <b>2,365.00</b> |
| 1      | 4                     | 2      | 1.95                  | 6      | 50     | <b>2,245.00</b> |
| 1.5    | 6                     | 3      | 2.85                  | 6      | 60     | <b>2,245.00</b> |
| 2      | 8                     | 4      | 3.95                  | 6      | 70     | <b>2,345.00</b> |
| 2.5    | 10                    | 5      | 4.85                  | 6      | 80     | <b>2,415.00</b> |

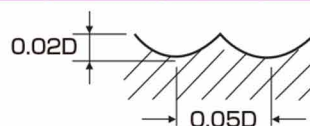
| R角 (R) | 有效長 (ℓ <sub>1</sub> ) | 刃長 (ℓ) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 3      | 12                    | 6      | 5.85                  | 6      | 90     | <b>2,590.00</b> |
| 3.5    | 14                    | 7      | 6.7                   | 8      | 90     | <b>4,090.00</b> |
| 4      | 16                    | 8      | 7.7                   | 8      | 100    | <b>4,050.00</b> |
| 4.5    | 18                    | 9      | 8.7                   | 10     | 100    | <b>6,685.00</b> |
| 5      | 20                    | 10     | 9.7                   | 10     | 100    | <b>6,685.00</b> |
| 6      | 24                    | 12     | 11.7                  | 12     | 110    | <b>8,580.00</b> |

## FRSB-2 切削條件參考表

### Recommended Cutting Condition

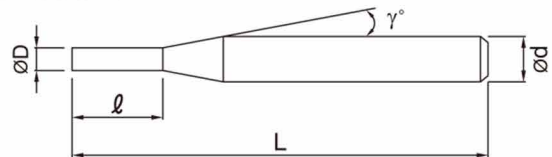
| 被削材  | 硬質鋼 · 耐熱合金               |                |                          |                |                          |                | 硬質鋼                      |                |                          |                |                          |                |
|------|--------------------------|----------------|--------------------------|----------------|--------------------------|----------------|--------------------------|----------------|--------------------------|----------------|--------------------------|----------------|
|      | (30~40HRC)               |                | (40~50HRC)               |                | (50~55HRC)               |                | (55~60HRC)               |                | (60~65HRC)               |                | (65~70HRC)               |                |
|      | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
| 0.1  | 50,000                   | 1,200          | 50,000                   | 1,050          | 45,000                   | 960            | 40,000                   | 770            | 35,000                   | 674            | 31,500                   | 570            |
| 0.15 | 50,000                   | 1,500          | 50,000                   | 1,350          | 45,000                   | 1,200          | 40,000                   | 965            | 35,000                   | 840            | 31,500                   | 700            |
| 0.2  | 50,000                   | 1,900          | 50,000                   | 1,700          | 45,000                   | 1,500          | 40,000                   | 1,200          | 35,000                   | 1,050          | 31,500                   | 890            |
| 0.25 | 50,000                   | 2,400          | 50,000                   | 2,100          | 45,000                   | 1,900          | 40,000                   | 1,500          | 35,000                   | 1,300          | 31,500                   | 1,100          |
| 0.3  | 50,000                   | 2,900          | 50,000                   | 2,500          | 45,000                   | 2,200          | 40,000                   | 1,800          | 35,000                   | 1,600          | 31,500                   | 1,400          |
| 0.4  | 50,000                   | 3,900          | 50,000                   | 3,300          | 45,000                   | 3,000          | 40,000                   | 2,400          | 35,000                   | 2,100          | 31,500                   | 1,800          |
| 0.5  | 50,000                   | 4,800          | 50,000                   | 4,200          | 45,000                   | 3,800          | 40,000                   | 3,000          | 35,000                   | 2,600          | 35,000                   | 2,300          |
| 0.6  | 50,000                   | 5,100          | 48,000                   | 4,300          | 43,000                   | 3,850          | 38,000                   | 3,000          | 34,000                   | 2,700          | 30,600                   | 2,300          |
| 0.75 | 50,000                   | 5,400          | 48,000                   | 4,500          | 43,000                   | 4,000          | 37,000                   | 3,100          | 33,000                   | 2,700          | 29,700                   | 2,300          |
| 1    | 49,700                   | 5,700          | 47,800                   | 4,800          | 40,000                   | 4,000          | 35,000                   | 3,150          | 32,000                   | 2,800          | 28,500                   | 2,300          |
| 1.5  | 33,100                   | 6,000          | 31,800                   | 5,300          | 26,500                   | 4,000          | 23,500                   | 3,150          | 21,000                   | 2,800          | 19,000                   | 2,300          |
| 2    | 24,900                   | 6,000          | 23,900                   | 5,300          | 20,000                   | 4,000          | 17,500                   | 3,150          | 16,000                   | 2,800          | 14,500                   | 2,300          |
| 2.5  | 18,600                   | 5,800          | 17,800                   | 4,900          | 15,000                   | 3,750          | 13,500                   | 3,050          | 11,500                   | 2,550          | 10,500                   | 2,100          |
| 3    | 13,900                   | 4,850          | 13,400                   | 4,100          | 11,000                   | 3,100          | 10,000                   | 2,500          | 8,800                    | 2,150          | 8,000                    | 1,750          |
| 4    | 11,100                   | 4,200          | 10,700                   | 3,500          | 9,000                    | 2,700          | 8,000                    | 2,150          | 7,000                    | 1,850          | 6,500                    | 1,550          |
| 5    | 9,300                    | 3,700          | 8,900                    | 3,100          | 7,500                    | 2,400          | 6,600                    | 1,900          | 5,800                    | 1,650          | 5,300                    | 1,380          |
| 6    | 6,950                    | 2,950          | 6,680                    | 2,500          | 5,600                    | 1,900          | 5,000                    | 1,550          | 4,400                    | 1,250          | 4,000                    | 1,050          |

切削深度  
D=刃徑



# FXMES-2 超無敵全鎢鋼超硬立銑刀

## 2-Flute Short End Mills



|                   |               |
|-------------------|---------------|
| $D \leq 0.9$      | 0~-0.012      |
| $1 \leq D \leq 3$ | -0.014~-0.028 |
| $3 < D \leq 6$    | -0.020~-0.038 |
| $6 < D \leq 10$   | -0.025~-0.047 |
| $10 < D$          | -0.032~-0.059 |

切削條件 P76

- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 最適用於高精密之醫學、光學、電子及航太工業加工用。
- \* 在銑削高硬度鋼材，可表現其最優異的切削性能。
- \* 適於乾式及高速加工使用。

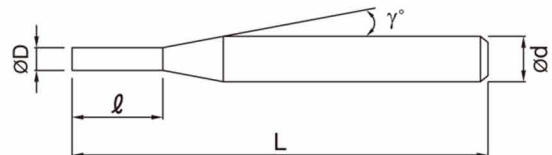
單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|-----------------|
| 0.4    | 0.8    | 3      | 40     | <b>1,795.00</b> |
| 0.5    | 1      | 3      | 40     | <b>1,565.00</b> |
| 0.6    | 1.2    | 3      | 40     | <b>1,470.00</b> |
| 0.7    | 1.4    | 3      | 40     | <b>1,425.00</b> |
| 0.8    | 1.6    | 3      | 40     | <b>1,330.00</b> |
| 0.9    | 2      | 3      | 40     | <b>1,330.00</b> |
| 1      | 2.5    | 4      | 40     | <b>1,170.00</b> |
| 1.1    | 2.5    | 4      | 40     | <b>1,170.00</b> |
| 1.2    | 4      | 4      | 40     | <b>1,170.00</b> |
| 1.3    | 4      | 4      | 40     | <b>1,170.00</b> |
| 1.4    | 4      | 4      | 40     | <b>1,170.00</b> |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|-----------------|
| 1.5    | 4      | 4      | 40     | <b>1,170.00</b> |
| 2      | 6      | 4      | 40     | <b>1,170.00</b> |
| 2.5    | 8      | 4      | 40     | <b>1,170.00</b> |
| 3      | 8      | 6      | 45     | <b>1,285.00</b> |
| 3.5    | 10     | 6      | 45     | <b>1,285.00</b> |
| 4      | 11     | 6      | 45     | <b>1,285.00</b> |
| 5      | 13     | 6      | 50     | <b>1,285.00</b> |
| 6      | 13     | 6      | 50     | <b>1,285.00</b> |
| 8      | 19     | 8      | 60     | <b>2,300.00</b> |
| 10     | 22     | 10     | 70     | <b>3,120.00</b> |
| 12     | 26     | 12     | 75     | <b>4,130.00</b> |

# FXMES-4 超無敵全鎢鋼超硬立銑刀

## 4-Flute Short End Mills



|                 |               |
|-----------------|---------------|
| $D \leq 3$      | -0.014~-0.028 |
| $3 < D \leq 6$  | -0.020~-0.038 |
| $6 < D \leq 10$ | -0.025~-0.047 |
| $10 < D$        | -0.032~-0.059 |

切削條件 P77

- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 針對加工工具鋼、合金鋼、模具鋼及其他高硬度鋼所設計的銑刀。
- \* 採用四刃加工，可獲得更好的加工面。

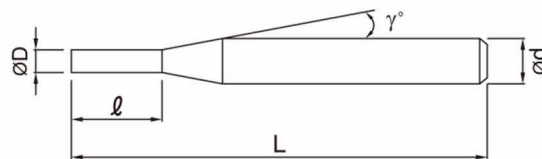
單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|-----------------|
| 2      | 6      | 4      | 40     | <b>1,170.00</b> |
| 2.5    | 8      | 4      | 40     | <b>1,170.00</b> |
| 3      | 8      | 6      | 45     | <b>1,285.00</b> |
| 4      | 11     | 6      | 45     | <b>1,285.00</b> |
| 5      | 13     | 6      | 50     | <b>1,285.00</b> |
| 6      | 13     | 6      | 50     | <b>1,285.00</b> |
| 8      | 19     | 8      | 60     | <b>2,300.00</b> |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|--------|--------|------------------|
| 10     | 22     | 10     | 70     | <b>3,120.00</b>  |
| 12     | 26     | 12     | 75     | <b>4,130.00</b>  |
| 14     | 26     | 12     | 85     | <b>5,280.00</b>  |
| 16     | 32     | 16     | 100    | <b>6,410.00</b>  |
| 18     | 32     | 16     | 100    | <b>8,670.00</b>  |
| 20     | 38     | 20     | 105    | <b>10,950.00</b> |
| 25     | 45     | 25     | 120    | <b>21,240.00</b> |

# FSST-2 超無敵全鎢鋼超硬立銑刀

## 2-Flute End Mills



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 表面施以耐熱性優異的鍍膜處理，為泛用型二刃立銑刀。
- \* 切削性能優異，價格經濟實惠。

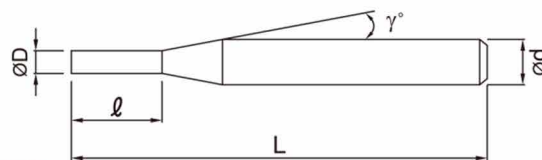
單位：mm

| 刃徑<br>(D) | 刃長<br>(L) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 1         | 3         | 4         | 50        | <b>705.00</b>   |
| 1.5       | 3.8       | 4         | 50        | <b>705.00</b>   |
| 2         | 5         | 4         | 50        | <b>705.00</b>   |
| 2.5       | 6.5       | 4         | 50        | <b>705.00</b>   |
| 3         | 8         | 4         | 50        | <b>705.00</b>   |
| 4         | 10        | 4         | 50        | <b>705.00</b>   |
| 5         | 13        | 6         | 50        | <b>965.00</b>   |
| 6         | 15        | 6         | 50        | <b>965.00</b>   |
| 7         | 18        | 8         | 60        | <b>1,545.00</b> |

| 刃徑<br>(D) | 刃長<br>(L) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 8         | 20        | 8         | 60        | <b>1,545.00</b> |
| 9         | 23        | 10        | 60        | <b>2,405.00</b> |
| 10        | 25        | 10        | 75        | <b>2,405.00</b> |
| 12        | 30        | 12        | 75        | <b>3,015.00</b> |
| 14        | 32        | 12        | 75        | <b>4,020.00</b> |
| 16        | 32        | 16        | 100       | <b>4,480.00</b> |
| 18        | 32        | 16        | 100       | <b>5,690.00</b> |
| 20        | 38        | 20        | 100       | <b>7,085.00</b> |

# FSST-4 超無敵全鎢鋼超硬立銑刀

## 4-Flute End Mills



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 表面施以耐熱性優異的鍍膜處理，為泛用型四刃立銑刀。
- \* 適用於高速、高進給加工的經濟型銑刀。

單位：mm

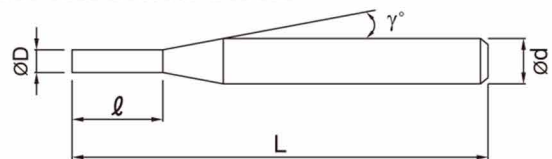
| 刃徑<br>(D) | 刃長<br>(L) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 1         | 3         | 4         | 50        | <b>705.00</b>   |
| 1.5       | 3.8       | 4         | 50        | <b>705.00</b>   |
| 2         | 5         | 4         | 50        | <b>705.00</b>   |
| 2.5       | 6.5       | 4         | 50        | <b>705.00</b>   |
| 3         | 8         | 4         | 50        | <b>705.00</b>   |
| 4         | 10        | 4         | 50        | <b>705.00</b>   |
| 5         | 13        | 6         | 50        | <b>965.00</b>   |
| 6         | 15        | 6         | 50        | <b>965.00</b>   |
| 7         | 18        | 8         | 60        | <b>1,545.00</b> |

| 刃徑<br>(D) | 刃長<br>(L) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 8         | 20        | 8         | 60        | <b>1,545.00</b> |
| 9         | 23        | 10        | 60        | <b>2,405.00</b> |
| 10        | 25        | 10        | 75        | <b>2,405.00</b> |
| 12        | 30        | 12        | 75        | <b>3,015.00</b> |
| 14        | 32        | 12        | 75        | <b>4,020.00</b> |
| 16        | 32        | 16        | 100       | <b>4,480.00</b> |
| 18        | 32        | 16        | 100       | <b>5,690.00</b> |
| 20        | 38        | 20        | 100       | <b>7,085.00</b> |



# FXGF-6 · 8 超無敵全鎢鋼高堅硬立銑刀

6&8-Flute Long End Mills for Hardened Steels



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

P78

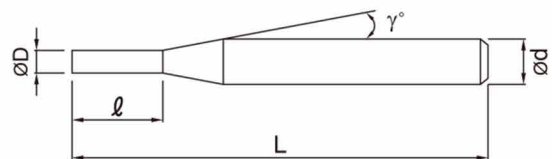
- \* 特別適用於高速加工機上進行高硬度材之高速加工。
- \* 高速切削和精細加工皆可以高進刀速度進行加工。
- \* 適於乾式及油霧切削。

單位：mm

| 刃徑<br>(D) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格     |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 6         | 13        | 6         | 57        | 6         | 2,060.00  |
| 7         | 16        | 8         | 63        | 6         | 2,605.00  |
| 8         | 19        | 8         | 63        | 6         | 2,605.00  |
| 9         | 19        | 10        | 72        | 6         | 3,895.00  |
| 10        | 22        | 10        | 72        | 6         | 3,895.00  |
| 12        | 26        | 12        | 83        | 6         | 5,295.00  |
| 14        | 26        | 16        | 83        | 6         | 9,420.00  |
| 16        | 32        | 16        | 92        | 6         | 9,420.00  |
| 20        | 38        | 20        | 104       | 8         | 13,845.00 |
| 25        | 44        | 25        | 104       | 8         | 24,065.00 |

# FXLMF-6 超無敵全鎢鋼超硬長刃立銑刀

6-Flute Extra Long End Mills for Hardened Steels



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

P79

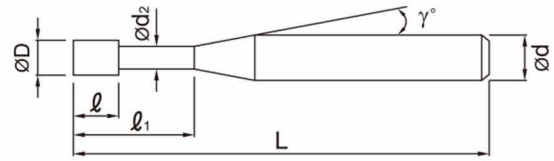
- \* 針對高效率、高速度、高硬度加工所設計之優異刀具。
- \* 優異的精細加工面和耐磨耗性。
- \* 適於乾式及油霧切削。

單位：mm

| 刃徑<br>(D) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格     |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 6         | 26        | 6         | 70        | 6         | 2,830.00  |
| 8         | 36        | 8         | 90        | 6         | 3,720.00  |
| 10        | 46        | 10        | 100       | 6         | 5,785.00  |
| 12        | 56        | 12        | 110       | 6         | 8,125.00  |
| 16        | 66        | 16        | 130       | 6         | 14,135.00 |
| 20        | 76        | 20        | 140       | 6         | 22,150.00 |
| 25        | 92        | 25        | 180       | 6         | 41,525.00 |

# FXHR-2 超無敵全鎢鋼超硬深溝立銑刀

## 2-Flute Long Neck End Mills



單位：mm

| 刃徑<br>(D) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|------------------|---------------|------------------|-----------|-----------|-----------------|
| 0.4       | 2                | 0.6           | 0.37             | 4         | 45        | <b>1,715.00</b> |
| 0.4       | 3                | 0.6           | 0.37             | 4         | 45        | <b>1,715.00</b> |
| 0.4       | 4                | 0.6           | 0.37             | 4         | 45        | <b>1,715.00</b> |
| 0.4       | 5                | 0.6           | 0.37             | 4         | 45        | <b>1,975.00</b> |
| 0.5       | 2                | 0.7           | 0.45             | 4         | 45        | <b>1,570.00</b> |
| 0.5       | 4                | 0.7           | 0.45             | 4         | 45        | <b>1,570.00</b> |
| 0.5       | 6                | 0.7           | 0.45             | 4         | 45        | <b>1,570.00</b> |
| 0.5       | 8                | 0.7           | 0.45             | 4         | 45        | <b>1,805.00</b> |
| 0.6       | 2                | 0.9           | 0.55             | 4         | 45        | <b>1,570.00</b> |
| 0.6       | 4                | 0.9           | 0.55             | 4         | 45        | <b>1,570.00</b> |
| 0.6       | 6                | 0.9           | 0.55             | 4         | 45        | <b>1,570.00</b> |
| 0.6       | 8                | 0.9           | 0.55             | 4         | 45        | <b>1,800.00</b> |
| 0.6       | 10               | 0.9           | 0.55             | 4         | 45        | <b>1,805.00</b> |
| 0.7       | 2                | 1             | 0.65             | 4         | 45        | <b>1,430.00</b> |
| 0.7       | 3                | 1             | 0.65             | 4         | 45        | <b>1,430.00</b> |
| 0.7       | 4                | 1             | 0.65             | 4         | 45        | <b>1,430.00</b> |
| 0.7       | 6                | 1             | 0.65             | 4         | 45        | <b>1,430.00</b> |
| 0.7       | 8                | 1             | 0.65             | 4         | 45        | <b>1,430.00</b> |
| 0.7       | 10               | 1             | 0.65             | 4         | 45        | <b>1,640.00</b> |
| 0.8       | 4                | 1.2           | 0.75             | 4         | 45        | <b>1,430.00</b> |
| 0.8       | 6                | 1.2           | 0.75             | 4         | 45        | <b>1,430.00</b> |
| 0.8       | 8                | 1.2           | 0.75             | 4         | 45        | <b>1,430.00</b> |
| 0.8       | 10               | 1.2           | 0.75             | 4         | 45        | <b>1,640.00</b> |
| 0.8       | 12               | 1.2           | 0.75             | 4         | 45        | <b>1,805.00</b> |
| 0.9       | 6                | 1.35          | 0.85             | 4         | 45        | <b>1,430.00</b> |
| 0.9       | 8                | 1.35          | 0.85             | 4         | 45        | <b>1,430.00</b> |
| 0.9       | 10               | 1.35          | 0.85             | 4         | 45        | <b>1,430.00</b> |
| 0.9       | 15               | 1.35          | 0.85             | 4         | 50        | <b>1,805.00</b> |
| 1         | 4                | 1.5           | 0.95             | 4         | 45        | <b>1,170.00</b> |
| 1         | 6                | 1.5           | 0.95             | 4         | 45        | <b>1,170.00</b> |
| 1         | 8                | 1.5           | 0.95             | 4         | 45        | <b>1,170.00</b> |

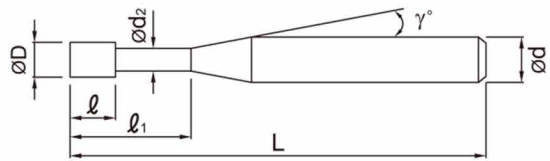
| 刃徑<br>(D) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|------------------|---------------|------------------|-----------|-----------|-----------------|
| 1         | 10               | 1.5           | 0.95             | 4         | 45        | <b>1,170.00</b> |
| 1         | 12               | 1.5           | 0.95             | 4         | 45        | <b>1,170.00</b> |
| 1         | 16               | 1.5           | 0.95             | 4         | 50        | <b>1,430.00</b> |
| 1         | 20               | 1.5           | 0.95             | 4         | 55        | <b>1,470.00</b> |
| 1.2       | 6                | 1.8           | 1.15             | 4         | 45        | <b>1,280.00</b> |
| 1.2       | 8                | 1.8           | 1.15             | 4         | 45        | <b>1,280.00</b> |
| 1.2       | 10               | 1.8           | 1.15             | 4         | 45        | <b>1,280.00</b> |
| 1.2       | 12               | 1.8           | 1.15             | 4         | 45        | <b>1,355.00</b> |
| 1.2       | 16               | 1.8           | 1.15             | 4         | 50        | <b>1,430.00</b> |
| 1.4       | 6                | 2.1           | 1.35             | 4         | 45        | <b>1,280.00</b> |
| 1.4       | 8                | 2.1           | 1.35             | 4         | 45        | <b>1,280.00</b> |
| 1.4       | 10               | 2.1           | 1.35             | 4         | 45        | <b>1,280.00</b> |
| 1.4       | 12               | 2.1           | 1.35             | 4         | 45        | <b>1,355.00</b> |
| 1.4       | 14               | 2.1           | 1.35             | 4         | 50        | <b>1,355.00</b> |
| 1.4       | 16               | 2.1           | 1.35             | 4         | 50        | <b>1,430.00</b> |
| 1.4       | 22               | 2.1           | 1.35             | 4         | 55        | <b>1,470.00</b> |
| 1.5       | 6                | 2.3           | 1.45             | 4         | 45        | <b>1,170.00</b> |
| 1.5       | 8                | 2.3           | 1.45             | 4         | 45        | <b>1,170.00</b> |
| 1.5       | 10               | 2.3           | 1.45             | 4         | 45        | <b>1,170.00</b> |
| 1.5       | 12               | 2.3           | 1.45             | 4         | 45        | <b>1,170.00</b> |
| 1.5       | 14               | 2.3           | 1.45             | 4         | 50        | <b>1,170.00</b> |
| 1.5       | 16               | 2.3           | 1.45             | 4         | 50        | <b>1,270.00</b> |
| 1.5       | 18               | 2.3           | 1.45             | 4         | 55        | <b>1,270.00</b> |
| 1.5       | 20               | 2.3           | 1.45             | 4         | 55        | <b>1,270.00</b> |
| 1.6       | 6                | 2.4           | 1.55             | 4         | 45        | <b>1,280.00</b> |
| 1.6       | 8                | 2.4           | 1.55             | 4         | 45        | <b>1,280.00</b> |
| 1.6       | 10               | 2.4           | 1.55             | 4         | 45        | <b>1,280.00</b> |
| 1.6       | 12               | 2.4           | 1.55             | 4         | 45        | <b>1,355.00</b> |
| 1.6       | 14               | 2.4           | 1.55             | 4         | 50        | <b>1,355.00</b> |
| 1.6       | 16               | 2.4           | 1.55             | 4         | 50        | <b>1,430.00</b> |
| 1.6       | 18               | 2.4           | 1.55             | 4         | 55        | <b>1,430.00</b> |

超無敵鍍膜刀具

XTRA Coating

# FXHR-2 超無敵全鎢鋼超硬深溝立銑刀

2-Flute Long Neck End Mills



單位：mm

| 刃徑 (D) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 1.6    | 20                    | 2.4    | 1.55                  | 4      | 55     | <b>1,430.00</b> |
| 1.6    | 26                    | 2.4    | 1.55                  | 4      | 60     | <b>1,535.00</b> |
| 1.8    | 6                     | 2.7    | 1.75                  | 4      | 45     | <b>1,280.00</b> |
| 1.8    | 8                     | 2.7    | 1.75                  | 4      | 45     | <b>1,280.00</b> |
| 1.8    | 10                    | 2.7    | 1.75                  | 4      | 45     | <b>1,280.00</b> |
| 1.8    | 12                    | 2.7    | 1.75                  | 4      | 45     | <b>1,355.00</b> |
| 1.8    | 14                    | 2.7    | 1.75                  | 4      | 50     | <b>1,355.00</b> |
| 1.8    | 16                    | 2.7    | 1.75                  | 4      | 50     | <b>1,430.00</b> |
| 1.8    | 18                    | 2.7    | 1.75                  | 4      | 55     | <b>1,430.00</b> |
| 1.8    | 20                    | 2.7    | 1.75                  | 4      | 55     | <b>1,430.00</b> |
| 1.8    | 25                    | 2.7    | 1.75                  | 4      | 60     | <b>1,535.00</b> |
| 2      | 6                     | 3      | 1.95                  | 4      | 45     | <b>1,170.00</b> |
| 2      | 8                     | 3      | 1.95                  | 4      | 45     | <b>1,170.00</b> |
| 2      | 10                    | 3      | 1.95                  | 4      | 45     | <b>1,170.00</b> |
| 2      | 12                    | 3      | 1.95                  | 4      | 45     | <b>1,170.00</b> |
| 2      | 14                    | 3      | 1.95                  | 4      | 50     | <b>1,170.00</b> |
| 2      | 16                    | 3      | 1.95                  | 4      | 50     | <b>1,220.00</b> |
| 2      | 18                    | 3      | 1.95                  | 4      | 55     | <b>1,220.00</b> |
| 2      | 20                    | 3      | 1.95                  | 4      | 55     | <b>1,220.00</b> |
| 2      | 25                    | 3      | 1.95                  | 4      | 60     | <b>1,400.00</b> |
| 2      | 30                    | 3      | 1.95                  | 4      | 70     | <b>1,400.00</b> |
| 2.5    | 8                     | 3.7    | 2.4                   | 4      | 45     | <b>1,170.00</b> |
| 2.5    | 10                    | 3.7    | 2.4                   | 4      | 45     | <b>1,170.00</b> |
| 2.5    | 12                    | 3.7    | 2.4                   | 4      | 45     | <b>1,170.00</b> |
| 2.5    | 14                    | 3.7    | 2.4                   | 4      | 50     | <b>1,170.00</b> |
| 2.5    | 16                    | 3.7    | 2.4                   | 4      | 55     | <b>1,220.00</b> |
| 2.5    | 18                    | 3.7    | 2.4                   | 4      | 55     | <b>1,220.00</b> |
| 2.5    | 20                    | 3.7    | 2.4                   | 4      | 60     | <b>1,220.00</b> |
| 2.5    | 25                    | 3.7    | 2.4                   | 4      | 70     | <b>1,400.00</b> |
| 2.5    | 30                    | 3.7    | 2.4                   | 4      | 80     | <b>1,400.00</b> |
| 3      | 8                     | 4.5    | 2.85                  | 6      | 45     | <b>1,465.00</b> |

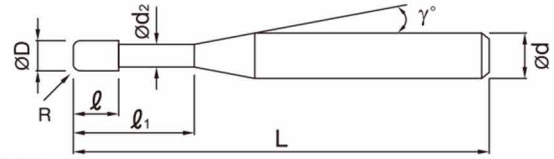
| 刃徑 (D) | 有效長 (l <sub>1</sub> ) | 刃長 (l) | 首下徑 (d <sub>2</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|-----------------------|--------|-----------------------|--------|--------|-----------------|
| 3      | 10                    | 4.5    | 2.85                  | 6      | 45     | <b>1,465.00</b> |
| 3      | 12                    | 4.5    | 2.85                  | 6      | 45     | <b>1,465.00</b> |
| 3      | 14                    | 4.5    | 2.85                  | 6      | 50     | <b>1,465.00</b> |
| 3      | 16                    | 4.5    | 2.85                  | 6      | 55     | <b>1,465.00</b> |
| 3      | 18                    | 4.5    | 2.85                  | 6      | 55     | <b>1,465.00</b> |
| 3      | 20                    | 4.5    | 2.85                  | 6      | 60     | <b>1,465.00</b> |
| 3      | 25                    | 4.5    | 2.85                  | 6      | 65     | <b>1,465.00</b> |
| 3      | 30                    | 4.5    | 2.85                  | 6      | 70     | <b>1,710.00</b> |
| 3      | 35                    | 4.5    | 2.85                  | 6      | 80     | <b>1,850.00</b> |
| 3      | 40                    | 4.5    | 2.85                  | 6      | 90     | <b>1,850.00</b> |
| 4      | 12                    | 6      | 3.85                  | 6      | 50     | <b>1,465.00</b> |
| 4      | 16                    | 6      | 3.85                  | 6      | 60     | <b>1,465.00</b> |
| 4      | 20                    | 6      | 3.85                  | 6      | 60     | <b>1,465.00</b> |
| 4      | 25                    | 6      | 3.85                  | 6      | 70     | <b>1,465.00</b> |
| 4      | 30                    | 6      | 3.85                  | 6      | 70     | <b>1,710.00</b> |
| 4      | 35                    | 6      | 3.85                  | 6      | 80     | <b>1,850.00</b> |
| 4      | 40                    | 6      | 3.85                  | 6      | 90     | <b>1,850.00</b> |
| 4      | 45                    | 6      | 3.85                  | 6      | 90     | <b>2,520.00</b> |
| 4      | 50                    | 6      | 3.85                  | 6      | 100    | <b>2,520.00</b> |
| 5      | 16                    | 7.5    | 4.85                  | 6      | 60     | <b>1,465.00</b> |
| 5      | 20                    | 7.5    | 4.85                  | 6      | 60     | <b>1,465.00</b> |
| 5      | 25                    | 7.5    | 4.85                  | 6      | 70     | <b>1,465.00</b> |
| 5      | 30                    | 7.5    | 4.85                  | 6      | 80     | <b>1,850.00</b> |
| 5      | 35                    | 7.5    | 4.85                  | 6      | 80     | <b>1,850.00</b> |
| 5      | 40                    | 7.5    | 4.85                  | 6      | 80     | <b>1,850.00</b> |
| 5      | 50                    | 7.5    | 4.85                  | 6      | 110    | <b>2,520.00</b> |
| 6      | 20                    | 9      | 5.85                  | 6      | 80     | <b>1,465.00</b> |
| 6      | 30                    | 9      | 5.85                  | 6      | 90     | <b>1,850.00</b> |
| 6      | 40                    | 9      | 5.85                  | 6      | 100    | <b>1,850.00</b> |
| 6      | 50                    | 9      | 5.85                  | 6      | 110    | <b>2,520.00</b> |
| 8      | 30                    | 12     | 7.8                   | 8      | 100    | <b>3,530.00</b> |

超無敵鍍膜刀具

XTRA Coating

# FXHSR-4 超無敵高效率全鎢鋼超硬端角R立銑刀

## 4-Flute Stub Cut Length Radius End Mills



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059



P80

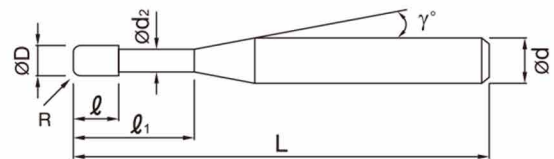
- \* 短刃型，剛性高，最適合高速切削。
- \* 在高硬度加工其切削速率與加工壽命為長刃型之數倍，是一把能展現高效率的加工刀具。
- \* 採用耐熱性、耐磨性極優的鍍層，在乾式及油霧切削，能發揮極佳的切削性能。
- \* 在頸部施以有效長之研磨，所以也適於溝槽加工。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|-----------|-----------|------------------|---------------|------------------|-----------|-----------|----------|
| 2         | 0.2       | 5                | 2.5           | 1.9              | 6         | 50        | 2,045.00 |
| 2.5       | 0.25      | 6                | 3             | 2.4              | 6         | 50        | 2,045.00 |
| 3         | 0.3       | 7                | 4             | 2.8              | 6         | 50        | 2,045.00 |
| 3.5       | 0.35      | 8                | 4.5           | 3.2              | 6         | 50        | 2,045.00 |
| 4         | 0.4       | 9                | 5             | 3.7              | 6         | 50        | 2,045.00 |
| 5         | 0.5       | 12               | 6             | 4.6              | 6         | 50        | 2,045.00 |
| 6         | 0.6       | 14               | 7             | 5.6              | 6         | 55        | 2,045.00 |
| 8         | 0.8       | 18               | 10            | 7.4              | 8         | 60        | 2,620.00 |
| 10        | 1         | 25               | 12            | 9.4              | 10        | 70        | 3,870.00 |
| 12        | 1.2       | 30               | 15            | 11.4             | 12        | 80        | 5,310.00 |
| 16        | 1.6       | 35               | 18            | 15.4             | 16        | 90        | 9,610.00 |

# FXHSR-6 超無敵高效率全鎢鋼超硬端角R立銑刀

## 6-Flute Stub Cut Length Radius End Mills



$D=6$  -0.015~-0.038  
 $D \geq 8$  -0.020~-0.047



P80

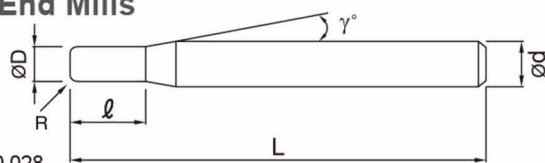
- \* 適用於高速加工用。
- \* 以乾式及油霧切削方式，可獲得良好的加工性能。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 有效長<br>( $l_1$ ) | 刃長<br>( $l$ ) | 首下徑<br>( $d_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|-----------|-----------|------------------|---------------|------------------|-----------|-----------|----------|
| 6         | 0.5       | 14               | 6             | 5.7              | 6         | 50        | 2,780.00 |
| 8         | 0.5       | 24               | 8             | 7.65             | 8         | 60        | 3,345.00 |
| 10        | 0.5       | 30               | 10            | 9.65             | 10        | 70        | 5,180.00 |
| 10        | 1         | 30               | 10            | 9.65             | 10        | 70        | 5,180.00 |
| 12        | 0.5       | 30               | 12            | 11.6             | 12        | 75        | 6,175.00 |
| 12        | 1         | 30               | 12            | 11.6             | 12        | 75        | 6,175.00 |

# FXSR-4 超無敵全鎢鋼超硬端角R立銑刀

## 4-Flute Radius End Mills



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

切削條件 P81

\* 針對加工工具鋼、合金鋼、模具鋼及其他高硬度鋼所設計的銑刀。

\* 採用四刃加工，可獲得更好的加工面。

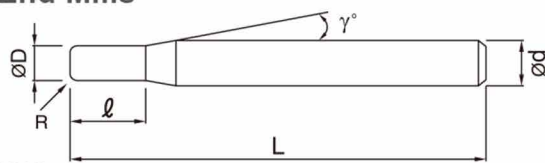
單位：mm

| 刃徑 (D) | R角 (R) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|--------|-----------------|
| 3      | 0.3    | 12     | 6      | 50     | <b>2,700.00</b> |
| 4      | 0.3    | 15     | 6      | 50     | <b>2,700.00</b> |
| 4      | 0.5    | 15     | 6      | 50     | <b>2,700.00</b> |
| 5      | 0.3    | 20     | 6      | 60     | <b>2,700.00</b> |
| 5      | 0.5    | 20     | 6      | 60     | <b>2,700.00</b> |
| 6      | 0.3    | 20     | 6      | 60     | <b>2,700.00</b> |
| 6      | 0.5    | 20     | 6      | 60     | <b>2,700.00</b> |
| 6      | 1      | 20     | 6      | 60     | <b>2,700.00</b> |
| 8      | 0.3    | 25     | 8      | 70     | <b>3,455.00</b> |
| 8      | 0.5    | 25     | 8      | 70     | <b>3,455.00</b> |
| 8      | 1      | 25     | 8      | 70     | <b>3,455.00</b> |
| 8      | 1.5    | 25     | 8      | 70     | <b>3,770.00</b> |
| 8      | 2      | 25     | 8      | 70     | <b>3,770.00</b> |
| 10     | 0.3    | 30     | 10     | 90     | <b>5,110.00</b> |
| 10     | 0.5    | 30     | 10     | 90     | <b>5,110.00</b> |

| 刃徑 (D) | R角 (R) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|--------|--------|--------|------------------|
| 10     | 1      | 30     | 10     | 90     | <b>5,110.00</b>  |
| 10     | 1.5    | 30     | 10     | 90     | <b>5,575.00</b>  |
| 10     | 2      | 30     | 10     | 90     | <b>5,575.00</b>  |
| 12     | 0.5    | 30     | 12     | 90     | <b>7,015.00</b>  |
| 12     | 1      | 30     | 12     | 90     | <b>7,015.00</b>  |
| 12     | 1.5    | 30     | 12     | 90     | <b>7,645.00</b>  |
| 12     | 2      | 30     | 12     | 90     | <b>7,645.00</b>  |
| 16     | 0.5    | 50     | 16     | 110    | <b>13,080.00</b> |
| 16     | 1      | 50     | 16     | 110    | <b>13,080.00</b> |
| 16     | 1.5    | 50     | 16     | 110    | <b>14,270.00</b> |
| 16     | 2      | 50     | 16     | 110    | <b>14,270.00</b> |
| 20     | 0.5    | 55     | 20     | 110    | <b>21,685.00</b> |
| 20     | 1      | 55     | 20     | 110    | <b>21,685.00</b> |
| 20     | 1.5    | 55     | 20     | 110    | <b>23,655.00</b> |
| 20     | 2      | 55     | 20     | 110    | <b>23,655.00</b> |

# FXSR-6 超無敵全鎢鋼超硬端角R立銑刀

## 6-Flute Radius End Mills



$D \leq 3$  -0.014~-0.028  
 $3 < D \leq 6$  -0.020~-0.038  
 $6 < D \leq 10$  -0.025~-0.047  
 $10 < D$  -0.032~-0.059

切削條件 P81

\* 此刀具係高速、高硬度、高效率之優異加工刀具。

\* 適用於乾式及油霧切削，具有優異的耐磨耗性。

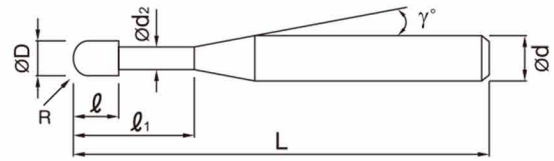
單位：mm

| 刃徑 (D) | R角 (R) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|--------|-----------------|
| 6      | 0.5    | 13     | 6      | 70     | <b>2,995.00</b> |
| 8      | 0.5    | 19     | 8      | 90     | <b>3,785.00</b> |
| 10     | 0.5    | 22     | 10     | 100    | <b>5,670.00</b> |
| 10     | 1      | 22     | 10     | 100    | <b>5,670.00</b> |
| 12     | 0.5    | 26     | 12     | 110    | <b>7,705.00</b> |
| 12     | 1      | 26     | 12     | 110    | <b>7,705.00</b> |

| 刃徑 (D) | R角 (R) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|--------|--------|--------|------------------|
| 16     | 1      | 32     | 16     | 130    | <b>12,955.00</b> |
| 16     | 1.5    | 32     | 16     | 130    | <b>14,135.00</b> |
| 20     | 1      | 38     | 20     | 140    | <b>19,035.00</b> |
| 20     | 1.5    | 38     | 20     | 140    | <b>20,765.00</b> |
| 20     | 2      | 38     | 20     | 140    | <b>20,765.00</b> |

# FXGB-2 超無敵全鎢鋼高堅硬圓球立銑刀

2-Flute Ball End Mills for Hardened Steels



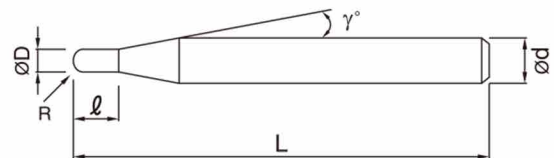
單位：mm

| R角   | 有效長               | 刃長  | 柄徑  | 全長  | 價(支)格           |
|------|-------------------|-----|-----|-----|-----------------|
| (R)  | (ℓ <sub>1</sub> ) | (ℓ) | (d) | (L) |                 |
| 0.5  | 2.2               | 1   | 4   | 50  | <b>2,305.00</b> |
| 0.6  | 2.6               | 1.2 | 4   | 50  | <b>2,305.00</b> |
| 0.75 | 3                 | 1.5 | 4   | 50  | <b>2,305.00</b> |
| 1    | 4                 | 2   | 6   | 50  | <b>2,190.00</b> |
| 1.5  | 6                 | 3   | 6   | 60  | <b>2,190.00</b> |
| 2    | 8                 | 4   | 6   | 70  | <b>2,285.00</b> |
| 2.5  | 10                | 5   | 6   | 80  | <b>2,355.00</b> |

| R角  | 有效長               | 刃長  | 柄徑  | 全長  | 價(支)格           |
|-----|-------------------|-----|-----|-----|-----------------|
| (R) | (ℓ <sub>1</sub> ) | (ℓ) | (d) | (L) |                 |
| 3   | 12                | 6   | 6   | 90  | <b>2,535.00</b> |
| 3.5 | 14                | 7   | 8   | 90  | <b>3,990.00</b> |
| 4   | 16                | 8   | 8   | 100 | <b>3,965.00</b> |
| 4.5 | 18                | 9   | 10  | 100 | <b>6,465.00</b> |
| 5   | 20                | 10  | 10  | 100 | <b>6,465.00</b> |
| 6   | 24                | 12  | 12  | 110 | <b>8,285.00</b> |

# FXMB-2 超無敵全鎢鋼超硬小徑圓球立銑刀

2-Flute Miniature Ball End Mills



- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 最適於高精密之醫學、光學、電子及航太工業加工用。
- \* 在銑削高硬度鋼材，可表現其優異的切削性能。
- \* 適於乾式及高速加工使用。

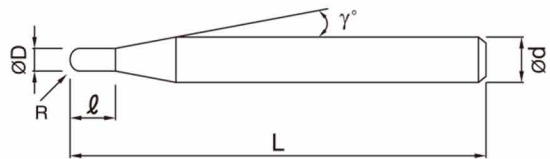
單位：mm

| R角   | 刃長  | 柄徑  | 全長  | 價(支)格           |
|------|-----|-----|-----|-----------------|
| (R)  | (ℓ) | (d) | (L) |                 |
| 0.3  | 1.1 | 3   | 40  | <b>2,380.00</b> |
| 0.35 | 1.5 | 3   | 40  | <b>2,095.00</b> |
| 0.4  | 2   | 3   | 40  | <b>1,955.00</b> |
| 0.45 | 2.2 | 3   | 40  | <b>1,955.00</b> |
| 0.5  | 2.5 | 3   | 40  | <b>1,670.00</b> |

| R角   | 刃長  | 柄徑  | 全長  | 價(支)格           |
|------|-----|-----|-----|-----------------|
| (R)  | (ℓ) | (d) | (L) |                 |
| 0.55 | 3   | 3   | 40  | <b>1,670.00</b> |
| 0.6  | 3   | 3   | 40  | <b>1,670.00</b> |
| 0.65 | 3.5 | 3   | 40  | <b>1,670.00</b> |
| 0.7  | 3.5 | 3   | 40  | <b>1,670.00</b> |
| 0.75 | 4   | 3   | 40  | <b>1,670.00</b> |

# FXSB-2 超無敵全鎢鋼超硬短柄圓球立銑刀

## 2-Flute Short Ball End Mills



- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 高精密短柄徑，最適用於燒結式夾具上使用之銑刀。

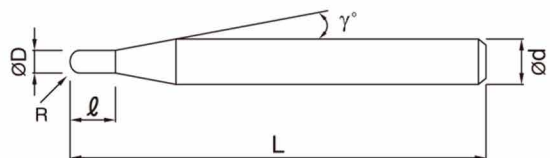
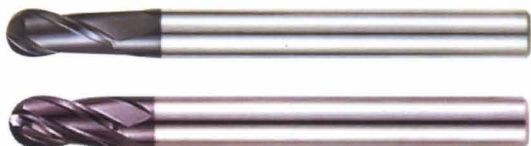
單位：mm

| R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 0.5       | 3         | 3         | 38        | <b>1,385.00</b> |
| 0.6       | 3         | 3         | 38        | <b>1,385.00</b> |
| 0.75      | 3         | 3         | 38        | <b>1,385.00</b> |
| 1         | 3         | 6         | 50        | <b>1,470.00</b> |
| 1.25      | 4         | 6         | 50        | <b>1,470.00</b> |
| 1.5       | 4         | 6         | 50        | <b>1,470.00</b> |
| 2         | 5         | 6         | 54        | <b>1,510.00</b> |

| R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 2.5       | 6         | 6         | 54        | <b>1,510.00</b> |
| 3         | 7         | 6         | 54        | <b>1,510.00</b> |
| 3.5       | 8         | 8         | 58        | <b>2,375.00</b> |
| 4         | 9         | 8         | 58        | <b>2,375.00</b> |
| 4.5       | 10        | 10        | 66        | <b>3,835.00</b> |
| 5         | 11        | 10        | 66        | <b>3,835.00</b> |
| 6         | 12        | 12        | 73        | <b>4,700.00</b> |

# FXB 超無敵全鎢鋼超硬圓球立銑刀

## 2&4-Flute Ball End Mills



- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 針對加工工具鋼、合金鋼及其他高硬度鋼材所設計的銑刀。
- \* 四刃型設計，進刀速度比二刃型更快，在加工高硬材及熱處理鋼材，都比二刃有更優異的表現。
- \* 適用於仿形加工。

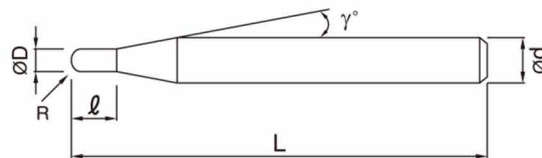
單位：mm

| R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FXB-2<br>價(支)格  | FXB-4<br>價(支)格  |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 0.5       | 2.5       | 4         | 50        | <b>1,325.00</b> | <b>1,810.00</b> |
| 0.6       | 3         | 4         | 50        | <b>1,325.00</b> | —               |
| 0.75      | 4         | 4         | 50        | <b>1,325.00</b> | <b>1,725.00</b> |
| 1         | 5         | 6         | 50        | <b>1,365.00</b> | <b>1,725.00</b> |
| 1.25      | 6         | 6         | 60        | <b>1,365.00</b> | —               |
| 1.5       | 8         | 6         | 60        | <b>1,365.00</b> | <b>1,725.00</b> |
| 1.75      | 8         | 6         | 70        | <b>1,425.00</b> | —               |
| 2         | 8         | 6         | 70        | <b>1,425.00</b> | <b>1,800.00</b> |

| R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FXB-2<br>價(支)格  | FXB-4<br>價(支)格  |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 2.5       | 10        | 6         | 80        | <b>1,535.00</b> | <b>1,800.00</b> |
| 3         | 12        | 6         | 90        | <b>1,650.00</b> | <b>1,800.00</b> |
| 3.5       | 14        | 8         | 90        | <b>2,585.00</b> | <b>2,870.00</b> |
| 4         | 14        | 8         | 100       | <b>2,585.00</b> | <b>2,870.00</b> |
| 4.5       | 18        | 10        | 100       | <b>3,705.00</b> | <b>4,115.00</b> |
| 5         | 18        | 10        | 100       | <b>3,705.00</b> | <b>4,115.00</b> |
| 6         | 22        | 12        | 110       | <b>5,065.00</b> | <b>4,860.00</b> |

# FXCB-2 超無敵全鎢鋼超硬圓球立銑刀

## 2-Flute Ball End Mills



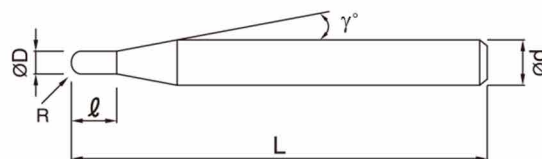
- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 從一般鋼材到硬質鋼皆可加工，也可用於高速加工。

單位：mm

| R角<br>(R) | 刃長<br>( $l$ ) | 柄徑<br>( $d$ ) | 全長<br>(L) | 價(支)格    |
|-----------|---------------|---------------|-----------|----------|
| 0.5       | 2             | 4             | 50        | 1,015.00 |
| 0.75      | 3             | 4             | 50        | 1,015.00 |
| 1         | 4             | 4             | 50        | 1,015.00 |
| 1.25      | 6             | 4             | 50        | 1,015.00 |
| 1.5       | 6             | 4             | 50        | 1,015.00 |
| 2         | 8             | 4             | 50        | 1,015.00 |
| 2.5       | 10            | 6             | 50        | 1,270.00 |
| 3         | 12            | 6             | 50        | 1,270.00 |
| 4         | 14            | 8             | 60        | 1,850.00 |
| 5         | 18            | 10            | 75        | 2,715.00 |
| 6         | 22            | 12            | 75        | 3,635.00 |
| 7         | 32            | 12            | 75        | 4,815.00 |
| 8         | 32            | 16            | 100       | 5,330.00 |
| 9         | 32            | 16            | 100       | 6,545.00 |
| 10        | 38            | 20            | 100       | 8,000.00 |

# FXNB-2 超無敵全鎢鋼超硬長柄圓球立銑刀

## 2-Flute Long Reach Ball End Mills



- \* 採用韌性和耐磨性都突出的超微粒子高級材質。
- \* 從一般鋼材到硬質鋼皆可加工，也可用於高速加工。

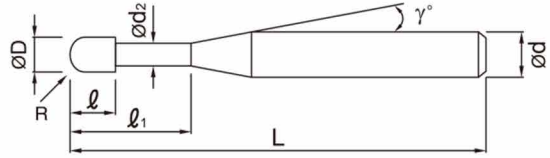
單位：mm

| R角<br>(R) | 刃長<br>( $l$ ) | 柄徑<br>( $d$ ) | 全長<br>(L) | 價(支)格    |
|-----------|---------------|---------------|-----------|----------|
| 1.5       | 8             | 6             | 60        | 1,270.00 |
| 2         | 8             | 6             | 70        | 1,405.00 |
| 2.5       | 10            | 6             | 80        | 1,405.00 |
| 3         | 12            | 6             | 90        | 1,550.00 |
| 4         | 14            | 8             | 90        | 2,165.00 |
| 5         | 18            | 10            | 100       | 3,020.00 |
| 6         | 22            | 12            | 110       | 4,215.00 |



# FXRB-2 超無敵全鎢鋼超硬深溝圓球立銑刀

## 2-Flute Long Neck Ball End Mills



單位：mm

| R角<br>(R) | 有效長<br>(ℓ <sub>1</sub> ) | 刃長<br>(ℓ) | 首下徑<br>(d <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|--------------------------|-----------|--------------------------|-----------|-----------|-----------------|
| 0.2       | 1                        | 0.6       | 0.37                     | 4         | 45        | <b>2,225.00</b> |
| 0.2       | 2                        | 0.6       | 0.37                     | 4         | 45        | <b>2,225.00</b> |
| 0.2       | 3                        | 0.6       | 0.37                     | 4         | 45        | <b>2,225.00</b> |
| 0.25      | 2                        | 0.7       | 0.45                     | 4         | 45        | <b>2,045.00</b> |
| 0.25      | 4                        | 0.7       | 0.45                     | 4         | 45        | <b>2,045.00</b> |
| 0.25      | 6                        | 0.7       | 0.45                     | 4         | 45        | <b>2,045.00</b> |
| 0.25      | 8                        | 0.7       | 0.45                     | 4         | 45        | <b>2,345.00</b> |
| 0.3       | 2                        | 0.9       | 0.55                     | 4         | 45        | <b>2,045.00</b> |
| 0.3       | 4                        | 0.9       | 0.55                     | 4         | 45        | <b>2,045.00</b> |
| 0.3       | 6                        | 0.9       | 0.55                     | 4         | 45        | <b>2,045.00</b> |
| 0.3       | 8                        | 0.9       | 0.55                     | 4         | 45        | <b>2,340.00</b> |
| 0.4       | 2                        | 1.2       | 0.75                     | 4         | 45        | <b>1,860.00</b> |
| 0.4       | 4                        | 1.2       | 0.75                     | 4         | 45        | <b>1,860.00</b> |
| 0.4       | 6                        | 1.2       | 0.75                     | 4         | 45        | <b>1,860.00</b> |
| 0.4       | 8                        | 1.2       | 0.75                     | 4         | 45        | <b>1,860.00</b> |
| 0.4       | 10                       | 1.2       | 0.75                     | 4         | 45        | <b>2,135.00</b> |
| 0.5       | 3                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 4                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 5                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 6                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 7                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 8                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 9                        | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 10                       | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 12                       | 1.5       | 0.95                     | 4         | 45        | <b>1,520.00</b> |
| 0.5       | 14                       | 1.5       | 0.95                     | 4         | 50        | <b>1,520.00</b> |
| 0.5       | 16                       | 1.5       | 0.95                     | 4         | 50        | <b>1,860.00</b> |
| 0.5       | 20                       | 1.5       | 0.95                     | 4         | 55        | <b>1,910.00</b> |
| 0.6       | 8                        | 1.8       | 1.15                     | 4         | 45        | <b>1,665.00</b> |
| 0.6       | 12                       | 1.8       | 1.15                     | 4         | 45        | <b>1,760.00</b> |
| 0.7       | 8                        | 2.1       | 1.35                     | 4         | 45        | <b>1,665.00</b> |
| 0.7       | 12                       | 2.1       | 1.35                     | 4         | 45        | <b>1,760.00</b> |
| 0.7       | 16                       | 2.1       | 1.35                     | 4         | 50        | <b>1,860.00</b> |
| 0.75      | 6                        | 2.3       | 1.45                     | 4         | 45        | <b>1,520.00</b> |
| 0.75      | 8                        | 2.3       | 1.45                     | 4         | 45        | <b>1,520.00</b> |
| 0.75      | 10                       | 2.3       | 1.45                     | 4         | 45        | <b>1,520.00</b> |
| 0.75      | 12                       | 2.3       | 1.45                     | 4         | 45        | <b>1,520.00</b> |
| 0.75      | 16                       | 2.3       | 1.45                     | 4         | 50        | <b>1,650.00</b> |
| 0.75      | 20                       | 2.3       | 1.45                     | 4         | 55        | <b>1,650.00</b> |
| 0.8       | 8                        | 2.4       | 1.55                     | 4         | 45        | <b>1,665.00</b> |
| 0.8       | 12                       | 2.4       | 1.55                     | 4         | 45        | <b>1,760.00</b> |
| 0.8       | 16                       | 2.4       | 1.55                     | 4         | 50        | <b>1,860.00</b> |
| 0.8       | 20                       | 2.4       | 1.55                     | 4         | 55        | <b>1,860.00</b> |

| R角<br>(R) | 有效長<br>(ℓ <sub>1</sub> ) | 刃長<br>(ℓ) | 首下徑<br>(d <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|--------------------------|-----------|--------------------------|-----------|-----------|-----------------|
| 0.9       | 8                        | 2.7       | 1.75                     | 4         | 45        | <b>1,665.00</b> |
| 0.9       | 12                       | 2.7       | 1.75                     | 4         | 45        | <b>1,760.00</b> |
| 0.9       | 16                       | 2.7       | 1.75                     | 4         | 50        | <b>1,860.00</b> |
| 0.9       | 20                       | 2.7       | 1.75                     | 4         | 55        | <b>1,860.00</b> |
| 1         | 4                        | 3         | 1.95                     | 4         | 45        | <b>1,520.00</b> |
| 1         | 6                        | 3         | 1.95                     | 4         | 45        | <b>1,520.00</b> |
| 1         | 8                        | 3         | 1.95                     | 4         | 45        | <b>1,520.00</b> |
| 1         | 10                       | 3         | 1.95                     | 4         | 45        | <b>1,520.00</b> |
| 1         | 12                       | 3         | 1.95                     | 4         | 50        | <b>1,520.00</b> |
| 1         | 14                       | 3         | 1.95                     | 4         | 50        | <b>1,520.00</b> |
| 1         | 16                       | 3         | 1.95                     | 4         | 50        | <b>1,585.00</b> |
| 1         | 20                       | 3         | 1.95                     | 4         | 55        | <b>1,585.00</b> |
| 1         | 22                       | 3         | 1.95                     | 4         | 60        | <b>1,820.00</b> |
| 1         | 25                       | 3         | 1.95                     | 4         | 60        | <b>1,820.00</b> |
| 1         | 30                       | 3         | 1.95                     | 4         | 70        | <b>1,820.00</b> |
| 1.5       | 8                        | 4.5       | 2.85                     | 6         | 50        | <b>1,900.00</b> |
| 1.5       | 10                       | 4.5       | 2.85                     | 6         | 50        | <b>1,900.00</b> |
| 1.5       | 12                       | 4.5       | 2.85                     | 6         | 50        | <b>1,900.00</b> |
| 1.5       | 16                       | 4.5       | 2.85                     | 6         | 55        | <b>1,900.00</b> |
| 1.5       | 20                       | 4.5       | 2.85                     | 6         | 60        | <b>1,900.00</b> |
| 1.5       | 25                       | 4.5       | 2.85                     | 6         | 65        | <b>1,900.00</b> |
| 1.5       | 30                       | 4.5       | 2.85                     | 6         | 70        | <b>2,225.00</b> |
| 1.5       | 35                       | 4.5       | 2.85                     | 6         | 80        | <b>2,405.00</b> |
| 2         | 10                       | 6         | 3.85                     | 6         | 60        | <b>1,900.00</b> |
| 2         | 12                       | 6         | 3.85                     | 6         | 60        | <b>1,900.00</b> |
| 2         | 16                       | 6         | 3.85                     | 6         | 60        | <b>1,900.00</b> |
| 2         | 20                       | 6         | 3.85                     | 6         | 65        | <b>1,900.00</b> |
| 2         | 25                       | 6         | 3.85                     | 6         | 70        | <b>1,900.00</b> |
| 2         | 30                       | 6         | 3.85                     | 6         | 70        | <b>2,225.00</b> |
| 2         | 35                       | 6         | 3.85                     | 6         | 80        | <b>2,405.00</b> |
| 2         | 40                       | 6         | 3.85                     | 6         | 90        | <b>2,405.00</b> |
| 2         | 45                       | 6         | 3.85                     | 6         | 90        | <b>3,275.00</b> |
| 2         | 50                       | 6         | 3.85                     | 6         | 100       | <b>3,275.00</b> |
| 2.5       | 16                       | 7.5       | 4.85                     | 6         | 60        | <b>1,900.00</b> |
| 2.5       | 20                       | 7.5       | 4.85                     | 6         | 60        | <b>1,900.00</b> |
| 2.5       | 25                       | 7.5       | 4.85                     | 6         | 70        | <b>1,900.00</b> |
| 2.5       | 30                       | 7.5       | 4.85                     | 6         | 80        | <b>2,405.00</b> |
| 2.5       | 35                       | 7.5       | 4.85                     | 6         | 80        | <b>2,405.00</b> |
| 3         | 20                       | 9         | 5.85                     | 6         | 80        | <b>1,900.00</b> |
| 3         | 30                       | 9         | 5.85                     | 6         | 90        | <b>2,405.00</b> |
| 3         | 40                       | 9         | 5.85                     | 6         | 100       | <b>2,405.00</b> |
| 3         | 50                       | 9         | 5.85                     | 6         | 110       | <b>3,275.00</b> |

超無敵鍍膜刀具

XTRA Coating

# FRSR-2 切削條件參考表(溝槽加工)

## Recommended Cutting Condition-Slotting

| 被削材          | 硬質鋼・耐熱合金          |        | 硬質鋼               |        |                   |        |                   |        |                   |        |                   |        |
|--------------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
|              | (30~40HRC)        |        | (40~50HRC)        |        | (50~55HRC)        |        | (55~60HRC)        |        | (60~65HRC)        |        | (65~70HRC)        |        |
| 刃徑           | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|              | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 0.2          | 50,000            | 130    | 45,000            | 115    | 40,000            | 95     | 33,000            | 60     | 33,000            | 45     | 26,400            | 30     |
| 0.3          | 50,000            | 190    | 45,000            | 140    | 40,000            | 115    | 33,000            | 70     | 25,000            | 50     | 20,000            | 35     |
| 0.4          | 50,000            | 235    | 45,000            | 180    | 40,000            | 140    | 33,000            | 90     | 25,000            | 55     | 20,000            | 40     |
| 0.5          | 50,000            | 370    | 45,000            | 280    | 40,000            | 220    | 33,000            | 140    | 25,000            | 85     | 20,000            | 60     |
| 0.6          | 50,000            | 470    | 45,000            | 360    | 40,000            | 285    | 30,000            | 160    | 25,000            | 105    | 20,000            | 75     |
| 0.8          | 50,000            | 600    | 40,000            | 440    | 30,000            | 295    | 25,000            | 185    | 19,000            | 110    | 15,200            | 80     |
| 0.9          | 49,000            | 655    | 39,000            | 520    | 27,800            | 330    | 22,700            | 205    | 17,500            | 125    | 14,000            | 90     |
| 1            | 48,000            | 750    | 38,000            | 570    | 25,500            | 360    | 20,500            | 215    | 16,000            | 135    | 12,500            | 85     |
| 2            | 33,300            | 850    | 26,000            | 680    | 17,500            | 420    | 14,500            | 260    | 11,000            | 160    | 9,500             | 115    |
| 3            | 21,800            | 850    | 17,300            | 680    | 11,500            | 420    | 9,500             | 260    | 7,500             | 160    | 6,400             | 115    |
| 4            | 16,700            | 880    | 13,200            | 700    | 8,800             | 440    | 7,200             | 270    | 5,600             | 170    | 4,750             | 118    |
| 5            | 15,700            | 1,000  | 12,500            | 805    | 8,300             | 500    | 6,400             | 285    | 5,100             | 180    | 4,450             | 132    |
| 6            | 13,100            | 950    | 10,350            | 770    | 6,900             | 480    | 5,300             | 280    | 4,200             | 180    | 3,700             | 130    |
| 8            | 9,880             | 930    | 7,800             | 720    | 5,200             | 445    | 4,000             | 255    | 3,200             | 165    | 2,800             | 120    |
| 10           | 7,800             | 850    | 6,150             | 680    | 4,100             | 415    | 3,200             | 240    | 2,550             | 155    | 2,200             | 112    |
| 12           | 6,650             | 850    | 5,250             | 680    | 3,500             | 415    | 2,650             | 240    | 2,100             | 155    | 1,860             | 112    |
| 16           | 4,900             | 730    | 3,900             | 580    | 2,600             | 365    | 2,000             | 210    | 1,600             | 135    | 1,400             | 95     |
| 20           | 3,900             | 660    | 3,100             | 525    | 2,050             | 335    | 1,600             | 195    | 1,300             | 125    | 1,100             | 85     |
| 切削深度<br>D=刃徑 |                   |        |                   |        |                   |        |                   |        |                   |        |                   |        |

# FRSR-2 切削條件參考表(側面加工)

## Recommended Cutting Condition-Side Cutting

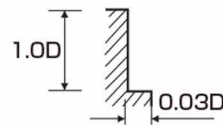
| 被削材          | 硬質鋼・耐熱合金          |        | 硬質鋼               |        |                   |        |                   |        |                   |        |                   |        |
|--------------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
|              | (30~40HRC)        |        | (40~50HRC)        |        | (50~55HRC)        |        | (55~60HRC)        |        | (60~65HRC)        |        | (65~70HRC)        |        |
| 刃徑           | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|              | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 1            | 48,000            | 1,050  | 38,000            | 820    | 25,500            | 510    | 20,500            | 310    | 16,000            | 190    | 12,500            | 125    |
| 2            | 33,300            | 1,200  | 26,000            | 970    | 17,600            | 600    | 14,500            | 370    | 11,000            | 230    | 9,500             | 165    |
| 3            | 21,800            | 1,200  | 17,300            | 970    | 11,500            | 600    | 9,500             | 370    | 7,500             | 230    | 6,400             | 165    |
| 4            | 16,700            | 1,250  | 13,200            | 1,000  | 8,800             | 625    | 7,200             | 385    | 5,600             | 240    | 4,750             | 170    |
| 5            | 15,700            | 1,450  | 12,500            | 1,150  | 8,300             | 710    | 6,400             | 410    | 5,100             | 260    | 4,450             | 190    |
| 6            | 13,100            | 1,350  | 10,350            | 1,100  | 6,990             | 690    | 5,300             | 400    | 4,200             | 255    | 3,700             | 185    |
| 8            | 9,880             | 1,320  | 7,800             | 1,030  | 5,200             | 635    | 4,000             | 365    | 3,200             | 235    | 2,800             | 170    |
| 10           | 7,800             | 1,200  | 6,150             | 970    | 4,100             | 590    | 3,200             | 340    | 2,550             | 220    | 2,200             | 160    |
| 12           | 6,650             | 1,200  | 5,250             | 970    | 3,500             | 590    | 2,650             | 340    | 2,100             | 220    | 1,860             | 160    |
| 16           | 4,900             | 1,050  | 3,900             | 840    | 2,600             | 520    | 2,000             | 300    | 1,600             | 190    | 1,400             | 140    |
| 20           | 3,900             | 950    | 3,100             | 750    | 2,050             | 475    | 1,600             | 275    | 1,300             | 175    | 1,100             | 125    |
| 切削深度<br>D=刃徑 |                   |        |                   |        |                   |        |                   |        |                   |        |                   |        |

# FRSR-4 切削條件參考表(側面加工)

## Recommended Cutting Condition-Side Cutting

| 被削材 | 硬質鋼・耐熱合金          |        | 硬質鋼               |        |                   |        |                   |        |                   |        |                   |        |
|-----|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
|     | (30~40HRC)        |        | (40~50HRC)        |        | (50~55HRC)        |        | (55~60HRC)        |        | (60~65HRC)        |        | (65~70HRC)        |        |
| 刃徑  | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 1   | 48,000            | 1,480  | 38,000            | 1,050  | 25,500            | 710    | 20,500            | 430    | 16,000            | 270    | 12,500            | 175    |
| 2   | 33,300            | 1,750  | 26,000            | 1,250  | 17,500            | 840    | 14,500            | 520    | 11,000            | 320    | 9,500             | 230    |
| 3   | 21,800            | 1,750  | 17,300            | 1,250  | 11,500            | 840    | 9,500             | 520    | 7,500             | 320    | 6,400             | 230    |
| 4   | 16,700            | 1,800  | 13,200            | 1,300  | 8,800             | 880    | 7,200             | 540    | 5,600             | 335    | 4,750             | 240    |
| 5   | 15,700            | 2,000  | 12,500            | 1,500  | 8,300             | 1,000  | 6,400             | 580    | 5,100             | 370    | 4,450             | 270    |
| 6   | 13,100            | 1,950  | 10,350            | 1,400  | 6,900             | 950    | 5,300             | 560    | 4,200             | 350    | 3,700             | 260    |
| 8   | 9,880             | 1,880  | 7,800             | 1,350  | 5,200             | 900    | 4,000             | 520    | 3,200             | 330    | 2,800             | 240    |
| 10  | 7,800             | 1,750  | 6,150             | 1,260  | 4,100             | 840    | 3,200             | 480    | 2,550             | 310    | 2,200             | 220    |
| 12  | 6,650             | 1,750  | 5,250             | 1,260  | 3,500             | 840    | 2,650             | 480    | 2,100             | 300    | 1,860             | 220    |
| 16  | 4,900             | 1,500  | 3,900             | 1,100  | 2,600             | 730    | 2,000             | 420    | 1,600             | 270    | 1,400             | 200    |
| 20  | 3,900             | 1,300  | 3,100             | 970    | 2,050             | 650    | 1,600             | 380    | 1,300             | 250    | 1,100             | 180    |

切削深度  
D=刃徑

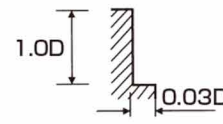
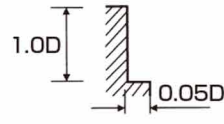


# FRSR-6 · FRNSR-6 切削條件參考表(側面加工)

## Recommended Cutting Condition-Side Cutting

| 被削材 | 硬質鋼・耐熱合金          |        | 硬質鋼               |        |                   |        |                   |        |                   |        |                   |        |
|-----|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
|     | (30~40HRC)        |        | (40~50HRC)        |        | (50~55HRC)        |        | (55~60HRC)        |        | (60~65HRC)        |        | (65~70HRC)        |        |
| 刃徑  | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 6   | 24,800            | 5,350  | 23,500            | 4,900  | 16,000            | 4,900  | 13,500            | 3,300  | 10,500            | 2,100  | 8,000             | 1,450  |
| 8   | 20,000            | 5,500  | 19,000            | 5,000  | 12,000            | 4,600  | 10,000            | 3,100  | 8,000             | 2,000  | 6,000             | 1,400  |
| 10  | 16,000            | 4,900  | 15,500            | 4,500  | 9,500             | 4,100  | 8,000             | 2,900  | 6,400             | 1,800  | 4,800             | 1,300  |
| 12  | 13,000            | 4,500  | 12,500            | 4,100  | 8,000             | 3,800  | 6,600             | 2,500  | 5,300             | 1,600  | 4,000             | 1,150  |
| 16  | 10,000            | 4,000  | 9,700             | 3,700  | 6,000             | 3,400  | 5,000             | 2,300  | 4,000             | 1,250  | 3,000             | 870    |
| 20  | 8,000             | 3,350  | 7,800             | 3,400  | 4,800             | 3,200  | 4,000             | 2,100  | 3,200             | 1,020  | 2,400             | 690    |

切削深度  
D=刃徑



\* 長刃及超長刃型，進刀速度請調降50%。

超無敵鍍膜刀具  
XTRA Coating

# FXMES-2 · FSST-2 切削條件參考表(溝槽加工)

## Recommended Cutting Condition-Slotting

| 被削材  | 非合金鋼·合金鋼·鑄鐵<br>(30HRC)   |        | 合金鋼·耐熱合金<br>(30~45HRC)      |        | 不銹鋼               |        | 硬質鋼<br>(45~55HRC)                                      |        | 硬質鋼<br>(55~65HRC)      |        |  |
|------|--|--------|-----------------------------|--------|-------------------|--------|--|--------|------------------------|--------|--|
|      | ~1000 N/mm <sup>2</sup>  |        | 1000~1500 N/mm <sup>2</sup> |        |                   |        | 1500~2000 N/mm <sup>2</sup>                            |        | 2000 N/mm <sup>2</sup> |        |  |
| 刃徑   | 回轉數  | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數               | 進刀速度   | 回轉數  | 進刀速度   | 回轉數                    | 進刀速度   |  |
|      | min <sup>-1</sup>  | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>                                      | mm/min | min <sup>-1</sup>      | mm/min |  |
| 0.4  | -  | -      | 30,000                      | 90     | -                 | -      | 23,000   | 50     | -                      | -      |  |
| 0.8  | -  | -      | 24,000                      | 150    | -                 | -      | 18,000   | 65     | -                      | -      |  |
| 1    | -  | -      | 20,000                      | 160    | -                 | -      | 15,000   | 75     | -                      | -      |  |
| 1.2  | -  | -      | 16,000                      | 160    | -                 | -      | 12,000   | 75     | -                      | -      |  |
| 1.5  | -  | -      | 12,000                      | 150    | -                 | -      | 9,000  | 70     | -                      | -      |  |
| 2    | 9,250  | 190    | 6,050                       | 120    | 5,050             | 90     | 4,030  | 35     | -                      | -      |  |
| 3    | 7,150  | 210    | 4,450                       | 140    | 3,700             | 120    | 2,690  | 40     | 1,900                  | 40     |  |
| 4    | 6,050  | 300    | 3,700                       | 180    | 3,100             | 150    | 2,350  | 40     | 1,480                  | 40     |  |
| 5    | 5,050  | 320    | 3,020                       | 190    | 2,530             | 160    | 1,860  | 50     | 1,260                  | 40     |  |
| 6    | 4,450  | 350    | 2,690                       | 220    | 2,270             | 180    | 1,600  | 55     | 1,100                  | 40     |  |
| 8    | 3,360  | 380    | 2,020                       | 200    | 1,680             | 180    | 1,350  | 75     | 840                    | 40     |  |
| 10   | 2,600  | 330    | 1,600                       | 160    | 1,350             | 160    | 1,090  | 60     | 680                    | 35     |  |
| 12   | 2,200  | 280    | 1,350                       | 130    | 1,090             | 130    | 930  | 55     | 560                    | 35     |  |
| 16   | 1,760  | 220    | 1,090                       | 110    | 850               | 110    | 720  | 40     | 440                    | 20     |  |
| 20   | 1,350  | 170    | 850                         | 80     | 670               | 80     | 550  | 30     | 320                    | 20     |  |
| 25   | 1,090  | 130    | 670                         | 70     | 550               | 60     | 430  | 20     | 260                    | 15     |  |
| 切削深度 | $a_p$<br>$D < 1 \quad 0.15D$<br>$1 \leq D < 2 \quad 0.25D$<br>$2 \leq D < 3 \quad 0.2D$<br>$D \geq 3 \quad 0.5D$ |        |                             |        |                   |        | $a_p$<br>$D < 1 \quad 0.02D$<br>$D \geq 1 \quad 0.05D$ |        |                        |        |  |
| D=刃徑 |  |        |                             |        |                   |        |  |        |                        |        |  |

## 公差對照表

| 刃徑(mm)   | 0.4~0.9     | 1~3              | 3~6             | 6~10             | 10~18            | 18~30           |
|----------|-------------|------------------|-----------------|------------------|------------------|-----------------|
| 刃徑公差(e8) | 0<br>-0.012 | -0.014<br>-0.028 | -0.02<br>-0.038 | -0.025<br>-0.047 | -0.032<br>-0.059 | -0.04<br>-0.073 |
| 柄徑公差(mm) | 0<br>-0.006 | 0<br>-0.006      | 0<br>-0.008     | 0<br>-0.009      | 0<br>-0.011      | 0<br>-0.013     |

# FXMES-4 · FSST-4 切削條件參考表(側面加工)

## Recommended Cutting Condition-Side Cutting

| 被削材          | 非合金鋼·合金鋼·鑄鐵<br>(30HRC)  |        | 合金鋼·耐熱合金<br>(30~45HRC)      |        | 不銹鋼               |        | 硬質鋼<br>(45~55HRC)           |        | 硬質鋼<br>(55~65HRC)      |        |
|--------------|-------------------------|--------|-----------------------------|--------|-------------------|--------|-----------------------------|--------|------------------------|--------|
|              | ~1000 N/mm <sup>2</sup> |        | 1000~1500 N/mm <sup>2</sup> |        |                   |        | 1500~2000 N/mm <sup>2</sup> |        | 2000 N/mm <sup>2</sup> |        |
| 刃徑           | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                    | 進刀速度   |
|              | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>      | mm/min |
| 2            | 11,560                  | 280    | 7,560                       | 170    | 6,300             | 140    | 5,040                       | 50     | -                      | -      |
| 3            | 8,920                   | 320    | 5,560                       | 200    | 4,620             | 170    | 3,360                       | 60     | 1,900                  | 50     |
| 4            | 7,560                   | 570    | 4,620                       | 350    | 3,880             | 280    | 2,940                       | 60     | 1,480                  | 50     |
| 5            | 6,300                   | 600    | 3,780                       | 360    | 3,160             | 300    | 2,320                       | 70     | 1,260                  | 50     |
| 6            | 5,560                   | 660    | 3,360                       | 410    | 2,840             | 330    | 2,000                       | 80     | 1,100                  | 50     |
| 8            | 4,200                   | 710    | 2,520                       | 380    | 2,100             | 350    | 1,680                       | 110    | 840                    | 50     |
| 10           | 3,260                   | 610    | 2,000                       | 300    | 1,680             | 300    | 1,360                       | 90     | 680                    | 40     |
| 12           | 2,740                   | 520    | 1,680                       | 250    | 1,360             | 240    | 1,160                       | 80     | 560                    | 40     |
| 16           | 2,200                   | 410    | 1,360                       | 200    | 1,100             | 200    | 900                         | 60     | 440                    | 25     |
| 20           | 1,680                   | 320    | 1,060                       | 160    | 840               | 150    | 680                         | 40     | 320                    | 25     |
| 25           | 1,360                   | 250    | 840                         | 130    | 680               | 120    | 540                         | 30     | 260                    | 20     |
| 切削深度<br>D=刃徑 |                         |        |                             |        |                   |        |                             |        |                        |        |

# FXMES-4 · FSST-4 高速切削條件參考表(側面加工)

## Recommended High Speed Cutting Condition-Side Cutting

| 被削材          | 合金鋼·耐熱合金<br>(~45HRC)    |        | 硬質鋼<br>(45~55(65)HRC)       |        |
|--------------|-------------------------|--------|-----------------------------|--------|
|              | ~1500 N/mm <sup>2</sup> |        | 1500~2000 N/mm <sup>2</sup> |        |
| 刃徑           | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   |
|              | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min |
| 2            | 22,300                  | 450    | 12,000                      | 240    |
| 3            | 16,000                  | 640    | 8,500                       | 340    |
| 4            | 12,500                  | 750    | 6,750                       | 405    |
| 5            | 11,000                  | 880    | 5,750                       | 460    |
| 6            | 9,550                   | 955    | 5,050                       | 505    |
| 8            | 7,150                   | 945    | 3,800                       | 500    |
| 10           | 5,750                   | 965    | 3,000                       | 505    |
| 12           | 4,750                   | 950    | 2,500                       | 500    |
| 16           | 3,600                   | 880    | 1,900                       | 465    |
| 20           | 2,850                   | 810    | 1,500                       | 425    |
| 25           | 2,300                   | 655    | 1,200                       | 340    |
| 切削深度<br>D=刃徑 |                         |        |                             |        |

# FXGF 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非合金鋼・合金鋼<br>(~30HRC)    |        | 合金鋼・耐熱合金<br>(30~50HRC)      |        | 硬質鋼<br>(50~60HRC)           |        | 硬質鋼<br>(60~65HRC)        |        |
|------|-------------------------|--------|-----------------------------|--------|-----------------------------|--------|--------------------------|--------|
| 強度   | ~1000 N/mm <sup>2</sup> |        | 1000~1750 N/mm <sup>2</sup> |        | 1750~2080 N/mm <sup>2</sup> |        | 2080 N/mm <sup>2</sup> ~ |        |
| 刃徑   | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                      | 進刀速度   |
|      | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>        | mm/min |
| 6    | 5,560                   | 2,000  | 3,880                       | 1,370  | 1,580                       | 210    | 1,100                    | 130    |
| 8    | 4,200                   | 2,000  | 2,940                       | 1,370  | 1,160                       | 210    | 840                      | 130    |
| 10   | 3,360                   | 2,000  | 2,320                       | 1,370  | 1,000                       | 210    | 680                      | 130    |
| 12   | 2,840                   | 1,680  | 2,000                       | 1,160  | 840                         | 180    | 560                      | 110    |
| 16   | 2,100                   | 1,260  | 1,480                       | 880    | 640                         | 130    | 420                      | 70     |
| 20   | 1,680                   | 1,010  | 1,160                       | 690    | 500                         | 110    | 320                      | 60     |
| 25   | 1,500                   | 900    | 1,100                       | 600    | 430                         | 90     | 260                      | 50     |
| 切削深度 |                         |        |                             |        |                             |        |                          |        |
| D=刃徑 |                         |        |                             |        |                             |        |                          |        |

# FXGF 高速切削條件參考表

## Recommended High Speed Cutting Condition

| 被削材  | 合金鋼・耐熱合金<br>(~50HRC)    |        | 硬質鋼<br>(50~60HRC)           |        | 硬質鋼<br>(60~65HRC)        |        |
|------|-------------------------|--------|-----------------------------|--------|--------------------------|--------|
| 強度   | ~1750 N/mm <sup>2</sup> |        | 1750~2080 N/mm <sup>2</sup> |        | 2080 N/mm <sup>2</sup> ~ |        |
| 刃徑   | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                      | 進刀速度   |
|      | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>        | mm/min |
| 6    | 16,800                  | 6,090  | 8,400                       | 3,050  | 4,200                    | 1,470  |
| 8    | 12,600                  | 6,090  | 6,300                       | 3,050  | 3,160                    | 1,470  |
| 10   | 9,980                   | 5,990  | 5,040                       | 3,050  | 2,520                    | 1,470  |
| 12   | 8,400                   | 5,040  | 4,200                       | 2,520  | 2,100                    | 1,260  |
| 16   | 6,300                   | 3,780  | 3,160                       | 1,890  | 1,580                    | 950    |
| 20   | 5,040                   | 3,050  | 2,520                       | 1,470  | 1,260                    | 760    |
| 25   | 4,500                   | 2,700  | 2,200                       | 1,300  | 1,120                    | 670    |
| 切削深度 |                         |        |                             |        |                          |        |
| D=刃徑 |                         |        |                             |        |                          |        |

# FXLMF 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非合金鋼・合金鋼<br>(~40HRC)    |        | 合金鋼・耐熱合金<br>(40~50HRC)      |        | 硬質鋼<br>(50~60HRC)           |        | 硬質鋼<br>(60~65HRC)        |        |
|------|-------------------------|--------|-----------------------------|--------|-----------------------------|--------|--------------------------|--------|
| 強度   | ~1250 N/mm <sup>2</sup> |        | 1250~1750 N/mm <sup>2</sup> |        | 1750~2080 N/mm <sup>2</sup> |        | 2080 N/mm <sup>2</sup> ~ |        |
| 刃徑   | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                      | 進刀速度   |
|      | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>        | mm/min |
| 6    | 2,230                   | 470    | 1,670                       | 350    | 1,390                       | 250    | 1,110                    | 200    |
| 8    | 1,670                   | 450    | 1,250                       | 330    | 1,050                       | 240    | 840                      | 180    |
| 10   | 1,330                   | 440    | 1,000                       | 300    | 840                         | 230    | 680                      | 160    |
| 12   | 1,110                   | 400    | 840                         | 270    | 690                         | 210    | 560                      | 150    |
| 16   | 840                     | 330    | 630                         | 230    | 530                         | 170    | 420                      | 130    |
| 20   | 670                     | 280    | 500                         | 200    | 420                         | 150    | 320                      | 120    |
| 25   | 540                     | 240    | 400                         | 170    | 340                         | 130    | 270                      | 95     |
| 切削深度 |                         |        |                             |        |                             |        |                          |        |
| D=刃徑 |                         |        |                             |        |                             |        |                          |        |

# FXMB 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 合金鋼・耐熱合金<br>(30~45HRC)  |        | 硬質鋼<br>(45~65HRC)           |        |
|------|---|--------|-----------------------------|--------|
| 強度   | 1000~1500 N/mm <sup>2</sup>   |        | 1500~2000 N/mm <sup>2</sup> |        |
| R角   | 回轉數   | 進刀速度   | 回轉數                         | 進刀速度   |
|      | min <sup>-1</sup>   | mm/min | min <sup>-1</sup>           | mm/min |
| 0.3  | 30,000  | 510    | 30,000                      | 360    |
| 0.4  | 27,000  | 560    | 27,000                      | 330    |
| 0.5  | 25,000  | 560    | 25,000                      | 340    |
| 0.6  | 24,000  | 570    | 24,000                      | 350    |
| 0.75 | 23,000  | 600    | 23,000                      | 370    |
| 切削深度 | D < 1<br>ap = 0.05xD<br>ae = 0.15xD<br>D ≥ 1<br>ap = 0.075xD<br>ae = 0.15xD |        |                             |        |
| D=刃徑 |   |        |                             |        |

# FXHSR-4 切削條件參考表

## Recommended Cutting Condition

| 被削材 | 炭素鋼・合金鋼・鑄鐵<br>S50C・SCM・FC250<br>(~30HRC) |        | 合金鋼・耐熱合金<br>SKD61・NAK<br>(30~45HRC) |        | 硬質鋼<br>SKD61<br>(45~55HRC)  |        | 硬質鋼<br>SKD11<br>(55~65HRC) |        | 不銹鋼<br>SUS304・SUS316 |        |
|-----|--|--------|-------------------------------------|--------|-----------------------------|--------|----------------------------|--------|----------------------|--------|
|     | ~1000 N/mm <sup>2</sup>                  |        | 1000~1500 N/mm <sup>2</sup>         |        | 1500~2000 N/mm <sup>2</sup> |        | 2000 N/mm <sup>2</sup> ~   |        |                      |        |
| 刃徑  | 回轉數                                      | 進刀速度   | 回轉數                                 | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                        | 進刀速度   | 回轉數                  | 進刀速度   |
|     | min <sup>-1</sup>                        | mm/min | min <sup>-1</sup>                   | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>          | mm/min | min <sup>-1</sup>    | mm/min |
| 2   | 13,870                                   | 340    | 9,070                               | 205    | 6,050                       | 60     | 2,400                      | 30     | 6,000                | 140    |
| 2.5 | 12,290                                   | 360    | 7,870                               | 220    | 5,040                       | 65     | 2,340                      | 50     | 5,200                | 155    |
| 3   | 10,700                                   | 385    | 6,670                               | 240    | 4,030                       | 70     | 2,280                      | 70     | 4,400                | 170    |
| 3.5 | 9,890                                    | 535    | 6,100                               | 330    | 3,780                       | 70     | 2,030                      | 70     | 4,050                | 220    |
| 4   | 9,070                                    | 685    | 5,540                               | 420    | 3,530                       | 70     | 1,780                      | 70     | 3,700                | 270    |
| 5   | 7,560                                    | 720    | 4,540                               | 430    | 2,780                       | 85     | 1,510                      | 70     | 3,000                | 290    |
| 6   | 6,670                                    | 790    | 4,030                               | 490    | 2,400                       | 95     | 1,320                      | 70     | 2,700                | 320    |
| 8   | 5,040                                    | 850    | 3,020                               | 455    | 2,020                       | 130    | 1,010                      | 70     | 2,000                | 330    |
| 10  | 3,910                                    | 730    | 2,400                               | 360    | 1,630                       | 110    | 820                        | 60     | 1,600                | 290    |
| 12  | 3,290                                    | 625    | 2,020                               | 300    | 1,390                       | 95     | 670                        | 60     | 1,300                | 230    |
| 16  | 2,640                                    | 490    | 1,630                               | 240    | 1,080                       | 70     | 530                        | 35     | 1,000                | 180    |

切削深度

D=刃徑

# FXHSR-6 切削條件參考表

## Recommended Cutting Condition

| 被削材 | 合金鋼・耐熱合金<br>(~50HRC)    |        | 硬質鋼<br>(50~60HRC)           |        | 硬質鋼<br>(60~65HRC)       |        |
|-----|-------------------------|--------|-----------------------------|--------|-------------------------|--------|
|     | ~1750 N/mm <sup>2</sup> |        | 1750~2080 N/mm <sup>2</sup> |        | ~2080 N/mm <sup>2</sup> |        |
| 刃徑  | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                     | 進刀速度   |
|     | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>       | mm/min |
| 6   | 16,800                  | 6,090  | 8,400                       | 3,050  | 4,200                   | 1,470  |
| 8   | 12,600                  | 6,090  | 6,300                       | 3,050  | 3,150                   | 1,470  |
| 10  | 9,980                   | 5,990  | 5,040                       | 3,050  | 2,520                   | 1,470  |
| 12  | 8,400                   | 5,040  | 4,200                       | 2,520  | 2,100                   | 1,260  |

切削深度

D=刃徑



# FXSR-4 切削條件參考表

## Recommended Cutting Condition

| 被削材          | 非合金鋼・合金鋼・鑄鐵<br>(30HRC)  |        | 合金鋼・耐熱合金<br>(30~45HRC)      |        | 硬質鋼<br>(45~55HRC)           |        | 硬質鋼<br>(55~65HRC)      |        |
|--------------|-------------------------|--------|-----------------------------|--------|-----------------------------|--------|------------------------|--------|
| 強度           | ~1000 N/mm <sup>2</sup> |        | 1000~1500 N/mm <sup>2</sup> |        | 1500~2000 N/mm <sup>2</sup> |        | 2000 N/mm <sup>2</sup> |        |
| 刃徑           | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                    | 進刀速度   |
|              | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>      | mm/min |
| 3            | 6,620                   | 170    | 4,280                       | 130    | 2,640                       | 65     | 1,870                  | 30     |
| 4            | 5,360                   | 210    | 3,410                       | 150    | 2,150                       | 70     | 1,470                  | 35     |
| 5            | 4,580                   | 215    | 2,900                       | 180    | 1,900                       | 85     | 1,260                  | 40     |
| 6            | 3,950                   | 215    | 2,520                       | 180    | 1,640                       | 85     | 1,160                  | 50     |
| 8            | 3,000                   | 230    | 1,900                       | 180    | 1,260                       | 85     | 840                    | 50     |
| 10           | 2,520                   | 230    | 1,640                       | 180    | 1,010                       | 85     | 670                    | 50     |
| 12           | 2,060                   | 180    | 1,390                       | 160    | 840                         | 70     | 550                    | 40     |
| 16           | 1,740                   | 160    | 1,070                       | 125    | 670                         | 60     | 440                    | 35     |
| 20           | 1,260                   | 115    | 820                         | 90     | 500                         | 45     | 340                    | 25     |
| 切削深度<br>D=刃徑 |                         |        |                             |        |                             |        |                        |        |

# FXSR-6 高速切削條件參考表

## Recommended High Speed Cutting Condition

| 被削材          | 合金鋼・耐熱合金<br>(~50HRC)    |        | 硬質鋼<br>(50~60HRC)           |        | 硬質鋼<br>(60~65HRC)       |        |
|--------------|-------------------------|--------|-----------------------------|--------|-------------------------|--------|
| 強度           | ~1750 N/mm <sup>2</sup> |        | 1750~2080 N/mm <sup>2</sup> |        | ~2080 N/mm <sup>2</sup> |        |
| 刃徑           | 回轉數                     | 進刀速度   | 回轉數                         | 進刀速度   | 回轉數                     | 進刀速度   |
|              | min <sup>-1</sup>       | mm/min | min <sup>-1</sup>           | mm/min | min <sup>-1</sup>       | mm/min |
| 6            | 16,800                  | 6,090  | 8,400                       | 3,050  | 4,200                   | 1,470  |
| 8            | 12,600                  | 6,090  | 6,300                       | 3,050  | 3,150                   | 1,470  |
| 10           | 9,980                   | 5,990  | 5,040                       | 3,050  | 2,520                   | 1,470  |
| 12           | 8,400                   | 5,040  | 4,200                       | 2,520  | 2,100                   | 1,260  |
| 16           | 6,300                   | 3,780  | 3,150                       | 1,890  | 1,580                   | 950    |
| 20           | 5,040                   | 3,050  | 2,520                       | 1,470  | 1,260                   | 760    |
| 切削深度<br>D=刃徑 |                         |        |                             |        |                         |        |

# FXGB-2 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 硬質鋼<br>(45~50HRC) |                             | 硬質鋼<br>(50~55HRC)           |                             | 硬質鋼<br>(55~60HRC)           |                        | 硬質鋼<br>(60~65HRC) |        |
|------|-------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|-------------------|--------|
|      | 強度                | 1500~1750 N/mm <sup>2</sup> | 1750~2000 N/mm <sup>2</sup> | 2000~2080 N/mm <sup>2</sup> | 2000~2080 N/mm <sup>2</sup> | 2080 N/mm <sup>2</sup> | 回轉數               | 進刀速度   |
| R角   | 回轉數               | 進刀速度                        | 回轉數                         | 進刀速度                        | 回轉數                         | 進刀速度                   | 回轉數               | 進刀速度   |
|      | min <sup>-1</sup> | mm/min                      | min <sup>-1</sup>           | mm/min                      | min <sup>-1</sup>           | mm/min                 | min <sup>-1</sup> | mm/min |
| 0.5  | 20,000            | 460                         | 20,000                      | 400                         | 20,000                      | 350                    | 20,000            | 240    |
| 0.75 | 16,300            | 640                         | 16,100                      | 580                         | 16,000                      | 570                    | 14,200            | 360    |
| 1    | 14,500            | 800                         | 14,200                      | 740                         | 13,850                      | 760                    | 11,300            | 465    |
| 1.25 | 13,400            | 950                         | 13,000                      | 890                         | 12,600                      | 920                    | 9,600             | 560    |
| 1.5  | 12,700            | 1,100                       | 12,300                      | 1,050                       | 11,800                      | 1,000                  | 8,400             | 660    |
| 2    | 10,600            | 1,100                       | 10,300                      | 1,050                       | 9,800                       | 1,000                  | 6,650             | 650    |
| 2.5  | 9,400             | 1,100                       | 9,050                       | 1,050                       | 8,600                       | 950                    | 5,600             | 680    |
| 3    | 8,600             | 1,150                       | 8,250                       | 1,100                       | 7,850                       | 950                    | 4,850             | 700    |
| 4    | 7,000             | 1,050                       | 6,700                       | 1,000                       | 6,350                       | 950                    | 3,800             | 650    |
| 5    | 6,050             | 1,000                       | 5,800                       | 960                         | 5,450                       | 900                    | 3,200             | 620    |
| 6    | 5,450             | 1,000                       | 5,200                       | 960                         | 4,900                       | 900                    | 2,750             | 610    |
| 8    | 4,350             | 870                         | 4,150                       | 830                         | 3,900                       | 820                    | 2,150             | 265    |
| 10   | 3,500             | 690                         | 3,300                       | 650                         | 3,150                       | 630                    | 1,700             | 220    |

切削深度

D=刃徑

ap : 0.5R~2R=0.05 x D  
2.5R~4R=0.25mm  
4R~10R=0.3mm  
ae : 0.5R~10R=0.1 x D

# FXGB-2 高速切削條件參考表

## Recommended High Speed Cutting Condition

| 被削材  | 硬質鋼<br>(45~50HRC) |                             | 硬質鋼<br>(50~55HRC)           |                             | 硬質鋼<br>(55~70HRC)           |                        |
|------|-------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|
|      | 強度                | 1500~1750 N/mm <sup>2</sup> | 1750~2000 N/mm <sup>2</sup> | 2000~2080 N/mm <sup>2</sup> | 2000~2080 N/mm <sup>2</sup> | 2080 N/mm <sup>2</sup> |
| R角   | 回轉數               | 進刀速度                        | 回轉數                         | 進刀速度                        | 回轉數                         | 進刀速度                   |
|      | min <sup>-1</sup> | mm/min                      | min <sup>-1</sup>           | mm/min                      | min <sup>-1</sup>           | mm/min                 |
| 0.5  | 20,000            | 770                         | 20,000                      | 700                         | 20,000                      | 410                    |
| 0.75 | 16,300            | 1,050                       | 16,100                      | 980                         | 16,000                      | 580                    |
| 1    | 14,500            | 1,300                       | 14,200                      | 1,230                       | 13,850                      | 700                    |
| 1.25 | 13,400            | 1,500                       | 13,000                      | 1,430                       | 12,600                      | 780                    |
| 1.5  | 12,700            | 1,750                       | 12,300                      | 1,670                       | 11,800                      | 860                    |
| 2    | 10,600            | 1,700                       | 10,300                      | 1,620                       | 9,800                       | 780                    |
| 2.5  | 9,400             | 1,650                       | 9,050                       | 1,570                       | 8,600                       | 750                    |
| 3    | 8,600             | 1,750                       | 8,250                       | 1,670                       | 7,850                       | 700                    |
| 4    | 7,000             | 1,550                       | 6,700                       | 1,460                       | 6,350                       | 650                    |
| 5    | 6,050             | 1,450                       | 5,800                       | 1,360                       | 5,450                       | 650                    |
| 6    | 5,450             | 1,420                       | 5,200                       | 1,330                       | 4,900                       | 610                    |
| 8    | 4,350             | 1,230                       | 4,150                       | 1,130                       | 3,900                       | 265                    |
| 10   | 3,500             | 1,000                       | 3,300                       | 900                         | 3,150                       | 220                    |

切削深度

D=刃徑

ap : 0.5R~2R=0.05 x D  
2.5R~4R=0.25mm  
4R~10R=0.3mm  
ae : 0.5R~10R=0.05 x D

# FXSB-2 · FXB-2 · FXCB-2 · FXNB-2 切削條件參考表

## Recommended Cutting Condition

| 被削材          | 非合金鋼 · 合金鋼 · 鑄鐵<br>(~30HRC)                       |        | 合金鋼 · 耐熱合金<br>(30~40HRC)   |        | 硬質鋼<br>(45~65HRC)                                 |        |
|--------------|---|--------|--|--------|---|--------|
| 強度           | ~1000 N/mm <sup>2</sup>                           |        | 1000~1250 N/mm <sup>2</sup>  |        | 1500 N/mm <sup>2</sup>                            |        |
| R角           | 回轉數   | 進刀速度   | 回轉數  | 進刀速度   | 回轉數   | 進刀速度   |
|              | min <sup>-1</sup>                                 | mm/min | min <sup>-1</sup>  | mm/min | min <sup>-1</sup>                                 | mm/min |
| 0.5          | 15,760  | 250    | 12,720   | 200    | 5,800   | 90     |
| 0.75         | 15,760  | 350    | 12,140   | 270    | 5,320   | 120    |
| 1            | 14,400  | 750    | 10,700   | 490    | 4,680   | 150    |
| 1.25         | 14,400  | 750    | 10,700   | 490    | 4,680   | 150    |
| 1.5          | 13,100  | 680    | 10,000   | 460    | 4,520   | 150    |
| 2            | 10,500  | 740    | 8,400  | 530    | 4,200   | 180    |
| 2.5          | 9,140   | 820    | 7,300  | 580    | 3,680   | 180    |
| 3            | 8,490   | 1,020  | 6,900  | 830    | 3,180   | 190    |
| 4            | 7,160   | 1,290  | 5,770  | 920    | 2,470   | 220    |
| 5            | 6,370   | 1,530  | 5,090  | 1,020  | 2,040   | 225    |
| 6            | 5,840   | 1,750  | 4,640  | 1,110  | 1,750   | 245    |
| 切削深度<br>D=刃徑 | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.2 x D |        |  |        | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.1 x D |        |

# FXSB-2 · FXB-2 · FXCB-2 · FXNB-2 高速切削條件參考表

## Recommended High Speed Cutting Condition

| 被削材          | 非合金鋼 · 合金鋼 · 鑄鐵<br>(~45HRC)                        |        | 硬質鋼<br>(45~55HRC)   |        |
|--------------|--|--------|---|--------|
| 強度           | ~1500 N/mm <sup>2</sup>                            |        | 1500 N/mm <sup>2</sup> ~  |        |
| R角           | 回轉數  | 進刀速度   | 回轉數   | 進刀速度   |
|              | min <sup>-1</sup>                                  | mm/min | min <sup>-1</sup>   | mm/min |
| 0.5          | 25,000   | 1,300  | 25,000  | 800    |
| 0.75         | 23,000   | 1,400  | 23,000  | 860    |
| 1            | 21,000   | 1,480  | 21,000  | 940    |
| 1.25         | 21,000   | 1,760  | 19,000  | 980    |
| 1.5          | 21,000   | 2,000  | 17,000  | 1,040  |
| 2            | 21,000   | 2,940  | 13,660  | 1,160  |
| 2.5          | 21,000   | 3,600  | 12,000  | 1,200  |
| 3            | 21,000   | 4,000  | 10,500  | 1,250  |
| 4            | 16,700   | 4,000  | 8,360   | 1,250  |
| 5            | 14,000   | 3,900  | 7,000   | 1,200  |
| 6            | 12,200   | 3,900  | 6,100   | 1,160  |
| 切削深度<br>D=刃徑 | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.05 x D |        |  |        |


# FXB-4 切削條件參考表

## Recommended Cutting Condition

| 被削材          | 非合金鋼・合金鋼・鑄鐵<br>(~30HRC)                           |        | 合金鋼・耐熱合金<br>(30~40HRC)  |        | 硬質鋼<br>(45~65HRC)                                 |        |
|--------------|---|--------|---|--------|---|--------|
| 強度           | ~1000 N/mm <sup>2</sup>                           |        | 1000~1250 N/mm <sup>2</sup>   |        | 1500 N/mm <sup>2</sup>                            |        |
| R角           | 回轉數   | 進刀速度   | 回轉數   | 進刀速度   | 回轉數   | 進刀速度   |
|              | min <sup>-1</sup>                                 | mm/min | min <sup>-1</sup>   | mm/min | min <sup>-1</sup>                                 | mm/min |
| 0.5          | 15,760  | 380    | 12,720  | 300    | 5,800   | 130    |
| 0.75         | 15,760  | 530    | 12,140  | 410    | 5,320   | 180    |
| 1            | 15,760  | 800    | 11,560  | 480    | 4,840   | 160    |
| 1.5          | 13,100  | 1,020  | 10,000  | 690    | 4,520   | 220    |
| 2            | 10,500  | 1,110  | 8,400   | 800    | 4,200   | 270    |
| 2.5          | 9,140   | 1,230  | 7,300   | 870    | 3,680   | 270    |
| 3            | 8,490   | 1,530  | 6,900   | 1,250  | 3,180   | 280    |
| 4            | 7,160   | 1,950  | 5,770   | 1,380  | 2,470   | 330    |
| 5            | 6,370   | 2,300  | 5,090   | 1,530  | 2,040   | 340    |
| 6            | 5,840   | 2,600  | 4,640   | 1,650  | 1,750   | 370    |
| 切削深度<br>D=刀徑 | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.2 x D |        |  |        | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.1 x D |        |

# FXB-4 高速切削條件參考表

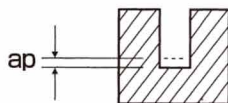
## Recommended High Speed Cutting Condition

| 被削材          | 非合金鋼・合金鋼・鑄鐵<br>(~45HRC)                            |        | 硬質鋼<br>(50~60HRC)   |        |
|--------------|--|--------|---|--------|
| 強度           | ~1500 N/mm <sup>2</sup>                            |        | 1500 N/mm <sup>2</sup> ~  |        |
| R角           | 回轉數  | 進刀速度   | 回轉數   | 進刀速度   |
|              | min <sup>-1</sup>                                  | mm/min | min <sup>-1</sup>   | mm/min |
| 0.5          | 25,000   | 1,950  | 25,000  | 1,200  |
| 0.75         | 23,000   | 2,100  | 23,000  | 1,290  |
| 1            | 21,000   | 2,200  | 21,000  | 1,400  |
| 1.5          | 21,000   | 3,000  | 17,000  | 1,560  |
| 2            | 21,000   | 4,400  | 13,660  | 1,740  |
| 2.5          | 21,000   | 5,400  | 12,000  | 1,800  |
| 3            | 21,000   | 6,000  | 10,500  | 1,880  |
| 4            | 16,700   | 6,000  | 8,360   | 1,880  |
| 5            | 14,000   | 5,850  | 7,000   | 1,800  |
| 6            | 12,200   | 5,850  | 6,100   | 1,740  |
| 切削深度<br>D=刀徑 | ap : 0.5R~3R=0.2mm<br>4R~6R=0.3mm<br>ae : 0.05 x D |        |  |        |

# FXHR 切削條件參考表

## Recommended Cutting Condition

| 被削材 | 非合金鋼・合金鋼・鑄鐵<br>(~30HRC) |         |             | 合金鋼・耐熱合金<br>(30~45HRC)      |         |             | 硬質鋼<br>(45~55HRC)           |        |             |
|-----|-------------------------|---------|-------------|-----------------------------|---------|-------------|-----------------------------|--------|-------------|
|     | ~1000 N/mm <sup>2</sup> |         |             | 1000~1500 N/mm <sup>2</sup> |         |             | 1500~2000 N/mm <sup>2</sup> |        |             |
|     | 強度                      | 回轉數     | 進刀速度        | ap                          | 回轉數     | 進刀速度        | ap                          | 回轉數    | 進刀速度        |
| 刃徑  | min <sup>-1</sup>       | mm/min  | mm          | min <sup>-1</sup>           | mm/min  | mm          | min <sup>-1</sup>           | mm/min | mm          |
| 0.4 | 31,000~40,000           | 200~440 | 0.007~0.018 | 22,500~28,000               | 85~340  | 0.007~0.018 | 14,300~17,000               | 30~90  | 0.004~0.008 |
| 0.5 | 31,000~40,000           | 220~440 | 0.009~0.022 | 22,500~28,000               | 85~340  | 0.009~0.022 | 14,300~17,000               | 30~90  | 0.004~0.009 |
| 0.6 | 31,000~40,000           | 250~570 | 0.011~0.026 | 22,500~28,000               | 110~430 | 0.011~0.026 | 14,300~17,000               | 40~110 | 0.005~0.011 |
| 0.7 | 31,000~40,000           | 250~570 | 0.012~0.031 | 22,500~28,000               | 110~430 | 0.012~0.031 | 14,300~17,000               | 40~110 | 0.006~0.013 |
| 0.8 | 27,000~35,000           | 280~630 | 0.014~0.035 | 19,500~24,500               | 120~480 | 0.014~0.035 | 12,500~14,800               | 45~125 | 0.007~0.015 |
| 0.9 | 25,000~31,500           | 280~720 | 0.03~0.06   | 17,500~22,500               | 160~540 | 0.03~0.06   | 11,000~12,500               | 55~130 | 0.008~0.016 |
| 1   | 22,500~28,000           | 280~810 | 0.045~0.09  | 15,700~20,000               | 190~600 | 0.045~0.09  | 10,000~12,500               | 65~130 | 0.009~0.018 |
| 1.2 | 18,500~22,500           | 280~900 | 0.055~0.1   | 13,000~16,500               | 190~600 | 0.055~0.1   | 8,300~10,500                | 65~130 | 0.01~0.022  |
| 1.4 | 16,000~20,000           | 280~900 | 0.062~0.125 | 11,500~14,000               | 190~600 | 0.062~0.125 | 7,200~9,000                 | 65~130 | 0.012~0.025 |
| 1.5 | 14,500~18,500           | 280~900 | 0.07~0.135  | 10,500~13,500               | 190~600 | 0.07~0.135  | 6,700~8,200                 | 65~130 | 0.014~0.028 |
| 1.6 | 14,000~18,000           | 280~900 | 0.075~0.145 | 10,200~12,800               | 190~600 | 0.075~0.145 | 6,400~8,000                 | 65~130 | 0.015~0.03  |
| 1.8 | 13,000~16,500           | 280~900 | 0.08~0.16   | 9,200~11,500                | 190~600 | 0.08~0.16   | 5,700~7,200                 | 65~130 | 0.016~0.032 |
| 2   | 12,000~14,500           | 280~900 | 0.09~0.18   | 8,300~10,500                | 190~600 | 0.09~0.18   | 5,300~6,600                 | 65~130 | 0.018~0.035 |
| 2.5 | 9,500~12,000            | 280~900 | 0.112~0.235 | 6,700~8,500                 | 190~600 | 0.112~0.235 | 4,300~5,300                 | 65~130 | 0.022~0.045 |
| 3   | 8,000~10,000            | 280~900 | 0.135~0.27  | 5,500~7,000                 | 190~600 | 0.135~0.27  | 3,500~4,400                 | 65~130 | 0.028~0.055 |
| 4   | 6,000~7,500             | 280~900 | 0.18~0.36   | 4,100~5,300                 | 190~600 | 0.18~0.36   | 2,600~3,300                 | 65~130 | 0.036~0.072 |
| 5   | 4,800~6,000             | 280~900 | 0.225~0.45  | 3,300~4,200                 | 190~600 | 0.225~0.45  | 2,100~2,600                 | 65~130 | 0.045~0.09  |
| 6   | 4,000~5,000             | 280~900 | 0.27~0.54   | 2,800~3,500                 | 190~600 | 0.27~0.54   | 1,750~2,600                 | 65~130 | 0.054~0.108 |

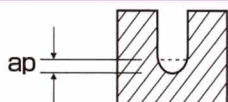


ap : 每一次之切削深度

# FXRB 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非合金鋼・合金鋼・鑄鐵<br>(~30HRC) |         |             | 合金鋼・耐熱合金<br>(30~45HRC)      |         |             | 硬質鋼<br>(45~55HRC)           |         |             |
|------|-------------------------|---------|-------------|-----------------------------|---------|-------------|-----------------------------|---------|-------------|
|      | ~1000 N/mm <sup>2</sup> |         |             | 1000~1500 N/mm <sup>2</sup> |         |             | 1500~2000 N/mm <sup>2</sup> |         |             |
|      | 強度                      | 回轉數     | 進刀速度        | ap                          | 回轉數     | 進刀速度        | ap                          | 回轉數     | 進刀速度        |
| R角   | min <sup>-1</sup>       | mm/min  | mm          | min <sup>-1</sup>           | mm/min  | mm          | min <sup>-1</sup>           | mm/min  | mm          |
| 0.2  | 31,000~40,000           | 175~490 | 0.018~0.036 | 22,500~28,500               | 88~270  | 0.018~0.036 | 14,300~18,000               | 88~175  | 0.004~0.007 |
| 0.25 | 31,000~40,000           | 175~490 | 0.023~0.045 | 22,500~28,500               | 88~270  | 0.023~0.045 | 14,300~18,000               | 88~175  | 0.005~0.009 |
| 0.3  | 31,000~40,000           | 225~630 | 0.027~0.054 | 22,500~28,500               | 110~350 | 0.027~0.054 | 14,300~18,000               | 110~225 | 0.005~0.011 |
| 0.4  | 31,000~40,000           | 225~630 | 0.036~0.072 | 22,500~28,500               | 110~350 | 0.036~0.072 | 14,300~18,000               | 110~225 | 0.007~0.014 |
| 0.5  | 29,000~36,500           | 250~700 | 0.045~0.09  | 20,500~26,000               | 125~390 | 0.045~0.09  | 13,000~16,300               | 125~250 | 0.009~0.018 |
| 0.6  | 24,000~30,500           | 250~780 | 0.055~0.1   | 17,000~21,500               | 125~390 | 0.055~0.1   | 10,800~13,700               | 125~250 | 0.01~0.022  |
| 0.7  | 21,000~26,000           | 250~780 | 0.062~0.125 | 15,000~18,000               | 125~390 | 0.062~0.125 | 9,400~11,700                | 125~250 | 0.012~0.025 |
| 0.75 | 19,000~24,000           | 250~780 | 0.07~0.135  | 13,500~17,500               | 125~390 | 0.07~0.135  | 8,700~10,700                | 125~250 | 0.014~0.028 |
| 0.8  | 18,000~23,500           | 250~780 | 0.075~0.145 | 13,200~16,500               | 125~390 | 0.075~0.145 | 8,300~10,400                | 125~250 | 0.015~0.03  |
| 0.9  | 17,000~21,500           | 250~780 | 0.08~0.16   | 12,000~15,000               | 125~390 | 0.08~0.16   | 7,400~9,400                 | 125~250 | 0.016~0.032 |
| 1    | 15,500~19,000           | 250~780 | 0.09~0.18   | 11,000~13,500               | 125~390 | 0.09~0.18   | 6,900~8,600                 | 125~250 | 0.018~0.035 |
| 1.5  | 10,500~13,000           | 250~780 | 0.135~0.27  | 7,000~9,000                 | 125~390 | 0.135~0.27  | 4,600~5,700                 | 125~250 | 0.028~0.055 |
| 2    | 8,500~11,000            | 250~780 | 0.18~0.36   | 5,800~7,800                 | 125~390 | 0.18~0.36   | 3,900~4,900                 | 125~250 | 0.035~0.07  |
| 2.5  | 6,800~8,800             | 250~780 | 0.225~0.45  | 4,600~6,200                 | 125~390 | 0.225~0.45  | 3,100~3,900                 | 125~250 | 0.044~0.088 |
| 3    | 5,700~7,300             | 250~780 | 0.27~0.54   | 3,900~5,200                 | 125~390 | 0.27~0.54   | 2,600~3,300                 | 125~250 | 0.053~0.105 |



ap : 每一次之切削深度

# WRE 圓齒全鎢鋼焊接粗銑刀

Weld Carbide Roughing End Mills with Round Tooth



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格           | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------|------------------|
| 14        | 32        | 16        | 90        | 3         | <b>5,000.00</b> | 25        | 45        | 25        | 127       | 5         | <b>9,000.00</b>  |
| 16        | 32        | 16        | 102       | 3         | <b>5,250.00</b> | 26        | 45        | 25        | 127       | 5         | <b>9,500.00</b>  |
| 18        | 32        | 20        | 110       | 3         | <b>5,500.00</b> | 30        | 53        | 32        | 139       | 5         | <b>10,250.00</b> |
| 20        | 38        | 20        | 110       | 4         | <b>6,250.00</b> | 32        | 53        | 32        | 139       | 5         | <b>11,000.00</b> |
| 22        | 38        | 20        | 110       | 4         | <b>6,750.00</b> | 35        | 55        | 32        | 155       | 5         | <b>15,500.00</b> |
| 24        | 38        | 20        | 120       | 4         | <b>7,250.00</b> | 40        | 65        | 42        | 180       | 6         | <b>23,750.00</b> |

# WREL 圓齒全鎢鋼焊接長刃粗銑刀

Weld Carbide Long Roughing End Mills with Round Tooth



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格            | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|------------------|-----------|-----------|-----------|-----------|-----------|------------------|
| 16        | 50        | 16        | 135       | 3         | <b>8,925.00</b>  | 32        | 130       | 32        | 260       | 5         | <b>26,250.00</b> |
| 20        | 60        | 20        | 160       | 4         | <b>10,625.00</b> | 33        | 53        | 32        | 200       | 5         | <b>16,500.00</b> |
| 25        | 75        | 25        | 160       | 5         | <b>14,000.00</b> | 35        | 80        | 32        | 200       | 5         | <b>20,500.00</b> |
| 25        | 90        | 25        | 190       | 5         | <b>15,750.00</b> | 35        | 110       | 32        | 230       | 5         | <b>23,750.00</b> |
| 26        | 45        | 25        | 200       | 5         | <b>13,250.00</b> | 35        | 130       | 32        | 260       | 5         | <b>28,750.00</b> |
| 30        | 80        | 32        | 200       | 5         | <b>17,250.00</b> | 40        | 80        | 42        | 210       | 6         | <b>30,000.00</b> |
| 30        | 110       | 32        | 230       | 5         | <b>20,000.00</b> | 40        | 110       | 42        | 240       | 6         | <b>35,500.00</b> |
| 30        | 130       | 32        | 250       | 5         | <b>22,500.00</b> | 40        | 130       | 42        | 260       | 6         | <b>41,250.00</b> |
| 32        | 80        | 32        | 200       | 5         | <b>18,500.00</b> | 40        | 160       | 42        | 290       | 6         | <b>47,500.00</b> |
| 32        | 110       | 32        | 230       | 5         | <b>22,000.00</b> |           |           |           |           |           |                  |

# WKC 圓齒全鎢鋼焊接T型銑刀

Weld Carbide T-Slot Cutters with Round Tooth



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|------------------|
| 39        | 16        | 25        | 115       | 6         | <b>9,500.00</b>  |
| 48        | 20        | 32        | 135       | 8         | <b>12,500.00</b> |

## WRE · WREL 切削條件參考表

Recommended Cutting Condition

| 被削材 | 鑄鐵                |        | 合金鋼               |        | 不銹鋼               |        |
|-----|-------------------|--------|-------------------|--------|-------------------|--------|
|     | FC                |        | SS · SC           |        | SUS               |        |
| 刃徑  | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 14  | 1,150             | 345    | 1,150             | 240    | 840               | 150    |
| 16  | 1,000             | 300    | 1,000             | 210    | 750               | 140    |
| 18  | 880               | 270    | 880               | 190    | 680               | 130    |
| 20  | 800               | 320    | 800               | 220    | 600               | 170    |
| 22  | 730               | 300    | 730               | 210    | 550               | 150    |
| 24  | 730               | 300    | 730               | 210    | 550               | 150    |
| 25  | 650               | 320    | 650               | 260    | 480               | 190    |
| 26  | 620               | 310    | 620               | 250    | 460               | 180    |
| 30  | 530               | 265    | 530               | 210    | 400               | 160    |
| 32  | 500               | 250    | 500               | 200    | 380               | 150    |
| 35  | 450               | 225    | 450               | 180    | 350               | 140    |
| 40  | 400               | 240    | 400               | 190    | 300               | 150    |

## WKC 切削條件參考表

Recommended Cutting Condition

| 被削材 | 鑄鐵                |        | 合金鋼               |        |
|-----|-------------------|--------|-------------------|--------|
|     | FC                |        | SS · SC           |        |
| 刃徑  | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 39  | 700               | 600    | 700               | 300    |
| 48  | 550               | 600    | 550               | 320    |

# FE 全鎢鋼超硬立銑刀

2&4-Flute End Mills

## FEM-2C



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格         |
|-----------|-----------|-----------|-----------|---------------|
| 1         | 3         | 4         | 50        | <b>980.00</b> |
| 1.5       | 4.5       | 4         | 50        | <b>980.00</b> |
| 2         | 6         | 4         | 50        | <b>980.00</b> |
| 2.5       | 7.5       | 4         | 50        | <b>980.00</b> |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 3         | 9         | 4         | 50        | <b>980.00</b>   |
| 4         | 12        | 4         | 50        | <b>980.00</b>   |
| 5         | 15        | 6         | 50        | <b>1,380.00</b> |
| 6         | 18        | 6         | 50        | <b>1,380.00</b> |

## FEL-2C



| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 1         | 4         | 4         | 50        | <b>1,000.00</b> |
| 1.5       | 6         | 4         | 50        | <b>1,000.00</b> |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 2         | 8         | 4         | 50        | <b>1,000.00</b> |
| 2.5       | 10        | 4         | 50        | <b>1,000.00</b> |

## FE-4C



| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 3         | 8         | 4         | 50        | <b>1,050.00</b> |
| 4         | 10        | 4         | 50        | <b>1,050.00</b> |
| 5         | 13        | 6         | 50        | <b>1,490.00</b> |
| 6         | 15        | 6         | 50        | <b>1,490.00</b> |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 8         | 20        | 8         | 60        | <b>1,680.00</b> |
| 10        | 25        | 10        | 75        | <b>2,750.00</b> |
| 12        | 30        | 12        | 75        | <b>3,770.00</b> |

# FAL 全鎢鋼超硬鋁用立銑刀

2&3-Flute End Mills for Aluminum



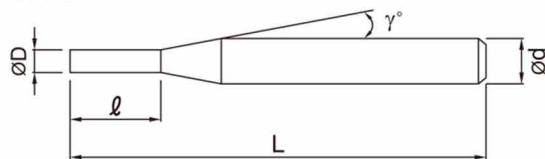
| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FAL-2<br>價(支)格 | FAL-3<br>價(支)格 |
|-----------|-----------|-----------|-----------|----------------|----------------|
| 2         | 6         | 4         | 50        | <b>690.00</b>  | <b>760.00</b>  |
| 3         | 9         | 4         | 50        | <b>690.00</b>  | <b>760.00</b>  |
| 4         | 12        | 4         | 50        | <b>690.00</b>  | <b>760.00</b>  |
| 5         | 15        | 6         | 50        | <b>820.00</b>  | <b>910.00</b>  |
| 6         | 18        | 6         | 50        | <b>820.00</b>  | <b>910.00</b>  |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FAL-2<br>價(支)格  | FAL-3<br>價(支)格  |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 8         | 22        | 8         | 60        | <b>1,450.00</b> | <b>1,590.00</b> |
| 10        | 28        | 10        | 75        | <b>2,300.00</b> | <b>2,530.00</b> |
| 12        | 30        | 12        | 75        | <b>3,200.00</b> | <b>3,520.00</b> |
| 16        | 32        | 16        | 100       | <b>7,660.00</b> | <b>8,430.00</b> |



# FCS 全鎢鋼超硬立銑刀

2-Flute End Mills



單位：mm

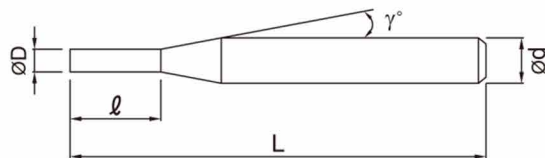


| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FCS-2 價(支)格 | FCS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 1      | 2.5    | 4      | 50     | 490.00      | 560.00       |
| 1.5    | 4      | 4      | 50     | 490.00      | 560.00       |
| 2      | 5      | 4      | 50     | 490.00      | 560.00       |
| 2.5    | 6      | 4      | 50     | 490.00      | 560.00       |
| 3      | 8      | 4      | 50     | 490.00      | 560.00       |
| 3.5    | 9      | 4      | 50     | 590.00      | 680.00       |
| 4      | 10     | 4      | 50     | 490.00      | 560.00       |
| 4.5    | 11     | 6      | 50     | 760.00      | 840.00       |
| 5      | 13     | 6      | 50     | 630.00      | 700.00       |
| 5.5    | 14     | 6      | 50     | 760.00      | 840.00       |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FCS-2 價(支)格 | FCS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 6      | 15     | 6      | 50     | 630.00      | 700.00       |
| 6.5    | 18     | 8      | 60     | 1,500.00    | 1,680.00     |
| 7      | 18     | 8      | 60     | 1,250.00    | 1,400.00     |
| 7.5    | 20     | 8      | 60     | 1,500.00    | 1,680.00     |
| 8      | 20     | 8      | 60     | 1,250.00    | 1,400.00     |
| 8.5    | 20     | 10     | 75     | 2,680.00    | 2,880.00     |
| 9      | 22     | 10     | 75     | 2,680.00    | 2,880.00     |
| 10     | 25     | 10     | 75     | 2,230.00    | 2,400.00     |
| 11     | 25     | 12     | 75     | 3,390.00    | 3,630.00     |
| 12     | 30     | 12     | 75     | 3,080.00    | 3,300.00     |

# FTS 全鎢鋼超硬立銑刀

2-Flute End Mills

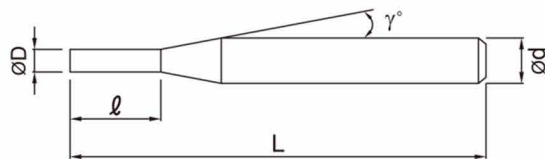


| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FTS-2 價(支)格 | FTS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 1      | 2.5    | 6      | 50     | 630.00      | 700.00       |
| 1.5    | 4      | 6      | 50     | 630.00      | 700.00       |
| 2      | 5      | 6      | 50     | 630.00      | 700.00       |
| 2.5    | 6      | 6      | 50     | 630.00      | 700.00       |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FTS-2 價(支)格 | FTS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 3      | 8      | 6      | 50     | 630.00      | 700.00       |
| 3.5    | 9      | 6      | 50     | 760.00      | 840.00       |
| 4      | 10     | 6      | 50     | 630.00      | 700.00       |

# FSE 短刃全鎢鋼超硬立銑刀

2-Flute Short End Mills

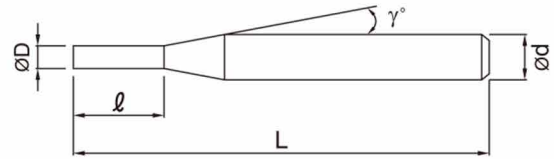


| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FSE-2 價(支)格 | FSE-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 1      | 1      | 4      | 50     | 850.00      | 950.00       |
| 1.5    | 1.5    | 4      | 50     | 850.00      | 950.00       |
| 2      | 2      | 4      | 50     | 850.00      | 950.00       |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FSE-2 價(支)格 | FSE-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 2.5    | 2.5    | 4      | 50     | 850.00      | 950.00       |
| 3      | 3      | 4      | 50     | 850.00      | 950.00       |
| 4      | 4      | 4      | 50     | 850.00      | 950.00       |

# FCS 全鎢鋼超硬立銑刀

2-Flute End Mills



單位：mm

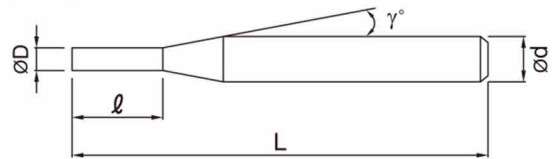
MG 超硬 TIAN 2 30 55 HRC 點數位規格

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FCS-2 價(支)格 | FCS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 1.1    | 4      | 4      | 50     | 990.00      | 1,060.00     |
| 1.2    | 4      | 4      | 50     | 990.00      | 1,060.00     |
| 1.3    | 4      | 4      | 50     | 990.00      | 1,060.00     |
| 1.4    | 4      | 4      | 50     | 990.00      | 1,060.00     |
| 1.6    | 6      | 4      | 50     | 990.00      | 1,060.00     |
| 1.7    | 6      | 4      | 50     | 990.00      | 1,060.00     |
| 1.8    | 6      | 4      | 50     | 990.00      | 1,060.00     |
| 1.9    | 6      | 4      | 50     | 990.00      | 1,060.00     |
| 2.1    | 8      | 4      | 50     | 990.00      | 1,060.00     |
| 2.2    | 8      | 4      | 50     | 990.00      | 1,060.00     |
| 2.3    | 8      | 4      | 50     | 990.00      | 1,060.00     |
| 2.4    | 8      | 4      | 50     | 990.00      | 1,060.00     |
| 2.6    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 2.7    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 2.8    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 2.9    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.1    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.2    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.3    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.4    | 10     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.6    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.7    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.8    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 3.9    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.1    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.2    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.3    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.4    | 12     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.6    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.7    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.8    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 4.9    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.1    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.2    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.3    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.4    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.6    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.7    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.8    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 5.9    | 15     | 6      | 50     | 1,170.00    | 1,240.00     |
| 6.1    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.2    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.3    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.4    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FCS-2 價(支)格 | FCS-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|
| 6.6    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.7    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.8    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 6.9    | 18     | 8      | 60     | 1,710.00    | 1,860.00     |
| 7.1    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.2    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.3    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.4    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.6    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.7    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.8    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 7.9    | 18     | 8      | 60     | 1,850.00    | 2,000.00     |
| 8.1    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.2    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.3    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.4    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.6    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.7    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.8    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 8.9    | 22     | 10     | 75     | 2,510.00    | 2,680.00     |
| 9.1    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.2    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.3    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.4    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.6    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.7    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.8    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 9.9    | 22     | 10     | 75     | 2,670.00    | 2,840.00     |
| 10.1   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.2   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.3   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.4   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.6   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.7   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.8   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 10.9   | 25     | 12     | 75     | 3,480.00    | 3,700.00     |
| 11.1   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.2   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.3   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.4   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.6   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.7   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.8   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |
| 11.9   | 25     | 12     | 75     | 3,660.00    | 3,880.00     |

# FCS 全鎢鋼超硬立銑刀

4-Flute End Mills



單位：mm

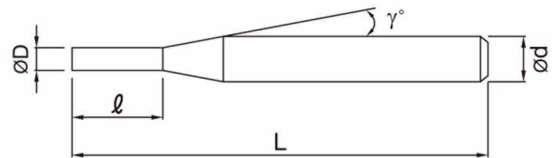


| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FCS-4<br>價(支)格 | FCS-4C<br>價(支)格 |
|-----------|-----------|-----------|-----------|----------------|-----------------|
| 3         | 8         | 6         | 50        | 700.00         | 770.00          |
| 3.5       | 9         | 6         | 50        | 840.00         | 930.00          |
| 4         | 10        | 6         | 50        | 700.00         | 770.00          |
| 5         | 13        | 6         | 50        | 700.00         | 770.00          |
| 6         | 15        | 6         | 50        | 700.00         | 770.00          |
| 7         | 18        | 8         | 60        | 1,380.00       | 1,540.00        |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FCS-4<br>價(支)格 | FCS-4C<br>價(支)格 |
|-----------|-----------|-----------|-----------|----------------|-----------------|
| 8         | 20        | 8         | 60        | 1,380.00       | 1,540.00        |
| 9         | 22        | 10        | 75        | 2,950.00       | 3,170.00        |
| 10        | 25        | 10        | 75        | 2,460.00       | 2,640.00        |
| 11        | 25        | 12        | 75        | 3,730.00       | 4,000.00        |
| 12        | 30        | 12        | 75        | 3,390.00       | 3,630.00        |

# FWM 全鎢鋼超硬小徑立銑刀

2-Flute Miniature End Mills

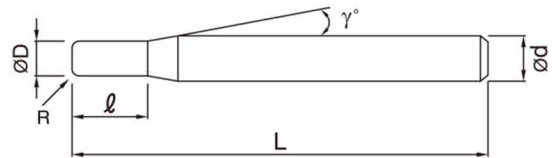


| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FWM-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|
| 0.2       | 0.5       | 4         | 50        | 2,400.00        |
| 0.3       | 0.6       | 4         | 50        | 2,000.00        |
| 0.4       | 0.8       | 4         | 50        | 2,000.00        |
| 0.5       | 1         | 4         | 50        | 1,700.00        |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FWM-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|
| 0.6       | 1.2       | 4         | 50        | 1,700.00        |
| 0.7       | 1.4       | 4         | 50        | 1,400.00        |
| 0.8       | 1.6       | 4         | 50        | 1,400.00        |
| 0.9       | 1.8       | 4         | 50        | 1,400.00        |

# FSR 全鎢鋼超硬端角R立銑刀

2&4-Flute Radius End Mills



- \* M4以上是四刃型FSR-4。
- \* 專為鎂合金3C製品設計之刃長及R角。
- \* 專為鎂合金專用加工之切削角。

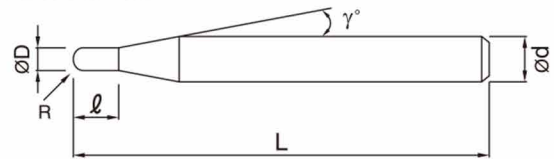
俗稱：圓鼻刀

| 刃徑<br>(D) | R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FSR<br>價(支)格 | FSR-C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------|--------------|----------------|
| 2         | 0.1       | 10        | 4         | 60        | 1,950.00     | 2,080.00       |
| 3         | 0.1       | 15        | 4         | 60        | 1,950.00     | 2,080.00       |
| 3.5       | 0.2       | 15        | 4         | 60        | 1,950.00     | 2,080.00       |
| 4         | 0.2       | 20        | 4         | 60        | 1,950.00     | 2,080.00       |
| 5         | 0.2       | 25        | 6         | 60        | 3,400.00     | 3,530.00       |
| 6         | 0.2       | 25        | 6         | 65        | 3,400.00     | 3,530.00       |

| 刃徑<br>(D) | R角<br>(R) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | FSR<br>價(支)格 | FSR-C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------|--------------|----------------|
| 7         | 0.2       | 25        | 8         | 70        | 3,750.00     | 3,980.00       |
| 8         | 0.3       | 25        | 8         | 70        | 3,750.00     | 3,980.00       |
| 10        | 0.5       | 25        | 10        | 80        | 5,450.00     | 5,840.00       |
| 12        | 0.5       | 30        | 12        | 80        | 6,450.00     | 6,900.00       |
| 13        | 0.5       | 30        | 14        | 80        | 7,500.00     | 8,050.00       |
| 14        | 0.5       | 30        | 14        | 80        | 8,000.00     | 8,550.00       |

# FRM 全鎢鋼超硬小徑圓球立銑刀

2-Flute Miniature End Mills



單位：mm

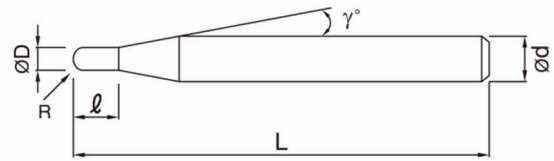


| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FRM-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|
| 0.1       | 0.4       | 4         | 50        | <b>2,780.00</b> |
| 0.15      | 0.6       | 4         | 50        | <b>2,700.00</b> |
| 0.2       | 0.8       | 4         | 50        | <b>2,700.00</b> |
| 0.25      | 1         | 4         | 50        | <b>2,400.00</b> |
| 0.3       | 1.2       | 4         | 50        | <b>2,400.00</b> |
| 0.35      | 1.4       | 4         | 50        | <b>2,100.00</b> |

| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FRM-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|
| 0.4       | 1.6       | 4         | 50        | <b>2,100.00</b> |
| 0.45      | 1.8       | 4         | 50        | <b>2,100.00</b> |
| 0.6       | 2.4       | 4         | 50        | <b>1,800.00</b> |
| 0.7       | 2.8       | 4         | 50        | <b>1,800.00</b> |
| 0.8       | 3.2       | 4         | 50        | <b>1,800.00</b> |
| 0.9       | 3.6       | 4         | 50        | <b>1,800.00</b> |

# FB 全鎢鋼超硬圓球立銑刀

2-Flute Ball End Mills



單位：mm



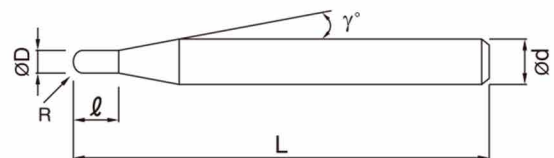
\* 適用於模具三次元加工上之經濟實惠型刀具。

| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FB-2<br>價(支)格 | FB-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|---------------|----------------|
| 0.5       | 2         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |
| 0.75      | 3         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |
| 1         | 4         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |
| 1.25      | 5         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |
| 1.5       | 6         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |
| 2         | 8         | 4         | 50        | <b>650.00</b> | <b>720.00</b>  |

| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FB-2<br>價(支)格   | FB-2C<br>價(支)格  |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 2.5       | 10        | 6         | 50        | <b>790.00</b>   | <b>860.00</b>   |
| 3         | 12        | 6         | 50        | <b>790.00</b>   | <b>860.00</b>   |
| 3.5       | 14        | 8         | 60        | <b>1,550.00</b> | <b>1,700.00</b> |
| 4         | 16        | 8         | 60        | <b>1,550.00</b> | <b>1,700.00</b> |
| 5         | 22        | 10        | 75        | <b>2,430.00</b> | <b>2,600.00</b> |
| 6         | 24        | 12        | 75        | <b>3,380.00</b> | <b>3,600.00</b> |

# FBL 全鎢鋼超硬長柄圓球立銑刀

2-Flute Long Reach Ball End Mills



單位：mm



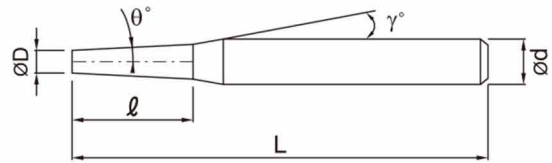
\* 長柄適用於落差較大之三次元模具加工。

| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FBL-2<br>價(支)格  | FBL-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 1         | 4         | 6         | 75        | <b>1,180.00</b> | <b>1,280.00</b> |
| 1.5       | 6         | 6         | 75        | <b>1,180.00</b> | <b>1,280.00</b> |
| 2         | 8         | 6         | 75        | <b>1,180.00</b> | <b>1,280.00</b> |
| 3         | 12        | 6         | 100       | <b>1,180.00</b> | <b>1,280.00</b> |

| R角<br>(R) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | FBL-2<br>價(支)格  | FBL-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 4         | 16        | 8         | 100       | <b>2,190.00</b> | <b>2,400.00</b> |
| 5         | 20        | 10        | 100       | <b>3,090.00</b> | <b>3,300.00</b> |
| 6         | 24        | 12        | 100       | <b>4,230.00</b> | <b>4,500.00</b> |

# FTE-2C 全鎢鋼超硬斜刃立銑刀

2-Flute Taper End Mills

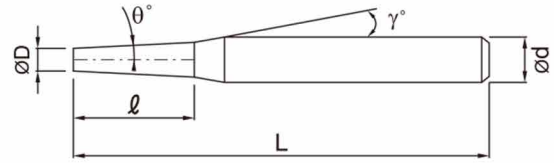


單位：mm

| 先端徑<br>(D) | 單角<br>(θ) | 刃長<br>(l) | 粗端徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|------------|-----------|-----------|--------------------------|-----------|-----------|----------|
| 1          | 30'       | 4         | 1.07                     | 4         | 50        | 1,260.00 |
| 1          | 1°        | 4         | 1.14                     | 4         | 50        | 1,260.00 |
| 1          | 1°30'     | 4         | 1.21                     | 4         | 50        | 1,260.00 |
| 1          | 2°        | 4         | 1.28                     | 4         | 50        | 1,260.00 |
| 1          | 2°30'     | 4         | 1.35                     | 4         | 50        | 1,260.00 |
| 1          | 3°        | 4         | 1.42                     | 4         | 50        | 1,260.00 |
| 1          | 5°        | 4         | 1.7                      | 4         | 50        | 1,640.00 |
| 1          | 7°        | 4         | 1.98                     | 4         | 50        | 1,640.00 |
| 1          | 10°       | 4         | 2.41                     | 4         | 50        | 1,640.00 |
| 1.5        | 30'       | 5         | 1.59                     | 4         | 50        | 1,260.00 |
| 1.5        | 1°        | 5         | 1.67                     | 4         | 50        | 1,260.00 |
| 1.5        | 1°30'     | 5         | 1.76                     | 4         | 50        | 1,260.00 |
| 1.5        | 2°        | 5         | 1.85                     | 4         | 50        | 1,260.00 |
| 1.5        | 2°30'     | 5         | 1.93                     | 4         | 50        | 1,260.00 |
| 1.5        | 3°        | 5         | 2.02                     | 4         | 50        | 1,260.00 |
| 1.5        | 5°        | 5         | 2.37                     | 4         | 50        | 1,640.00 |
| 1.5        | 7°        | 5         | 2.72                     | 4         | 50        | 1,640.00 |
| 1.5        | 10°       | 5         | 3.26                     | 4         | 50        | 1,640.00 |
| 2          | 30'       | 6         | 2.1                      | 4         | 50        | 1,260.00 |
| 2          | 1°        | 6         | 2.21                     | 4         | 50        | 1,260.00 |
| 2          | 1°30'     | 6         | 2.31                     | 4         | 50        | 1,260.00 |
| 2          | 2°        | 6         | 2.41                     | 4         | 50        | 1,260.00 |
| 2          | 2°30'     | 6         | 2.52                     | 4         | 50        | 1,260.00 |
| 2          | 3°        | 6         | 2.62                     | 4         | 50        | 1,260.00 |
| 2          | 5°        | 6         | 3.05                     | 4         | 50        | 1,640.00 |
| 2          | 7°        | 6         | 3.47                     | 4         | 50        | 1,800.00 |
| 2          | 10°       | 6         | 4.12                     | 4         | 50        | 1,980.00 |
| 2.5        | 30'       | 8         | 2.64                     | 4         | 50        | 1,260.00 |
| 2.5        | 1°        | 8         | 2.78                     | 4         | 50        | 1,260.00 |
| 2.5        | 1°30'     | 8         | 2.91                     | 4         | 50        | 1,260.00 |
| 2.5        | 2°        | 8         | 3.05                     | 4         | 50        | 1,260.00 |
| 2.5        | 2°30'     | 8         | 3.2                      | 4         | 50        | 1,260.00 |
| 2.5        | 3°        | 8         | 3.33                     | 6         | 50        | 1,260.00 |
| 2.5        | 5°        | 8         | 3.9                      | 6         | 50        | 1,800.00 |
| 2.5        | 7°        | 8         | 4.46                     | 6         | 50        | 1,800.00 |
| 2.5        | 10°       | 8         | 5.32                     | 6         | 50        | 1,980.00 |
| 3          | 30'       | 10        | 3.17                     | 6         | 50        | 1,420.00 |
| 3          | 1°        | 10        | 3.35                     | 6         | 50        | 1,420.00 |
| 3          | 1°30'     | 10        | 3.52                     | 6         | 50        | 1,420.00 |
| 3          | 2°        | 10        | 3.69                     | 6         | 50        | 1,420.00 |
| 3          | 2°30'     | 10        | 3.87                     | 6         | 50        | 1,420.00 |
| 3          | 3°        | 10        | 4.05                     | 6         | 50        | 1,420.00 |
| 3          | 5°        | 10        | 4.75                     | 6         | 50        | 1,800.00 |

# FTE-2C 全鎢鋼超硬斜刃立銑刀

2-Flute Taper End Mills

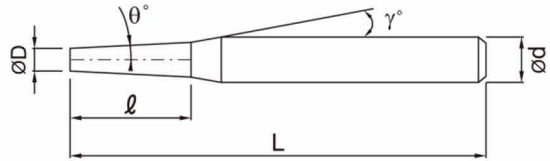


單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $\ell$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格     |
|------------|--------------------|------------------|------------------|-----------|-----------|-----------|
| 3          | 7°                 | 10               | 5.45             | 6         | 50        | 1,800.00  |
| 3          | 10°                | 10               | 6.53             | 6         | 50        | 3,160.00  |
| 4          | 30'                | 15               | 4.26             | 6         | 50        | 1,540.00  |
| 4          | 1°                 | 15               | 4.52             | 6         | 50        | 1,540.00  |
| 4          | 1°30'              | 15               | 4.79             | 6         | 50        | 1,540.00  |
| 4          | 2°                 | 15               | 5.04             | 6         | 50        | 1,540.00  |
| 4          | 2°30'              | 15               | 5.31             | 6         | 50        | 1,540.00  |
| 4          | 3°                 | 15               | 5.57             | 6         | 50        | 1,540.00  |
| 4          | 5°                 | 15               | 6.62             | 6         | 50        | 3,160.00  |
| 4          | 7°                 | 15               | 7.68             | 8         | 60        | 3,500.00  |
| 4          | 10°                | 15               | 9.3              | 8         | 60        | 4,560.00  |
| 5          | 30'                | 20               | 5.34             | 6         | 60        | 1,720.00  |
| 5          | 1°                 | 20               | 5.7              | 6         | 60        | 1,720.00  |
| 5          | 1°30'              | 20               | 6.04             | 6         | 60        | 2,660.00  |
| 5          | 2°                 | 20               | 6.39             | 6         | 60        | 2,660.00  |
| 5          | 2°30'              | 20               | 6.74             | 6         | 60        | 2,960.00  |
| 5          | 3°                 | 20               | 7.1              | 6         | 60        | 3,240.00  |
| 5          | 5°                 | 20               | 8.5              | 8         | 75        | 4,100.00  |
| 5          | 7°                 | 20               | 9.91             | 8         | 75        | 4,720.00  |
| 5          | 10°                | 20               | 12.05            | 12        | 75        | 5,240.00  |
| 6          | 30'                | 20               | 6.35             | 6         | 60        | 2,800.00  |
| 6          | 1°                 | 20               | 6.7              | 6         | 60        | 2,800.00  |
| 6          | 1°30'              | 20               | 7.05             | 6         | 60        | 2,860.00  |
| 6          | 2°                 | 20               | 7.4              | 6         | 60        | 2,860.00  |
| 6          | 2°30'              | 20               | 7.75             | 6         | 60        | 3,160.00  |
| 6          | 3°                 | 20               | 8.1              | 8         | 60        | 4,300.00  |
| 6          | 5°                 | 20               | 9.5              | 8         | 75        | 4,720.00  |
| 6          | 7°                 | 20               | 10.91            | 10        | 75        | 5,120.00  |
| 6          | 10°                | 20               | 13.05            | 12        | 75        | 7,140.00  |
| 8          | 30'                | 25               | 8.44             | 8         | 75        | 4,520.00  |
| 8          | 1°                 | 25               | 8.87             | 8         | 75        | 4,520.00  |
| 8          | 1°30'              | 25               | 9.31             | 8         | 75        | 4,520.00  |
| 8          | 2°                 | 25               | 9.74             | 8         | 75        | 5,120.00  |
| 8          | 2°30'              | 25               | 10.18            | 10        | 100       | 5,420.00  |
| 8          | 3°                 | 25               | 10.62            | 10        | 100       | 5,420.00  |
| 8          | 5°                 | 25               | 12.37            | 12        | 100       | 6,400.00  |
| 10         | 30'                | 35               | 10.61            | 10        | 100       | 5,640.00  |
| 10         | 1°                 | 35               | 11.22            | 10        | 100       | 5,640.00  |
| 10         | 1°30'              | 35               | 11.83            | 10        | 100       | 7,180.00  |
| 10         | 2°                 | 35               | 12.44            | 12        | 100       | 7,260.00  |
| 10         | 2°30'              | 35               | 13.06            | 12        | 100       | 8,120.00  |
| 10         | 3°                 | 35               | 13.37            | 12        | 100       | 9,040.00  |
| 10         | 5°                 | 35               | 16.12            | 16        | 100       | 11,020.00 |

# FTEL-2C 全鎢鋼超硬長刃斜刃立銑刀

2-Flute Long Taper End Mills



單位：mm

| 先端徑<br>(D) | 單角<br>(θ) | 刃長<br>(l) | 粗端徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|------------|-----------|-----------|--------------------------|-----------|-----------|----------|
| 2          | 30'       | 13        | 2.22                     | 4         | 50        | 1,640.00 |
| 2          | 1°        | 13        | 2.45                     | 4         | 50        | 1,640.00 |
| 2          | 1°30'     | 13        | 2.68                     | 4         | 50        | 1,640.00 |
| 2          | 2°        | 13        | 2.9                      | 4         | 50        | 1,640.00 |
| 2          | 2°30'     | 13        | 3.13                     | 4         | 50        | 1,640.00 |
| 2          | 3°        | 13        | 3.36                     | 4         | 50        | 1,640.00 |
| 2          | 5°        | 13        | 4.27                     | 6         | 50        | 2,600.00 |
| 2.5        | 30'       | 15        | 2.76                     | 4         | 50        | 1,840.00 |
| 2.5        | 1°        | 15        | 3.03                     | 4         | 50        | 1,840.00 |
| 2.5        | 1°30'     | 15        | 3.29                     | 4         | 50        | 1,840.00 |
| 2.5        | 2°        | 15        | 3.55                     | 4         | 50        | 1,840.00 |
| 2.5        | 2°30'     | 15        | 3.81                     | 4         | 50        | 1,840.00 |
| 2.5        | 3°        | 15        | 4.07                     | 6         | 50        | 1,840.00 |
| 2.5        | 5°        | 15        | 5.13                     | 6         | 50        | 2,600.00 |
| 3          | 30'       | 20        | 3.35                     | 6         | 60        | 2,080.00 |
| 3          | 1°        | 20        | 3.7                      | 6         | 60        | 2,080.00 |
| 3          | 1°30'     | 20        | 4.05                     | 6         | 60        | 2,080.00 |
| 3          | 2°        | 20        | 4.39                     | 6         | 60        | 2,080.00 |
| 3          | 2°30'     | 20        | 4.75                     | 6         | 60        | 2,080.00 |
| 3          | 3°        | 20        | 5.1                      | 6         | 60        | 2,080.00 |
| 3          | 5°        | 20        | 6.5                      | 6         | 60        | 3,470.00 |
| 4          | 30'       | 25        | 4.44                     | 6         | 75        | 2,500.00 |
| 4          | 1°        | 25        | 4.88                     | 6         | 75        | 2,500.00 |
| 4          | 1°30'     | 25        | 5.31                     | 6         | 75        | 2,500.00 |
| 4          | 2°        | 25        | 5.75                     | 6         | 75        | 2,500.00 |
| 4          | 2°30'     | 25        | 6.19                     | 6         | 75        | 3,520.00 |
| 4          | 3°        | 25        | 6.62                     | 6         | 75        | 3,520.00 |
| 4          | 5°        | 25        | 8.38                     | 8         | 75        | 4,320.00 |
| 5          | 30'       | 30        | 5.52                     | 6         | 75        | 3,240.00 |
| 5          | 1°        | 30        | 6.05                     | 6         | 75        | 4,360.00 |
| 5          | 1°30'     | 30        | 6.57                     | 6         | 75        | 4,360.00 |
| 5          | 2°        | 30        | 7.09                     | 6         | 75        | 4,360.00 |
| 5          | 2°30'     | 30        | 7.62                     | 6         | 75        | 4,720.00 |
| 5          | 3°        | 30        | 8.14                     | 8         | 75        | 5,140.00 |
| 5          | 5°        | 30        | 10.25                    | 10        | 75        | 6,280.00 |
| 6          | 30'       | 35        | 6.61                     | 6         | 100       | 4,840.00 |
| 6          | 1°        | 35        | 7.22                     | 6         | 100       | 4,840.00 |
| 6          | 1°30'     | 35        | 7.83                     | 6         | 100       | 4,840.00 |
| 6          | 2°        | 35        | 8.44                     | 8         | 100       | 6,040.00 |
| 6          | 2°30'     | 35        | 9.05                     | 8         | 100       | 6,920.00 |
| 6          | 3°        | 35        | 9.67                     | 8         | 100       | 7,160.00 |
| 6          | 5°        | 35        | 12.12                    | 12        | 100       | 9,900.00 |

## PE 強力立銑刀

2 · 3&4-Flute Power End Mills

### PE-2

柄徑公差：h6



#### 優點：

- \* 最鋒利之切削角50°。
- \* 全支為SKH57最高級品含鈷鋼13%。
- \* 排屑快、切削穩。
- \* 最適用於SUS、SKD、NAK難削材加工。

### PE-3

柄徑公差：h6



- \* 為粗、細加工兼用之刀具。
- \* 進刀速度為螺旋角30°之2倍。
- \* 溝切劑為刃徑的一倍，勝任綽綽有餘。
- \* 側面切削時其切削面傾斜度幾乎零。
- \* 不起熱，相當安靜的切削工具。

### PE-4

柄徑公差：h6



#### 注意：

- \* 請使用把握力強的高精度刀具夾具。
- \* 因為重切削，建議使用水溶性切削油。
- \* 切削油的注油方式，請以追趕刀具底部之方式行之。

\* 切削條件參考表P124。 單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | PE-2<br>價(支)格 | PE-3<br>價(支)格 | PE-4<br>價(支)格 |
|-----------|-----------|-----------|-----------|---------------|---------------|---------------|
| 2         | 4         | 6         | 60        | 1,293.00      | -             | -             |
| 4         | 10        | 6         | 60        | 1,293.00      | -             | -             |
| 6         | 15        | 6         | 65        | 1,293.00      | 1,076.00      | 1,293.00      |
| 7         | 20        | 8         | 75        | 1,608.00      | 1,518.00      | -             |
| 8         | 20        | 8         | 75        | 1,608.00      | 1,434.00      | 1,608.00      |
| 9         | 25        | 10        | 90        | 2,154.00      | 1,988.00      | -             |
| 10        | 25        | 10        | 90        | 2,154.00      | -             | 2,154.00      |
| 11        | 30        | 12        | 95        | 2,461.00      | 2,288.00      | -             |
| 12        | 30        | 12        | 95        | 2,461.00      | 2,159.00      | 2,461.00      |
| 13        | 30        | 16        | 100       | -             | 3,752.00      | -             |
| 16        | 35        | 16        | 110       | -             | -             | 4,231.00      |
| 17        | 40        | 20        | 120       | -             | 5,830.00      | -             |
| 18        | 40        | 20        | 120       | -             | 5,830.00      | 6,074.00      |
| 19        | 45        | 20        | 125       | -             | 5,817.00      | -             |
| 20        | 45        | 20        | 125       | -             | 5,817.00      | 6,483.00      |
| 22        | 45        | 20        | 125       | -             | 9,338.00      | -             |
| 23        | 50        | 25        | 140       | -             | 10,088.00     | -             |
| 24        | 50        | 25        | 140       | -             | 9,926.00      | -             |
| 25        | 50        | 25        | 140       | -             | 9,482.00      | 10,773.00     |
| 26        | 50        | 25        | 140       | -             | 14,798.00     | -             |
| 30        | 65        | 25        | 150       | -             | -             | 17,256.00     |
| 32        | 65        | 32        | 150       | -             | -             | 18,634.00     |
| 35        | 70        | 32        | 150       | -             | -             | 20,826.00     |
| 40        | 85        | 32        | 180       | -             | -             | 25,839.00     |
| 45        | 85        | 42        | 180       | -             | -             | 30,182.00     |



## PES 強力短刃立銑刀

2 · 3&4-Flute Power Short End Mills

### PES-2

柄徑公差：h6



### PES-3

柄徑公差：h6



### PES-4

柄徑公差：h6

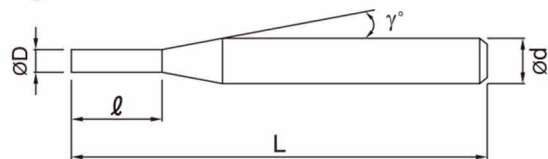


單位：mm

| 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | PES-2 價(支)格     | PES-3 價(支)格     | 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | PES-3 價(支)格      | PES-4 價(支)格      |
|--------|--------|--------|--------|-----------------|-----------------|--------|--------|--------|--------|------------------|------------------|
| 5      | 10     | 8      | 55     | <b>1,601.00</b> | —               | 23     | 35     | 25     | 100    | <b>11,628.00</b> | —                |
| 7      | 13     | 10     | 60     | <b>2,161.00</b> | —               | 24     | 35     | 25     | 100    | <b>11,628.00</b> | —                |
| 9      | 15     | 12     | 65     | <b>2,461.00</b> | —               | 25     | 35     | 25     | 100    | <b>11,628.00</b> | —                |
| 11     | 17     | 12     | 70     | <b>2,461.00</b> | —               | 26     | 35     | 25     | 100    | <b>14,381.00</b> | —                |
| 13     | 22     | 16     | 80     | —               | <b>4,455.00</b> | 27     | 35     | 25     | 100    | <b>14,381.00</b> | —                |
| 14     | 22     | 16     | 80     | —               | <b>4,455.00</b> | 28     | 35     | 25     | 100    | <b>14,381.00</b> | —                |
| 15     | 22     | 16     | 80     | —               | <b>4,877.00</b> | 29     | 35     | 25     | 100    | <b>14,381.00</b> | —                |
| 16     | 25     | 16     | 90     | —               | <b>4,877.00</b> | 30     | 35     | 25     | 100    | <b>14,381.00</b> | —                |
| 17     | 25     | 20     | 90     | —               | <b>6,764.00</b> | 32     | 45     | 32     | 125    | —                | <b>18,650.00</b> |
| 18     | 25     | 20     | 90     | —               | <b>6,764.00</b> | 35     | 45     | 32     | 125    | —                | <b>20,799.00</b> |
| 19     | 25     | 20     | 90     | <b>7,198.00</b> | —               | 40     | 50     | 32     | 140    | —                | <b>25,826.00</b> |
| 20     | 30     | 20     | 90     | <b>7,198.00</b> | —               | 40     | 50     | 42     | 140    | —                | <b>26,306.00</b> |
| 21     | 35     | 25     | 100    | <b>9,499.00</b> | —               | 45     | 60     | 42     | 150    | —                | <b>30,207.00</b> |
| 22     | 35     | 25     | 100    | <b>9,499.00</b> | —               | 50     | 70     | 42     | 160    | —                | <b>40,140.00</b> |

## PEL 強力長刃立銑刀

2&3-Flute Power Long End Mills



\* 硬度68HRC、含鈷13%、全支無熔接。

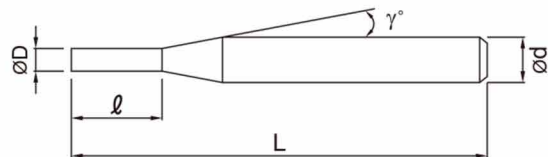
單位：mm

| 刃徑  | 刃長  | 柄徑  | 全長  | PEL-2           | PEL-3           |
|-----|-----|-----|-----|-----------------|-----------------|
| (D) | (l) | (d) | (L) | 價(支)格           | 價(支)格           |
| 8   | 35  | 8   | 90  | <b>2,028.00</b> | <b>2,028.00</b> |
| 10  | 45  | 10  | 110 | <b>2,597.00</b> | -               |
| 12  | 55  | 12  | 120 | <b>3,379.00</b> | -               |

| 刃徑  | 刃長  | 柄徑  | 全長  | PEL-3            |
|-----|-----|-----|-----|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            |
| 25  | 105 | 25  | 190 | <b>17,234.00</b> |
| 30  | 105 | 25  | 190 | <b>25,157.00</b> |

## PE-3 鍍膜處理強力立銑刀

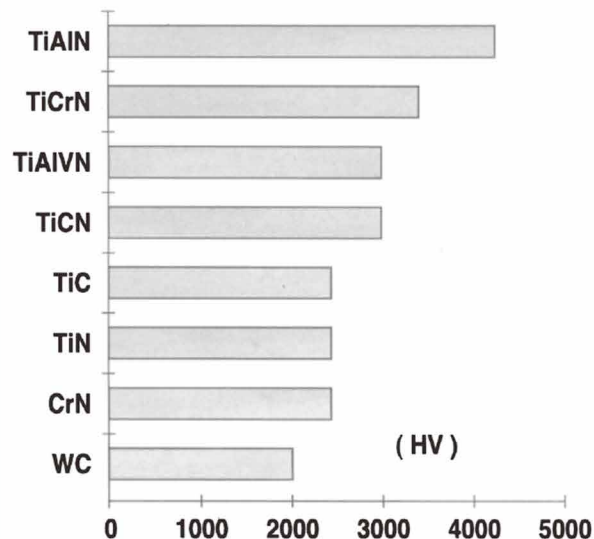
3-Flute Power End Mills with Coating



單位：mm

| 刃徑  | 刃長  | 柄徑  | 全長  | PE-3G           | PE-3X           |
|-----|-----|-----|-----|-----------------|-----------------|
| (D) | (l) | (d) | (L) | 價(支)格           | 價(支)格           |
| 8   | 20  | 8   | 75  | <b>1,864.00</b> | <b>1,936.00</b> |
| 12  | 30  | 12  | 95  | <b>2,807.00</b> | <b>2,915.00</b> |

| 刃徑  | 刃長  | 柄徑  | 全長  | PE-3G            | PE-3X            |
|-----|-----|-----|-----|------------------|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            | 價(支)格            |
| 20  | 45  | 20  | 125 | <b>7,562.00</b>  | <b>7,853.00</b>  |
| 25  | 50  | 25  | 140 | <b>12,327.00</b> | <b>12,801.00</b> |

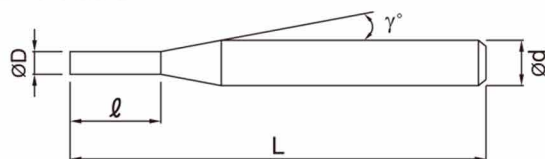


各種鍍膜之硬度及性質比較表

| 鍍膜     | 硬度 (HV) | 磨擦係數 (N) | 耐熱 (°C) |
|--------|---------|----------|---------|
| WC     | 2,050   | -        | -       |
| CrN    | 2,350   | 10       | -       |
| TiN    | 2,400   | 55       | 500     |
| TiC    | 2,400   | 45       | -       |
| TiCN   | 3,000   | 65       | 400     |
| TiAlVN | 3,000   | 75       | 1,000   |
| TiCrN  | 2,500   | 75       | -       |
| TiAlN  | 4,200   | 70       | 850     |

## HPE-2 表面硬化處理強力立銑刀

2-Flute Power End Mills



\* 黑色含鈷13%，硬度69HRC，全支無熔接。  
\* 可切削NAK、HPM1、HPM2(日立鋼材)。

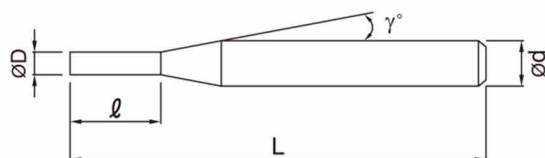
單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格         |
|--------|--------|--------|--------|---------------|
| 4      | 12     | 6      | 50     | <b>830.00</b> |
| 5      | 13     | 6      | 50     | <b>830.00</b> |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|-----------------|
| 8      | 20     | 8      | 75     | <b>1,040.00</b> |

## S-2 強力立銑刀

2-Flute Power End Mills



單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格         |
|--------|--------|--------|--------|---------------|
| 4      | 12     | 6      | 50     | <b>600.00</b> |
| 5      | 13     | 6      | 50     | <b>600.00</b> |
| 6      | 15     | 6      | 50     | <b>600.00</b> |

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格           |
|--------|--------|--------|--------|-----------------|
| 8      | 20     | 8      | 65     | <b>650.00</b>   |
| 11     | 30     | 12     | 80     | <b>1,030.00</b> |
| 12     | 30     | 12     | 80     | <b>1,030.00</b> |

## AN · AS 鍵槽用立銑刀

2-Flute End Mills

銑串仔溝專用刀具

**AN-2**



**AS-2**

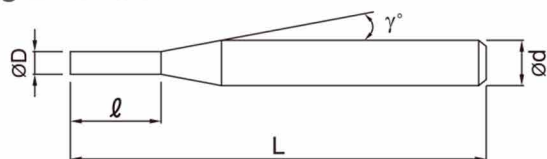


單位：mm

| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | AN-2 價(支)格    | AS-2 價(支)格    |
|--------|--------|--------|--------|---------------|---------------|
| 3      | 5      | 6      | 50     | -             | <b>550.00</b> |
| 8      | 12     | 10     | 60     | -             | <b>600.00</b> |
| 9      | 12     | 10     | 65     | <b>700.00</b> | <b>700.00</b> |
| 10     | 15     | 10     | 65     | -             | <b>700.00</b> |
| 11     | 15     | 12     | 70     | <b>900.00</b> | <b>900.00</b> |

## LL 超長刃立銑刀

4-Flute Extra Long End Mills



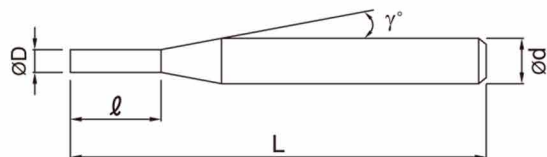
單位：mm

| 刃徑  | 刃長  | 柄徑  | 全長  | LL-4             | LL-4C            |
|-----|-----|-----|-----|------------------|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            | 價(支)格            |
| 25  | 120 | 25  | 220 | <b>10,007.00</b> | <b>13,010.00</b> |
| 25  | 150 | 25  | 250 | <b>11,592.00</b> | <b>15,078.00</b> |
| 30  | 120 | 25  | 220 | <b>15,005.00</b> | <b>19,509.00</b> |
| 30  | 150 | 25  | 250 | <b>16,391.00</b> | <b>21,315.00</b> |
| 32  | 120 | 32  | 220 | <b>17,840.00</b> | <b>23,195.00</b> |
| 35  | 150 | 32  | 250 | <b>19,971.00</b> | <b>25,967.00</b> |
| 40  | 150 | 32  | 250 | <b>25,673.00</b> | <b>33,380.00</b> |
| 40  | 200 | 32  | 300 | <b>31,490.00</b> | <b>40,940.00</b> |

| 刃徑  | 刃長  | 柄徑  | 全長  | LL-4             | LL-4C            |
|-----|-----|-----|-----|------------------|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            | 價(支)格            |
| 40  | 150 | 42  | 250 | <b>29,978.00</b> | <b>38,976.00</b> |
| 40  | 200 | 42  | 300 | <b>33,506.00</b> | <b>43,565.00</b> |
| 40  | 250 | 42  | 350 | <b>39,932.00</b> | <b>51,912.00</b> |
| 45  | 200 | 42  | 300 | <b>41,349.00</b> | <b>53,760.00</b> |
| 45  | 250 | 42  | 350 | <b>45,644.00</b> | <b>59,346.00</b> |
| 50  | 200 | 42  | 300 | <b>54,894.00</b> | <b>71,369.00</b> |
| 50  | 250 | 42  | 350 | <b>63,231.00</b> | <b>82,205.00</b> |

## LS 超長柄立銑刀

4-Flute Extra Long Reach End Mills



單位：mm

| 刃徑  | 刃長  | 柄徑  | 全長  | LS-4             | LS-4C            |
|-----|-----|-----|-----|------------------|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            | 價(支)格            |
| 30  | 40  | 25  | 200 | <b>6,888.00</b>  | <b>8,957.00</b>  |
| 30  | 80  | 25  | 240 | <b>8,589.00</b>  | <b>11,172.00</b> |
| 35  | 50  | 32  | 220 | <b>8,589.00</b>  | <b>11,172.00</b> |
| 35  | 100 | 32  | 250 | <b>12,840.00</b> | <b>16,695.00</b> |
| 40  | 50  | 32  | 250 | <b>12,840.00</b> | <b>16,695.00</b> |

| 刃徑  | 刃長  | 柄徑  | 全長  | LS-4             | LS-4C            |
|-----|-----|-----|-----|------------------|------------------|
| (D) | (l) | (d) | (L) | 價(支)格            | 價(支)格            |
| 40  | 50  | 42  | 250 | <b>13,556.00</b> | <b>17,630.00</b> |
| 40  | 100 | 42  | 300 | <b>18,554.00</b> | <b>24,129.00</b> |
| 45  | 50  | 42  | 250 | <b>17,136.00</b> | <b>22,280.00</b> |
| 50  | 60  | 42  | 300 | <b>20,675.00</b> | <b>26,880.00</b> |

# TE 斜刃立銑刀

2&4-Flute Taper End Mills

TE-2 二刃



TE-4 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2全部是NPM粉末高速鋼，TE-4， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $l$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2<br>價(支)格 | TE-4<br>價(支)格 |
|------------|--------------------|---------------|------------------|-----------|-----------|---------------|---------------|
| 1          | 30'                | 4             | 1.07             | 6         | 45        | 1,955.00      | -             |
| 1          | 1°                 | 4             | 1.14             | 6         | 45        | 1,955.00      | -             |
| 1          | 1°30'              | 4             | 1.21             | 6         | 45        | 1,955.00      | -             |
| 1          | 2°                 | 4             | 1.28             | 6         | 45        | 1,955.00      | -             |
| 1          | 2°30'              | 4             | 1.35             | 6         | 45        | 1,955.00      | -             |
| 1          | 3°                 | 4             | 1.42             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 30'                | 5             | 1.59             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 1°                 | 5             | 1.67             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 1°30'              | 5             | 1.76             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 2°                 | 5             | 1.85             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 2°30'              | 5             | 1.93             | 6         | 45        | 1,955.00      | -             |
| 1.5        | 3°                 | 5             | 2.02             | 6         | 45        | 1,955.00      | -             |
| 2          | 30'                | 6             | 2.1              | 6         | 45        | 1,955.00      | -             |
| 2          | 1°                 | 6             | 2.21             | 6         | 45        | 1,955.00      | -             |
| 2          | 1°30'              | 6             | 2.31             | 6         | 45        | 1,955.00      | -             |
| 2          | 2°                 | 6             | 2.41             | 6         | 45        | 1,955.00      | -             |
| 2          | 2°30'              | 6             | 2.52             | 6         | 45        | 1,955.00      | -             |
| 2          | 3°                 | 6             | 2.62             | 6         | 45        | 1,955.00      | -             |
| 2          | 5°                 | 6             | 3.05             | 6         | 50        | 2,220.00      | -             |
| 2          | 7°                 | 6             | 3.47             | 6         | 50        | 2,775.00      | -             |
| 2          | 10°                | 6             | 4.12             | 6         | 50        | 2,915.00      | -             |
| 2.5        | 30'                | 8             | 2.64             | 6         | 45        | 1,820.00      | -             |
| 2.5        | 1°                 | 8             | 2.78             | 6         | 45        | 1,820.00      | -             |
| 2.5        | 1°30'              | 8             | 2.91             | 6         | 45        | 1,820.00      | -             |
| 2.5        | 2°                 | 8             | 3.05             | 6         | 45        | 1,820.00      | -             |
| 2.5        | 2°30'              | 8             | 3.2              | 6         | 45        | 2,180.00      | -             |
| 2.5        | 3°                 | 8             | 3.33             | 6         | 45        | 2,180.00      | -             |
| 2.5        | 5°                 | 8             | 3.9              | 6         | 50        | 2,220.00      | -             |
| 2.5        | 7°                 | 8             | 4.46             | 6         | 50        | 2,775.00      | -             |
| 2.5        | 10°                | 8             | 5.32             | 6         | 50        | 3,060.00      | -             |
| 3          | 30'                | 10            | 3.17             | 6         | 45        | 1,820.00      | 1,820.00      |
| 3          | 1°                 | 10            | 3.35             | 6         | 45        | 1,820.00      | 1,820.00      |
| 3          | 1°30'              | 10            | 3.52             | 6         | 45        | 1,820.00      | 1,820.00      |
| 3          | 2°                 | 10            | 3.69             | 6         | 45        | 1,820.00      | 1,820.00      |

# TE 斜刃立銑刀

2&4-Flute Taper End Mills

TE-2 二刃



TE-4 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2全部是NPM粉末高速鋼，TE-4， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>(L) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2<br>價(支)格 | TE-4<br>價(支)格 |
|------------|--------------------|-----------|------------------|-----------|-----------|---------------|---------------|
| 3          | 2°30'              | 10        | 3.87             | 6         | 45        | 2,180.00      | 2,180.00      |
| 3          | 3°                 | 10        | 4.05             | 6         | 45        | 2,180.00      | 2,180.00      |
| 3          | 5°                 | 10        | 4.75             | 6         | 50        | 2,220.00      | 2,220.00      |
| 3          | 7°                 | 10        | 5.45             | 6         | 50        | 2,775.00      | 2,775.00      |
| 3          | 10°                | 10        | 6.53             | 6         | 50        | 3,060.00      | 3,060.00      |
| 4          | 30'                | 15        | 4.26             | 6         | 50        | 1,820.00      | 1,820.00      |
| 4          | 1°                 | 15        | 4.52             | 6         | 50        | 1,820.00      | 1,820.00      |
| 4          | 1°30'              | 15        | 4.79             | 6         | 50        | 1,820.00      | 1,820.00      |
| 4          | 2°                 | 15        | 5.04             | 6         | 50        | 1,820.00      | 1,820.00      |
| 4          | 2°30'              | 15        | 5.31             | 6         | 50        | 2,180.00      | 2,180.00      |
| 4          | 3°                 | 15        | 5.57             | 6         | 50        | 2,180.00      | 2,180.00      |
| 4          | 5°                 | 15        | 6.62             | 6         | 60        | 2,340.00      | 2,340.00      |
| 4          | 7°                 | 15        | 7.68             | 6         | 60        | 3,060.00      | 3,060.00      |
| 4          | 10°                | 15        | 9.3              | 8         | 80        | 3,835.00      | 3,835.00      |
| 5          | 30'                | 20        | 5.34             | 6         | 55        | 1,820.00      | 1,820.00      |
| 5          | 1°                 | 20        | 5.7              | 6         | 55        | 1,820.00      | 1,820.00      |
| 5          | 1°30'              | 20        | 6.04             | 6         | 55        | 1,820.00      | 1,820.00      |
| 5          | 2°                 | 20        | 6.39             | 6         | 55        | 1,820.00      | 1,820.00      |
| 5          | 2°30'              | 20        | 6.74             | 6         | 55        | 2,180.00      | 2,180.00      |
| 5          | 3°                 | 20        | 7.1              | 6         | 55        | 2,180.00      | 2,180.00      |
| 5          | 5°                 | 20        | 8.5              | 8         | 80        | 2,340.00      | 2,340.00      |
| 5          | 7°                 | 20        | 9.91             | 8         | 80        | 3,835.00      | 3,835.00      |
| 5          | 10°                | 20        | 12.05            | 12        | 90        | 5,675.00      | 5,675.00      |
| 6          | 30'                | 20        | 6.35             | 6         | 55        | 2,180.00      | 2,180.00      |
| 6          | 1°                 | 20        | 6.7              | 6         | 55        | 2,180.00      | 2,180.00      |
| 6          | 1°30'              | 20        | 7.05             | 6         | 55        | 2,180.00      | 2,180.00      |
| 6          | 2°                 | 20        | 7.4              | 6         | 55        | 2,180.00      | 2,180.00      |
| 6          | 2°30'              | 20        | 7.75             | 6         | 55        | 2,220.00      | 2,220.00      |
| 6          | 3°                 | 20        | 8.1              | 8         | 60        | 2,220.00      | 2,220.00      |
| 6          | 5°                 | 20        | 9.5              | 8         | 80        | 2,920.00      | 2,920.00      |
| 6          | 7°                 | 20        | 10.91            | 10        | 80        | 4,180.00      | 4,180.00      |
| 6          | 10°                | 20        | 13.05            | 12        | 90        | 5,690.00      | 5,690.00      |
| 8          | 30'                | 25        | 8.44             | 8         | 65        | 2,585.00      | 2,585.00      |
| 8          | 1°                 | 25        | 8.87             | 8         | 65        | 2,585.00      | 2,585.00      |

# TE 斜刃立銑刀

2&4-Flute Taper End Mills

TE-2 二刃



TE-4 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2全部是NPM粉末高速鋼，TE-4， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $l$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2<br>價(支)格 | TE-4<br>價(支)格 |
|------------|--------------------|---------------|------------------|-----------|-----------|---------------|---------------|
| 8          | 1°30'              | 25            | 9.31             | 8         | 65        | 2,585.00      | 2,585.00      |
| 8          | 2°                 | 25            | 9.74             | 8         | 65        | 2,585.00      | 2,585.00      |
| 8          | 2°30'              | 25            | 10.18            | 10        | 70        | 3,270.00      | 3,270.00      |
| 8          | 3°                 | 25            | 10.62            | 10        | 70        | 3,270.00      | 3,270.00      |
| 8          | 5°                 | 25            | 12.37            | 12        | 90        | 4,100.00      | 4,100.00      |
| 8          | 7°                 | 25            | 14.14            | 12        | 100       | 4,790.00      | 4,790.00      |
| 8          | 10°                | 25            | 16.82            | 16        | 110       | 7,155.00      | 7,155.00      |
| 10         | 30'                | 35            | 10.61            | 10        | 85        | 3,050.00      | 3,050.00      |
| 10         | 1°                 | 35            | 11.22            | 10        | 85        | 3,050.00      | 3,050.00      |
| 10         | 1°30'              | 35            | 11.83            | 10        | 85        | 3,050.00      | 3,050.00      |
| 10         | 2°                 | 35            | 12.44            | 12        | 90        | 3,270.00      | 3,270.00      |
| 10         | 2°30'              | 35            | 13.06            | 12        | 90        | 3,850.00      | 3,850.00      |
| 10         | 3°                 | 35            | 13.67            | 12        | 90        | 3,850.00      | 3,850.00      |
| 10         | 5°                 | 35            | 16.12            | 16        | 115       | 6,775.00      | 6,775.00      |
| 10         | 7°                 | 35            | 18.6             | 16        | 115       | 9,290.00      | 9,290.00      |
| 10         | 10°                | 35            | 22.34            | 20        | 115       | 16,225.00     | 16,225.00     |
| 12         | 30'                | 55            | 12.96            | 12        | 110       | 3,155.00      | 3,155.00      |
| 12         | 1°                 | 55            | 13.92            | 12        | 110       | 3,155.00      | 3,155.00      |
| 12         | 1°30'              | 55            | 14.88            | 12        | 110       | 3,155.00      | 3,155.00      |
| 12         | 2°                 | 55            | 15.84            | 12        | 110       | 3,650.00      | 3,650.00      |
| 12         | 2°30'              | 55            | 16.8             | 16        | 110       | 4,370.00      | 4,370.00      |
| 12         | 3°                 | 55            | 17.76            | 16        | 110       | 4,895.00      | 4,895.00      |
| 12         | 5°                 | 55            | 21.62            | 20        | 155       | 7,075.00      | 7,075.00      |
| 12         | 7°                 | 55            | 25.51            | 25        | 155       | 12,815.00     | 12,815.00     |
| 12         | 10°                | 55            | 31.39            | 25        | 155       | 19,505.00     | 19,505.00     |
| 16         | 30'                | 65            | 17.13            | 16        | 130       | -             | 5,170.00      |
| 16         | 1°                 | 65            | 18.27            | 16        | 130       | -             | 5,170.00      |
| 16         | 1°30'              | 65            | 19.4             | 16        | 130       | -             | 5,590.00      |
| 16         | 2°                 | 65            | 20.53            | 20        | 130       | -             | 6,380.00      |
| 16         | 2°30'              | 65            | 21.63            | 20        | 130       | -             | 6,910.00      |
| 16         | 3°                 | 65            | 22.81            | 20        | 130       | -             | 7,515.00      |
| 16         | 5°                 | 65            | 27.37            | 25        | 165       | -             | 12,245.00     |
| 16         | 7°                 | 65            | 31.96            | 32        | 165       | -             | 17,655.00     |
| 16         | 10°                | 65            | 38.92            | 32        | 165       | -             | 22,220.00     |

# TE 斜刃立銑刀

2&4-Flute Taper End Mills

TE-2 二刃



TE-4 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2全部是NPM粉末高速鋼，TE-4， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $l$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2<br>價(支)格 | TE-4<br>價(支)格 |
|------------|--------------------|---------------|------------------|-----------|-----------|---------------|---------------|
| 16         | 30'                | 100           | 17.74            | 16        | 170       | -             | 7,865.00      |
| 16         | 1°                 | 100           | 19.5             | 16        | 170       | -             | 7,865.00      |
| 16         | 1°30'              | 100           | 21.24            | 20        | 170       | -             | 8,650.00      |
| 16         | 2°                 | 100           | 22.98            | 20        | 170       | -             | 9,780.00      |
| 16         | 2°30'              | 100           | 24.74            | 20        | 170       | -             | 10,485.00     |
| 16         | 3°                 | 100           | 26.48            | 25        | 170       | -             | 10,750.00     |
| 16         | 5°                 | 100           | 33.44            | 32        | 190       | -             | 23,850.00     |
| 16         | 7°                 | 100           | 40.38            | 32        | 200       | -             | 32,795.00     |
| 16         | 10°                | 100           | 50.72            | 42        | 200       | -             | 53,695.00     |
| 20         | 30'                | 65            | 21.13            | 20        | 135       | -             | 8,220.00      |
| 20         | 1°                 | 65            | 22.27            | 20        | 135       | -             | 8,220.00      |
| 20         | 1°30'              | 65            | 23.4             | 20        | 135       | -             | 8,650.00      |
| 20         | 2°                 | 65            | 24.53            | 20        | 135       | -             | 9,350.00      |
| 20         | 2°30'              | 65            | 25.68            | 25        | 135       | -             | 10,045.00     |
| 20         | 3°                 | 65            | 26.81            | 25        | 135       | -             | 10,450.00     |
| 20         | 5°                 | 65            | 31.37            | 25        | 165       | -             | 16,700.00     |
| 20         | 7°                 | 65            | 35.96            | 32        | 165       | -             | 22,265.00     |
| 20         | 10°                | 65            | 42.92            | 32        | 165       | -             | 36,765.00     |
| 20         | 30'                | 105           | 21.83            | 20        | 185       | -             | 10,835.00     |
| 20         | 1°                 | 105           | 23.67            | 20        | 185       | -             | 10,835.00     |
| 20         | 1°30'              | 105           | 25.5             | 25        | 185       | -             | 11,440.00     |
| 20         | 2°                 | 105           | 27.33            | 25        | 185       | -             | 12,925.00     |
| 20         | 2°30'              | 105           | 29.18            | 25        | 185       | -             | 13,765.00     |
| 20         | 3°                 | 105           | 31               | 25        | 185       | -             | 14,325.00     |
| 20         | 5°                 | 105           | 38.31            | 32        | 200       | -             | 29,825.00     |
| 20         | 7°                 | 105           | 45.59            | 42        | 205       | -             | 47,730.00     |
| 20         | 10°                | 105           | 56.45            | 42        | 205       | -             | 56,675.00     |
| 25         | 30'                | 130           | 27.26            | 25        | 210       | -             | 14,325.00     |
| 25         | 1°                 | 130           | 29.55            | 25        | 210       | -             | 14,325.00     |
| 25         | 1°30'              | 130           | 31.8             | 25        | 210       | -             | 15,720.00     |
| 25         | 2°                 | 130           | 34.07            | 32        | 210       | -             | 18,605.00     |
| 25         | 2°30'              | 130           | 36.36            | 32        | 210       | -             | 20,265.00     |
| 25         | 3°                 | 130           | 38.62            | 32        | 210       | -             | 21,485.00     |



# TE 鍍膜斜刃立銑刀

2&4-Flute Taper End Mills with Coating

TE-2C 二刃



TE-4C 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2C全部是NPM粉末高速鋼，TE-4C， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>(L) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2C<br>價(支)格 | TE-4C<br>價(支)格 |
|------------|--------------------|-----------|------------------|-----------|-----------|----------------|----------------|
| 1          | 30'                | 4         | 1.07             | 6         | 45        | 2,445.00       | -              |
| 1          | 1°                 | 4         | 1.14             | 6         | 45        | 2,445.00       | -              |
| 1          | 1°30'              | 4         | 1.21             | 6         | 45        | 2,445.00       | -              |
| 1          | 2°                 | 4         | 1.28             | 6         | 45        | 2,445.00       | -              |
| 1          | 2°30'              | 4         | 1.35             | 6         | 45        | 2,445.00       | -              |
| 1          | 3°                 | 4         | 1.42             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 30'                | 5         | 1.59             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 1°                 | 5         | 1.67             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 1°30'              | 5         | 1.76             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 2°                 | 5         | 1.85             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 2°30'              | 5         | 1.93             | 6         | 45        | 2,445.00       | -              |
| 1.5        | 3°                 | 5         | 2.02             | 6         | 45        | 2,445.00       | -              |
| 2          | 30'                | 6         | 2.1              | 6         | 45        | 2,445.00       | -              |
| 2          | 1°                 | 6         | 2.21             | 6         | 45        | 2,445.00       | -              |
| 2          | 1°30'              | 6         | 2.31             | 6         | 45        | 2,445.00       | -              |
| 2          | 2°                 | 6         | 2.41             | 6         | 45        | 2,445.00       | -              |
| 2          | 2°30'              | 6         | 2.52             | 6         | 45        | 2,445.00       | -              |
| 2          | 3°                 | 6         | 2.62             | 6         | 45        | 2,445.00       | -              |
| 2          | 5°                 | 6         | 3.05             | 6         | 50        | 2,775.00       | -              |
| 2          | 7°                 | 6         | 3.47             | 6         | 50        | 3,470.00       | -              |
| 2          | 10°                | 6         | 4.12             | 6         | 50        | 3,645.00       | -              |
| 2.5        | 30'                | 8         | 2.64             | 6         | 45        | 2,275.00       | -              |
| 2.5        | 1°                 | 8         | 2.78             | 6         | 45        | 2,275.00       | -              |
| 2.5        | 1°30'              | 8         | 2.91             | 6         | 45        | 2,275.00       | -              |
| 2.5        | 2°                 | 8         | 3.05             | 6         | 45        | 2,275.00       | -              |
| 2.5        | 2°30'              | 8         | 3.2              | 6         | 45        | 2,725.00       | -              |
| 2.5        | 3°                 | 8         | 3.33             | 6         | 45        | 2,725.00       | -              |
| 2.5        | 5°                 | 8         | 3.9              | 6         | 50        | 2,775.00       | -              |
| 2.5        | 7°                 | 8         | 4.46             | 6         | 50        | 3,470.00       | -              |
| 2.5        | 10°                | 8         | 5.32             | 6         | 50        | 3,825.00       | -              |
| 3          | 30'                | 10        | 3.17             | 6         | 45        | 2,275.00       | 2,275.00       |
| 3          | 1°                 | 10        | 3.35             | 6         | 45        | 2,275.00       | 2,275.00       |
| 3          | 1°30'              | 10        | 3.52             | 6         | 45        | 2,275.00       | 2,275.00       |
| 3          | 2°                 | 10        | 3.69             | 6         | 45        | 2,275.00       | 2,275.00       |

# TE 鍍膜斜刃立銑刀

2&4-Flute Taper End Mills with Coating

TE-2C 二刃



TE-4C 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2C全部是NPM粉末高速鋼，TE-4C， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $l$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2C<br>價(支)格 | TE-4C<br>價(支)格 |
|------------|--------------------|---------------|------------------|-----------|-----------|----------------|----------------|
| 3          | 2°30'              | 10            | 3.87             | 6         | 45        | 2,725.00       | 2,725.00       |
| 3          | 3°                 | 10            | 4.05             | 6         | 45        | 2,725.00       | 2,725.00       |
| 3          | 5°                 | 10            | 4.75             | 6         | 50        | 2,775.00       | 2,775.00       |
| 3          | 7°                 | 10            | 5.45             | 6         | 50        | 3,470.00       | 3,470.00       |
| 3          | 10°                | 10            | 6.53             | 6         | 50        | 3,825.00       | 3,825.00       |
| 4          | 30'                | 15            | 4.26             | 6         | 50        | 2,275.00       | 2,275.00       |
| 4          | 1°                 | 15            | 4.52             | 6         | 50        | 2,275.00       | 2,275.00       |
| 4          | 1°30'              | 15            | 4.79             | 6         | 50        | 2,275.00       | 2,275.00       |
| 4          | 2°                 | 15            | 5.04             | 6         | 50        | 2,275.00       | 2,275.00       |
| 4          | 2°30'              | 15            | 5.31             | 6         | 50        | 2,725.00       | 2,725.00       |
| 4          | 3°                 | 15            | 5.57             | 6         | 50        | 2,725.00       | 2,725.00       |
| 4          | 5°                 | 15            | 6.62             | 6         | 60        | 2,925.00       | 2,925.00       |
| 4          | 7°                 | 15            | 7.68             | 6         | 60        | 3,825.00       | 3,825.00       |
| 4          | 10°                | 15            | 9.3              | 8         | 80        | 4,795.00       | 4,795.00       |
| 5          | 30'                | 20            | 5.34             | 6         | 55        | 2,275.00       | 2,275.00       |
| 5          | 1°                 | 20            | 5.7              | 6         | 55        | 2,275.00       | 2,275.00       |
| 5          | 1°30'              | 20            | 6.04             | 6         | 55        | 2,275.00       | 2,275.00       |
| 5          | 2°                 | 20            | 6.39             | 6         | 55        | 2,275.00       | 2,275.00       |
| 5          | 2°30'              | 20            | 6.74             | 6         | 55        | 2,725.00       | 2,725.00       |
| 5          | 3°                 | 20            | 7.1              | 6         | 55        | 2,725.00       | 2,725.00       |
| 5          | 5°                 | 20            | 8.5              | 8         | 80        | 2,925.00       | 2,925.00       |
| 5          | 7°                 | 20            | 9.91             | 8         | 80        | 4,795.00       | 4,795.00       |
| 5          | 10°                | 20            | 12.05            | 12        | 90        | 7,095.00       | 7,095.00       |
| 6          | 30'                | 20            | 6.35             | 6         | 55        | 2,725.00       | 2,725.00       |
| 6          | 1°                 | 20            | 6.7              | 6         | 55        | 2,725.00       | 2,725.00       |
| 6          | 1°30'              | 20            | 7.05             | 6         | 55        | 2,725.00       | 2,725.00       |
| 6          | 2°                 | 20            | 7.4              | 6         | 55        | 2,725.00       | 2,725.00       |
| 6          | 2°30'              | 20            | 7.75             | 6         | 55        | 2,775.00       | 2,775.00       |
| 6          | 3°                 | 20            | 8.1              | 8         | 60        | 2,775.00       | 2,775.00       |
| 6          | 5°                 | 20            | 9.5              | 8         | 80        | 3,650.00       | 3,650.00       |
| 6          | 7°                 | 20            | 10.91            | 10        | 80        | 5,225.00       | 5,225.00       |
| 6          | 10°                | 20            | 13.05            | 12        | 90        | 7,115.00       | 7,115.00       |
| 8          | 30'                | 25            | 8.44             | 8         | 65        | 3,235.00       | 3,235.00       |
| 8          | 1°                 | 25            | 8.87             | 8         | 65        | 3,235.00       | 3,235.00       |

# TE 鍍膜斜刃立銑刀

2&4-Flute Taper End Mills with Coating

TE-2C 二刃



TE-4C 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2C全部是NPM粉末高速鋼，TE-4C， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>(L) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2C<br>價(支)格 | TE-4C<br>價(支)格 |
|------------|--------------------|-----------|------------------|-----------|-----------|----------------|----------------|
| 8          | 1°30'              | 25        | 9.31             | 8         | 65        | 3,235.00       | 3,235.00       |
| 8          | 2°                 | 25        | 9.74             | 8         | 65        | 3,235.00       | 3,235.00       |
| 8          | 2°30'              | 25        | 10.18            | 10        | 70        | 4,090.00       | 4,090.00       |
| 8          | 3°                 | 25        | 10.62            | 10        | 70        | 4,090.00       | 4,090.00       |
| 8          | 5°                 | 25        | 12.37            | 12        | 90        | 5,125.00       | 5,125.00       |
| 8          | 7°                 | 25        | 14.14            | 12        | 100       | 5,990.00       | 5,990.00       |
| 8          | 10°                | 25        | 16.82            | 16        | 110       | 8,945.00       | 8,945.00       |
| 10         | 30'                | 35        | 10.61            | 10        | 85        | 3,815.00       | 3,815.00       |
| 10         | 1°                 | 35        | 11.22            | 10        | 85        | 3,815.00       | 3,815.00       |
| 10         | 1°30'              | 35        | 11.83            | 10        | 85        | 3,815.00       | 3,815.00       |
| 10         | 2°                 | 35        | 12.44            | 12        | 90        | 4,090.00       | 4,090.00       |
| 10         | 2°30'              | 35        | 13.06            | 12        | 90        | 4,815.00       | 4,815.00       |
| 10         | 3°                 | 35        | 13.67            | 12        | 90        | 4,815.00       | 4,815.00       |
| 10         | 5°                 | 35        | 16.12            | 16        | 115       | 8,470.00       | 8,470.00       |
| 10         | 7°                 | 35        | 18.6             | 16        | 115       | 11,615.00      | 11,615.00      |
| 10         | 10°                | 35        | 22.34            | 20        | 115       | 20,285.00      | 20,285.00      |
| 12         | 30'                | 55        | 12.96            | 12        | 110       | 3,945.00       | 3,945.00       |
| 12         | 1°                 | 55        | 13.92            | 12        | 110       | 3,945.00       | 3,945.00       |
| 12         | 1°30'              | 55        | 14.88            | 12        | 110       | 3,945.00       | 3,945.00       |
| 12         | 2°                 | 55        | 15.84            | 12        | 110       | 4,565.00       | 4,565.00       |
| 12         | 2°30'              | 55        | 16.8             | 16        | 110       | 5,465.00       | 5,465.00       |
| 12         | 3°                 | 55        | 17.76            | 16        | 110       | 6,120.00       | 6,120.00       |
| 12         | 5°                 | 55        | 21.62            | 20        | 155       | 8,845.00       | 8,845.00       |
| 12         | 7°                 | 55        | 25.51            | 25        | 155       | 16,020.00      | 16,020.00      |
| 12         | 10°                | 55        | 31.39            | 25        | 155       | 24,385.00      | 24,385.00      |
| 16         | 30'                | 65        | 17.13            | 16        | 130       | -              | 6,465.00       |
| 16         | 1°                 | 65        | 18.27            | 16        | 130       | -              | 6,465.00       |
| 16         | 1°30'              | 65        | 19.4             | 16        | 130       | -              | 6,990.00       |
| 16         | 2°                 | 65        | 20.53            | 20        | 130       | -              | 7,975.00       |
| 16         | 2°30'              | 65        | 21.63            | 20        | 130       | -              | 8,640.00       |
| 16         | 3°                 | 65        | 22.81            | 20        | 130       | -              | 9,395.00       |
| 16         | 5°                 | 65        | 27.37            | 35        | 165       | -              | 15,310.00      |
| 16         | 7°                 | 65        | 31.96            | 32        | 165       | -              | 22,070.00      |
| 16         | 10°                | 65        | 38.92            | 32        | 165       | -              | 27,775.00      |

# TE 鍍膜斜刃立銑刀

2&4-Flute Taper End Mills with Coating

TE-2C 二刃



TE-4C 四刃



塑膠模具加工時必須用到刀具。  
切削業界斜刃立銑刀開創之始祖。  
最易使用之刃長，規格豐富齊全。

\* TE-2C全部是NPM粉末高速鋼，TE-4C， $\phi 8 \times 5^\circ$ 以上是HSSCo高鈷鋼。

\*  $\phi 16$ 以上是不過中心。

\* NPM硬度測定值67.5~68.5HRC。

單位：mm

| 先端徑<br>(D) | 單角<br>( $\theta$ ) | 刃長<br>( $\ell$ ) | 粗端徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | TE-2C<br>價(支)格 | TE-4C<br>價(支)格 |
|------------|--------------------|------------------|------------------|-----------|-----------|----------------|----------------|
| 16         | 30'                | 100              | 17.74            | 16        | 170       | -              | 9,835.00       |
| 16         | 1°                 | 100              | 19.5             | 16        | 170       | -              | 9,835.00       |
| 16         | 1°30'              | 100              | 21.24            | 20        | 170       | -              | 10,815.00      |
| 16         | 2°                 | 100              | 22.98            | 20        | 170       | -              | 12,225.00      |
| 16         | 2°30'              | 100              | 24.74            | 20        | 170       | -              | 13,110.00      |
| 16         | 3°                 | 100              | 26.48            | 25        | 170       | -              | 13,440.00      |
| 16         | 5°                 | 100              | 33.44            | 32        | 190       | -              | 29,815.00      |
| 16         | 7°                 | 100              | 40.38            | 32        | 200       | -              | 40,995.00      |
| 16         | 10°                | 100              | 50.72            | 42        | 200       | -              | 67,120.00      |
| 20         | 30'                | 65               | 21.13            | 20        | 135       | -              | 10,275.00      |
| 20         | 1°                 | 65               | 22.27            | 20        | 135       | -              | 10,275.00      |
| 20         | 1°30'              | 65               | 23.4             | 20        | 135       | -              | 10,815.00      |
| 20         | 2°                 | 65               | 24.53            | 20        | 135       | -              | 11,690.00      |
| 20         | 2°30'              | 65               | 25.68            | 25        | 135       | -              | 12,560.00      |
| 20         | 3°                 | 65               | 26.81            | 25        | 135       | -              | 13,065.00      |
| 20         | 5°                 | 65               | 31.37            | 25        | 165       | -              | 20,875.00      |
| 20         | 7°                 | 65               | 35.96            | 32        | 165       | -              | 27,835.00      |
| 20         | 10°                | 65               | 42.92            | 32        | 165       | -              | 45,960.00      |
| 20         | 30'                | 105              | 21.83            | 20        | 185       | -              | 13,545.00      |
| 20         | 1°                 | 105              | 23.67            | 20        | 185       | -              | 13,545.00      |
| 20         | 1°30'              | 105              | 25.5             | 25        | 185       | -              | 14,300.00      |
| 20         | 2°                 | 105              | 27.33            | 25        | 185       | -              | 16,160.00      |
| 20         | 2°30'              | 105              | 29.18            | 25        | 185       | -              | 17,210.00      |
| 20         | 3°                 | 105              | 31               | 25        | 185       | -              | 17,910.00      |
| 20         | 5°                 | 105              | 38.31            | 32        | 200       | -              | 37,285.00      |
| 20         | 7°                 | 105              | 45.59            | 42        | 205       | -              | 59,665.00      |
| 20         | 10°                | 105              | 56.45            | 42        | 205       | -              | 70,845.00      |
| 25         | 30'                | 130              | 27.26            | 25        | 210       | -              | 17,910.00      |
| 25         | 1°                 | 130              | 29.55            | 25        | 210       | -              | 17,910.00      |
| 25         | 1°30'              | 130              | 31.8             | 25        | 210       | -              | 19,650.00      |
| 25         | 2°                 | 130              | 34.07            | 32        | 210       | -              | 23,260.00      |
| 25         | 2°30'              | 130              | 36.36            | 32        | 210       | -              | 25,335.00      |
| 25         | 3°                 | 130              | 38.62            | 32        | 210       | -              | 26,860.00      |

# TEL-4 長刃斜刃立銑刀

## 4-Flute Long Taper End Mills



\* 塑膠模具加工時必須用到刀具；含鈷8%韌性強，硬度足。

單位：mm

| 先端徑<br>(D) | 單角<br>(θ) | 刃長<br>(ℓ) | 粗端徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|------------|-----------|-----------|--------------------------|-----------|-----------|------------------|
| 6          | 30'       | 40        | 6.69                     | 6         | 90        | <b>3,120.00</b>  |
| 6          | 1°        | 40        | 7.4                      | 6         | 90        | <b>3,310.00</b>  |
| 6          | 1°30'     | 40        | 8.09                     | 8         | 90        | <b>3,440.00</b>  |
| 6          | 2°        | 50        | 9.49                     | 8         | 100       | <b>3,765.00</b>  |
| 6          | 2°30'     | 50        | 10.37                    | 10        | 100       | <b>4,115.00</b>  |
| 6          | 3°        | 50        | 11.24                    | 10        | 100       | <b>4,375.00</b>  |
| 6          | 5°        | 60        | 16.5                     | 16        | 130       | <b>7,810.00</b>  |
| 6          | 7°        | 70        | 23.19                    | 20        | 160       | <b>11,705.00</b> |
| 6          | 10°       | 80        | 34.21                    | 32        | 170       | <b>20,825.00</b> |
| 8          | 30'       | 50        | 8.87                     | 8         | 100       | <b>3,310.00</b>  |
| 8          | 1°        | 50        | 9.75                     | 8         | 100       | <b>3,500.00</b>  |
| 8          | 1°30'     | 50        | 10.62                    | 10        | 100       | <b>3,995.00</b>  |
| 8          | 2°        | 60        | 12.19                    | 12        | 120       | <b>4,495.00</b>  |
| 8          | 2°30'     | 60        | 13.24                    | 12        | 120       | <b>5,060.00</b>  |
| 8          | 3°        | 80        | 16.39                    | 16        | 150       | <b>8,470.00</b>  |
| 8          | 5°        | 80        | 22                       | 20        | 160       | <b>11,705.00</b> |
| 10         | 30'       | 60        | 11.05                    | 10        | 120       | <b>4,240.00</b>  |
| 10         | 1°        | 60        | 12.09                    | 12        | 120       | <b>5,060.00</b>  |
| 10         | 1°30'     | 60        | 13.14                    | 12        | 120       | <b>5,250.00</b>  |
| 10         | 2°        | 80        | 15.59                    | 12        | 150       | <b>6,740.00</b>  |
| 10         | 2°30'     | 80        | 16.99                    | 16        | 160       | <b>8,790.00</b>  |
| 10         | 3°        | 80        | 18.39                    | 16        | 160       | <b>9,120.00</b>  |
| 12         | 30'       | 80        | 13.4                     | 12        | 150       | <b>6,865.00</b>  |
| 12         | 1°        | 80        | 14.79                    | 12        | 150       | <b>7,180.00</b>  |
| 12         | 1°30'     | 80        | 16.19                    | 16        | 160       | <b>7,945.00</b>  |
| 12         | 2°        | 100       | 18.98                    | 16        | 180       | <b>11,070.00</b> |
| 12         | 2°30'     | 100       | 20.73                    | 20        | 180       | <b>13,015.00</b> |
| 12         | 3°        | 100       | 22.48                    | 20        | 180       | <b>14,325.00</b> |

# TBE-2 斜刃圓球立銑刀

2-Flute Taper Ball End Mills



單位：mm

| R角<br>(R) | 單角<br>(θ) | 刃長<br>(ℓ) | 粗徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           | R角<br>(R) | 單角<br>(θ) | 刃長<br>(ℓ) | 粗徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格           |
|-----------|-----------|-----------|-------------------------|-----------|-----------|-----------------|-----------|-----------|-----------|-------------------------|-----------|-----------|-----------------|
| 0.5       | 30'       | 4         | 1.06                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 2°        | 25        | 4.16                    | 6         | 85        | <b>3,985.00</b> |
| 0.5       | 1°        | 4         | 1.12                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 2°30'     | 25        | 4.68                    | 6         | 85        | <b>3,985.00</b> |
| 0.5       | 1°30'     | 4         | 1.18                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 3°        | 25        | 5.12                    | 6         | 85        | <b>3,985.00</b> |
| 0.5       | 2°        | 4         | 1.25                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 4°        | 25        | 5.83                    | 6         | 85        | <b>4,105.00</b> |
| 0.5       | 2°30'     | 4         | 1.31                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 5°        | 25        | 6.67                    | 6         | 85        | <b>4,205.00</b> |
| 0.5       | 3°        | 4         | 1.37                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 7°        | 25        | 8.35                    | 8         | 90        | <b>4,425.00</b> |
| 0.5       | 4°        | 6         | 1.77                    | 6         | 45        | <b>4,635.00</b> | 1.25      | 10°       | 25        | 10.91                   | 10        | 95        | <b>4,855.00</b> |
| 0.5       | 5°        | 6         | 1.97                    | 6         | 45        | <b>4,635.00</b> | 1.5       | 30'       | 25        | 3.41                    | 6         | 80        | <b>3,795.00</b> |
| 0.75      | 30'       | 8         | 1.63                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 1°        | 25        | 3.82                    | 6         | 80        | <b>3,795.00</b> |
| 0.75      | 1°        | 8         | 1.75                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 1°30'     | 25        | 4.23                    | 6         | 80        | <b>3,795.00</b> |
| 0.75      | 1°30'     | 8         | 1.88                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 2°        | 25        | 4.64                    | 6         | 85        | <b>3,985.00</b> |
| 0.75      | 2°        | 8         | 2.01                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 2°30'     | 25        | 5.11                    | 6         | 85        | <b>3,985.00</b> |
| 0.75      | 2°30'     | 8         | 2.13                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 3°        | 25        | 5.47                    | 6         | 85        | <b>4,105.00</b> |
| 0.75      | 3°        | 8         | 2.26                    | 6         | 50        | <b>4,290.00</b> | 1.5       | 4°        | 25        | 6.29                    | 6         | 85        | <b>4,105.00</b> |
| 0.75      | 4°        | 10        | 2.8                     | 6         | 65        | <b>4,290.00</b> | 1.5       | 5°        | 25        | 7.12                    | 8         | 90        | <b>4,205.00</b> |
| 0.75      | 5°        | 10        | 3.12                    | 6         | 65        | <b>4,290.00</b> | 1.5       | 7°        | 25        | 8.79                    | 10        | 95        | <b>4,635.00</b> |
| 1         | 30'       | 10        | 2.16                    | 6         | 55        | <b>3,555.00</b> | 1.5       | 10°       | 25        | 11.33                   | 12        | 100       | <b>5,305.00</b> |
| 1         | 1°        | 15        | 2.49                    | 6         | 60        | <b>3,555.00</b> | 2         | 30'       | 30        | 4.49                    | 6         | 90        | <b>4,105.00</b> |
| 1         | 1°30'     | 15        | 2.73                    | 6         | 60        | <b>3,555.00</b> | 2         | 1°        | 30        | 4.98                    | 6         | 90        | <b>4,105.00</b> |
| 1         | 2°        | 20        | 3.33                    | 6         | 65        | <b>3,795.00</b> | 2         | 1°30'     | 30        | 5.47                    | 6         | 90        | <b>4,105.00</b> |
| 1         | 2°30'     | 20        | 3.66                    | 6         | 65        | <b>3,795.00</b> | 2         | 2°        | 30        | 5.96                    | 8         | 95        | <b>4,205.00</b> |
| 1         | 3°        | 20        | 3.99                    | 6         | 65        | <b>3,895.00</b> | 2         | 2°30'     | 30        | 6.45                    | 8         | 95        | <b>4,205.00</b> |
| 1         | 4°        | 20        | 4.66                    | 6         | 65        | <b>3,985.00</b> | 2         | 3°        | 30        | 6.94                    | 8         | 95        | <b>4,400.00</b> |
| 1         | 5°        | 20        | 5.33                    | 6         | 65        | <b>3,985.00</b> | 2         | 4°        | 30        | 7.93                    | 8         | 95        | <b>4,620.00</b> |
| 1         | 7°        | 20        | 6.68                    | 6         | 65        | <b>4,400.00</b> | 2         | 5°        | 30        | 8.91                    | 10        | 100       | <b>4,755.00</b> |
| 1         | 10°       | 20        | 8.73                    | 8         | 70        | <b>4,635.00</b> | 2         | 7°        | 30        | 11.09                   | 12        | 105       | <b>5,305.00</b> |
| 1.25      | 30'       | 25        | 2.91                    | 6         | 80        | <b>3,795.00</b> | 2         | 10°       | 30        | 13.94                   | 16        | 110       | <b>6,635.00</b> |
| 1.25      | 1°        | 25        | 3.33                    | 6         | 80        | <b>3,795.00</b> | 2.5       | 30'       | 35        | 5.57                    | 6         | 110       | <b>4,205.00</b> |
| 1.25      | 1°30'     | 25        | 3.74                    | 6         | 80        | <b>3,795.00</b> | 2.5       | 1°        | 35        | 6.14                    | 6         | 110       | <b>4,205.00</b> |

# TBE-2 斜刃圓球立銑刀

2-Flute Taper Ball End Mills



PM 粉末 2 (30°) 精確 h7 單角 ±5' R角 ±0.02

單位：mm

| R角 (R) | 單角 (θ) | 刃長 (ℓ) | 粗徑 (d <sub>1</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|--------|----------------------|--------|--------|------------------|
| 2.5    | 1°30'  | 35     | 6.7                  | 6      | 100    | <b>4,205.00</b>  |
| 2.5    | 2°     | 35     | 7.44                 | 8      | 110    | <b>4,315.00</b>  |
| 2.5    | 2°30'  | 35     | 7.84                 | 8      | 110    | <b>4,315.00</b>  |
| 2.5    | 3°     | 35     | 8.41                 | 8      | 110    | <b>4,425.00</b>  |
| 2.5    | 4°     | 35     | 9.56                 | 10     | 110    | <b>4,855.00</b>  |
| 2.5    | 5°     | 35     | 10.71                | 10     | 110    | <b>5,305.00</b>  |
| 2.5    | 7°     | 35     | 12.02                | 12     | 110    | <b>6,195.00</b>  |
| 2.5    | 10°    | 35     | 16.54                | 16     | 120    | <b>8,085.00</b>  |
| 3      | 30'    | 40     | 6.64                 | 6      | 100    | <b>4,400.00</b>  |
| 3      | 1°     | 40     | 7.29                 | 6      | 100    | <b>4,400.00</b>  |
| 3      | 1°30'  | 40     | 7.94                 | 8      | 100    | <b>4,620.00</b>  |
| 3      | 2°     | 40     | 8.59                 | 8      | 110    | <b>4,620.00</b>  |
| 3      | 2°30'  | 40     | 9.24                 | 8      | 110    | <b>4,620.00</b>  |
| 3      | 3°     | 40     | 9.78                 | 10     | 110    | <b>4,730.00</b>  |
| 3      | 4°     | 40     | 11.19                | 10     | 110    | <b>5,525.00</b>  |
| 3      | 5°     | 40     | 12.5                 | 12     | 110    | <b>5,735.00</b>  |
| 3      | 7°     | 40     | 15.13                | 16     | 120    | <b>6,635.00</b>  |
| 3      | 10°    | 40     | 19.14                | 20     | 125    | <b>9,660.00</b>  |
| 4      | 30'    | 50     | 8.8                  | 8      | 120    | <b>4,930.00</b>  |
| 4      | 1°     | 50     | 9.6                  | 8      | 120    | <b>4,930.00</b>  |
| 4      | 1°30'  | 50     | 10.4                 | 10     | 125    | <b>5,885.00</b>  |
| 4      | 2°     | 50     | 11.21                | 10     | 125    | <b>6,305.00</b>  |
| 4      | 2°30'  | 50     | 12.01                | 12     | 125    | <b>6,305.00</b>  |
| 4      | 3°     | 50     | 12.82                | 12     | 125    | <b>6,725.00</b>  |
| 4      | 4°     | 50     | 14.43                | 16     | 125    | <b>7,140.00</b>  |
| 4      | 5°     | 50     | 16.08                | 16     | 130    | <b>8,775.00</b>  |
| 4      | 7°     | 55     | 20.52                | 20     | 135    | <b>12,275.00</b> |
| 4      | 10°    | 55     | 25.98                | 25     | 140    | <b>16,435.00</b> |
| 5      | 30'    | 60     | 10.96                | 10     | 130    | <b>7,140.00</b>  |

| R角 (R) | 單角 (θ) | 刃長 (ℓ) | 粗徑 (d <sub>1</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格            |
|--------|--------|--------|----------------------|--------|--------|------------------|
| 5      | 1°     | 60     | 11.92                | 12     | 130    | <b>7,140.00</b>  |
| 5      | 1°30'  | 60     | 12.88                | 12     | 130    | <b>7,140.00</b>  |
| 5      | 2°     | 60     | 13.84                | 12     | 135    | <b>7,965.00</b>  |
| 5      | 2°30'  | 60     | 14.8                 | 16     | 135    | <b>7,965.00</b>  |
| 5      | 3°     | 60     | 15.76                | 16     | 135    | <b>8,825.00</b>  |
| 5      | 4°     | 60     | 17.69                | 16     | 135    | <b>10,090.00</b> |
| 5      | 5°     | 60     | 19.67                | 20     | 140    | <b>11,410.00</b> |
| 5      | 7°     | 62     | 24.07                | 25     | 150    | <b>14,835.00</b> |
| 5      | 10°    | 63     | 30.61                | 32     | 155    | <b>19,945.00</b> |
| 6      | 30'    | 60     | 12.94                | 12     | 130    | <b>7,330.00</b>  |
| 6      | 1°     | 60     | 13.88                | 12     | 130    | <b>7,745.00</b>  |
| 6      | 1°30'  | 60     | 14.82                | 12     | 130    | <b>9,240.00</b>  |
| 6      | 2°     | 60     | 15.77                | 16     | 135    | <b>9,240.00</b>  |
| 6      | 2°30'  | 60     | 16.73                | 16     | 135    | <b>10,730.00</b> |
| 6      | 3°     | 60     | 17.68                | 16     | 135    | <b>10,730.00</b> |
| 6      | 4°     | 60     | 19.58                | 20     | 140    | <b>11,845.00</b> |
| 6      | 5°     | 60     | 21.49                | 20     | 140    | <b>13,850.00</b> |
| 6      | 7°     | 65     | 26.58                | 25     | 150    | <b>17,310.00</b> |
| 6      | 10°    | 65     | 32.99                | 32     | 155    | <b>23,085.00</b> |
| 8      | 30'    | 60     | 16.91                | 16     | 140    | <b>9,005.00</b>  |
| 8      | 1°     | 60     | 17.82                | 16     | 140    | <b>9,235.00</b>  |
| 8      | 1°30'  | 60     | 18.73                | 16     | 140    | <b>9,685.00</b>  |
| 8      | 2°     | 60     | 19.64                | 20     | 140    | <b>9,925.00</b>  |
| 8      | 2°30'  | 60     | 20.56                | 20     | 140    | <b>11,550.00</b> |
| 8      | 3°     | 60     | 21.47                | 20     | 140    | <b>12,010.00</b> |
| 8      | 4°     | 60     | 23.31                | 20     | 145    | <b>13,850.00</b> |
| 8      | 5°     | 60     | 25.16                | 25     | 145    | <b>14,550.00</b> |
| 8      | 7°     | 65     | 30.12                | 25     | 150    | <b>18,240.00</b> |
| 8      | 10°    | 65     | 36.35                | 32     | 155    | <b>24,935.00</b> |

# ER-2 進料槽立銑刀

2-Flute Taper End Mills for Runner



\* 塑膠模具，鋁鉛擠壓模具進料槽部加工專用刀具。

單位：mm

| 先端徑<br>(D) | 單角<br>(θ) | 刃長<br>(ℓ) | 粗端徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            |
|------------|-----------|-----------|--------------------------|-----------|-----------|------------------|
| 2          | 7°        | 5         | 3.22                     | 6         | 45        | <b>2,480.00</b>  |
| 2.5        | 7°        | 6         | 3.97                     | 6         | 45        | <b>2,480.00</b>  |
| 3          | 7°        | 7         | 4.71                     | 6         | 55        | <b>2,745.00</b>  |
| 3.5        | 7°        | 7         | 5.21                     | 6         | 55        | <b>3,005.00</b>  |
| 4          | 7°        | 8         | 5.96                     | 6         | 55        | <b>3,005.00</b>  |
| 4.5        | 7°        | 9         | 6.71                     | 8         | 60        | <b>3,525.00</b>  |
| 5          | 7°        | 10        | 7.45                     | 8         | 60        | <b>3,525.00</b>  |
| 6          | 7°        | 12        | 8.94                     | 10        | 70        | <b>3,910.00</b>  |
| 8          | 7°        | 16        | 11.93                    | 10        | 100       | <b>4,740.00</b>  |
| 10         | 7°        | 20        | 14.91                    | 12        | 110       | <b>5,265.00</b>  |
| 12         | 7°        | 25        | 18.14                    | 16        | 120       | <b>7,535.00</b>  |
| 2          | 10°       | 5         | 3.76                     | 6         | 45        | <b>2,745.00</b>  |
| 2.5        | 10°       | 6         | 4.61                     | 6         | 55        | <b>2,900.00</b>  |
| 3          | 10°       | 7         | 5.46                     | 6         | 55        | <b>2,900.00</b>  |
| 3.5        | 10°       | 7         | 5.96                     | 6         | 55        | <b>3,165.00</b>  |
| 4          | 10°       | 8         | 6.82                     | 8         | 60        | <b>3,425.00</b>  |
| 4.5        | 10°       | 9         | 7.67                     | 8         | 60        | <b>3,690.00</b>  |
| 5          | 10°       | 10        | 8.52                     | 10        | 70        | <b>4,170.00</b>  |
| 6          | 10°       | 12        | 10.23                    | 10        | 70        | <b>4,440.00</b>  |
| 8          | 10°       | 16        | 13.64                    | 12        | 100       | <b>5,115.00</b>  |
| 10         | 10°       | 20        | 17.05                    | 16        | 120       | <b>6,435.00</b>  |
| 12         | 10°       | 25        | 20.81                    | 20        | 125       | <b>8,790.00</b>  |
| 2          | 12°       | 5         | 4.12                     | 6         | 45        | <b>3,005.00</b>  |
| 2.5        | 12°       | 6         | 5.05                     | 6         | 55        | <b>3,160.00</b>  |
| 3          | 12°       | 7         | 5.97                     | 6         | 55        | <b>3,160.00</b>  |
| 3.5        | 12°       | 7         | 6.47                     | 8         | 60        | <b>3,525.00</b>  |
| 4          | 12°       | 8         | 7.4                      | 8         | 60        | <b>3,525.00</b>  |
| 4.5        | 12°       | 9         | 8.32                     | 8         | 60        | <b>4,210.00</b>  |
| 5          | 12°       | 10        | 9.25                     | 10        | 70        | <b>4,475.00</b>  |
| 6          | 12°       | 12        | 11.1                     | 10        | 70        | <b>4,745.00</b>  |
| 8          | 12°       | 16        | 14.8                     | 12        | 110       | <b>5,640.00</b>  |
| 10         | 12°       | 20        | 18.5                     | 16        | 120       | <b>9,345.00</b>  |
| 12         | 12°       | 25        | 22.63                    | 20        | 125       | <b>10,825.00</b> |



# ER-2 進料槽立銑刀

2-Flute Taper End Mills for Runner



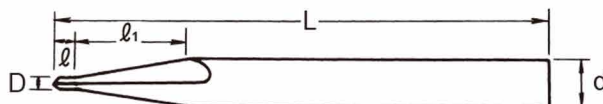
\* 塑膠模具，鋁鉛擠壓模具進料槽部加工專用刀具。

單位：mm

| 先端徑<br>(D) | 單角<br>(θ) | 刃長<br>(ℓ) | 粗端徑<br>(d <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格     |
|------------|-----------|-----------|--------------------------|-----------|-----------|-----------|
| 2          | 15°       | 5         | 4.68                     | 6         | 55        | 3,270.00  |
| 2.5        | 15°       | 6         | 5.71                     | 6         | 55        | 3,270.00  |
| 3          | 15°       | 7         | 6.75                     | 6         | 55        | 3,425.00  |
| 3.5        | 15°       | 7         | 7.25                     | 8         | 60        | 3,850.00  |
| 4          | 15°       | 8         | 8.28                     | 8         | 60        | 3,850.00  |
| 4.5        | 15°       | 9         | 9.32                     | 10        | 70        | 4,745.00  |
| 5          | 15°       | 10        | 10.35                    | 10        | 70        | 4,745.00  |
| 6          | 15°       | 12        | 12.43                    | 12        | 75        | 5,370.00  |
| 8          | 15°       | 16        | 16.57                    | 16        | 110       | 6,595.00  |
| 10         | 15°       | 20        | 20.71                    | 20        | 120       | 9,345.00  |
| 12         | 15°       | 25        | 25.39                    | 25        | 125       | 12,645.00 |

# SMD-2 潛水洞立銑刀

Submarine Gate Drill



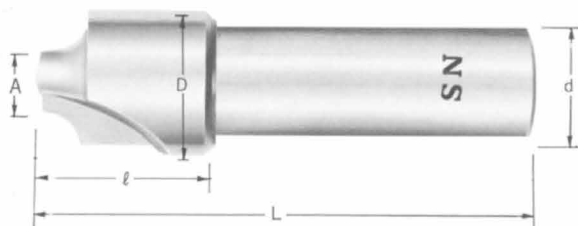
\* 塑膠模具必須用到的刀具，常使用於玩具模具之盲孔。

單位：mm

| 刃徑<br>(D) | 兩角<br>(θ) | 先端刃長<br>(ℓ) | 刃長約<br>(ℓ <sub>1</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|-----------|-----------|-------------|--------------------------|-----------|-----------|----------|
| 0.5       | 20°       | 0.5         | 15.2                     | 6         | 100       | 2,503.00 |
| 0.6       | 20°       | 0.6         | 15                       | 6         | 100       | 2,503.00 |
| 0.7       | 20°       | 0.7         | 14.7                     | 6         | 100       | 2,503.00 |
| 0.8       | 20°       | 0.8         | 14.4                     | 6         | 100       | 2,503.00 |
| 1         | 20°       | 1           | 13.9                     | 6         | 100       | 2,503.00 |
| 0.5       | 25°       | 0.5         | 12.5                     | 6         | 100       | 2,503.00 |
| 0.6       | 25°       | 0.6         | 12.3                     | 6         | 100       | 2,503.00 |
| 0.7       | 25°       | 0.7         | 12                       | 6         | 100       | 2,503.00 |
| 0.8       | 25°       | 0.8         | 11.8                     | 6         | 100       | 2,503.00 |
| 1         | 25°       | 1           | 11.4                     | 6         | 100       | 2,503.00 |
| 0.5       | 30°       | 0.5         | 10.2                     | 6         | 100       | 2,503.00 |
| 0.6       | 30°       | 0.6         | 10                       | 6         | 100       | 2,503.00 |
| 0.7       | 30°       | 0.7         | 9.8                      | 6         | 100       | 2,503.00 |
| 0.8       | 30°       | 0.8         | 9.6                      | 6         | 100       | 2,503.00 |
| 1         | 30°       | 1           | 9.3                      | 6         | 100       | 2,503.00 |

# CR 外角R立銑刀

2&4-Flute Inner Radius Cutters



15R以上四刃

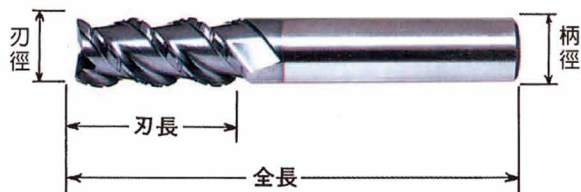
單位：mm

SKH56 2 4 R角 2 < R ≤ 6 ± 0.025 2 < R ≤ 6 ± 0.03 6 < R > 25 ± 0.05 切削條件 P126

| R角<br>(R) | 先端徑<br>(A) | 刃長<br>(ℓ) | 外徑<br>(D) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格     |
|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| 0.5       | 3          | 10        | 5         | 6         | 60        | 4,480.00  |
| 0.75      | 3          | 10        | 5.5       | 6         | 60        | 4,480.00  |
| 1         | 3.5        | 15        | 6         | 6         | 60        | 4,480.00  |
| 1.25      | 3          | 15        | 6         | 6         | 60        | 4,480.00  |
| 1.5       | 4.5        | 15        | 8         | 8         | 60        | 4,480.00  |
| 1.75      | 4          | 15        | 8         | 8         | 60        | 5,020.00  |
| 2         | 3.5        | 15        | 8         | 8         | 60        | 5,020.00  |
| 2.5       | 4.5        | 20        | 10        | 10        | 65        | 5,020.00  |
| 3         | 5.5        | 20        | 12        | 12        | 65        | 5,635.00  |
| 3.5       | 4.5        | 20        | 12        | 12        | 65        | 5,635.00  |
| 4         | 7          | 25        | 16        | 16        | 75        | 5,890.00  |
| 4.5       | 6          | 25        | 16        | 16        | 75        | 5,890.00  |
| 5         | 7          | 25        | 18        | 16        | 75        | 6,530.00  |
| 5.5       | 8          | 25        | 20        | 20        | 75        | 6,850.00  |
| 6         | 7          | 25        | 20        | 20        | 75        | 7,100.00  |
| 6.5       | 8          | 30        | 22        | 20        | 85        | 8,040.00  |
| 7         | 7          | 30        | 22        | 20        | 85        | 8,040.00  |
| 7.5       | 9          | 30        | 25        | 25        | 85        | 8,940.00  |
| 8         | 8          | 30        | 25        | 25        | 85        | 8,940.00  |
| 8.5       | 8          | 35        | 26        | 25        | 95        | 10,630.00 |
| 9         | 9          | 35        | 28        | 25        | 95        | 10,630.00 |
| 9.5       | 8          | 35        | 28        | 25        | 95        | 10,630.00 |
| 10        | 9          | 35        | 30        | 25        | 95        | 11,050.00 |
| 10.5      | 10         | 40        | 32        | 32        | 110       | 13,520.00 |
| 11        | 11         | 40        | 34        | 32        | 110       | 14,155.00 |
| 11.5      | 10         | 40        | 34        | 32        | 110       | 14,985.00 |
| 12        | 11         | 40        | 36        | 32        | 110       | 15,830.00 |
| 12.5      | 12         | 40        | 38        | 32        | 110       | 18,430.00 |
| 13        | 13         | 45        | 40        | 32        | 110       | 19,290.00 |
| 14        | 13         | 45        | 42        | 32        | 110       | 23,710.00 |
| 15        | 17         | 50        | 48        | 32        | 110       | 25,320.00 |
| 16        | 15         | 50        | 48        | 32        | 110       | 25,320.00 |
| 18        | 15         | 50        | 52        | 32        | 120       | 29,305.00 |
| 20        | 13         | 55        | 53        | 32        | 120       | 35,865.00 |
| 25        | 17         | 60        | 68        | 42        | 130       | 48,145.00 |

## PNX-3 高螺旋角強力粗銑刀

Power Nick 3-Flute End Mills with Coating



- \* 軟鐵不可使用。
- \* 刃部特殊鍍膜處理，如眼鏡蛇之準。
- \* 可用超重切削，可以中、粗銑加工來處理難切削材如SUS304、SKD11、HPM-1等。
- \* 排屑速度快，切削加工順暢。



### 切削條件參考表

深溝切削：可切削刃徑之2倍深 單位：mm

| 被削材  | 炭素鋼 S50C              |            | 合金鋼 SKD11 SUS304      |            | 預硬鋼 HPM-1·NAK 35~40HRC |            |
|------|-----------------------|------------|-----------------------|------------|------------------------|------------|
|      | 回轉數 min <sup>-1</sup> | 進刀率 mm/min | 回轉數 min <sup>-1</sup> | 進刀率 mm/min | 回轉數 min <sup>-1</sup>  | 進刀率 mm/min |
| 切削速度 | 35 m/min              |            | 25 m/min              |            | 21 m/min               |            |
| 刃徑   | 6                     | 8          | 25                    | 6          | 8                      | 25         |
|      | 1,900                 | 70         | 1,300                 | 50         | 1,100                  | 35         |
|      | 1,400                 | 70         | 990                   | 50         | 840                    | 35         |
|      | 450                   | 70         | 320                   | 50         | 270                    | 35         |



D=刃徑

### 側面切削

| 被削材  | 炭素鋼 S50C              |            | 合金鋼 SKD11 SUS304      |            | 預硬鋼 HPM-1·NAK 35~40HRC |            |
|------|-----------------------|------------|-----------------------|------------|------------------------|------------|
|      | 回轉數 min <sup>-1</sup> | 進刀率 mm/min | 回轉數 min <sup>-1</sup> | 進刀率 mm/min | 回轉數 min <sup>-1</sup>  | 進刀率 mm/min |
| 切削速度 | 35 m/min              |            | 25 m/min              |            | 21 m/min               |            |
| 刃徑   | 6                     | 8          | 25                    | 6          | 8                      | 25         |
|      | 1,900                 | 220        | 1,300                 | 150        | 1,100                  | 110        |
|      | 1,400                 | 220        | 990                   | 150        | 840                    | 110        |
|      | 450                   | 210        | 320                   | 140        | 270                    | 100        |



D=刃徑

### 淺溝切削：可切削刃徑之1倍深

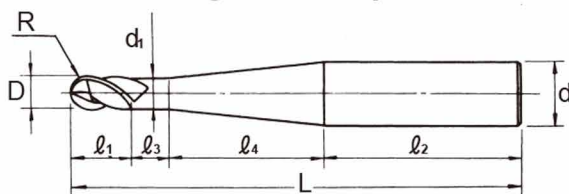
|    |       |     |       |    |       |    |
|----|-------|-----|-------|----|-------|----|
| 6  | 1,900 | 130 | 1,300 | 90 | 1,100 | 60 |
| 8  | 1,400 | 130 | 990   | 90 | 840   | 60 |
| 25 | 450   | 130 | 320   | 90 | 270   | 60 |



D=刃徑

## LL-TB 超長柄頸下斜柄圓球立銑刀

2-Flute Extra Long Reach Taper Ball End Mills



單位：mm

| R角 (R) | 刃長 (ℓ <sub>1</sub> ) | 柄徑 (d) | 全長 (L) | 柄長 (ℓ <sub>2</sub> ) | 頸長 (ℓ <sub>3</sub> ) | 頸下斜柄長 (ℓ <sub>4</sub> ) | 頸柄 (d <sub>1</sub> ) | 價(支)格    |
|--------|----------------------|--------|--------|----------------------|----------------------|-------------------------|----------------------|----------|
| 3      | 15                   | 20     | 200    | 100                  | 10                   | 75                      | 5                    | 6,290.00 |
| 4      | 15                   | 20     | 200    | 100                  | 10                   | 75                      | 7                    | 6,290.00 |
| 6      | 25                   | 32     | 200    | 100                  | 10                   | 65                      | 11                   | 6,980.00 |

# KB 圓球立銑刀

2&4-Flute Ball End Mills

KB-2



KB-4



世界高水準的  
高精度・高品質



16R以上四刃

單位：mm

\* 鍍TiAlN可耐熱、耐磨、耐用更持久。含鈷13%韌性強、硬度高。

| R角<br>(R) | 刃長<br>(ℓ) | 刃徑<br>(D) | 柄徑<br>(d) | 全長<br>(L) | KB-2<br>價(支)格 | KB-2C<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------|---------------|----------------|
| 1         | 5         | 2         | 6         | 55        | 1,576.00      | 2,049.00       |
| 1.5       | 7         | 3         | 6         | 60        | 1,576.00      | 2,049.00       |
| 2         | 8         | 4         | 6         | 70        | 1,576.00      | 2,049.00       |
| 2.5       | 10        | 5         | 6         | 80        | 1,576.00      | 2,049.00       |
| 3         | 12        | 6         | 6         | 80        | 1,576.00      | 2,049.00       |
| 3.5       | 16        | 7         | 8         | 100       | 1,817.00      | 2,362.00       |
| 4         | 16        | 8         | 8         | 100       | 1,817.00      | 2,362.00       |
| 4.5       | 20        | 9         | 10        | 110       | 2,266.00      | 2,946.00       |
| 5         | 20        | 10        | 10        | 110       | 2,266.00      | 2,946.00       |
| 5.5       | 24        | 11        | 12        | 120       | 2,825.00      | 3,535.00       |
| 6         | 24        | 12        | 12        | 120       | 2,825.00      | 3,535.00       |
| 6.5       | 26        | 13        | 12        | 120       | 3,650.00      | 4,565.00       |
| 7         | 26        | 14        | 12        | 120       | 3,650.00      | 4,565.00       |
| 7.5       | 28        | 15        | 12        | 120       | 4,500.00      | 5,625.00       |
| 8         | 30        | 16        | 16        | 140       | 4,500.00      | 5,625.00       |
| 8.5       | 32        | 17        | 16        | 140       | 5,215.00      | 6,520.00       |
| 9         | 34        | 18        | 16        | 140       | 5,215.00      | 6,520.00       |
| 9.5       | 36        | 19        | 16        | 150       | 6,220.00      | 7,775.00       |
| 10        | 38        | 20        | 20        | 160       | 6,220.00      | 7,775.00       |
| 10.5      | 42        | 21        | 20        | 160       | 6,910.00      | 8,640.00       |
| 11        | 45        | 22        | 20        | 160       | 6,910.00      | 8,640.00       |
| 11.5      | 45        | 23        | 20        | 160       | 7,880.00      | 9,850.00       |
| 12        | 50        | 24        | 20        | 160       | 7,880.00      | 9,850.00       |
| 12.5      | 50        | 25        | 25        | 180       | 8,110.00      | 10,140.00      |
| 13        | 50        | 26        | 25        | 180       | 8,970.00      | 11,215.00      |
| 14        | 55        | 28        | 25        | 180       | 10,670.00     | 13,340.00      |
| 15        | 55        | 30        | 32        | 180       | 11,990.00     | 14,990.00      |
| 16        | 55        | 32        | 32        | 180       | 16,990.00     | 20,390.00      |
| 17        | 55        | 34        | 32        | 180       | 17,560.00     | 21,075.00      |
| 18        | 55        | 36        | 32        | 180       | 18,585.00     | 22,305.00      |
| 19        | 65        | 38        | 32        | 200       | 21,320.00     | 25,585.00      |
| 20        | 65        | 40        | 32        | 200       | 21,320.00     | 25,585.00      |
| 25        | 65        | 50        | 42        | 220       | 41,370.00     | 49,645.00      |

# KBL 強勁長刃圓球立銑刀

2-Flute Long Reach Ball End Mills



單位：mm

| R角 (R) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | KBL-2 價(支)格 | KBL-2C 價(支)格 | R角 (R) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | KBL-2 價(支)格 | KBL-2C 價(支)格 |
|--------|--------|--------|--------|-------------|--------------|--------|--------|--------|--------|-------------|--------------|
| 3      | 20     | 6      | 90     | 3,082.00    | 4,007.00     | 8      | 60     | 16     | 150    | 6,185.00    | 7,735.00     |
| 4      | 30     | 8      | 110    | 3,243.00    | 4,216.00     | 10     | 80     | 20     | 170    | 8,645.00    | 10,810.00    |
| 5      | 35     | 10     | 120    | 4,773.00    | 6,205.00     | 12.5   | 100    | 25     | 190    | 12,730.00   | 15,915.00    |
| 6      | 40     | 12     | 130    | 5,410.00    | 6,765.00     | 15     | 120    | 25     | 210    | 20,390.00   | 25,490.00    |

# SL 直刃立銑刀

2-Flute Straight End Mills for Reforming



\* 雕刻模具，鉛鉛擠壓模具必須用到刀具，可任意研磨修改自己所需角度之整型刀具。

單位：mm

| 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | 價(支)格    | 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | 價(支)格    |
|--------|--------|--------|--------|----------|--------|--------|--------|--------|----------|
| 1      | 3      | 6      | 50     | 1,375.00 | 10     | 20     | 10     | 90     | 1,120.00 |
| 1.5    | 4      | 6      | 50     | 1,270.00 | 10.5   | 30     | 12     | 100    | 1,575.00 |
| 2      | 5      | 6      | 50     | 1,010.00 | 11     | 30     | 12     | 100    | 1,430.00 |
| 2.5    | 6      | 6      | 50     | 1,010.00 | 11.5   | 30     | 12     | 100    | 1,575.00 |
| 3      | 8      | 6      | 60     | 955.00   | 12     | 30     | 12     | 100    | 1,430.00 |
| 3.5    | 10     | 6      | 60     | 1,060.00 | 12.5   | 30     | 12     | 100    | 2,280.00 |
| 4      | 10     | 6      | 60     | 955.00   | 13     | 30     | 12     | 100    | 2,070.00 |
| 4.5    | 10     | 6      | 60     | 1,060.00 | 13.5   | 30     | 12     | 120    | 2,280.00 |
| 5      | 10     | 6      | 60     | 955.00   | 14     | 30     | 12     | 120    | 2,070.00 |
| 5.5    | 15     | 6      | 70     | 1,060.00 | 15     | 30     | 16     | 120    | 2,325.00 |
| 6      | 15     | 6      | 70     | 955.00   | 16     | 35     | 16     | 120    | 2,325.00 |
| 7      | 18     | 8      | 80     | 1,065.00 | 17     | 40     | 20     | 130    | 2,700.00 |
| 8      | 18     | 8      | 80     | 1,065.00 | 18     | 40     | 20     | 140    | 2,700.00 |
| 8.5    | 20     | 10     | 90     | 1,230.00 | 19     | 40     | 20     | 140    | 2,850.00 |
| 9      | 20     | 10     | 90     | 1,120.00 | 20     | 40     | 20     | 140    | 2,850.00 |
| 9.5    | 20     | 10     | 90     | 1,230.00 |        |        |        |        |          |

# 吋規格立銑刀

2&4-Flute End Mills



單位：mm

| 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | 價(支)格    | 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | 價(支)格    |
|--------|--------|--------|--------|----------|--------|--------|--------|--------|----------|
| 3/16   | 15     | 8      | 65     | 570.00   | 5/16   | 20     | 10     | 70     | 670.00   |
| 5/16   | 20     | 10     | 70     | 630.00   | 3/8    | 25     | 12     | 80     | 760.00   |
| 5/8    | 30     | 16     | 105    | 1,340.00 | 5/8    | 30     | 16     | 105    | 1,410.00 |
| 3/4    | 40     | 20     | 110    | 1,910.00 | 3/4    | 40     | 20     | 110    | 1,990.00 |
| 7/8    | 45     | 25     | 110    | 2,655.00 | 7/8    | 45     | 25     | 110    | 2,760.00 |

## RE 重切削粗銑刀

Multi Flute Roughing End Mills



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | RE<br>價(支)格     | RE-X<br>價(支)格   | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | RE<br>價(支)格     | RE-X<br>價(支)格   |
|-----------|-----------|-----------|-----------|-----------|-----------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------------|-----------------|
| 8         | 19        | 10        | 69        | 4         | <b>1,160.00</b> | <b>1,510.00</b> | 24        | 45        | 25        | 121       | 5         | <b>3,370.00</b> | <b>4,390.00</b> |
| 14        | 26        | 12        | 83        | 4         | <b>1,900.00</b> | <b>2,470.00</b> | 28        | 45        | 25        | 121       | 5         | <b>4,000.00</b> | <b>5,200.00</b> |
| 16        | 32        | 16        | 92        | 4         | <b>2,000.00</b> | <b>2,600.00</b> | 30        | 45        | 25        | 121       | 6         | <b>5,055.00</b> | <b>6,580.00</b> |
| 22        | 38        | 20        | 104       | 5         | <b>2,845.00</b> | <b>3,700.00</b> |           |           |           |           |           |                 |                 |

## REM · REL 重切削粗銑刀

Multi Flute Medium &amp; Long Roughing End Mills



中長刃型



長刃型

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | REM<br>價(支)格    | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | REL<br>價(支)格    |
|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------------|
| 6         | 18        | 6         | 62        | 4         | <b>1,320.00</b> | 6         | 24        | 6         | 68        | 4         | <b>1,645.00</b> |
| 8         | 28        | 10        | 78        | 4         | <b>1,430.00</b> | 8         | 38        | 10        | 88        | 4         | <b>1,755.00</b> |
| 12        | 40        | 12        | 97        | 4         | <b>2,085.00</b> | 12        | 53        | 12        | 110       | 4         | <b>2,305.00</b> |
| 16        | 48        | 16        | 108       | 4         | <b>2,635.00</b> | 16        | 63        | 16        | 123       | 4         | <b>2,855.00</b> |
| 20        | 56        | 20        | 122       | 4         | <b>3,070.00</b> | 25        | 90        | 25        | 161       | 5         | <b>4,720.00</b> |
| 25        | 67        | 25        | 143       | 5         | <b>4,280.00</b> | 30        | 90        | 25        | 161       | 6         | <b>6,360.00</b> |

## RELS 重切削超長柄粗銑刀

Multi Flute Long Reach Roughing End Mills



超長柄型

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | RELS<br>價(支)格   |
|-----------|-----------|-----------|-----------|-----------|-----------------|
| 25        | 70        | 25        | 235       | 5         | <b>4,940.00</b> |
| 30        | 70        | 25        | 235       | 6         | <b>6,910.00</b> |

# FRELS 細齒型長柄粗銑刀

3&4-Flute Fine Pitch Long Reach Roughing End Mills



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | FRELS<br>價(支)格  | FRELS-X<br>價(支)格 |
|-----------|-----------|-----------|-----------|-----------|-----------------|------------------|
| 14        | 30        | 12        | 110       | 3         | <b>2,200.00</b> | <b>2,860.00</b>  |
| 16        | 35        | 16        | 125       | 3         | <b>2,420.00</b> | <b>3,150.00</b>  |
| 18        | 35        | 16        | 125       | 3         | <b>2,640.00</b> | <b>3,440.00</b>  |
| 20        | 40        | 20        | 140       | 3         | <b>2,855.00</b> | <b>3,720.00</b>  |
| 22        | 40        | 20        | 140       | 3         | <b>3,620.00</b> | <b>4,710.00</b>  |
| 24        | 45        | 20        | 160       | 3         | <b>3,840.00</b> | <b>5,000.00</b>  |
| 25        | 45        | 25        | 160       | 4         | <b>4,060.00</b> | <b>5,280.00</b>  |
| 28        | 45        | 25        | 160       | 4         | <b>5,050.00</b> | <b>6,570.00</b>  |
| 30        | 45        | 25        | 160       | 4         | <b>6,030.00</b> | <b>7,840.00</b>  |

# REB 重切削圓球粗銑刀

4-Flute Roughing Ball End Mills



單位：mm

| R角<br>(R) | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(T) | REB<br>價(支)格    |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|
| 4         | 8         | 25        | 8         | 90        | 4         | <b>2,740.00</b> |
| 5         | 10        | 30        | 10        | 100       | 4         | <b>3,070.00</b> |
| 6         | 12        | 40        | 12        | 115       | 4         | <b>3,400.00</b> |
| 8         | 16        | 50        | 16        | 130       | 4         | <b>4,170.00</b> |
| 10        | 20        | 55        | 20        | 145       | 4         | <b>4,940.00</b> |
| 12.5      | 25        | 70        | 25        | 165       | 4         | <b>6,800.00</b> |
| 15        | 30        | 70        | 25        | 180       | 4         | <b>8,010.00</b> |

## NS-2 立銑刀

2-Flute End Mills



\* 柄徑粗，把握力強且穩定性高。

\* 使用大同製鋼SKH56鋼材，含鈷8%，耐切削、韌性強。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-2<br>價(支)格 | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-2<br>價(支)格 |
|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|---------------|
| 1         | 3         | 6         | 55        | <b>756.00</b> | 4.7       | 15        | 8         | 65        | <b>682.00</b> |
| 1.1       | 3         | 6         | 55        | <b>897.00</b> | 4.8       | 15        | 8         | 65        | <b>682.00</b> |
| 1.2       | 3         | 6         | 55        | <b>897.00</b> | 4.9       | 15        | 8         | 65        | <b>682.00</b> |
| 1.3       | 3         | 6         | 55        | <b>897.00</b> | 5         | 15        | 8         | 65        | <b>535.00</b> |
| 1.4       | 3         | 6         | 55        | <b>897.00</b> | 5.1       | 15        | 8         | 65        | <b>682.00</b> |
| 1.5       | 6         | 6         | 55        | <b>668.00</b> | 5.2       | 15        | 8         | 65        | <b>682.00</b> |
| 1.6       | 6         | 6         | 55        | <b>800.00</b> | 5.3       | 15        | 8         | 65        | <b>682.00</b> |
| 1.7       | 6         | 6         | 55        | <b>800.00</b> | 5.4       | 15        | 8         | 65        | <b>682.00</b> |
| 1.8       | 6         | 6         | 55        | <b>800.00</b> | 5.5       | 15        | 8         | 65        | <b>589.00</b> |
| 1.9       | 6         | 6         | 55        | <b>800.00</b> | 5.6       | 15        | 8         | 65        | <b>682.00</b> |
| 2         | 6         | 6         | 55        | <b>649.00</b> | 5.7       | 15        | 8         | 65        | <b>682.00</b> |
| 2.1       | 6         | 6         | 55        | <b>776.00</b> | 5.8       | 15        | 8         | 65        | <b>682.00</b> |
| 2.2       | 6         | 6         | 55        | <b>776.00</b> | 5.9       | 15        | 8         | 65        | <b>682.00</b> |
| 2.3       | 6         | 6         | 55        | <b>776.00</b> | 6         | 15        | 8         | 65        | <b>535.00</b> |
| 2.4       | 6         | 6         | 55        | <b>776.00</b> | 6.1       | 15        | 8         | 65        | <b>760.00</b> |
| 2.5       | 10        | 6         | 55        | <b>631.00</b> | 6.2       | 15        | 8         | 65        | <b>760.00</b> |
| 2.6       | 10        | 6         | 55        | <b>752.00</b> | 6.3       | 20        | 8         | 70        | <b>760.00</b> |
| 2.7       | 10        | 6         | 55        | <b>752.00</b> | 6.4       | 20        | 8         | 70        | <b>760.00</b> |
| 2.8       | 10        | 6         | 55        | <b>752.00</b> | 6.5       | 20        | 10        | 70        | <b>655.00</b> |
| 2.9       | 10        | 6         | 55        | <b>752.00</b> | 6.6       | 20        | 10        | 70        | <b>760.00</b> |
| 3         | 10        | 6         | 55        | <b>535.00</b> | 6.7       | 20        | 10        | 70        | <b>760.00</b> |
| 3.1       | 10        | 8         | 55        | <b>682.00</b> | 6.8       | 20        | 10        | 70        | <b>760.00</b> |
| 3.2       | 10        | 8         | 55        | <b>682.00</b> | 6.9       | 20        | 10        | 70        | <b>760.00</b> |
| 3.3       | 10        | 8         | 55        | <b>682.00</b> | 7         | 20        | 10        | 70        | <b>595.00</b> |
| 3.4       | 10        | 8         | 55        | <b>682.00</b> | 7.1       | 20        | 10        | 70        | <b>760.00</b> |
| 3.5       | 12        | 8         | 65        | <b>589.00</b> | 7.2       | 20        | 10        | 70        | <b>760.00</b> |
| 3.6       | 12        | 8         | 65        | <b>682.00</b> | 7.3       | 20        | 10        | 70        | <b>760.00</b> |
| 3.7       | 12        | 8         | 65        | <b>682.00</b> | 7.4       | 20        | 10        | 70        | <b>760.00</b> |
| 3.8       | 12        | 8         | 65        | <b>682.00</b> | 7.5       | 20        | 10        | 70        | <b>655.00</b> |
| 3.9       | 12        | 8         | 65        | <b>682.00</b> | 7.6       | 20        | 10        | 70        | <b>760.00</b> |
| 4         | 12        | 8         | 65        | <b>535.00</b> | 7.7       | 20        | 10        | 70        | <b>760.00</b> |
| 4.1       | 12        | 8         | 65        | <b>682.00</b> | 7.8       | 20        | 10        | 70        | <b>760.00</b> |
| 4.2       | 12        | 8         | 65        | <b>682.00</b> | 7.9       | 20        | 10        | 70        | <b>760.00</b> |
| 4.3       | 12        | 8         | 65        | <b>682.00</b> | 8         | 20        | 10        | 70        | <b>595.00</b> |
| 4.4       | 12        | 8         | 65        | <b>682.00</b> | 8.1       | 20        | 10        | 70        | <b>880.00</b> |
| 4.5       | 15        | 8         | 65        | <b>598.00</b> | 8.2       | 20        | 10        | 70        | <b>880.00</b> |
| 4.6       | 15        | 8         | 65        | <b>682.00</b> | 8.3       | 20        | 10        | 70        | <b>880.00</b> |



## NS-2 立銑刀

### 2-Flute End Mills



\* 柄徑粗，把握力強且穩定性高。

\* 使用大同製鋼SKH56鋼材，含鈷8%，耐切削、韌性強。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-2<br>價(支)格   |
|-----------|-----------|-----------|-----------|-----------------|
| 8.4       | 20        | 10        | 70        | <b>880.00</b>   |
| 8.5       | 25        | 12        | 80        | <b>755.00</b>   |
| 8.6       | 25        | 12        | 80        | <b>880.00</b>   |
| 8.7       | 25        | 12        | 80        | <b>880.00</b>   |
| 8.8       | 25        | 12        | 80        | <b>880.00</b>   |
| 8.9       | 25        | 12        | 80        | <b>880.00</b>   |
| 9         | 25        | 12        | 80        | <b>693.00</b>   |
| 9.1       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.2       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.3       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.4       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.5       | 25        | 12        | 80        | <b>755.00</b>   |
| 9.6       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.7       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.8       | 25        | 12        | 80        | <b>880.00</b>   |
| 9.9       | 25        | 12        | 80        | <b>880.00</b>   |
| 10        | 25        | 12        | 80        | <b>693.00</b>   |
| 10.1      | 25        | 12        | 80        | <b>1,130.00</b> |
| 10.2      | 25        | 12        | 80        | <b>1,130.00</b> |
| 10.3      | 25        | 12        | 80        | <b>1,130.00</b> |
| 10.4      | 25        | 12        | 80        | <b>1,130.00</b> |
| 10.5      | 30        | 12        | 85        | <b>966.00</b>   |
| 10.6      | 30        | 12        | 85        | <b>1,130.00</b> |
| 10.7      | 30        | 12        | 85        | <b>1,130.00</b> |
| 10.8      | 30        | 12        | 85        | <b>1,130.00</b> |
| 10.9      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11        | 30        | 12        | 85        | <b>888.00</b>   |
| 11.1      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.2      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.3      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.4      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.5      | 30        | 12        | 85        | <b>977.00</b>   |
| 11.6      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.7      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.8      | 30        | 12        | 85        | <b>1,130.00</b> |
| 11.9      | 30        | 12        | 85        | <b>1,130.00</b> |
| 12        | 30        | 12        | 85        | <b>888.00</b>   |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-2<br>價(支)格   |
|-----------|-----------|-----------|-----------|-----------------|
| 12.5      | 30        | 12        | 95        | <b>1,184.00</b> |
| 13        | 30        | 12        | 95        | <b>1,076.00</b> |
| 13.5      | 30        | 16        | 100       | <b>1,184.00</b> |
| 14        | 30        | 16        | 100       | <b>1,076.00</b> |
| 14.5      | 30        | 16        | 105       | <b>1,383.00</b> |
| 15        | 30        | 16        | 105       | <b>1,257.00</b> |
| 15.5      | 30        | 16        | 105       | <b>1,495.00</b> |
| 16        | 30        | 16        | 105       | <b>1,359.00</b> |
| 16.5      | 35        | 16        | 105       | <b>1,772.00</b> |
| 17        | 35        | 16        | 105       | <b>1,610.00</b> |
| 17.5      | 35        | 20        | 110       | <b>1,772.00</b> |
| 18        | 35        | 20        | 110       | <b>1,610.00</b> |
| 18.5      | 40        | 20        | 110       | <b>2,120.00</b> |
| 19        | 40        | 20        | 110       | <b>1,927.00</b> |
| 19.5      | 40        | 20        | 110       | <b>2,120.00</b> |
| 20        | 40        | 20        | 110       | <b>1,927.00</b> |
| 20.5      | 45        | 20        | 110       | <b>2,559.00</b> |
| 21        | 45        | 20        | 110       | <b>2,326.00</b> |
| 22        | 45        | 20        | 110       | <b>2,326.00</b> |
| 23        | 50        | 25        | 120       | <b>2,690.00</b> |
| 24        | 50        | 25        | 120       | <b>2,690.00</b> |
| 25        | 50        | 25        | 120       | <b>2,690.00</b> |
| 26        | 50        | 25        | 120       | <b>2,987.00</b> |
| 27        | 55        | 25        | 120       | <b>3,564.00</b> |
| 28        | 55        | 25        | 125       | <b>3,564.00</b> |
| 29        | 55        | 25        | 125       | <b>4,355.00</b> |
| 30        | 55        | 25        | 125       | <b>4,355.00</b> |
| 31        | 60        | 32        | 145       | <b>5,304.00</b> |
| 32        | 60        | 32        | 145       | <b>5,304.00</b> |
| 33        | 60        | 32        | 145       | <b>6,253.00</b> |
| 34        | 60        | 32        | 145       | <b>6,253.00</b> |
| 35        | 60        | 32        | 145       | <b>6,253.00</b> |
| 36        | 65        | 32        | 150       | <b>7,063.00</b> |
| 37        | 65        | 32        | 150       | <b>7,630.00</b> |
| 38        | 65        | 32        | 150       | <b>7,630.00</b> |
| 39        | 65        | 32        | 150       | <b>8,840.00</b> |
| 40        | 65        | 32        | 150       | <b>8,840.00</b> |

## NS-4 立銑刀

4-Flute End Mills



6 ≤ D ≤ 30 +0.02~0  
31 ≤ D ≤ 40 +0.03~0 切削條件 P129

\* 柄徑比其他牌子粗，把握力強且穩定性高。  
\* 使用大同製鋼SKH56鋼材，含鈷8%，耐銹、耐切。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-4<br>價(支)格   | 刃徑<br>(D) | 刃長<br>(ℓ) | 柄徑<br>(d) | 全長<br>(L) | NS-4<br>價(支)格   |
|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------------|
| 2         | 5         | 6         | 55        | <b>930.00</b>   | 16.5      | 35        | 16        | 105       | <b>1,772.00</b> |
| 2.5       | 6         | 6         | 55        | <b>850.00</b>   | 17        | 35        | 16        | 105       | <b>1,620.00</b> |
| 3         | 10        | 6         | 55        | <b>558.00</b>   | 17.5      | 40        | 20        | 110       | <b>1,782.00</b> |
| 3.5       | 12        | 8         | 65        | <b>614.00</b>   | 18        | 40        | 20        | 110       | <b>1,620.00</b> |
| 4         | 12        | 8         | 65        | <b>558.00</b>   | 18.5      | 45        | 20        | 110       | <b>2,120.00</b> |
| 4.5       | 15        | 8         | 65        | <b>614.00</b>   | 19        | 45        | 20        | 110       | <b>1,927.00</b> |
| 5         | 15        | 8         | 65        | <b>558.00</b>   | 19.5      | 45        | 20        | 110       | <b>2,120.00</b> |
| 5.5       | 15        | 8         | 65        | <b>614.00</b>   | 20        | 45        | 20        | 110       | <b>1,927.00</b> |
| 6         | 15        | 8         | 65        | <b>558.00</b>   | 20.5      | 45        | 20        | 110       | <b>2,560.00</b> |
| 6.5       | 20        | 10        | 70        | <b>686.00</b>   | 21        | 45        | 20        | 110       | <b>2,326.00</b> |
| 7         | 20        | 10        | 70        | <b>624.00</b>   | 22        | 45        | 20        | 110       | <b>2,326.00</b> |
| 7.5       | 20        | 10        | 70        | <b>686.00</b>   | 23        | 50        | 25        | 120       | <b>2,690.00</b> |
| 8         | 20        | 10        | 70        | <b>624.00</b>   | 24        | 50        | 25        | 120       | <b>2,690.00</b> |
| 8.5       | 25        | 12        | 80        | <b>798.00</b>   | 25        | 50        | 25        | 120       | <b>2,690.00</b> |
| 9         | 25        | 12        | 80        | <b>726.00</b>   | 26        | 50        | 25        | 120       | <b>2,988.00</b> |
| 9.5       | 25        | 12        | 80        | <b>798.00</b>   | 27        | 55        | 25        | 125       | <b>3,565.00</b> |
| 10        | 25        | 12        | 80        | <b>726.00</b>   | 28        | 55        | 25        | 125       | <b>3,565.00</b> |
| 10.5      | 30        | 12        | 85        | <b>1,023.00</b> | 29        | 55        | 25        | 125       | <b>4,355.00</b> |
| 11        | 30        | 12        | 85        | <b>930.00</b>   | 30        | 55        | 25        | 125       | <b>4,355.00</b> |
| 11.5      | 30        | 12        | 85        | <b>1,023.00</b> | 31        | 60        | 32        | 145       | <b>5,304.00</b> |
| 12        | 30        | 12        | 85        | <b>930.00</b>   | 32        | 60        | 32        | 145       | <b>5,304.00</b> |
| 12.5      | 35        | 12        | 100       | <b>1,239.00</b> | 33        | 60        | 32        | 145       | <b>6,253.00</b> |
| 13        | 35        | 12        | 100       | <b>1,126.00</b> | 34        | 60        | 32        | 145       | <b>6,253.00</b> |
| 13.5      | 35        | 16        | 105       | <b>1,289.00</b> | 35        | 60        | 32        | 145       | <b>6,253.00</b> |
| 14        | 35        | 16        | 105       | <b>1,126.00</b> | 36        | 65        | 32        | 150       | <b>7,063.00</b> |
| 14.5      | 35        | 16        | 105       | <b>1,385.00</b> | 37        | 65        | 32        | 150       | <b>7,632.00</b> |
| 15        | 35        | 16        | 105       | <b>1,257.00</b> | 38        | 65        | 32        | 150       | <b>7,632.00</b> |
| 15.5      | 35        | 16        | 105       | <b>1,495.00</b> | 39        | 65        | 32        | 150       | <b>8,840.00</b> |
| 16        | 35        | 16        | 105       | <b>1,359.00</b> | 40        | 65        | 32        | 150       | <b>8,840.00</b> |

## NL 立銑刀

2&4-Flute Long End Mills

NL-2 二刃



NL-4 四刃



HRC67.5°硬度  
可切削30~35HRC之鋼材。  
耐切削熱度500°C  
含鈷8%

單位：mm

| 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | NL-2 價(支)格 | NL-4 價(支)格 |
|--------|--------|--------|--------|------------|------------|
| 2      | 10     | 6      | 60     | 1,047.00   | 1,090.00   |
| 2.5    | 12     | 6      | 60     | 1,047.00   | 1,090.00   |
| 3      | 15     | 6      | 60     | 707.00     | 743.00     |
| 3.5    | 20     | 8      | 65     | 813.00     | 860.00     |
| 4      | 20     | 8      | 65     | 707.00     | 743.00     |
| 4.5    | 25     | 8      | 65     | 813.00     | 860.00     |
| 5      | 25     | 8      | 65     | 707.00     | 743.00     |
| 5.5    | 25     | 8      | 65     | 813.00     | 860.00     |
| 6      | 25     | 8      | 65     | 707.00     | 743.00     |
| 6.5    | 35     | 10     | 80     | 932.00     | 988.00     |
| 7      | 35     | 10     | 80     | 810.00     | 851.00     |
| 7.5    | 35     | 10     | 80     | 932.00     | 988.00     |
| 8      | 35     | 10     | 80     | 810.00     | 851.00     |
| 8.5    | 45     | 12     | 95     | 1,049.00   | 1,112.00   |
| 9      | 45     | 12     | 95     | 912.00     | 958.00     |
| 9.5    | 45     | 12     | 95     | 1,049.00   | 1,112.00   |
| 10     | 45     | 12     | 95     | 912.00     | 958.00     |
| 10.5   | 55     | 12     | 105    | 1,305.00   | 1,384.00   |
| 11     | 55     | 12     | 105    | 1,135.00   | 1,192.00   |
| 11.5   | 55     | 12     | 105    | 1,305.00   | 1,384.00   |
| 12     | 55     | 12     | 105    | 1,135.00   | 1,192.00   |
| 12.5   | 55     | 16     | 110    | 1,627.00   | 1,725.00   |
| 13     | 55     | 16     | 110    | 1,415.00   | 1,486.00   |
| 13.5   | 55     | 16     | 110    | 1,627.00   | 1,725.00   |
| 14     | 55     | 16     | 110    | 1,415.00   | 1,486.00   |
| 14.5   | 65     | 16     | 120    | 1,819.00   | 1,928.00   |
| 15     | 65     | 16     | 120    | 1,582.00   | 1,661.00   |
| 15.5   | 65     | 16     | 120    | 2,023.00   | 2,145.00   |
| 16     | 65     | 16     | 120    | 1,759.00   | 1,847.00   |

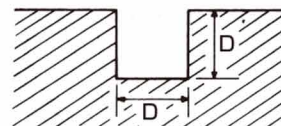
| 刃徑 (D) | 刃長 (ℓ) | 柄徑 (d) | 全長 (L) | NL-2 價(支)格 | NL-4 價(支)格 |
|--------|--------|--------|--------|------------|------------|
| 16.5   | 65     | 20     | 130    | 2,473.00   | 2,622.00   |
| 17     | 65     | 20     | 130    | 2,150.00   | 2,258.00   |
| 17.5   | 65     | 20     | 130    | 2,473.00   | 2,622.00   |
| 18     | 65     | 20     | 130    | 2,150.00   | 2,258.00   |
| 18.5   | 75     | 20     | 140    | 2,815.00   | 2,984.00   |
| 19     | 75     | 20     | 140    | 2,448.00   | 2,571.00   |
| 19.5   | 75     | 20     | 140    | 2,815.00   | 2,984.00   |
| 20     | 75     | 20     | 140    | 2,448.00   | 2,571.00   |
| 20.5   | 75     | 20     | 140    | 3,564.00   | 3,778.00   |
| 21     | 75     | 20     | 140    | 3,099.00   | 3,254.00   |
| 22     | 75     | 20     | 140    | 3,099.00   | 3,254.00   |
| 23     | 90     | 25     | 160    | 3,834.00   | 4,026.00   |
| 24     | 90     | 25     | 160    | 3,834.00   | 4,026.00   |
| 25     | 90     | 25     | 160    | 3,834.00   | 4,026.00   |
| 26     | 90     | 25     | 160    | 4,235.00   | 4,447.00   |
| 27     | 90     | 25     | 160    | 5,035.00   | 5,287.00   |
| 28     | 90     | 25     | 160    | 5,035.00   | 5,287.00   |
| 29     | 90     | 25     | 160    | 6,114.00   | 6,420.00   |
| 30     | 90     | 25     | 160    | 6,114.00   | 6,420.00   |
| 31     | 105    | 32     | 190    | 7,417.00   | 7,788.00   |
| 32     | 105    | 32     | 190    | 7,417.00   | 7,788.00   |
| 33     | 105    | 32     | 190    | 9,241.00   | 9,703.00   |
| 34     | 105    | 32     | 190    | 9,241.00   | 9,703.00   |
| 35     | 105    | 32     | 190    | 9,241.00   | 9,703.00   |
| 36     | 105    | 32     | 190    | 9,892.00   | 10,390.00  |
| 37     | 125    | 32     | 210    | 10,972.00  | 11,521.00  |
| 38     | 125    | 32     | 210    | 10,972.00  | 11,521.00  |
| 39     | 125    | 32     | 210    | 12,842.00  | 13,484.00  |
| 40     | 125    | 32     | 210    | 12,842.00  | 13,484.00  |

## PE-2.3.4 · PEL-2.3 切削條件參考表

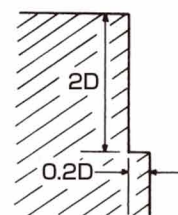
### Recommended Cutting Condition

| 被削材  |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 調質鋼<br>HPM-1 · NAK |        |
|------|----|-------------------|--------|-------------------|--------|--------------------|--------|
| 切削速度 |    | 25 m/min          |        | 20 m/min          |        | 18 m/min           |        |
| 刃徑   | 刃數 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                | 進刀速度   |
|      |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>  | mm/min |
| 2    | 2  | 4,000             | 40     | 3,200             | 30     | 2,900              | 20     |
| 4    | 2  | 2,000             | 40     | 1,600             | 30     | 1,400              | 20     |
| 6    | 2  | 1,300             | 40     | 1,100             | 30     | 1,000              | 20     |
| 6    | 3  | 1,300             | 50     | 1,100             | 40     | 1,000              | 25     |
| 6    | 4  | 1,300             | 60     | 1,100             | 50     | 1,000              | 30     |
| 7    | 2  | 1,100             | 40     | 1,000             | 30     | 800                | 20     |
| 7    | 3  | 1,100             | 50     | 1,000             | 40     | 800                | 25     |
| 8    | 2  | 1,000             | 40     | 800               | 30     | 700                | 20     |
| 8    | 3  | 1,000             | 50     | 800               | 40     | 700                | 25     |
| 8    | 4  | 1,000             | 60     | 800               | 50     | 700                | 30     |
| 9    | 2  | 880               | 40     | 700               | 30     | 600                | 20     |
| 9    | 3  | 880               | 50     | 700               | 40     | 600                | 25     |
| 10   | 2  | 800               | 40     | 600               | 30     | 600                | 20     |
| 10   | 3  | 800               | 50     | 600               | 40     | 600                | 25     |
| 10   | 4  | 800               | 60     | 600               | 50     | 600                | 30     |
| 11   | 2  | 720               | 40     | 600               | 30     | 500                | 20     |
| 11   | 3  | 720               | 50     | 600               | 40     | 500                | 25     |
| 12   | 2  | 660               | 40     | 500               | 30     | 500                | 20     |
| 12   | 3  | 660               | 50     | 500               | 40     | 500                | 25     |
| 12   | 4  | 660               | 60     | 500               | 50     | 500                | 30     |
| 13   | 3  | 610               | 50     | 500               | 40     | 400                | 25     |
| 16   | 3  | 500               | 50     | 400               | 40     | 400                | 25     |
| 16   | 4  | 500               | 60     | 400               | 50     | 400                | 30     |
| 17   | 3  | 470               | 50     | 400               | 40     | 300                | 25     |
| 18   | 3  | 440               | 50     | 400               | 40     | 300                | 25     |
| 18   | 4  | 440               | 60     | 400               | 50     | 300                | 30     |
| 19   | 3  | 420               | 50     | 300               | 40     | 300                | 25     |
| 20   | 3  | 400               | 50     | 300               | 40     | 300                | 25     |
| 20   | 4  | 400               | 60     | 300               | 50     | 300                | 30     |
| 22   | 3  | 360               | 50     | 300               | 40     | 300                | 25     |
| 23   | 3  | 350               | 50     | 300               | 40     | 200                | 25     |
| 24   | 3  | 330               | 50     | 300               | 40     | 200                | 25     |
| 25   | 3  | 320               | 50     | 300               | 40     | 200                | 25     |
| 25   | 4  | 320               | 60     | 300               | 50     | 200                | 30     |
| 26   | 3  | 300               | 50     | 200               | 40     | 200                | 25     |
| 30   | 3  | 260               | 50     | 200               | 40     | 200                | 25     |
| 30   | 4  | 260               | 60     | 200               | 50     | 200                | 30     |
| 32   | 4  | 250               | 100    | 200               | 80     | 180                | 50     |
| 35   | 4  | 230               | 100    | 180               | 80     | 160                | 50     |
| 40   | 4  | 200               | 100    | 160               | 80     | 140                | 50     |
| 45   | 4  | 170               | 100    | 140               | 80     | 130                | 50     |

#### 溝槽加工



#### 側面加工



D=刃徑

\* D ≤ 30，適用左表的溝槽加工條件。

\* 側面加工則以上圖之切削深度，而進刀速度是可提高為溝槽加工之1.5~2倍的。

\* PE-4：是專用側面切削刀，以上圖之切削深度，而以左表之回轉數及進刀速度使用之。



\* PEL-3：側面切削專用刀，以上圖之切削深度，而以刃數3之進刀速度，回轉數則以50~60%使用之。

\* 在重切削時，請使用水溶性切削油。

\* 請使用有強勁把握力之剛性刀具夾具。

\* 加工體務必請牢固締緊。

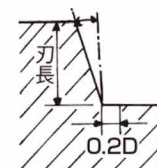
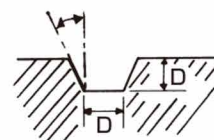
# TE-2.4 · TE-2C.4C · TEL-4 切削條件參考表

## Recommended Cutting Condition

| 被削材  |     |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼(35~40HRC)<br>HPM-1 · NAK |        |
|------|-----|----|-------------------|--------|-------------------|--------|------------------------------|--------|
| 切削速度 |     |    | 30 m/min          |        | 25 m/min          |        | 20 m/min                     |        |
| 刃徑   | 單角  | 刃數 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                          | 進刀速度   |
|      |     |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>            | mm/min |
| 1    | 1°  | 2  | 8,200             | 40     | 6,600             | 20     | 5,400                        | 15     |
| 1    | 3°  | 2  | 8,000             | 40     | 6,500             | 20     | 5,300                        | 15     |
| 1.5  | 1°  | 2  | 5,500             | 40     | 4,400             | 20     | 3,600                        | 15     |
| 1.5  | 3°  | 2  | 5,400             | 40     | 4,300             | 20     | 3,500                        | 15     |
| 2    | 1°  | 2  | 4,100             | 40     | 3,300             | 20     | 2,700                        | 15     |
| 2    | 10° | 2  | 3,700             | 40     | 3,000             | 20     | 2,400                        | 15     |
| 2.5  | 1°  | 2  | 3,300             | 40     | 2,650             | 20     | 2,200                        | 15     |
| 2.5  | 10° | 2  | 3,000             | 40     | 2,400             | 20     | 1,950                        | 15     |
| 3    | 1°  | 2  | 2,700             | 40     | 2,200             | 20     | 1,800                        | 15     |
| 3    | 1°  | 4  | 2,700             | 150    | 2,200             | 75     | 1,800                        | 50     |
| 3    | 10° | 2  | 2,500             | 45     | 2,000             | 25     | 1,600                        | 15     |
| 3    | 10° | 4  | 2,500             | 160    | 2,000             | 80     | 1,600                        | 50     |
| 4    | 1°  | 2  | 2,050             | 40     | 1,650             | 20     | 1,350                        | 15     |
| 4    | 1°  | 4  | 2,050             | 150    | 1,650             | 75     | 1,350                        | 50     |
| 4    | 10° | 2  | 1,900             | 45     | 1,500             | 25     | 1,200                        | 20     |
| 4    | 10° | 4  | 1,900             | 160    | 1,500             | 80     | 1,200                        | 55     |
| 5    | 1°  | 2  | 1,600             | 40     | 1,300             | 20     | 1,100                        | 20     |
| 5    | 1°  | 4  | 1,600             | 150    | 1,300             | 75     | 1,100                        | 50     |
| 5    | 10° | 2  | 1,500             | 45     | 1,200             | 25     | 970                          | 20     |
| 5    | 10° | 4  | 1,500             | 160    | 1,200             | 80     | 970                          | 55     |
| 6    | 1°  | 2  | 1,360             | 40     | 1,100             | 20     | 900                          | 20     |
| 6    | 1°  | 4  | 1,360             | 150    | 1,100             | 75     | 900                          | 50     |
| 6    | 10° | 2  | 1,240             | 45     | 1,000             | 25     | 810                          | 20     |
| 6    | 10° | 4  | 1,240             | 160    | 1,000             | 80     | 810                          | 55     |
| 8    | 1°  | 2  | 1,020             | 40     | 830               | 20     | 670                          | 20     |
| 8    | 1°  | 4  | 1,020             | 150    | 830               | 75     | 670                          | 50     |
| 8    | 10° | 2  | 930               | 45     | 750               | 25     | 610                          | 20     |
| 8    | 10° | 4  | 930               | 160    | 750               | 80     | 610                          | 55     |
| 10   | 1°  | 2  | 820               | 40     | 660               | 20     | 540                          | 20     |
| 10   | 1°  | 4  | 820               | 150    | 660               | 75     | 540                          | 50     |
| 10   | 10° | 2  | 740               | 45     | 600               | 25     | 490                          | 20     |
| 10   | 10° | 4  | 740               | 160    | 600               | 80     | 490                          | 55     |
| 12   | 1°  | 2  | 680               | 40     | 550               | 20     | 450                          | 20     |
| 12   | 1°  | 4  | 680               | 150    | 550               | 75     | 450                          | 50     |
| 12   | 10° | 2  | 510               | 45     | 500               | 25     | 410                          | 20     |
| 12   | 10° | 4  | 510               | 160    | 500               | 80     | 410                          | 55     |
| 16   | 1°  | 4  | 510               | 160    | 410               | 80     | 340                          | 55     |
| 16   | 10° | 4  | 470               | 160    | 380               | 80     | 310                          | 55     |
| 20   | 1°  | 4  | 410               | 160    | 330               | 80     | 270                          | 55     |
| 20   | 10° | 4  | 370               | 160    | 300               | 80     | 250                          | 55     |
| 25   | 1°  | 4  | 330               | 160    | 270               | 80     | 240                          | 55     |
| 25   | 3°  | 4  | 320               | 160    | 260               | 80     | 210                          | 55     |

溝槽加工可1D

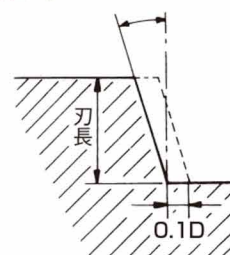
### TE-2



D=刃徑

\* 側面加工可0.2D，進刀速度可以左表增加1.5~2倍。

### TE-4



D=刃徑

\* 係側面專用加工，可0.1D，進刀速度可提高1.5~2倍。

### TEL-4

\* 進刀速度可以左表減少15~30%。

\* 請務必使用切削油。

\* 側面加工時請採用順銑切削。

\* 請用剛性之夾具，締緊加工體。

# CR-2 · 4 切削條件參考表

## Recommended Cutting Condition

| 被削材  |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼<br>NAK · HPM(35~40HRC) |        | 黃銅<br>一般銅再減60%    |        |
|------|----|-------------------|--------|-------------------|--------|----------------------------|--------|-------------------|--------|
| 切削速度 |    | 25 m/min          |        | 20 m/min          |        | 16 m/min                   |        | 100 m/min         |        |
| R角   | 刃數 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                        | 進刀速度   | 回轉數               | 進刀速度   |
|      |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>          | mm/min | min <sup>-1</sup> | mm/min |
| 0.5  | 2  | 2,280             | 22     | 1,820             | 20     | 1,460                      | 15     | 9,100             | 90     |
| 0.75 | 2  | 2,120             | 22     | 1,700             | 20     | 1,360                      | 15     | 8,500             | 90     |
| 1    | 2  | 1,886             | 22     | 1,550             | 20     | 1,210                      | 15     | 7,520             | 90     |
| 1.25 | 2  | 1,780             | 22     | 1,400             | 20     | 1,140                      | 15     | 7,100             | 90     |
| 1.5  | 2  | 1,450             | 22     | 1,160             | 20     | 1,070                      | 15     | 5,780             | 90     |
| 1.75 | 2  | 1,400             | 22     | 1,110             | 20     | 930                        | 15     | 5,560             | 90     |
| 2    | 2  | 1,330             | 22     | 1,070             | 20     | 890                        | 15     | 5,320             | 90     |
| 2.5  | 2  | 1,140             | 22     | 910               | 20     | 730                        | 15     | 4,550             | 90     |
| 3    | 2  | 1,000             | 22     | 800               | 20     | 640                        | 15     | 3,750             | 90     |
| 3.5  | 2  | 940               | 22     | 750               | 20     | 600                        | 15     | 3,300             | 90     |
| 4    | 2  | 760               | 25     | 610               | 20     | 490                        | 15     | 3,050             | 95     |
| 4.5  | 2  | 730               | 25     | 580               | 20     | 470                        | 15     | 2,900             | 95     |
| 5    | 2  | 670               | 25     | 530               | 20     | 430                        | 15     | 2,660             | 95     |
| 5.5  | 2  | 620               | 25     | 490               | 20     | 400                        | 15     | 2,460             | 95     |
| 6    | 2  | 600               | 25     | 480               | 20     | 390                        | 15     | 2,390             | 95     |
| 6.5  | 2  | 570               | 25     | 460               | 20     | 370                        | 15     | 2,280             | 95     |
| 7    | 2  | 550               | 25     | 440               | 20     | 360                        | 15     | 2,200             | 95     |
| 7.5  | 2  | 520               | 25     | 430               | 20     | 320                        | 15     | 2,000             | 95     |
| 8    | 2  | 500               | 25     | 400               | 20     | 310                        | 15     | 1,970             | 95     |
| 8.5  | 2  | 490               | 25     | 390               | 20     | 310                        | 15     | 1,930             | 95     |
| 9    | 2  | 460               | 25     | 370               | 20     | 300                        | 15     | 1,820             | 95     |
| 9.5  | 2  | 450               | 25     | 360               | 20     | 290                        | 15     | 1,770             | 95     |
| 10   | 2  | 420               | 25     | 340               | 20     | 270                        | 15     | 1,680             | 100    |
| 10.5 | 2  | 390               | 25     | 310               | 20     | 250                        | 15     | 1,560             | 100    |
| 11   | 2  | 370               | 25     | 300               | 20     | 240                        | 15     | 1,480             | 100    |
| 11.5 | 2  | 360               | 25     | 290               | 20     | 230                        | 15     | 1,450             | 100    |
| 12   | 2  | 350               | 25     | 280               | 20     | 220                        | 15     | 1,400             | 100    |
| 12.5 | 2  | 330               | 25     | 260               | 20     | 210                        | 15     | 1,300             | 100    |
| 13   | 2  | 310               | 25     | 250               | 20     | 200                        | 15     | 1,230             | 100    |
| 14   | 2  | 300               | 25     | 240               | 20     | 190                        | 15     | 1,180             | 100    |
| 15   | 4  | 260               | 40     | 210               | 30     | 180                        | 20     | 1,030             | 170    |
| 16   | 4  | 250               | 40     | 200               | 30     | 170                        | 20     | 1,000             | 170    |
| 18   | 4  | 240               | 40     | 190               | 30     | 160                        | 20     | 970               | 170    |
| 20   | 4  | 230               | 40     | 180               | 30     | 150                        | 20     | 950               | 170    |
| 25   | 4  | 190               | 40     | 150               | 30     | 120                        | 20     | 760               | 170    |

備 考

- \* 切削深度少時，進刀速度可以提高1.5~2.5倍。
- \* 狹窄的R加工時，請選用NCR-2系列。
- \* 請務必使用切削油。
- \* 請選用剛性之夾具，並締緊加工體。
- \* 加工時請採用順銑切削。

# KB-2 切削條件參考表

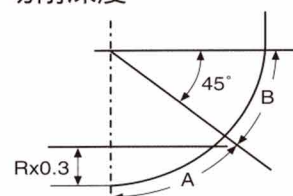
## Recommended Cutting Condition

| 被削材  |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼<br>HPM-1 · NAK |        |
|------|----|-------------------|--------|-------------------|--------|--------------------|--------|
| 切削速度 |    | 26 m/min          |        | 20~22 m/min       |        | 15~17 m/min        |        |
| R角   | 分類 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                | 進刀速度   |
|      |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>  | mm/min |
| 1    | A  | 5,950             | 70     | 4,800             | 55     | 3,900              | 45     |
| 1    | B  | 4,100             | 40     | 3,310             | 30     | 2,700              | 25     |
| 2    | A  | 3,000             | 70     | 2,400             | 55     | 1,950              | 45     |
| 2    | B  | 2,050             | 40     | 1,660             | 30     | 1,350              | 25     |
| 3    | A  | 2,000             | 70     | 1,600             | 55     | 1,300              | 45     |
| 3    | B  | 1,400             | 40     | 1,110             | 30     | 900                | 25     |
| 4    | A  | 1,500             | 70     | 1,200             | 55     | 1,000              | 45     |
| 4    | B  | 1,030             | 40     | 830               | 30     | 700                | 25     |
| 5    | A  | 1,200             | 70     | 960               | 55     | 800                | 45     |
| 5    | B  | 820               | 40     | 670               | 30     | 550                | 25     |
| 6    | A  | 1,000             | 70     | 800               | 55     | 650                | 45     |
| 6    | B  | 700               | 40     | 560               | 30     | 450                | 25     |
| 7    | A  | 850               | 70     | 690               | 55     | 560                | 45     |
| 7    | B  | 600               | 40     | 480               | 30     | 400                | 25     |
| 8    | A  | 750               | 70     | 600               | 55     | 500                | 45     |
| 8    | B  | 510               | 40     | 420               | 30     | 350                | 25     |
| 9    | A  | 660               | 70     | 530               | 55     | 450                | 45     |
| 9    | B  | 460               | 40     | 380               | 30     | 300                | 25     |
| 10   | A  | 600               | 70     | 480               | 55     | 400                | 45     |
| 10   | B  | 410               | 40     | 330               | 30     | 270                | 25     |
| 11   | A  | 540               | 70     | 440               | 55     | 350                | 45     |
| 11   | B  | 380               | 40     | 310               | 30     | 250                | 25     |
| 12   | A  | 500               | 70     | 400               | 55     | 330                | 45     |
| 12   | B  | 350               | 40     | 280               | 30     | 230                | 25     |
| 13   | A  | 460               | 70     | 370               | 55     | 300                | 45     |
| 13   | B  | 320               | 40     | 260               | 30     | 210                | 25     |
| 14   | A  | 430               | 70     | 350               | 55     | 280                | 45     |
| 14   | B  | 300               | 40     | 240               | 30     | 200                | 25     |
| 15   | A  | 430               | 70     | 320               | 55     | 260                | 45     |
| 15   | B  | 280               | 40     | 230               | 30     | 180                | 25     |

KB-2是2刃型。  
KB-4是4刃型。

- \* A條件是一般正常使用條件。
- \* B條件是切削深度超過Rx0.3時使用之條件。  
(例)5Rx0.3=1.5切削深度。
- \* 側面加工時，B之進刀速度可提高到1.5~2.5倍速度。

\* 切削深度



- \* 請務必使用切削油。
- \* 請選用有剛性之夾具，並締緊加工體。
- \* 加工時請採用順銑切削。

# KB-4 切削條件參考表

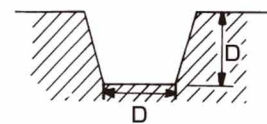
## Recommended Cutting Condition

|    |   |     |    |     |    |     |    |
|----|---|-----|----|-----|----|-----|----|
| 16 | A | 370 | 60 | 300 | 45 | 250 | 35 |
| 16 | B | 260 | 35 | 210 | 25 | 170 | 20 |
| 17 | A | 350 | 60 | 290 | 45 | 230 | 35 |
| 17 | B | 250 | 35 | 200 | 25 | 160 | 20 |
| 18 | A | 330 | 60 | 270 | 45 | 220 | 35 |
| 18 | B | 230 | 35 | 190 | 25 | 150 | 20 |
| 19 | A | 310 | 60 | 260 | 45 | 210 | 35 |
| 19 | B | 220 | 35 | 180 | 25 | 140 | 20 |
| 20 | A | 300 | 60 | 240 | 45 | 200 | 35 |
| 20 | B | 210 | 35 | 170 | 25 | 135 | 20 |
| 25 | A | 240 | 60 | 200 | 45 | 160 | 35 |
| 25 | B | 180 | 35 | 140 | 25 | 110 | 20 |

# ER-2 切削條件參考表

## Recommended Cutting Condition

| 被削材  |        | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼<br>NAK · HPM  |        |
|------|--------|-------------------|--------|-------------------|--------|-------------------|--------|
| 切削速度 |        | 24~26 m/min       |        | 20~22 m/min       |        | 14~15 m/min       |        |
| 先端徑  | 單角     | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|      |        | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 2    | 7~10°  | 3,100             | 30     | 2,600             | 25     | 1,850             | 15     |
| 2    | 12~15° | 2,700             | 35     | 2,250             | 30     | 1,600             | 18     |
| 2.5  | 7~10°  | 2,450             | 30     | 2,050             | 25     | 1,500             | 15     |
| 2.5  | 12~15° | 2,150             | 35     | 1,800             | 30     | 1,300             | 18     |
| 3    | 7~10°  | 2,000             | 30     | 1,700             | 25     | 1,200             | 15     |
| 3    | 12~15° | 1,800             | 35     | 1,500             | 30     | 1,100             | 20     |
| 3.5  | 7~10°  | 1,750             | 30     | 1,450             | 25     | 1,050             | 15     |
| 3.5  | 12~15° | 1,500             | 35     | 1,300             | 30     | 920               | 20     |
| 4    | 7~10°  | 1,500             | 30     | 1,300             | 25     | 920               | 15     |
| 4    | 12~15° | 1,400             | 35     | 1,150             | 30     | 800               | 20     |
| 4.5  | 7~10°  | 1,300             | 30     | 1,100             | 25     | 820               | 15     |
| 4.5  | 12~15° | 1,200             | 35     | 1,050             | 30     | 730               | 20     |
| 5    | 7~10°  | 1,200             | 30     | 1,000             | 25     | 720               | 15     |
| 5    | 12~15° | 1,100             | 35     | 900               | 30     | 650               | 20     |
| 6    | 7~10°  | 1,000             | 30     | 850               | 25     | 610               | 15     |
| 6    | 12~15° | 900               | 35     | 750               | 30     | 540               | 20     |
| 8    | 7~10°  | 770               | 30     | 650               | 25     | 460               | 15     |
| 8    | 12~15° | 670               | 35     | 570               | 30     | 400               | 20     |
| 10   | 7~10°  | 600               | 30     | 500               | 25     | 370               | 15     |
| 10   | 12~15° | 540               | 35     | 450               | 30     | 320               | 20     |
| 12   | 7~10°  | 510               | 30     | 430               | 25     | 300               | 15     |
| 12   | 12~15° | 450               | 35     | 380               | 30     | 270               | 20     |



D=先端徑

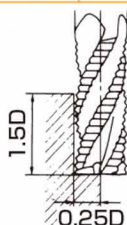
- \* 務必使用切削油。
- \* 請選用剛性之夾具並締緊加工體。
- \* 側面加工以先端徑(D)之0.2D為切削深度，進刀速度提高1.5~2倍是可以的。

# 粗銑刀切削條件參考表

## Recommended Cutting Condition

| 被削材  |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼<br>NAK · HPM  |        | 鋁 · 銅<br>鋁合金 · 銅合金 |        |
|------|----|-------------------|--------|-------------------|--------|-------------------|--------|--------------------|--------|
| 切削速度 |    | 25 m/min          |        | 20 m/min          |        | 15 m/min          |        | 40~70 m/min        |        |
| 刃徑   | 刃數 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                | 進刀速度   |
|      |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>  | mm/min |
| 6    | 4  | 1,900             | 180    | 1,400             | 120    | 1,100             | 80     | 3,600              | 750    |
| 8    | 4  | 1,600             | 180    | 1,200             | 120    | 850               | 80     | 2,900              | 750    |
| 10   | 4  | 1,300             | 180    | 900               | 120    | 650               | 80     | 2,300              | 750    |
| 12   | 4  | 1,100             | 180    | 800               | 120    | 560               | 80     | 1,850              | 750    |
| 16   | 4  | 800               | 180    | 600               | 120    | 430               | 80     | 1,500              | 750    |
| 20   | 4  | 650               | 180    | 450               | 120    | 330               | 80     | 1,200              | 750    |
| 25   | 5  | 500               | 160    | 320               | 70     | 270               | 55     | 950                | 650    |
| 30   | 6  | 400               | 140    | 260               | 55     | 220               | 40     | 750                | 580    |

備考



- \* 請使用切削油，如乾式切削時，以上表之70%，按比例調節使用之。
- \* 在工作中或機械有振動，有異音時，請依情況，即刻調節條件。
- \* 請選用剛性夾具，加工體應締緊。
- \* 切削加工時，請採用順銑切削。



## NS-2 · NS-4 切削條件參考表

### Recommended Cutting Condition

| 被削材  |    | 炭素鋼<br>S50C       |        | 合金鋼<br>SUS · SKD  |        | 預硬鋼<br>NAK · HPM(35-40HRC) |        |
|------|----|-------------------|--------|-------------------|--------|----------------------------|--------|
| 切削速度 |    | 30 m/min          |        | 25 m/min          |        | 20 m/min                   |        |
| 刃徑   | 刃數 | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   | 回轉數                        | 進刀速度   |
|      |    | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup>          | mm/min |
| 1    | 2  | 8,900             | 70     | 7,050             | 40     | 5,800                      | 20     |
| 1.5  | 2  | 5,950             | 60     | 4,700             | 35     | 4,000                      | 15     |
| 2    | 2  | 4,460             | 50     | 3,550             | 30     | 3,000                      | 15     |
| 2    | 4  | 4,460             | 70     | 3,550             | 50     | 3,000                      | 25     |
| 2.5  | 2  | 3,570             | 50     | 2,850             | 30     | 2,300                      | 15     |
| 2.5  | 4  | 3,570             | 70     | 2,850             | 50     | 2,300                      | 25     |
| 3    | 2  | 3,000             | 50     | 2,350             | 30     | 2,000                      | 15     |
| 3    | 4  | 3,000             | 70     | 2,350             | 50     | 2,000                      | 25     |
| 4    | 2  | 2,240             | 50     | 1,800             | 30     | 1,500                      | 15     |
| 4    | 4  | 2,240             | 70     | 1,800             | 50     | 1,500                      | 25     |
| 5    | 2  | 1,800             | 50     | 1,450             | 30     | 1,200                      | 15     |
| 5    | 4  | 1,800             | 70     | 1,450             | 50     | 1,200                      | 25     |
| 6    | 2  | 1,500             | 50     | 1,200             | 30     | 1,000                      | 15     |
| 6    | 4  | 1,500             | 70     | 1,200             | 50     | 1,000                      | 25     |
| 7    | 2  | 1,300             | 50     | 1,000             | 30     | 850                        | 15     |
| 7    | 4  | 1,300             | 70     | 1,000             | 50     | 850                        | 25     |
| 8    | 2  | 1,160             | 50     | 900               | 30     | 750                        | 15     |
| 8    | 4  | 1,160             | 70     | 900               | 50     | 750                        | 25     |
| 9    | 2  | 950               | 50     | 800               | 30     | 650                        | 15     |
| 9    | 4  | 950               | 70     | 800               | 50     | 650                        | 25     |
| 10   | 2  | 900               | 50     | 700               | 30     | 600                        | 15     |
| 10   | 4  | 900               | 70     | 700               | 50     | 600                        | 25     |
| 11   | 2  | 820               | 50     | 650               | 30     | 550                        | 15     |
| 11   | 4  | 820               | 70     | 650               | 50     | 550                        | 25     |
| 12   | 2  | 750               | 50     | 600               | 30     | 500                        | 15     |
| 12   | 4  | 750               | 70     | 600               | 50     | 500                        | 25     |
| 14   | 2  | 650               | 50     | 500               | 30     | 420                        | 15     |
| 14   | 4  | 650               | 70     | 500               | 50     | 420                        | 25     |
| 15   | 2  | 600               | 50     | 480               | 30     | 400                        | 15     |
| 15   | 4  | 600               | 70     | 480               | 50     | 400                        | 25     |
| 16   | 2  | 560               | 50     | 450               | 30     | 360                        | 15     |
| 16   | 4  | 560               | 70     | 450               | 50     | 360                        | 25     |
| 18   | 2  | 500               | 50     | 400               | 30     | 320                        | 15     |
| 18   | 4  | 500               | 70     | 400               | 50     | 320                        | 25     |
| 20   | 2  | 450               | 50     | 350               | 30     | 300                        | 15     |
| 20   | 4  | 450               | 70     | 350               | 50     | 300                        | 25     |
| 22   | 2  | 410               | 50     | 320               | 30     | 260                        | 15     |
| 22   | 4  | 410               | 70     | 320               | 50     | 260                        | 25     |
| 25   | 2  | 360               | 50     | 280               | 30     | 230                        | 15     |
| 25   | 4  | 360               | 70     | 280               | 50     | 230                        | 25     |
| 30   | 2  | 300               | 50     | 250               | 30     | 200                        | 15     |
| 30   | 4  | 300               | 70     | 250               | 50     | 200                        | 25     |

備 考

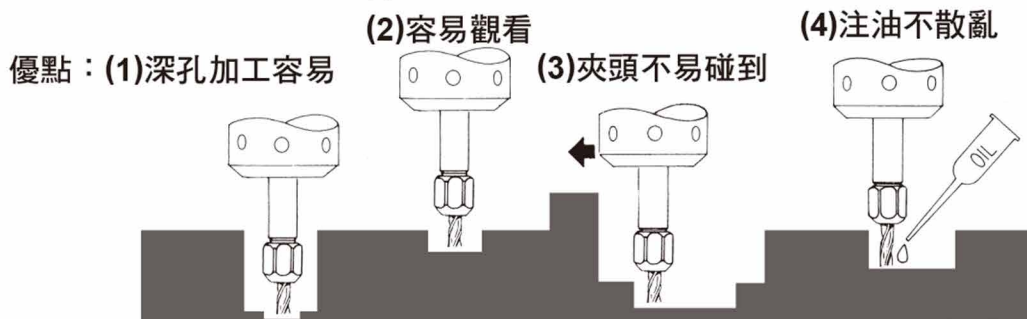
- \* 溝槽加工之深度為刃徑之1倍。
- \* 側面加工為刃徑(D)之0.2D，進刀速度為上表之1.5~2.5倍。
- \* 請注意使用切削油。
- \* 請使用剛性夾具，締緊加工體。
- \* 請採用順銑切削加工。

# 不生鏽—強力銑刀夾頭

Endmill Chuck Sets



特殊表面處理在正常使用條件下長時間不會生鏽



## 組立式銑刀夾頭

| 型 式        | 夾頭範圍 | 柄徑 | 柄長  | 全長  | 附屬品                    | 價(組)格            |
|------------|------|----|-----|-----|------------------------|------------------|
| EM-2019A-C | 3~10 | 20 | 143 | 150 | 套筒3.4.5.6.8各一個、扳手一支。   | <b>9,750.00</b>  |
| EM-2528A-C | 5~16 | 25 | 142 | 150 | 套筒5.6.8.10.12各一個、扳手一支。 | <b>17,500.00</b> |
| EM-3228A-C | 5~16 | 32 | 142 | 150 | 同上                     | <b>17,500.00</b> |

## 夾具零配件

|  | 貨名     | 形式       | 說明                                | 價(個)格           |
|--|--------|----------|-----------------------------------|-----------------|
|  | 蓋頭彈簧套筒 | EMP-19A  | EM-2019A-C上使用<br>內夾推拔套筒10M一個      | <b>4,100.00</b> |
|  | 推拔彈簧套筒 | EMC-1628 | EM-2528, 3228上通用<br>可夾16M柄徑刀具     | <b>2,650.00</b> |
|  | 蓋頭     | EMP-28A  | EM-2528, 3228上通用<br>可夾及保護EMC-1628 | <b>2,300.00</b> |

|  | 貨名    | 形式          | 說明                                  | 價(支)格           |
|--|-------|-------------|-------------------------------------|-----------------|
|  | 柄(本體) | <b>2019</b> | 柄徑20mm柄長143mm<br>不附EMP-19A          | <b>4,880.00</b> |
|  | 柄(本體) | <b>2528</b> | 柄徑25mm柄長142mm<br>不附EMC-1628及EMP-28A | <b>8,800.00</b> |
|  | 柄(本體) | <b>3228</b> | 柄徑32mm柄長142mm<br>不附EMC-1628及EMP-28A | <b>8,800.00</b> |
|  | 扳 手   | S-1         | 2019專用                              | <b>1,350.00</b> |
|  | 扳 手   | S-4         | 2528及3228兼用                         | <b>1,375.00</b> |

## 夾頭套筒

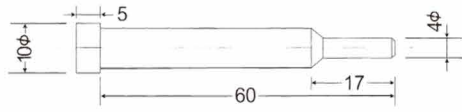
|  | EM-2019A-C使用 | EMS-0310        | EMS-0410        | EMS-0510        | EMS-0610        | EMS-0810        |
|--|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | 夾頭柄徑         | 3M              | 4M              | 5M              | 6M              | 8M              |
|  | 價(個)格        | <b>1,550.00</b> | <b>1,550.00</b> | <b>1,550.00</b> | <b>1,550.00</b> | <b>1,550.00</b> |
|  | 2528, 3228使用 | EMS-0516        | EMS-0616        | EMS-0816        | EMS-1016        | EMS-1216        |
|  | 夾頭柄徑         | 5M              | 6M              | 8M              | 10M             | 12M             |
|  | 價(個)格        | <b>1,950.00</b> | <b>1,950.00</b> | <b>1,950.00</b> | <b>1,950.00</b> | <b>1,950.00</b> |

# 高耐磨非磁性體—巡邊器

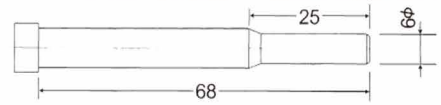
## Magic Center Bars

小而巧而靈，是科技之創作

MGS104



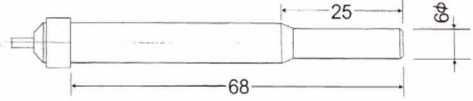
MGS106



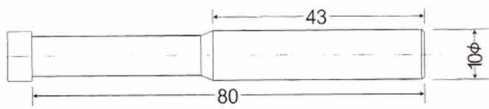
MG2S104



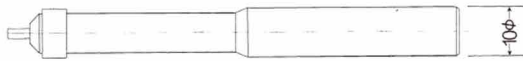
MG2S106



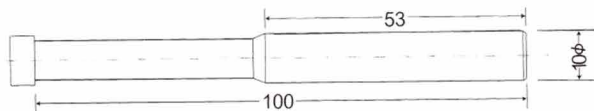
MGS1010



MG2S1010



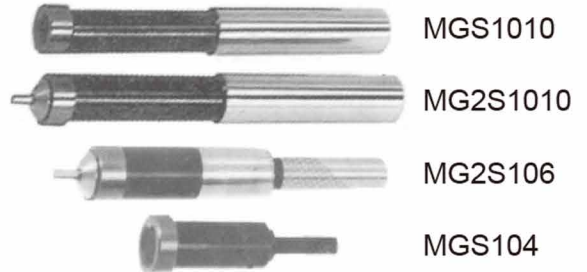
MGS1010L



MG2S1010L

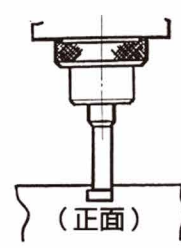
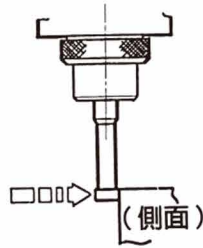
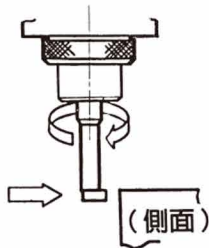


| 型式      | 價(支)格            | 型式        | 價(支)格            |
|---------|------------------|-----------|------------------|
| MGS104  | <b>6,330.00</b>  | MGS1010   | <b>6,330.00</b>  |
| MG2S104 | <b>10,580.00</b> | MG2S1010  | <b>10,580.00</b> |
| MGS106  | <b>6,330.00</b>  | MGS1010L  | <b>8,200.00</b>  |
| MG2S106 | <b>10,580.00</b> | MG2S1010L | <b>13,230.00</b> |

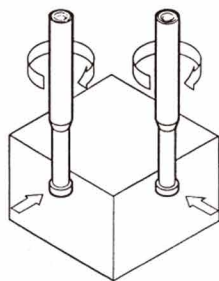


### 特點：

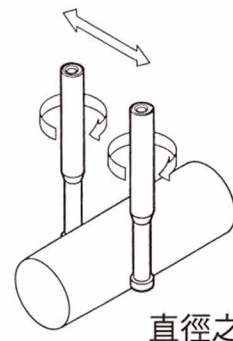
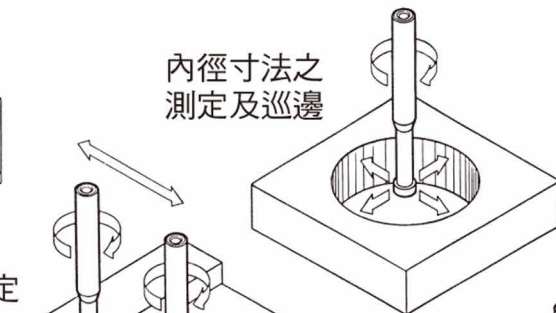
1. 超高性能的2段型端子(§2×§10)。
2. 誤差為5微米(0.005m/m)的高感度。
3. 測定端子是使用高硬度、陶瓷鋼作的。
4. 測定端子是非磁性體，故精度永不會低劣化。
5. 使用位置，縱橫兩面皆可。
6. 設計簡單，硬度高，使用性久，耐磨耗性超群。
7. 回轉數500~2000。
8. 感度：極敏感。
9. 設計細溝專用2§端子。



- (1) 先把巡邊器回轉後，慢慢靠近測定物。
- (2) 測定端子的振動到停下來時，徐徐移動出去。
- (3) 在微細的送出時，急速的偏心的時點，就是測定值。移送測定端子(10m/m)的半徑5m/m時主軸與加工物之端面就一致。



內徑寸法之測定及巡邊

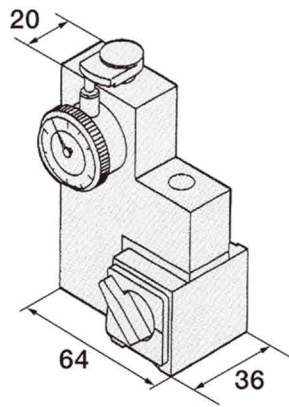
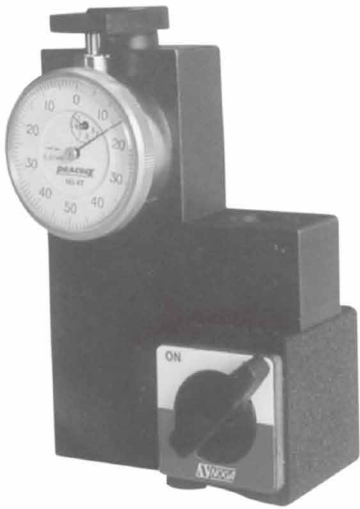


# Z軸工具長度測定計

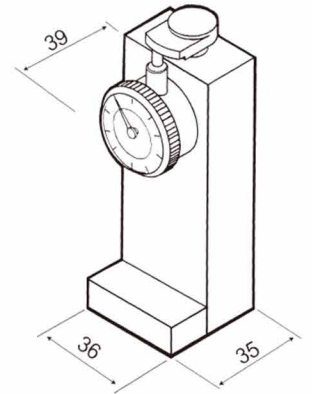
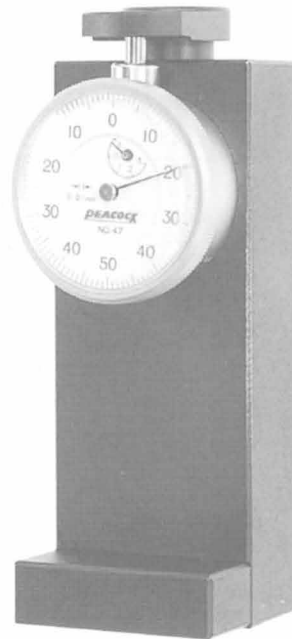
## Z-Block Pre-setters

—在MC銑床加工上，要使製品精良必須配置之測定計—

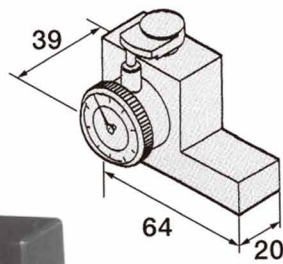
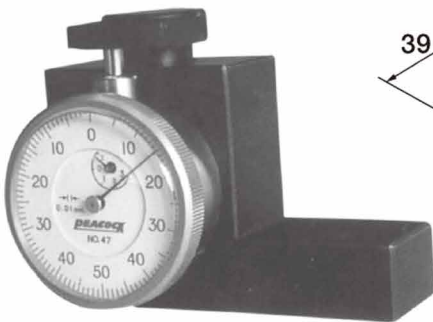
附押蓋新形式



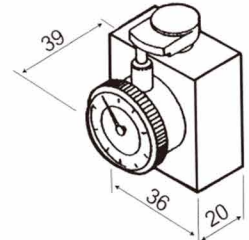
Z100AM式



Z100A式



Z50AM式



Z50A式



押蓋：每種型式皆附帶，長短針在零位置時，其數值即歸100mm或50mm之配置蓋子。(押蓋)

| 機種型式      | Z100AM           | Z100A            | Z50AM            | Z50A             |
|-----------|------------------|------------------|------------------|------------------|
| 自重        | 0.8kg            | 0.6kg            | 0.35kg           | 0.3kg            |
| 有無附磁性座    | 有附帶              | 無附帶              | 有附帶              | 無附帶              |
| 長短針歸零之位置值 | 100mm            | 100mm            | 50mm             | 50mm             |
| 價(組)格     | <b>32,200.00</b> | <b>23,100.00</b> | <b>23,800.00</b> | <b>19,600.00</b> |

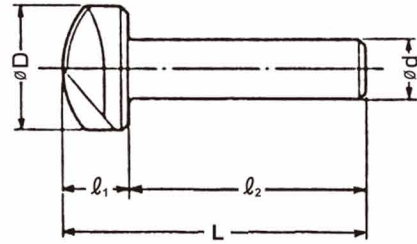
### 新機種之特徵：

1. 押蓋之裝置可從零開始設定。
2. 工具徑可任意由小徑到大徑自由測定。
3. 本體經高度之熱處理及防鏽處理，絕不變形之高級精品。
4. 自重很輕，比傳統之機種只有一半之重量。
5. 誤差控制在千分之5以下。
6. 價格設定在廉宜、合理，絕不比他牌高或貴。

# RC 球面銑刀

## R Cutters (for Sprue Bushes)

塑膠模具必須用  
到刀具和灌嘴絞  
刀配合使用。



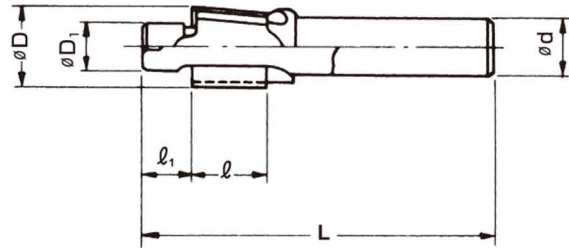
SKH56 高速鋼 2 精密 h8 切削條件 P161

單位：mm

| 規格<br>(R) | 外徑<br>(D) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格     |
|-----------|-----------|-----------|-----------|-----------|
| 10.5      | 18        | 12        | 80        | 5,935.00  |
| 15.5      | 25        | 12        | 85        | 8,455.00  |
| 20.5      | 35        | 12        | 90        | 14,310.00 |

# CCB 鎢鋼超硬沈頭銑刀

## Carbide Tipped Counterbore



K10 材質 4 12° 引導徑 -0.02/-0.04 刃徑 +0.15/0 精密 h8 切削條件 P161

單位：mm

\* 鑽內六角頭螺絲孔用。

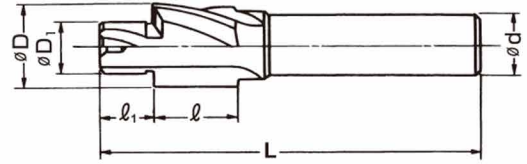
| 規格   | 引導徑               | 引導徑長              | 刃徑   | 刃長  | 柄長                | 柄徑  | 全長  | 價(支)格    |
|------|-------------------|-------------------|------|-----|-------------------|-----|-----|----------|
|      | (D <sub>1</sub> ) | (l <sub>1</sub> ) | (D)  | (l) | (l <sub>2</sub> ) | (d) | (L) |          |
| 5    | 5.2               | 5                 | 8.9  | 13  | 26                | 6   | 51  | 2,725.00 |
| 6    | 6.2               | 6                 | 10.4 | 15  | 31                | 8   | 58  | 2,910.00 |
| 8    | 8.2               | 8                 | 13.4 | 16  | 37                | 10  | 67  | 3,225.00 |
| 10   | 10.3              | 10                | 16.8 | 16  | 42                | 12  | 74  | 3,920.00 |
| 12   | 12.4              | 12                | 18.8 | 20  | 45                | 12  | 83  | 4,325.00 |
| 1/4  | 6.55              | 6                 | 11   | 14  | 31                | 8   | 58  | 2,910.00 |
| 5/16 | 8.25              | 8                 | 14   | 16  | 37                | 10  | 67  | 3,225.00 |
| 3/8  | 9.8               | 9                 | 15   | 16  | 42                | 12  | 74  | 3,920.00 |
| 1/2  | 13.2              | 13                | 20   | 20  | 45                | 12  | 83  | 4,485.00 |

沈頭銑刀 · 鑽頭

Counter Bores

# CB 直柄沈頭銑刀

Counterbore With Straight Shank



SKH56 4 12° 引導徑 0 -0.05 刃徑 +0.2 0 h8 切削條件 P162

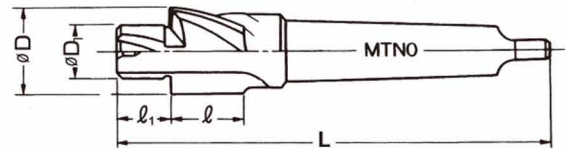
\* 絞內六角頭螺絲孔用，模具加工必須之工具。

單位：mm

| 規格   | 引導徑 (D <sub>1</sub> ) | 引導徑長 (l <sub>1</sub> ) | 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格    |
|------|-----------------------|------------------------|--------|--------|--------|--------|----------|
| 3    | 3.2                   | 3                      | 5.9    | 7      | 6      | 37     | 835.00   |
| 4    | 4.2                   | 4                      | 7.4    | 10     | 6      | 44     | 945.00   |
| 5    | 5.2                   | 5                      | 8.9    | 13     | 6      | 51     | 1,080.00 |
| 6    | 6.2                   | 6                      | 10.4   | 15     | 8      | 58     | 1,275.00 |
| 8    | 8.2                   | 8                      | 13.4   | 16     | 10     | 67     | 1,720.00 |
| 10   | 10.3                  | 10                     | 16.8   | 16     | 12     | 74     | 2,250.00 |
| 12   | 12.4                  | 12                     | 18.8   | 20     | 12     | 83     | 2,900.00 |
| 14   | 14.4                  | 14                     | 24     | 20     | 12     | 90     | 3,750.00 |
| 16   | 16.5                  | 16                     | 26     | 22     | 16     | 100    | 4,495.00 |
| 18   | 18.5                  | 18                     | 28     | 24     | 16     | 104    | 5,320.00 |
| 20   | 21                    | 21                     | 30     | 26     | 16     | 109    | 6,730.00 |
| 1/8  | 3.4                   | 3                      | 6.2    | 6      | 6      | 38     | 770.00   |
| 3/16 | 4.96                  | 5                      | 8.7    | 10     | 6      | 51     | 1,010.00 |
| 1/4  | 6.55                  | 6                      | 11     | 14     | 8      | 58     | 1,320.00 |
| 5/16 | 8.25                  | 8                      | 14     | 16     | 10     | 67     | 1,780.00 |
| 3/8  | 9.8                   | 9                      | 15     | 16     | 12     | 73     | 2,325.00 |
| 1/2  | 13.2                  | 13                     | 20     | 20     | 12     | 83     | 3,075.00 |

# CBT 斜柄沈頭銑刀

Counterbore With Taper Shank



SKH56 4 12° 引導徑 0 -0.05 刃徑 +0.2 0 切削條件 P162

\* 絞內六角頭螺絲孔用，模具加工必須之工具。

單位：mm

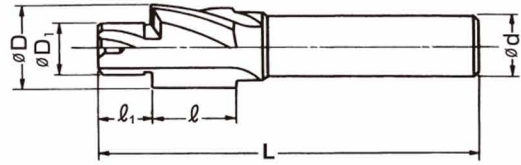
| 規格  | 引導徑 (D <sub>1</sub> ) | 引導徑長 (l <sub>1</sub> ) | 刃徑 (D) | 刃長 (l) | 全長 (L) | 推拔柄 MT NO. | 價(支)格     |
|-----|-----------------------|------------------------|--------|--------|--------|------------|-----------|
| 16  | 16.5                  | 16                     | 26     | 22     | 130.5  | 2          | 5,795.00  |
| 18  | 18.5                  | 18                     | 28     | 24     | 134.5  | 2          | 6,820.00  |
| 20  | 21                    | 21                     | 30     | 26     | 138.5  | 2          | 8,620.00  |
| 22  | 23                    | 23                     | 32     | 28     | 142.5  | 2          | 11,090.00 |
| 24  | 25                    | 25                     | 36     | 32     | 170    | 3          | 14,410.00 |
| 30  | 31.5                  | 31                     | 45     | 38     | 182    | 3          | 20,905.00 |
| 5/8 | 16.5                  | 16                     | 26     | 22     | 128.5  | 2          | 5,795.00  |
| 3/4 | 20                    | 20                     | 29     | 26     | 135.5  | 2          | 7,120.00  |
| 1   | 26.5                  | 26                     | 37     | 32     | 169    | 3          | 14,500.00 |

沈頭銑刀 · 鑽頭

Counter Bores

# CB-JM 直柄沈頭銑刀

Counterbore With JIS



\* 絞內六角頭螺絲孔用。  
\* 模具加工必須用到刀具。

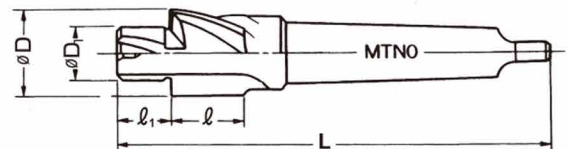
## JIS 規格

單位：mm

| 規格    | 引導徑               | 引導徑長              | 刃徑   | 刃長  | 柄徑  | 全長  | 價(支)格           |
|-------|-------------------|-------------------|------|-----|-----|-----|-----------------|
|       | (D <sub>1</sub> ) | (l <sub>1</sub> ) | (D)  | (l) | (d) | (L) |                 |
| JM-3  | 3.2               | 3                 | 6.5  | 7   | 6   | 47  | <b>865.00</b>   |
| JM-4  | 4.3               | 4                 | 8    | 10  | 6   | 54  | <b>975.00</b>   |
| JM-5  | 5.3               | 5                 | 9.5  | 13  | 6   | 61  | <b>1,120.00</b> |
| JM-6  | 6.4               | 6                 | 11   | 15  | 8   | 68  | <b>1,320.00</b> |
| JM-8  | 8.4               | 8                 | 14   | 16  | 10  | 77  | <b>1,780.00</b> |
| JM-10 | 10.5              | 10                | 17.5 | 16  | 12  | 84  | <b>2,325.00</b> |
| JM-12 | 13                | 12                | 20   | 20  | 12  | 93  | <b>3,000.00</b> |

# CB-TSM 斜柄沈頭銑刀

Counterbore With TSM



\* 絞內六角頭螺絲孔用。  
\* 模具加工必須用到刀具。

## JIS 規格

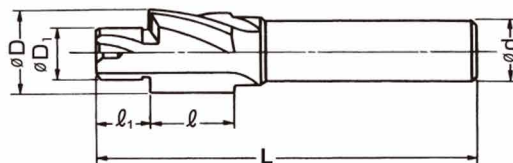
單位：mm

| 規格     | 引導徑               | 引導徑長              | 刃徑  | 刃長  | 全長    | 推拔柄    | 價(支)格            |
|--------|-------------------|-------------------|-----|-----|-------|--------|------------------|
|        | (D <sub>1</sub> ) | (l <sub>1</sub> ) | (D) | (l) | (L)   | MT NO. |                  |
| TSM-18 | 18.5              | 18                | 29  | 24  | 134.5 | 2      | <b>6,820.00</b>  |
| TSM-20 | 21                | 21                | 32  | 26  | 138.5 | 2      | <b>8,620.00</b>  |
| TSM-22 | 23                | 23                | 35  | 28  | 142.5 | 2      | <b>11,090.00</b> |
| TSM-24 | 25                | 25                | 39  | 32  | 170   | 3      | <b>14,410.00</b> |
| TSM-30 | 31.5              | 31                | 48  | 38  | 182   | 3      | <b>20,905.00</b> |



# CB 直柄沈頭銑刀

Counterbore With Straight Shank



\* 絞內六角頭螺絲孔用，模具加工必須之工具。

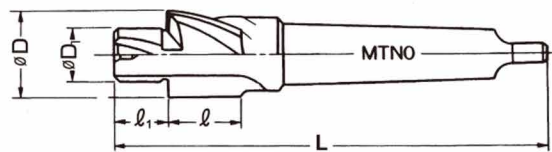
JIS 規格

單位：mm

| 規格   | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 柄長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|------|--------------------------|---------------------------|-----------|-----------|-------------------------|-----------|-----------|----------|
| 3    | 3.2                      | 3.5                       | 6.5       | 6.5       | 30                      | 6         | 40        | 835.00   |
| 4    | 4.3                      | 5                         | 8         | 10        | 30                      | 6         | 50        | 945.00   |
| 5    | 5.3                      | 5                         | 9.5       | 12        | 33                      | 8         | 55        | 1,080.00 |
| 6    | 6.4                      | 6                         | 11        | 14        | 35                      | 8         | 60        | 1,257.00 |
| 8    | 8.4                      | 7                         | 14        | 16        | 37                      | 12        | 65        | 1,720.00 |
| 10   | 10.5                     | 8                         | 17.5      | 18        | 38                      | 12        | 70        | 2,250.00 |
| 12   | 13                       | 10                        | 20        | 18        | 45                      | 12        | 80        | 2,900.00 |
| 14   | 15                       | 12                        | 23        | 20        | 46                      | 12        | 85        | 3,750.00 |
| 3/16 | 5.3                      | 5                         | 9.5       | 12        | 33                      | 8         | 55        | 1,042.00 |
| 1/4  | 6.55                     | 6                         | 11        | 14        | 35                      | 8         | 60        | 1,320.00 |
| 5/16 | 8.25                     | 7                         | 14        | 16        | 37                      | 12        | 65        | 1,780.00 |
| 3/8  | 9.8                      | 8                         | 15        | 18        | 38                      | 12        | 70        | 2,325.00 |
| 1/2  | 13.2                     | 10                        | 20        | 18        | 45                      | 12        | 80        | 3,075.00 |

# CBT 斜柄沈頭銑刀

Counterbore With Taper Shank



\* 絞內六角頭螺絲孔用，模具加工必須之工具。

JIS 規格

單位：mm

| 規格  | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 全長<br>(L) | 推拔柄<br>MT NO. | 價(支)格     |
|-----|--------------------------|---------------------------|-----------|-----------|-----------|---------------|-----------|
| 16  | 17                       | 15                        | 26        | 22        | 130.5     | 2             | 5,795.00  |
| 18  | 19                       | 17                        | 29        | 24        | 134.5     | 2             | 6,820.00  |
| 20  | 21                       | 20                        | 32        | 26        | 138.5     | 2             | 8,620.00  |
| 22  | 23                       | 21                        | 35        | 28        | 142.5     | 2             | 11,090.00 |
| 24  | 25                       | 21                        | 39        | 32        | 170       | 3             | 14,410.00 |
| 30  | 31                       | 25                        | 48        | 38        | 182       | 3             | 20,905.00 |
| 5/8 | 16.5                     | 15                        | 26        | 22        | 128.5     | 2             | 5,795.00  |
| 3/4 | 20                       | 18                        | 29        | 26        | 135.5     | 2             | 7,120.00  |
| 1   | 26.5                     | 22                        | 37        | 32        | 169       | 3             | 14,500.00 |

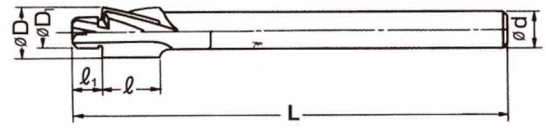
沈頭銑刀 · 鑽頭

Counter Bore



# CBLS 長柄沈頭銑刀

Long Shank Counterbore



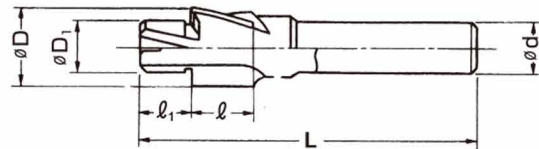
\* 絞內六角頭螺絲孔用，模具加工必須之工具。

單位：mm

| 規格   | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 柄長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|------|--------------------------|---------------------------|-----------|-----------|-------------------------|-----------|-----------|----------|
| 3    | 3.2                      | 3                         | 5.9       | 7         | 110                     | 6         | 120       | 1,680.00 |
| 4    | 4.2                      | 4                         | 7.4       | 10        | 106                     | 6         | 120       | 1,775.00 |
| 5    | 5.2                      | 5                         | 8.9       | 13        | 102                     | 6         | 120       | 2,310.00 |
| 6    | 6.2                      | 6                         | 10.4      | 15        | 99                      | 8         | 120       | 2,390.00 |
| 8    | 8.2                      | 8                         | 13.4      | 16        | 96                      | 10        | 120       | 2,990.00 |
| 10   | 10.3                     | 10                        | 16.8      | 16        | 114                     | 12        | 140       | 3,460.00 |
| 12   | 12.4                     | 12                        | 18.8      | 20        | 128                     | 12        | 160       | 3,900.00 |
| 14   | 14.4                     | 14                        | 24        | 20        | 146                     | 12        | 180       | 4,885.00 |
| 16   | 16.5                     | 16                        | 26        | 22        | 142                     | 16        | 180       | 5,935.00 |
| 18   | 18.5                     | 18                        | 28        | 24        | 158                     | 16        | 200       | 6,890.00 |
| 20   | 21                       | 21                        | 30        | 26        | 153                     | 16        | 200       | 7,750.00 |
| 1/4  | 6.55                     | 6                         | 11        | 14        | 100                     | 8         | 120       | 2,520.00 |
| 5/16 | 8.25                     | 8                         | 14        | 16        | 96                      | 10        | 120       | 2,720.00 |
| 3/8  | 9.8                      | 9                         | 15        | 16        | 115                     | 12        | 140       | 3,115.00 |
| 1/2  | 13.2                     | 13                        | 20        | 20        | 127                     | 12        | 160       | 4,545.00 |

# CBO 直柄押梢沈頭銑刀

Push Pin Counterbore



\* 模具加工必須之工具。

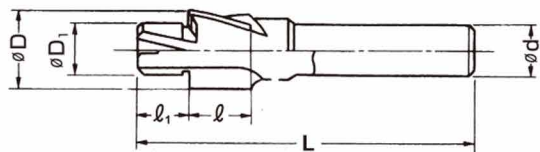
單位：mm

| 規格  | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|-----|--------------------------|---------------------------|-----------|-----------|-----------|-----------|----------|
| 2   | 2                        | 3                         | 6         | 7         | 5         | 36.5      | 1,580.00 |
| 2.5 | 2.5                      | 3                         | 6         | 7         | 5         | 36.5      | 1,580.00 |
| 3   | 3                        | 3                         | 6         | 7         | 5         | 37        | 1,580.00 |
| 3.5 | 3.5                      | 3                         | 8         | 8         | 6         | 42        | 1,735.00 |
| 4   | 4                        | 4                         | 8         | 8         | 6         | 43        | 1,735.00 |
| 4.5 | 4.5                      | 4                         | 9         | 8         | 6         | 45        | 1,955.00 |
| 5   | 5                        | 5                         | 9         | 10        | 6         | 51        | 2,035.00 |
| 6   | 6                        | 5                         | 10        | 10        | 8         | 55        | 2,190.00 |
| 7   | 7                        | 6                         | 11        | 10        | 8         | 55        | 2,270.00 |
| 8   | 8                        | 8                         | 13        | 12        | 8         | 64        | 2,745.00 |
| 9   | 9                        | 8                         | 14        | 12        | 10        | 64        | 2,860.00 |
| 10  | 10                       | 10                        | 15        | 12        | 10        | 66        | 3,150.00 |
| 12  | 12                       | 10                        | 17        | 12        | 10        | 69        | 3,865.00 |
| 14  | 14                       | 12                        | 19        | 14        | 12        | 76        | 4,450.00 |
| 16  | 16                       | 13                        | 21        | 16        | 12        | 79        | 5,435.00 |



# OCB 直柄押梢沈頭銑刀

Push Pin Counterbore



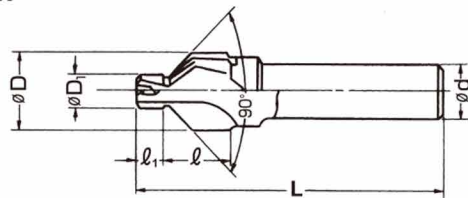
\* 模具加工必須之工具。

單位：mm

| 規格  | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 首徑<br>(d <sub>1</sub> ) | 柄長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|-----|--------------------------|---------------------------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|
| 2   | 2                        | 3                         | 6         | 7         | -                       | 26                      | 5         | 36        | 1,580.00 |
| 2.5 | 2.5                      | 3                         | 6         | 7         | -                       | 26                      | 5         | 36        | 1,580.00 |
| 3   | 3                        | 3                         | 6         | 7         | -                       | 27                      | 5         | 37        | 1,580.00 |
| 3.5 | 3.5                      | 3                         | 8         | 8         | -                       | 31                      | 6         | 42        | 1,735.00 |
| 4   | 4                        | 4                         | 8         | 8         | 7                       | 26                      | 6         | 43        | 1,735.00 |
| 4.5 | 4.5                      | 4                         | 9         | 8         | 8                       | 28                      | 6         | 45        | 1,955.00 |
| 5   | 5                        | 5                         | 9         | 10        | 8                       | 31                      | 6         | 51        | 2,035.00 |
| 6   | 6                        | 5                         | 10        | 10        | 9                       | 35                      | 8         | 55        | 2,190.00 |
| 7   | 7                        | 6                         | 11        | 10        | 10                      | 34                      | 8         | 55        | 2,270.00 |
| 8   | 8                        | 8                         | 13        | 12        | 12                      | 39                      | 10        | 64        | 2,745.00 |
| 9   | 9                        | 8                         | 14        | 12        | 13                      | 39                      | 10        | 64        | 2,860.00 |
| 10  | 10                       | 10                        | 15        | 12        | 13                      | 38                      | 10        | 66        | 3,150.00 |
| 12  | 12                       | 10                        | 17        | 14        | 15                      | 38                      | 12        | 69        | 3,865.00 |
| 14  | 14                       | 12                        | 19        | 14        | 16                      | 43                      | 12        | 76        | 4,450.00 |
| 16  | 16                       | 13                        | 21        | 16        | 18                      | 43                      | 12        | 79        | 5,435.00 |

# SCB 直柄皿頭沈頭銑刀

Screw Countersink



\* 絞皿頭螺絲孔用。

單位：mm

| 規格 | 引導徑<br>(D <sub>1</sub> ) | 引導徑長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 首徑<br>(d <sub>1</sub> ) | 柄長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|----|--------------------------|---------------------------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|
| 3  | 3.2                      | 3.5                       | 6.4       | 6.5       | 6.2                     | 30                      | 6         | 40        | 870.00   |
| 4  | 4.3                      | 4.5                       | 8.4       | 8         | 7                       | 30                      | 6         | 50        | 985.00   |
| 5  | 5.3                      | 5                         | 10.4      | 11        | 9.5                     | 33                      | 8         | 55        | 1,145.00 |
| 6  | 6.4                      | 6                         | 12.5      | 12        | 11.5                    | 35                      | 10        | 60        | 1,365.00 |
| 8  | 8.4                      | 7                         | 16.5      | 16        | 16                      | 35                      | 12        | 65        | 1,835.00 |

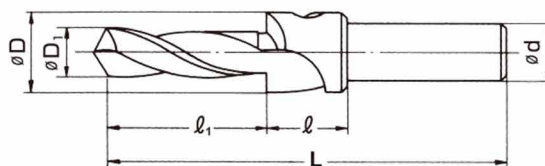
沈頭銑刀 · 鑽頭

Counter Bores



# DCBR 直柄沈頭鑽頭

Counterbore With Drill



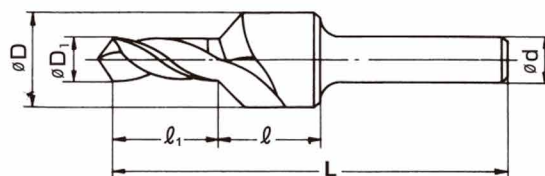
\* 鑽內六角頭螺絲孔用。

單位：mm

| 規格   | 鑽頭徑<br>( $D_1$ ) | 鑽頭長<br>( $l_1$ ) | 刃徑<br>( $D$ ) | 柄徑<br>( $d$ ) | 全長<br>( $L$ ) | 價(支)格    |
|------|------------------|------------------|---------------|---------------|---------------|----------|
| 3    | 3.4              | 13               | 6.5           | 6             | 65            | 1,410.00 |
| 4    | 4.5              | 18               | 8             | 6             | 75            | 1,615.00 |
| 5    | 5.5              | 22               | 9.5           | 8             | 85            | 1,710.00 |
| 6    | 6.6              | 25               | 11            | 8             | 90            | 2,090.00 |
| 8    | 9                | 28               | 14            | 12            | 100           | 2,800.00 |
| 10   | 11               | 30               | 17.5          | 12            | 110           | 3,585.00 |
| 12   | 14               | 32               | 20            | 12            | 115           | 4,720.00 |
| 14   | 16               | 35               | 23            | 12            | 125           | 6,405.00 |
| 16   | 18               | 40               | 26            | 12            | 135           | 7,335.00 |
| 18   | 20               | 45               | 29            | 12            | 145           | 8,560.00 |
| 1/4  | 7                | 25               | 11.5          | 8             | 90            | 2,090.00 |
| 5/16 | 9                | 28               | 14            | 12            | 100           | 2,800.00 |
| 3/8  | 11               | 30               | 17.5          | 12            | 110           | 3,585.00 |
| 1/2  | 14.7             | 32               | 21            | 12            | 115           | 4,720.00 |

# DCBS 直柄皿頭沈頭鑽頭

Screw Countersink With Drill



\* 鑽皿頭螺絲孔用。

單位：mm

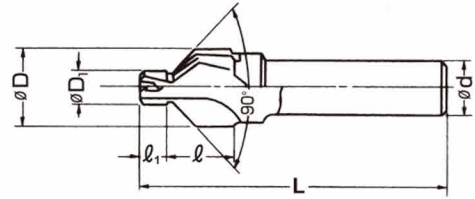
| 規格 | 鑽頭徑<br>( $D_1$ ) | 鑽頭長<br>( $l_1$ ) | 刃徑<br>( $D$ ) | 柄徑<br>( $d$ ) | 全長<br>( $L$ ) | 價(支)格    |
|----|------------------|------------------|---------------|---------------|---------------|----------|
| 3  | 3.4              | 13               | 6.4           | 6             | 65            | 1,410.00 |
| 4  | 4.5              | 18               | 8.4           | 6             | 70            | 1,625.00 |
| 5  | 5.5              | 22               | 10.4          | 8             | 80            | 2,035.00 |
| 6  | 6.6              | 25               | 12.5          | 10            | 85            | 2,415.00 |
| 8  | 9                | 28               | 16.5          | 12            | 90            | 3,415.00 |

沈頭銑刀 · 鑽頭

Counter Bore

# CBS 直柄皿頭沈頭銑刀

Screw Countersink



SKH56 高速鋼 4 12° 引導徑 0 -0.05 刃徑 +0.2 0 柄徑 h8 切削條件 P163

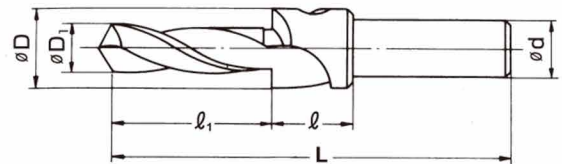
\* 絞皿頭螺絲孔用。

單位：mm

| 規格 | 引導徑<br>( $D_1$ ) | 引導徑長<br>( $l_1$ ) | 刃徑<br>( $D$ ) | 刃長<br>( $l$ ) | 柄徑<br>( $d$ ) | 全長<br>( $L$ ) | 價(支)格    |
|----|------------------|-------------------|---------------|---------------|---------------|---------------|----------|
| 3  | 3.2              | 2.5               | 7.5           | 6             | 6             | 37            | 870.00   |
| 4  | 4.2              | 3.5               | 9.5           | 8             | 6             | 44            | 985.00   |
| 5  | 5.2              | 4                 | 12            | 10            | 8             | 51            | 1,145.00 |
| 6  | 6.2              | 5                 | 14            | 11            | 10            | 57            | 1,365.00 |
| 8  | 8.2              | 7                 | 18.5          | 15            | 10            | 64            | 1,835.00 |

# DCB 直柄沈頭鑽頭

Counterbore With Drill



SKH51 高速鋼 2 25° h8 引導徑 0 +0.1 0 柄徑 h8 切削條件 P164

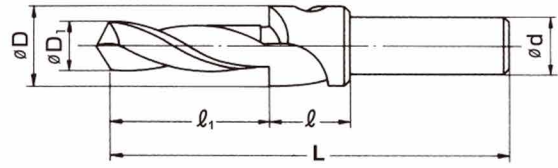
\* 鑽內六角頭螺絲孔用。

單位：mm

| 規格   | 鑽頭徑<br>( $D_1$ ) | 鑽頭長<br>( $l_1$ ) | 刃徑<br>( $D$ ) | 刃長<br>( $l$ ) | 柄徑<br>( $d$ ) | 全長<br>( $L$ ) | 價(支)格    |
|------|------------------|------------------|---------------|---------------|---------------|---------------|----------|
| 3    | 3.5              | 10               | 5.9           | 7             | 6             | 48            | 1,410.00 |
| 4    | 4.5              | 15               | 7.4           | 9             | 6             | 55            | 1,615.00 |
| 5    | 5.5              | 20               | 8.9           | 12            | 6             | 64            | 1,710.00 |
| 6    | 6.5              | 25               | 10.4          | 13            | 8             | 70            | 2,090.00 |
| 8    | 8.5              | 30               | 13.4          | 16            | 10            | 78            | 2,800.00 |
| 10   | 10.6             | 35               | 16.8          | 20            | 12            | 87            | 3,585.00 |
| 12   | 12.7             | 35               | 18.8          | 23            | 12            | 90            | 4,720.00 |
| 1/4  | 6.85             | 25               | 11            | 13            | 8             | 69            | 2,090.00 |
| 5/16 | 8.55             | 30               | 14            | 17            | 10            | 81            | 2,800.00 |
| 3/8  | 10.1             | 35               | 15            | 18            | 12            | 87            | 3,585.00 |
| 1/2  | 13.5             | 35               | 20            | 23            | 12            | 92            | 4,720.00 |

# DCBTA 直柄沈頭鑽頭

TAS Counterbore With Drill



\* 鑽內六角頭螺絲孔用。

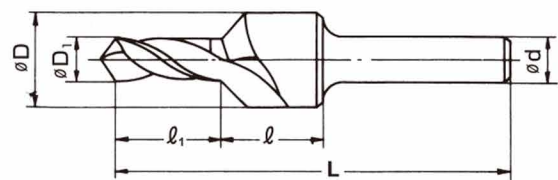
JIS 規格

單位：mm

| 規格   | 鑽頭徑<br>(D <sub>1</sub> ) | 鑽頭長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|------|--------------------------|--------------------------|-----------|-----------|-----------|-----------|----------|
| 3    | 3.4                      | 13                       | 6.5       | 9         | 6         | 60        | 1,410.00 |
| 4    | 4.5                      | 18                       | 8         | 10        | 6         | 66        | 1,625.00 |
| 5    | 5.5                      | 22                       | 9.5       | 11        | 8         | 76        | 1,710.00 |
| 6    | 6.6                      | 25                       | 11        | 12        | 8         | 80        | 2,090.00 |
| 8    | 9                        | 28                       | 14        | 14        | 12        | 85        | 2,800.00 |
| 10   | 11                       | 30                       | 17.5      | 17        | 12        | 95        | 3,585.00 |
| 12   | 14                       | 32                       | 20        | 22        | 12        | 102       | 4,720.00 |
| 14   | 16                       | 35                       | 23        | 27        | 12        | 110       | 6,405.00 |
| 16   | 18                       | 40                       | 26        | 32        | 12        | 120       | 7,335.00 |
| 18   | 20                       | 45                       | 29        | 37        | 12        | 130       | 8,560.00 |
| 1/4  | 6.9                      | 25                       | 11        | 12        | 8         | 80        | 2,090.00 |
| 5/16 | 8.9                      | 28                       | 14        | 14        | 8         | 85        | 2,800.00 |
| 3/8  | 10.5                     | 30                       | 15        | 17        | 8         | 90        | 3,585.00 |
| 1/2  | 14.7                     | 32                       | 20        | 22        | 12        | 102       | 4,720.00 |

# DCBSTA 直柄皿頭沈頭鑽頭

TAS Screw Countersink With Drill



\* 鑽皿頭螺絲孔用。

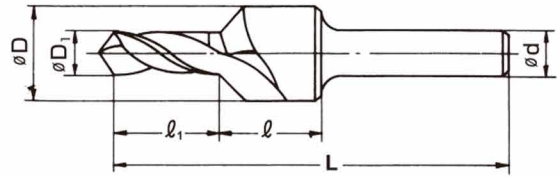
JIS 規格

單位：mm

| 規格 | 鑽頭徑<br>(D <sub>1</sub> ) | 鑽頭長<br>(l <sub>1</sub> ) | 刃徑<br>(D) | 刃長<br>(l) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格    |
|----|--------------------------|--------------------------|-----------|-----------|-----------|-----------|----------|
| 3  | 3.4                      | 11.5                     | 6.4       | 10.5      | 6         | 60        | 1,410.00 |
| 4  | 4.5                      | 16.1                     | 8.4       | 11.9      | 6         | 66        | 1,625.00 |
| 5  | 5.5                      | 19.6                     | 10.4      | 13.4      | 8         | 76        | 2,035.00 |
| 6  | 6.6                      | 22.1                     | 12.5      | 14.9      | 10        | 80        | 2,415.00 |
| 8  | 9                        | 24.3                     | 16.5      | 17.7      | 12        | 85        | 3,415.00 |

# DCBS 直柄皿頭沈頭鑽頭

Screw Countersink With Drill



SKH51 高速鋼 2 (25°) 引導徑 h8 刃徑 +0.1/0 柄徑 h8 切削條件 P164

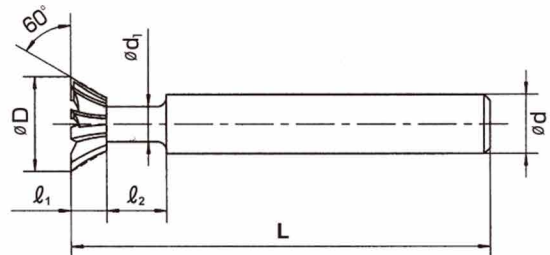
\* 鑽皿頭螺絲孔用。

單位：mm

| 規格 | 鑽頭徑 (D <sub>1</sub> ) | 鑽頭長 (l <sub>1</sub> ) | 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | 價(支)格    |
|----|-----------------------|-----------------------|--------|--------|--------|--------|----------|
| 3  | 3.5                   | 10                    | 7.5    | 11     | 6      | 44     | 1,410.00 |
| 4  | 4.5                   | 15                    | 9.5    | 14     | 6      | 55     | 1,625.00 |
| 5  | 5.5                   | 15                    | 12     | 18     | 6      | 61     | 2,035.00 |
| 6  | 6.5                   | 20                    | 14     | 20     | 8      | 71     | 2,415.00 |
| 8  | 8.5                   | 20                    | 18.5   | 25     | 8      | 76     | 3,415.00 |

# ACST 強力型長柄鳩尾槽銑刀

Long Shank Strong Angular Cutters With Straight Shank



SKH56 高速鋼 4-8 (20°) 刃徑 +1/0 單角 ±15' 柄徑 h8 切削條件 P161

- \* 採用高鈷高速度鋼為材料，比一般耐久性耐熱性高。
- \* 刃角20°，所以切削抵抗低、防震高。
- \* 因長柄，故MC.NC最適用。

單位：mm

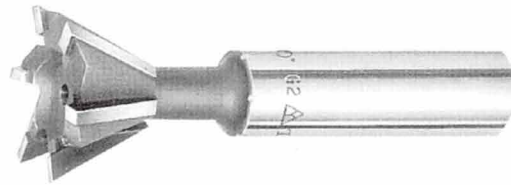
| 規格     | 外徑 (D) | 刃長 (l <sub>1</sub> ) | 首徑 (d <sub>1</sub> ) | 首長 (l <sub>2</sub> ) | 柄長 (l <sub>3</sub> ) | 柄徑 (d) | 全長 (L) | 刃數 (N) | 價(支)格     |
|--------|--------|----------------------|----------------------|----------------------|----------------------|--------|--------|--------|-----------|
| 20X60° | 20     | 7                    | 9                    | 12                   | 90                   | 10     | 109    | 4      | 4,545.00  |
| 25X60° | 25     | 9                    | 11                   | 15                   | 100                  | 12     | 124    | 6      | 5,860.00  |
| 30X60° | 30     | 11                   | 13                   | 18                   | 115                  | 16     | 144    | 6      | 6,795.00  |
| 35X60° | 35     | 13                   | 15                   | 18                   | 115                  | 16     | 146    | 6      | 9,695.00  |
| 40X60° | 40     | 17                   | 17                   | 25                   | 120                  | 20     | 162    | 6      | 11,700.00 |
| 45X60° | 45     | 19                   | 19                   | 25                   | 120                  | 20     | 164    | 6      | 15,110.00 |
| 50X60° | 50     | 22                   | 21                   | 30                   | 125                  | 25     | 177    | 6      | 18,155.00 |
| 55X60° | 55     | 22                   | 21                   | 30                   | 125                  | 25     | 177    | 8      | 22,450.00 |
| 60X60° | 60     | 25                   | 23                   | 30                   | 130                  | 25     | 185    | 8      | 25,945.00 |



# SACS 鎢鋼刃超硬直柄鳩尾槽銑刀

Carbide Tipped Angular Cutters With Straight Shank

材質G2



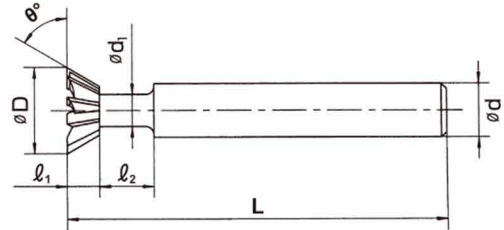
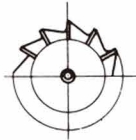
高精度高品質

單位：mm

| 角度<br>( $\theta$ ) | 型式<br>(Type) | 刃徑<br>(D) | 刃長<br>( $\ell$ ) | 首徑<br>( $d_1$ ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|--------------------|--------------|-----------|------------------|-----------------|-----------|-----------|-----------|-----------|
| 60°                | 直柄式          | 15        | 5                | 6               | 12        | 60        | 4         | 7,000.00  |
| 60°                | 直柄式          | 20        | 7                | 9               | 12        | 60        | 4         | 7,680.00  |
| 60°                | 直柄式          | 25        | 12               | 10              | 16        | 72        | 6         | 8,760.00  |
| 60°                | 直柄式          | 30        | 12               | 12              | 16        | 72        | 6         | 9,670.00  |
| 60°                | 直柄式          | 35        | 15               | 12              | 20        | 85        | 6         | 10,370.00 |
| 60°                | 直柄式          | 40        | 20               | 12              | 20        | 93        | 6         | 11,400.00 |
| 60°                | 直柄式          | 45        | 20               | 18              | 25        | 93        | 6         | 12,170.00 |
| 60°                | 直柄式          | 50        | 20               | 20              | 25        | 95        | 8         | 13,710.00 |
| 60°                | 直柄式          | 55        | 25               | 20              | 25        | 100       | 8         | 16,480.00 |
| 60°                | 直柄式          | 60        | 30               | 22              | 32        | 109       | 8         | 17,880.00 |
| 45°                | 直柄式          | 25        | 6                | 10              | 16        | 72        | 6         | 8,760.00  |
| 45°                | 直柄式          | 30        | 7.5              | 12              | 16        | 72        | 6         | 9,670.00  |
| 45°                | 直柄式          | 35        | 10               | 12              | 20        | 85        | 6         | 10,370.00 |
| 45°                | 直柄式          | 40        | 12.5             | 12              | 20        | 93        | 6         | 11,400.00 |
| 45°                | 直柄式          | 45        | 13               | 16              | 25        | 95        | 6         | 12,170.00 |
| 45°                | 直柄式          | 50        | 14.5             | 17              | 25        | 95        | 8         | 13,710.00 |
| 45°                | 直柄式          | 55        | 15.5             | 20              | 25        | 100       | 8         | 16,480.00 |
| 45°                | 直柄式          | 60        | 17               | 22              | 32        | 110       | 8         | 17,880.00 |
| 60°                | MT柄式         | 25        | 12               | 10              | MT2       | 95        | 6         | 9,190.00  |
| 60°                | MT柄式         | 30        | 12               | 12              | MT2       | 95        | 6         | 10,160.00 |
| 60°                | MT柄式         | 35        | 15               | 12              | MT3       | 115       | 6         | 10,900.00 |
| 60°                | MT柄式         | 40        | 20               | 12              | MT3       | 120       | 6         | 11,980.00 |
| 60°                | MT柄式         | 45        | 20               | 18              | MT3       | 120       | 6         | 12,880.00 |
| 60°                | MT柄式         | 50        | 20               | 20              | MT4       | 145       | 8         | 14,450.00 |
| 60°                | MT柄式         | 55        | 25               | 20              | MT4       | 150       | 8         | 17,300.00 |
| 60°                | MT柄式         | 60        | 30               | 22              | MT4       | 155       | 8         | 18,790.00 |

# ACS 直柄鳩尾槽銑刀

Angular Cutters With Straight Shank



+1  
0



單角 ±15'



P166

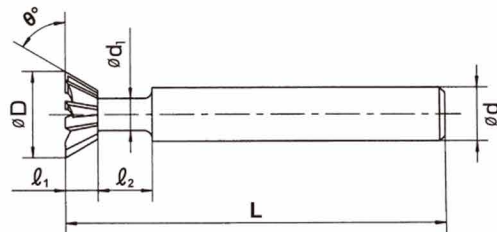
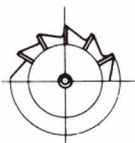
單位：mm

| 角度<br>(θ) | 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 首徑<br>( $d_1$ ) | 首長<br>( $l_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------|-----------------|-----------------|-----------------|-----------|-----------|-----------|-----------|
| 30°       | 25        | 4               | 6               | 15              | 12        | 67        | 10        | 4,740.00  |
| 30°       | 30        | 5               | 8               | 18              | 16        | 76        | 12        | 5,575.00  |
| 30°       | 35        | 6               | 8               | 18              | 16        | 79        | 12        | 7,520.00  |
| 30°       | 40        | 7               | 10              | 20              | 20        | 88        | 14        | 9,420.00  |
| 30°       | 50        | 8               | 12              | 25              | 25        | 98        | 16        | 15,155.00 |
| 30°       | 60        | 10              | 14              | 25              | 25        | 103       | 18        | 21,675.00 |
| 40°       | 20        | 5               | 5               | 12              | 10        | 62        | 10        | 3,700.00  |
| 40°       | 25        | 7               | 6               | 15              | 12        | 67        | 10        | 4,740.00  |
| 40°       | 30        | 8               | 8               | 18              | 16        | 76        | 12        | 5,575.00  |
| 40°       | 35        | 11              | 8               | 18              | 16        | 79        | 12        | 7,520.00  |
| 40°       | 40        | 13              | 10              | 20              | 20        | 88        | 14        | 9,420.00  |
| 40°       | 50        | 16              | 12              | 25              | 25        | 98        | 16        | 15,155.00 |
| 40°       | 60        | 18              | 14              | 25              | 25        | 103       | 18        | 21,675.00 |
| 45°       | 10        | 3               | 3               | 8               | 8         | 45        | 8         | 1,900.00  |
| 45°       | 12        | 3.5             | 4               | 10              | 8         | 50        | 8         | 2,080.00  |
| 45°       | 15        | 4               | 5               | 10              | 10        | 54        | 8         | 2,225.00  |
| 45°       | 20        | 5               | 6               | 12              | 10        | 62        | 10        | 3,080.00  |
| 45°       | 25        | 7               | 7               | 15              | 12        | 67        | 10        | 3,950.00  |
| 45°       | 30        | 8               | 9               | 18              | 16        | 76        | 12        | 4,645.00  |
| 45°       | 35        | 11              | 9               | 18              | 16        | 79        | 12        | 6,270.00  |
| 45°       | 40        | 13              | 11              | 20              | 20        | 88        | 14        | 7,850.00  |
| 45°       | 45        | 15              | 11              | 20              | 20        | 90        | 14        | 10,175.00 |
| 45°       | 50        | 16              | 13              | 25              | 25        | 98        | 16        | 12,630.00 |
| 45°       | 55        | 16              | 13              | 25              | 25        | 98        | 18        | 15,610.00 |
| 45°       | 60        | 18              | 15              | 25              | 25        | 103       | 18        | 18,060.00 |
| 50°       | 20        | 5               | 8               | 12              | 10        | 62        | 10        | 3,700.00  |
| 50°       | 25        | 7               | 9               | 15              | 12        | 67        | 10        | 4,740.00  |
| 50°       | 30        | 8               | 11              | 18              | 16        | 76        | 12        | 5,575.00  |
| 50°       | 40        | 13              | 13              | 20              | 20        | 88        | 14        | 9,420.00  |
| 50°       | 50        | 16              | 15              | 25              | 25        | 98        | 16        | 15,155.00 |
| 50°       | 60        | 18              | 17              | 25              | 25        | 103       | 18        | 21,675.00 |
| 55°       | 30        | 8               | 12              | 18              | 16        | 76        | 12        | 5,575.00  |
| 55°       | 40        | 13              | 13              | 20              | 20        | 88        | 14        | 9,420.00  |
| 55°       | 50        | 16              | 18              | 25              | 25        | 98        | 16        | 15,155.00 |
| 55°       | 60        | 18              | 20              | 25              | 25        | 103       | 18        | 21,675.00 |



# ACS 直柄鳩尾槽銑刀

Angular Cutters With Straight Shank



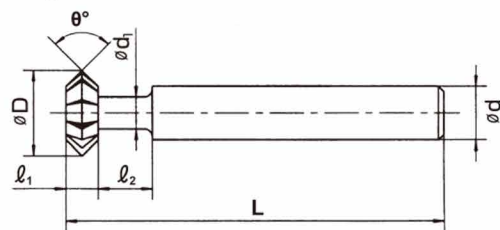
SKH51 高速鋼 刃徑  $+1/0$  單角  $\pm 15'$  精徑 h8 切削條件 P166

單位：mm

| 角度<br>( $\theta$ ) | 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 首徑<br>( $d_1$ ) | 首長<br>( $l_2$ ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|--------------------|-----------|-----------------|-----------------|-----------------|-----------|-----------|-----------|-----------|
| 60°                | 10        | 4               | 4               | 8               | 8         | 45        | 8         | 1,900.00  |
| 60°                | 12        | 5               | 5               | 10              | 8         | 50        | 8         | 2,080.00  |
| 60°                | 15        | 6               | 6               | 12              | 10        | 54        | 8         | 2,225.00  |
| 60°                | 20        | 7               | 8               | 12              | 10        | 64        | 10        | 3,080.00  |
| 60°                | 25        | 9               | 10              | 15              | 12        | 69        | 10        | 3,950.00  |
| 60°                | 30        | 11              | 12              | 18              | 16        | 79        | 12        | 4,645.00  |
| 60°                | 35        | 13              | 14              | 18              | 16        | 81        | 12        | 6,270.00  |
| 60°                | 40        | 17              | 16              | 20              | 20        | 92        | 14        | 7,850.00  |
| 60°                | 45        | 19              | 18              | 20              | 20        | 94        | 14        | 10,175.00 |
| 60°                | 50        | 22              | 20              | 22              | 25        | 104       | 16        | 12,630.00 |
| 60°                | 55        | 22              | 20              | 22              | 25        | 104       | 18        | 15,610.00 |
| 60°                | 60        | 25              | 22              | 22              | 25        | 110       | 18        | 18,060.00 |
| 70°                | 15        | 6               | 6               | 12              | 10        | 54        | 8         | 2,670.00  |
| 70°                | 20        | 7               | 8               | 12              | 10        | 64        | 10        | 3,700.00  |
| 70°                | 25        | 9               | 10              | 15              | 12        | 69        | 10        | 4,740.00  |
| 70°                | 30        | 11              | 12              | 18              | 16        | 79        | 12        | 5,575.00  |
| 70°                | 40        | 17              | 16              | 20              | 20        | 92        | 14        | 9,420.00  |
| 70°                | 50        | 22              | 20              | 22              | 25        | 104       | 16        | 15,155.00 |
| 70°                | 60        | 25              | 22              | 22              | 25        | 110       | 18        | 21,675.00 |
| 75°                | 10        | 4               | 4               | 8               | 8         | 45        | 8         | 2,285.00  |
| 75°                | 12        | 5               | 5               | 10              | 8         | 50        | 8         | 2,495.00  |
| 75°                | 15        | 6               | 6               | 12              | 10        | 54        | 8         | 2,720.00  |
| 75°                | 20        | 7               | 8               | 12              | 10        | 64        | 10        | 3,700.00  |
| 75°                | 25        | 9               | 10              | 15              | 12        | 69        | 10        | 4,740.00  |
| 75°                | 30        | 11              | 12              | 18              | 16        | 79        | 12        | 5,575.00  |
| 75°                | 35        | 13              | 14              | 18              | 16        | 81        | 12        | 7,520.00  |
| 75°                | 40        | 17              | 16              | 20              | 20        | 92        | 14        | 9,420.00  |
| 75°                | 45        | 19              | 18              | 20              | 20        | 94        | 14        | 12,210.00 |
| 75°                | 50        | 22              | 20              | 22              | 25        | 104       | 16        | 15,155.00 |
| 75°                | 55        | 22              | 22              | 22              | 25        | 104       | 18        | 18,735.00 |
| 75°                | 60        | 25              | 22              | 22              | 25        | 110       | 18        | 21,675.00 |
| 80°                | 20        | 7               | 8               | 12              | 10        | 64        | 10        | 3,700.00  |
| 80°                | 25        | 9               | 10              | 15              | 12        | 69        | 10        | 4,740.00  |
| 80°                | 30        | 11              | 12              | 18              | 16        | 79        | 12        | 5,575.00  |
| 80°                | 40        | 17              | 16              | 20              | 20        | 92        | 14        | 9,420.00  |
| 80°                | 50        | 22              | 20              | 22              | 25        | 104       | 16        | 15,155.00 |
| 80°                | 60        | 25              | 22              | 22              | 25        | 110       | 18        | 21,675.00 |

# ACSW 直柄W型鳩尾槽銑刀

W Angular Cutters With Straight Shank



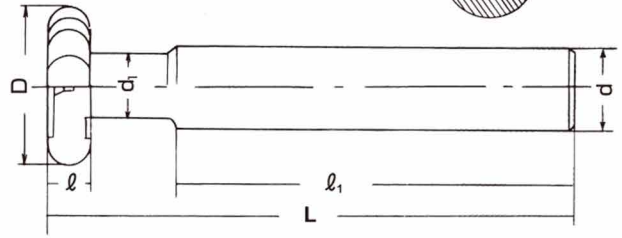
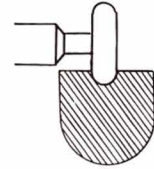
SKH51 高速鋼 刃徑 +1 0 單角 ±15' h8 切削條件 P167

單位：mm

| 角度<br>(θ) | 刃徑<br>(D) | 刃長<br>(l <sub>1</sub> ) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------|-------------------------|-------------------------|-------------------------|-----------|-----------|-----------|-----------|
| 60°       | 15        | 4                       | 5                       | 12                      | 10        | 60        | 8         | 2,670.00  |
| 60°       | 20        | 5                       | 6                       | 12                      | 10        | 63        | 10        | 3,700.00  |
| 60°       | 25        | 6                       | 7                       | 15                      | 12        | 75        | 10        | 4,740.00  |
| 60°       | 30        | 8                       | 8                       | 18                      | 16        | 78        | 12        | 5,575.00  |
| 60°       | 35        | 8                       | 10                      | 18                      | 16        | 82        | 12        | 7,520.00  |
| 60°       | 40        | 9                       | 12                      | 20                      | 20        | 93        | 14        | 9,420.00  |
| 60°       | 45        | 11                      | 14                      | 21                      | 20        | 95        | 14        | 12,210.00 |
| 60°       | 50        | 12                      | 16                      | 22                      | 25        | 104       | 16        | 15,155.00 |
| 60°       | 55        | 13                      | 18                      | 24                      | 25        | 110       | 18        | 18,735.00 |
| 60°       | 60        | 14                      | 20                      | 24                      | 25        | 110       | 18        | 21,675.00 |
| 90°       | 15        | 5                       | 6                       | 12                      | 10        | 60        | 8         | 2,670.00  |
| 90°       | 20        | 6                       | 8                       | 12                      | 10        | 63        | 10        | 3,700.00  |
| 90°       | 25        | 7                       | 10                      | 15                      | 12        | 75        | 10        | 4,740.00  |
| 90°       | 30        | 8                       | 12                      | 18                      | 16        | 78        | 12        | 5,575.00  |
| 90°       | 35        | 10                      | 14                      | 18                      | 16        | 82        | 12        | 7,520.00  |
| 90°       | 40        | 12                      | 16                      | 20                      | 20        | 93        | 14        | 9,420.00  |
| 90°       | 45        | 16                      | 16                      | 20                      | 20        | 95        | 14        | 12,210.00 |
| 90°       | 50        | 18                      | 18                      | 22                      | 25        | 104       | 16        | 15,155.00 |
| 90°       | 55        | 20                      | 20                      | 24                      | 25        | 110       | 18        | 18,735.00 |
| 90°       | 60        | 20                      | 22                      | 24                      | 25        | 110       | 18        | 21,675.00 |
| 120°      | 25        | 7                       | 10                      | 15                      | 12        | 75        | 10        | 5,135.00  |
| 120°      | 30        | 8                       | 12                      | 18                      | 16        | 78        | 12        | 6,040.00  |
| 120°      | 40        | 12                      | 16                      | 20                      | 20        | 93        | 14        | 10,205.00 |
| 120°      | 50        | 18                      | 18                      | 22                      | 25        | 104       | 16        | 16,415.00 |

## 直柄外圓槽銑刀

Convex Milling Cutters With Straight Shank



SKH56  
高速鋼  
R角 ±0.02

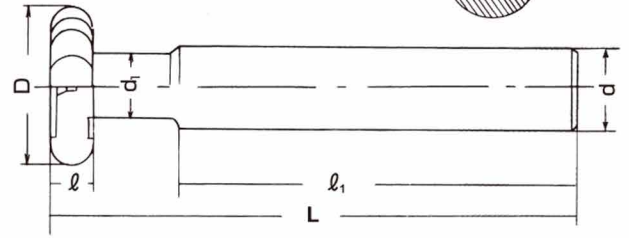
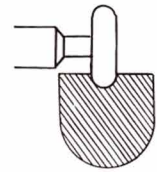
\* 高精度、萬能、省力化之銑刀，最適合於型雕，NC加工。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 刃長<br>( $l$ ) | 首徑<br>( $d_1$ ) | 柄長<br>( $l_1$ ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------|---------------|-----------------|-----------------|-----------|-----------|-----------|-----------|
| 20        | 0.5       | 1             | 8               | 95              | 12        | 111~116   | 8         | 13,570.00 |
| 20        | 0.75      | 1.5           | 8               | 95              | 12        | 111~116   | 8         | 13,570.00 |
| 20        | 1         | 2             | 8               | 95              | 12        | 111~116   | 8         | 13,355.00 |
| 20        | 1.25      | 2.5           | 8               | 95              | 12        | 111~116   | 8         | 13,355.00 |
| 20        | 1.5       | 3             | 8               | 95              | 12        | 111~116   | 8         | 13,520.00 |
| 20        | 1.75      | 3.5           | 8               | 95              | 12        | 111~116   | 8         | 13,520.00 |
| 20        | 2         | 4             | 8               | 95              | 12        | 111~116   | 8         | 14,035.00 |
| 20        | 2.25      | 4.5           | 8               | 95              | 12        | 111~116   | 6         | 14,035.00 |
| 20        | 2.5       | 5             | 8               | 95              | 12        | 111~116   | 6         | 14,470.00 |
| 20        | 2.75      | 5.5           | 8               | 95              | 12        | 111~116   | 6         | 14,470.00 |
| 20        | 3         | 6             | 8               | 95              | 12        | 111~116   | 6         | 14,880.00 |
| 25        | 0.5       | 1             | 10              | 120             | 16        | 139~144   | 10        | 15,835.00 |
| 25        | 0.75      | 1.5           | 10              | 120             | 16        | 139~144   | 10        | 15,835.00 |
| 25        | 1         | 2             | 10              | 120             | 16        | 139~144   | 10        | 15,620.00 |
| 25        | 1.25      | 2.5           | 10              | 120             | 16        | 139~144   | 8         | 15,620.00 |
| 25        | 1.5       | 3             | 10              | 120             | 16        | 139~144   | 8         | 15,835.00 |
| 25        | 1.75      | 3.5           | 10              | 120             | 16        | 139~144   | 8         | 15,835.00 |
| 25        | 2         | 4             | 10              | 120             | 16        | 139~144   | 8         | 16,300.00 |
| 25        | 2.25      | 4.5           | 10              | 120             | 16        | 139~144   | 8         | 16,300.00 |
| 25        | 2.5       | 5             | 10              | 120             | 16        | 139~144   | 8         | 17,010.00 |
| 25        | 2.75      | 5.5           | 10              | 120             | 16        | 139~144   | 8         | 17,010.00 |
| 25        | 3         | 6             | 10              | 120             | 16        | 139~144   | 8         | 17,010.00 |
| 30        | 0.5       | 1             | 12              | 120             | 16        | 141~148   | 12        | 18,565.00 |
| 30        | 0.75      | 1.5           | 12              | 120             | 16        | 141~148   | 12        | 18,565.00 |
| 30        | 1         | 2             | 12              | 120             | 16        | 141~148   | 10        | 18,215.00 |
| 30        | 1.25      | 2.5           | 12              | 120             | 16        | 141~148   | 10        | 18,215.00 |
| 30        | 1.5       | 3             | 12              | 120             | 16        | 141~148   | 10        | 18,565.00 |
| 30        | 1.75      | 3.5           | 12              | 120             | 16        | 141~148   | 10        | 18,565.00 |
| 30        | 2         | 4             | 12              | 120             | 16        | 141~148   | 10        | 19,000.00 |
| 30        | 2.25      | 4.5           | 12              | 120             | 16        | 141~148   | 10        | 19,000.00 |

## 直柄外圓槽銑刀

Convex Milling Cutters With Straight Shank



\* 高精度、萬能、省力化之銑刀，最適合於型雕，NC加工。

單位：mm

| 刃徑<br>(D) | R角<br>(R) | 刃長<br>( $l$ ) | 首徑<br>( $d_1$ ) | 柄長<br>( $l_1$ ) | 柄徑<br>(d) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------|---------------|-----------------|-----------------|-----------|-----------|-----------|-----------|
| 30        | 2.5       | 5             | 12              | 120             | 16        | 141~148   | 10        | 19,470.00 |
| 30        | 2.75      | 5.5           | 12              | 120             | 16        | 141~148   | 10        | 19,470.00 |
| 30        | 3         | 6             | 12              | 120             | 16        | 141~148   | 10        | 19,960.00 |
| 30        | 3.25      | 6.5           | 12              | 120             | 16        | 141~148   | 8         | 19,960.00 |
| 30        | 3.5       | 7             | 12              | 120             | 16        | 141~148   | 8         | 19,960.00 |
| 30        | 3.75      | 7.5           | 12              | 120             | 16        | 141~148   | 8         | 20,670.00 |
| 30        | 4         | 8             | 12              | 120             | 16        | 141~148   | 8         | 20,670.00 |
| 40        | 1         | 2             | 18              | 120             | 20        | 144~152   | 12        | 26,430.00 |
| 40        | 1.25      | 2.5           | 18              | 120             | 20        | 144~152   | 12        | 26,430.00 |
| 40        | 1.5       | 3             | 18              | 120             | 20        | 144~152   | 12        | 26,430.00 |
| 40        | 2         | 4             | 18              | 120             | 20        | 144~152   | 12        | 26,430.00 |
| 40        | 2.5       | 5             | 18              | 120             | 20        | 144~152   | 10        | 26,865.00 |
| 40        | 3         | 6             | 18              | 120             | 20        | 144~152   | 10        | 27,330.00 |
| 40        | 3.5       | 7             | 18              | 120             | 20        | 144~152   | 10        | 27,715.00 |
| 40        | 4         | 8             | 18              | 120             | 20        | 144~152   | 10        | 28,205.00 |
| 40        | 4.5       | 9             | 18              | 120             | 20        | 144~152   | 10        | 29,950.00 |
| 40        | 5         | 10            | 18              | 120             | 20        | 144~152   | 10        | 30,140.00 |
| 40        | 5.5       | 11            | 18              | 120             | 20        | 144~152   | 10        | 30,380.00 |
| 40        | 6         | 12            | 18              | 120             | 20        | 144~152   | 10        | 30,525.00 |
| 50        | 1         | 2             | 20              | 130             | 25        | 154~164   | 12        | 40,680.00 |
| 50        | 1.5       | 3             | 20              | 130             | 25        | 154~164   | 12        | 39,780.00 |
| 50        | 2         | 4             | 20              | 130             | 25        | 154~164   | 12        | 37,620.00 |
| 50        | 2.5       | 5             | 20              | 130             | 25        | 154~164   | 12        | 37,620.00 |
| 50        | 3         | 6             | 20              | 130             | 25        | 154~164   | 12        | 38,115.00 |
| 50        | 3.5       | 7             | 20              | 130             | 25        | 154~164   | 12        | 38,115.00 |
| 50        | 4         | 8             | 20              | 130             | 25        | 154~164   | 10        | 38,960.00 |
| 50        | 4.5       | 9             | 20              | 130             | 25        | 154~164   | 10        | 39,370.00 |
| 50        | 5         | 10            | 20              | 130             | 25        | 154~164   | 10        | 39,780.00 |
| 50        | 5.5       | 11            | 20              | 130             | 25        | 154~164   | 10        | 40,680.00 |
| 50        | 6         | 12            | 20              | 130             | 25        | 154~164   | 10        | 41,445.00 |



# STC 鎢鋼刃超硬直柄千鳥刃T型槽銑刀

Carbide Tipped Staggered T-Slot Cutters

材質G2

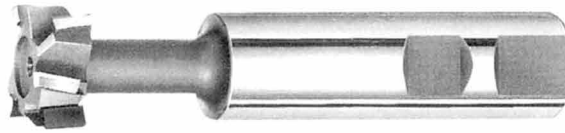
刃徑許容差

|       |                  |
|-------|------------------|
| 15    | -0.05<br>-0.16   |
| 20~25 | -0.065<br>-0.195 |
| 30~50 | -0.08<br>-0.24   |

刃長許容差

|       |                  |
|-------|------------------|
| 4~7   | -0.03<br>-0.105  |
| 8~9   | -0.04<br>-0.13   |
| 10~18 | -0.05<br>-0.16   |
| 20    | -0.065<br>-0.195 |

高精度高品質



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 刃數<br>(N) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 柄徑<br>(d) | 價(支)格            |
|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|------------------|
| 15        | 4         | 6         | 7                       | 21                      | 75        | 12        | <b>6,530.00</b>  |
| 15        | 5         | 6         | 7                       | 20                      | 75        | 12        | <b>6,560.00</b>  |
| 15        | 6         | 6         | 7                       | 19                      | 75        | 12        | <b>6,600.00</b>  |
| 15        | 7         | 6         | 7                       | 18                      | 75        | 12        | <b>7,080.00</b>  |
| 15        | 8         | 6         | 7                       | 17                      | 75        | 12        | <b>7,190.00</b>  |
| 15        | 10        | 6         | 7                       | 15                      | 75        | 12        | <b>7,600.00</b>  |
| 20        | 4         | 6         | 9.5                     | 26                      | 90        | 16        | <b>6,870.00</b>  |
| 20        | 5         | 6         | 9.5                     | 25                      | 90        | 16        | <b>7,050.00</b>  |
| 20        | 6         | 6         | 9.5                     | 24                      | 90        | 16        | <b>7,180.00</b>  |
| 20        | 8         | 6         | 9.5                     | 22                      | 90        | 16        | <b>8,440.00</b>  |
| 20        | 10        | 6         | 9.5                     | 20                      | 90        | 16        | <b>8,990.00</b>  |
| 20        | 12        | 6         | 9.5                     | 18                      | 90        | 16        | <b>9,670.00</b>  |
| 25        | 4         | 6         | 12                      | 31                      | 105       | 20        | <b>7,870.00</b>  |
| 25        | 5         | 6         | 12                      | 30                      | 105       | 20        | <b>8,050.00</b>  |
| 25        | 6         | 6         | 12                      | 29                      | 105       | 20        | <b>8,460.00</b>  |
| 25        | 8         | 6         | 12                      | 27                      | 105       | 20        | <b>8,690.00</b>  |
| 25        | 10        | 6         | 12                      | 25                      | 105       | 20        | <b>9,560.00</b>  |
| 25        | 12        | 6         | 12                      | 23                      | 105       | 20        | <b>10,170.00</b> |
| 30        | 4         | 6         | 13                      | 41                      | 125       | 25        | <b>8,370.00</b>  |
| 30        | 5         | 6         | 13                      | 40                      | 125       | 25        | <b>8,450.00</b>  |
| 30        | 6         | 6         | 13                      | 39                      | 125       | 25        | <b>8,590.00</b>  |
| 30        | 8         | 6         | 13                      | 37                      | 125       | 25        | <b>9,110.00</b>  |
| 30        | 10        | 6         | 13                      | 35                      | 125       | 25        | <b>9,590.00</b>  |
| 30        | 12        | 6         | 13                      | 33                      | 125       | 25        | <b>10,250.00</b> |
| 30        | 14        | 6         | 13                      | 31                      | 125       | 25        | <b>10,780.00</b> |
| 30        | 15        | 6         | 13                      | 30                      | 125       | 25        | <b>11,170.00</b> |
| 30        | 16        | 6         | 13                      | 29                      | 125       | 25        | <b>11,730.00</b> |
| 35        | 4         | 6         | 13                      | 41                      | 125       | 25        | <b>10,080.00</b> |
| 35        | 5         | 6         | 13                      | 40                      | 125       | 25        | <b>10,180.00</b> |
| 35        | 6         | 6         | 13                      | 39                      | 125       | 25        | <b>10,270.00</b> |
| 35        | 8         | 6         | 13                      | 37                      | 125       | 25        | <b>10,770.00</b> |
| 35        | 10        | 6         | 13                      | 35                      | 125       | 25        | <b>11,250.00</b> |
| 35        | 12        | 6         | 13                      | 33                      | 125       | 25        | <b>11,440.00</b> |
| 35        | 14        | 6         | 13                      | 31                      | 125       | 25        | <b>11,780.00</b> |
| 35        | 15        | 6         | 13                      | 30                      | 125       | 25        | <b>12,180.00</b> |
| 35        | 16        | 6         | 13                      | 29                      | 125       | 25        | <b>12,790.00</b> |



# STC 鎢鋼刃超硬直柄千鳥刃T型槽銑刀

Carbide Tipped Staggered T-Slot Cutters

材質G2

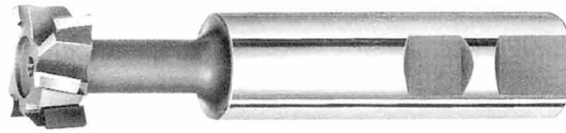
刀徑許容差

|       |                  |
|-------|------------------|
| 15    | -0.05<br>-0.16   |
| 20~25 | -0.065<br>-0.195 |
| 30~50 | -0.08<br>-0.24   |

刀長許容差

|       |                  |
|-------|------------------|
| 4~ 7  | -0.03<br>-0.105  |
| 8~ 9  | -0.04<br>-0.13   |
| 10~18 | -0.05<br>-0.16   |
| 20    | -0.065<br>-0.195 |

高精度高品質



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 刃數<br>(N) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 柄徑<br>(d) | 價(支)格            |
|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|------------------|
| 40        | 4         | 6         | 19                      | 51                      | 135       | 25        | <b>11,300.00</b> |
| 40        | 5         | 6         | 19                      | 50                      | 135       | 25        | <b>11,370.00</b> |
| 40        | 6         | 6         | 19                      | 49                      | 135       | 25        | <b>11,480.00</b> |
| 40        | 8         | 6         | 19                      | 47                      | 135       | 25        | <b>12,280.00</b> |
| 40        | 10        | 6         | 19                      | 45                      | 135       | 25        | <b>12,530.00</b> |
| 40        | 12        | 6         | 19                      | 43                      | 135       | 25        | <b>13,080.00</b> |
| 40        | 14        | 6         | 19                      | 41                      | 135       | 25        | <b>13,780.00</b> |
| 40        | 15        | 6         | 19                      | 40                      | 135       | 25        | <b>14,090.00</b> |
| 40        | 16        | 6         | 19                      | 39                      | 135       | 25        | <b>14,520.00</b> |
| 40        | 18        | 6         | 19                      | 37                      | 135       | 25        | <b>14,610.00</b> |
| 40        | 20        | 6         | 19                      | 35                      | 135       | 25        | <b>14,920.00</b> |
| 45        | 4         | 6         | 19                      | 51                      | 135       | 25        | <b>12,340.00</b> |
| 45        | 5         | 6         | 19                      | 50                      | 135       | 25        | <b>12,390.00</b> |
| 45        | 6         | 6         | 19                      | 49                      | 135       | 25        | <b>12,410.00</b> |
| 45        | 8         | 6         | 19                      | 47                      | 135       | 25        | <b>13,000.00</b> |
| 45        | 10        | 6         | 19                      | 45                      | 135       | 25        | <b>13,520.00</b> |
| 45        | 12        | 6         | 19                      | 43                      | 135       | 25        | <b>14,080.00</b> |
| 45        | 14        | 6         | 19                      | 41                      | 135       | 25        | <b>15,470.00</b> |
| 45        | 15        | 6         | 19                      | 40                      | 135       | 25        | <b>15,780.00</b> |
| 45        | 16        | 6         | 19                      | 39                      | 135       | 25        | <b>16,260.00</b> |
| 45        | 18        | 6         | 19                      | 37                      | 135       | 25        | <b>17,240.00</b> |
| 45        | 20        | 6         | 19                      | 35                      | 135       | 25        | <b>17,610.00</b> |
| 50        | 4         | 8         | 25                      | 61                      | 145       | 32        | <b>13,720.00</b> |
| 50        | 5         | 8         | 25                      | 60                      | 145       | 32        | <b>13,830.00</b> |
| 50        | 6         | 8         | 25                      | 59                      | 145       | 32        | <b>14,040.00</b> |
| 50        | 8         | 8         | 25                      | 57                      | 145       | 32        | <b>14,090.00</b> |
| 50        | 10        | 8         | 25                      | 55                      | 145       | 32        | <b>14,380.00</b> |
| 50        | 12        | 8         | 25                      | 53                      | 145       | 32        | <b>14,910.00</b> |
| 50        | 14        | 8         | 25                      | 51                      | 145       | 32        | <b>16,020.00</b> |
| 50        | 15        | 8         | 25                      | 50                      | 145       | 32        | <b>16,820.00</b> |
| 50        | 16        | 8         | 25                      | 49                      | 145       | 32        | <b>17,160.00</b> |
| 50        | 18        | 8         | 25                      | 47                      | 145       | 32        | <b>17,490.00</b> |
| 50        | 20        | 8         | 25                      | 45                      | 145       | 32        | <b>18,130.00</b> |

溝槽刀具

Cutters Series

# CSKCP 全鎢鋼直柄T型槽銑刀

Solid Carbide Straight Shank T-Slot Cutters



材質：K10超硬合金鎢鋼

- 優點：1. 刃徑由4到12，刃長由0.5到6，超小刃徑，超小刃長，規格相當齊全。  
 2. 最適用於鎂、鋁、鋅等合金切削加工上用。  
 3. 刃徑面無中心孔，又向中心點微向內凹設計，排屑輕快，可提高切削速度。  
 4. 可以作三面切削之功能。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    | 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|----------|
| 4         | 0.5       | 65        | 3         | 6         | 6,045.00 | 5         | 1.9       | 65        | 3         | 6         | 6,045.00 |
| 4         | 0.6       | 65        | 3         | 6         | 6,045.00 | 5         | 2         | 65        | 3         | 6         | 5,500.00 |
| 4         | 0.7       | 65        | 3         | 6         | 6,045.00 | 5         | 2.5       | 65        | 3         | 6         | 5,500.00 |
| 4         | 0.8       | 65        | 3         | 6         | 6,045.00 | 6         | 0.5       | 65        | 3         | 6         | 6,045.00 |
| 4         | 0.9       | 65        | 3         | 6         | 6,045.00 | 6         | 0.6       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1         | 65        | 3         | 6         | 6,045.00 | 6         | 0.7       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.1       | 65        | 3         | 6         | 6,045.00 | 6         | 0.8       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.2       | 65        | 3         | 6         | 5,500.00 | 6         | 0.9       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.3       | 65        | 3         | 6         | 6,045.00 | 6         | 1         | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.4       | 65        | 3         | 6         | 5,500.00 | 6         | 1.1       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.5       | 65        | 3         | 6         | 5,500.00 | 6         | 1.2       | 65        | 3         | 6         | 5,500.00 |
| 4         | 1.6       | 65        | 3         | 6         | 5,500.00 | 6         | 1.3       | 65        | 3         | 6         | 6,045.00 |
| 4         | 1.7       | 65        | 3         | 6         | 6,045.00 | 6         | 1.4       | 65        | 3         | 6         | 5,500.00 |
| 4         | 1.8       | 65        | 3         | 6         | 5,500.00 | 6         | 1.5       | 65        | 3         | 6         | 5,500.00 |
| 4         | 1.9       | 65        | 3         | 6         | 6,045.00 | 6         | 1.6       | 65        | 3         | 6         | 5,500.00 |
| 4         | 2         | 65        | 3         | 6         | 5,500.00 | 6         | 1.7       | 65        | 3         | 6         | 6,045.00 |
| 5         | 0.5       | 65        | 3         | 6         | 6,045.00 | 6         | 1.8       | 65        | 3         | 6         | 5,500.00 |
| 5         | 0.6       | 65        | 3         | 6         | 6,045.00 | 6         | 1.9       | 65        | 3         | 6         | 6,045.00 |
| 5         | 0.7       | 65        | 3         | 6         | 6,045.00 | 6         | 2         | 65        | 3         | 6         | 5,500.00 |
| 5         | 0.8       | 65        | 3         | 6         | 6,045.00 | 6         | 2.5       | 65        | 3         | 6         | 5,500.00 |
| 5         | 0.9       | 65        | 3         | 6         | 6,045.00 | 6         | 3         | 65        | 3         | 6         | 5,500.00 |
| 5         | 1         | 65        | 3         | 6         | 6,045.00 | 8         | 0.5       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.1       | 65        | 3         | 6         | 6,045.00 | 8         | 0.6       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.2       | 65        | 3         | 6         | 5,500.00 | 8         | 0.7       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.3       | 65        | 3         | 6         | 6,045.00 | 8         | 0.8       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.4       | 65        | 3         | 6         | 5,500.00 | 8         | 0.9       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.5       | 65        | 3         | 6         | 5,500.00 | 8         | 1         | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.6       | 65        | 3         | 6         | 5,500.00 | 8         | 1.1       | 65        | 4         | 8         | 8,135.00 |
| 5         | 1.7       | 65        | 3         | 6         | 6,045.00 | 8         | 1.2       | 65        | 4         | 8         | 7,360.00 |
| 5         | 1.8       | 65        | 3         | 6         | 5,500.00 | 8         | 1.3       | 65        | 4         | 8         | 8,135.00 |

# CSKCP 全鎢鋼直柄T型槽銑刀

Solid Carbide Straight Shank T-Slot Cutters



材質：K10超硬合金鎢鋼

- 優點：
1. 刃徑由4到12，刃長由0.5到6，超小刃徑，超小刃長，規格相當齊全。
  2. 最適用於鎂、鋁、鋅等合金切削加工上用。
  3. 刃徑面無中心孔，又向中心點微向內凹設計，排屑輕快，可提高切削速度。
  4. 可以作三面切削之功能。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------|------------------|
| 8         | 1.4       | 65        | 4         | 8         | <b>7,360.00</b> | 10        | 3.5       | 75        | 6         | 8         | <b>9,095.00</b>  |
| 8         | 1.5       | 65        | 4         | 8         | <b>7,360.00</b> | 10        | 4         | 75        | 6         | 8         | <b>9,095.00</b>  |
| 8         | 1.6       | 65        | 4         | 8         | <b>7,360.00</b> | 10        | 4.5       | 75        | 6         | 8         | <b>9,095.00</b>  |
| 8         | 1.7       | 65        | 4         | 8         | <b>8,135.00</b> | 10        | 5         | 75        | 6         | 8         | <b>9,095.00</b>  |
| 8         | 1.8       | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 0.5       | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 1.9       | 65        | 4         | 8         | <b>8,135.00</b> | 12        | 0.6       | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 2         | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 0.7       | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 2.5       | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 0.8       | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 3         | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 0.9       | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 3.5       | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 1         | 75        | 6         | 10        | <b>11,310.00</b> |
| 8         | 4         | 65        | 4         | 8         | <b>7,360.00</b> | 12        | 1.1       | 75        | 6         | 10        | <b>11,310.00</b> |
| 10        | 0.5       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.2       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 0.6       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.3       | 75        | 6         | 10        | <b>11,310.00</b> |
| 10        | 0.7       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.4       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 0.8       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.5       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 0.9       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.6       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1         | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.7       | 75        | 6         | 10        | <b>11,310.00</b> |
| 10        | 1.1       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 1.8       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.2       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 1.9       | 75        | 6         | 10        | <b>11,310.00</b> |
| 10        | 1.3       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 2         | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.4       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 2.5       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.5       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 3         | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.6       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 3.5       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.7       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 4         | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.8       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 4.5       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 1.9       | 75        | 6         | 8         | <b>9,995.00</b> | 12        | 5         | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 2         | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 5.5       | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 2.5       | 75        | 6         | 8         | <b>9,095.00</b> | 12        | 6         | 75        | 6         | 10        | <b>10,560.00</b> |
| 10        | 3         | 75        | 6         | 8         | <b>9,095.00</b> |           |           |           |           |           |                  |



# 全鎢鋼直柄T型槽銑刀

Solid Carbide Spiral T-Slot Cutters



FCKCT 千鳥刀型



FCKC 30°螺旋刀型

材質：全支超微粒子超硬合金

- 優點：
- 1.小刃徑，規格齊備，切削鎂、鋁、鋅合金及不銹鋼專用所設計之刀具。
  - 2.精度高，耐磨耗之優異刀具。
  - 3.獨自開發之小刃徑T型槽刀，具有千鳥刀型及螺旋刀型與傳統直刀型有極大之差異，切削加工時，抵抗力小，不會頓刀，切削加工後之面明亮，切削速度相當輕快。
  - 4.刃徑先端無中心孔，且底面向中心內凹設計，減輕切削磨擦，排屑輕易。
  - 5.專為筆記型電腦、手機及精密型3C系列產品、汽機車等鋁鎂合金外殼之二次後加工，所獨特設計之首徑及首長。
  - 6.切不可切削熱處理後之高硬度鋼材。

註：括弧內之刃數為千鳥刀FCKCT之刃數

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|
| 2         | 0.5       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 0.6       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 0.7       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 0.8       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 0.9       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 1         | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 1.1       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 2         | 1.2       | 40        | 1.2                     | 4                       | 4         | 4(4)      | 3,000.00 |
| 3         | 0.5       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 0.6       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 0.7       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 0.8       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 0.9       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1         | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1.1       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1.2       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1.3       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1.4       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 3         | 1.5       | 50        | 1.5                     | 5                       | 4         | 4(4)      | 3,000.00 |
| 4         | 0.5       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 0.6       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 0.7       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 0.8       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 0.9       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1         | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.1       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.2       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.3       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.4       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.5       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.6       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.7       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|
| 4         | 1.8       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 1.9       | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 4         | 2         | 50        | 2                       | 6                       | 4         | 4(6)      | 3,000.00 |
| 5         | 0.5       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 0.6       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 0.7       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 0.8       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 0.9       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1         | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.1       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.2       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.3       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.4       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.5       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.6       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.7       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.8       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 1.9       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2         | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2.1       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2.2       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2.3       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2.4       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 5         | 2.5       | 65        | 2.5                     | 7                       | 6         | 6(6)      | 5,000.00 |
| 6         | 0.5       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 0.6       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 0.7       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 0.8       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 0.9       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 1         | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 1.1       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |
| 6         | 1.2       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 |

# 全鎢鋼直柄T型槽銑刀

Solid Carbide Spiral T-Slot Cutters



FCKCT 千鳥刃型



FCKC 30°螺旋刃型

材質：全支超微粒子超硬合金

註：括弧內之刀數為千鳥刃FCKCT之刀數

單位：mm

| 刀徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 柄徑<br>(d) | 刀數<br>(T) | 價(支)格    | 刀徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(ℓ <sub>1</sub> ) | 柄徑<br>(d) | 刀數<br>(T) | 價(支)格    |
|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|-----------|-----------|-----------|-------------------------|-------------------------|-----------|-----------|----------|
| 6         | 1.3       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 8         | 3.4       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |
| 6         | 1.4       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 8         | 3.5       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |
| 6         | 1.5       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 8         | 3.6       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |
| 6         | 1.6       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 8         | 3.8       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |
| 6         | 1.7       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 8         | 4         | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |
| 6         | 1.8       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 0.5       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 1.9       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 0.6       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2         | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 0.7       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.1       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 0.8       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.2       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 0.9       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.3       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1         | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.4       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.1       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.5       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.2       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.6       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.3       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.65      | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.4       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.7       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.5       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.8       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.6       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 2.9       | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.7       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 6         | 3         | 65        | 3                       | 9                       | 6         | 6(8)      | 5,000.00 | 10        | 1.8       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 0.5       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 1.9       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 0.6       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2         | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 0.7       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.1       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 0.8       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.2       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 0.9       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.3       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1         | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.4       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.1       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.5       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.2       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.6       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.3       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.7       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.4       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.8       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.5       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 2.9       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.6       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3         | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.7       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3.2       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.8       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3.4       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 1.9       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3.5       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2         | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3.6       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.1       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 3.8       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.2       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4         | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.3       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.2       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.4       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.3       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.5       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.4       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.6       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.5       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.7       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.6       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.8       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 4.8       | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 2.9       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 10        | 5         | 65        | 4                       | 9                       | 10        | 8(8)      | 7,500.00 |
| 8         | 3         | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 | 12        | 1         | 65        | 4.5                     | 9                       | 12        | 8         | 9,000.00 |
| 8         | 3.2       | 65        | 3.5                     | 9                       | 8         | 6(8)      | 6,000.00 |           |           |           |                         |                         |           |           |          |

# TC 直柄千鳥刃T型槽銑刀

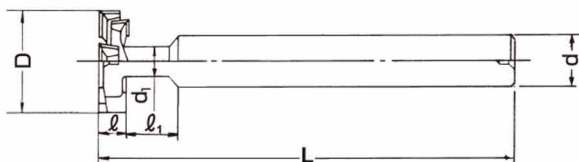
Staggered Teeth T-Slot Cutters



長柄型

**特點：**

1. 含鈷8%，韌性強硬度足
2. 柄徑粗，且長，把握力強勁有力，而平穩
3. 柄長、可短、可長，切削面條件好
4. 三面切削
5. 作模具上最適用工具



單位：mm

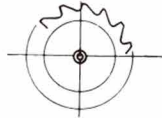
| 刃徑<br>(D) | 刃長<br>(L) | 公差<br>(Tolerance) | 全長<br>(L)     | 柄徑<br>(d) | 首徑<br>(d <sub>1</sub> ) | 首長<br>(l <sub>1</sub> ) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------|-------------------|---------------|-----------|-------------------------|-------------------------|-----------|-----------|
| 15        | 3         | -0.05<br>-0.16    | 100           | 12        | 8                       | 12                      | 6         | 3,965.00  |
| 15        | 4         |                   | 100           | 12        | 8                       | 12                      | 6         | 3,965.00  |
| 15        | 5         |                   | 100           | 12        | 8                       | 12                      | 6         | 3,965.00  |
| 15        | 6         |                   | 100           | 12        | 8                       | 12                      | 6         | 3,965.00  |
| 20        | 4         |                   | 150           | 12        | 11                      | 22                      | 8         | 5,530.00  |
| 20        | 5         |                   | 150           | 12        | 11                      | 22                      | 8         | 5,530.00  |
| 20        | 6         |                   | 150           | 12        | 11                      | 22                      | 8         | 5,530.00  |
| 20        | 8         |                   | 150           | 12        | 11                      | 22                      | 8         | 5,530.00  |
| 20        | 10        |                   | 150           | 12        | 11                      | 22                      | 8         | 5,530.00  |
| 25        | 4         |                   | -0.06<br>-0.2 | 150       | 16                      | 15                      | 24        | 8         |
| 25        | 5         | 150               |               | 16        | 15                      | 24                      | 8         | 7,185.00  |
| 25        | 6         | 150               |               | 16        | 15                      | 24                      | 8         | 7,185.00  |
| 25        | 8         | 150               |               | 16        | 15                      | 24                      | 8         | 7,185.00  |
| 25        | 10        | 150               |               | 16        | 15                      | 24                      | 8         | 7,185.00  |
| 28        | 5         | 150               |               | 16        | 15                      | 24                      | 10        | 7,600.00  |
| 28        | 6         | 150               |               | 16        | 15                      | 24                      | 10        | 7,600.00  |
| 28        | 8         | 150               |               | 16        | 15                      | 24                      | 10        | 7,600.00  |
| 28        | 10        | 150               |               | 16        | 15                      | 24                      | 10        | 7,600.00  |
| 30        | 5         | -0.08<br>-0.24    |               | 150       | 16                      | 15                      | 24        | 10        |
| 30        | 6         |                   | 150           | 16        | 15                      | 24                      | 10        | 9,260.00  |
| 30        | 8         |                   | 150           | 16        | 15                      | 24                      | 10        | 9,260.00  |
| 30        | 10        |                   | 150           | 16        | 15                      | 24                      | 10        | 9,260.00  |
| 35        | 5         |                   | 150           | 16        | 15                      | 24                      | 10        | 12,020.00 |
| 35        | 6         |                   | 150           | 16        | 15                      | 24                      | 10        | 12,020.00 |
| 35        | 8         |                   | 150           | 16        | 15                      | 24                      | 10        | 12,020.00 |
| 35        | 10        |                   | 150           | 16        | 15                      | 24                      | 10        | 12,020.00 |
| 40        | 5         |                   | 180           | 20        | 19                      | 28                      | 12        | 14,990.00 |
| 40        | 6         |                   | 180           | 20        | 19                      | 28                      | 12        | 14,990.00 |
| 40        | 8         | 180               | 20            | 19        | 28                      | 12                      | 14,990.00 |           |
| 40        | 10        | 180               | 20            | 19        | 28                      | 12                      | 14,990.00 |           |
| 45        | 5         | -0.08<br>-0.24    | 180           | 20        | 19                      | 28                      | 12        | 18,930.00 |
| 45        | 6         |                   | 180           | 20        | 19                      | 28                      | 12        | 18,930.00 |
| 45        | 8         |                   | 180           | 20        | 19                      | 28                      | 12        | 18,930.00 |
| 45        | 10        |                   | 180           | 20        | 19                      | 28                      | 12        | 18,930.00 |
| 50        | 5         |                   | 180           | 20        | 19                      | 28                      | 12        | 20,725.00 |
| 50        | 6         |                   | 180           | 20        | 19                      | 28                      | 12        | 20,725.00 |
| 50        | 8         |                   | 180           | 20        | 19                      | 28                      | 12        | 20,725.00 |
| 50        | 10        |                   | 180           | 20        | 19                      | 28                      | 12        | 20,725.00 |

溝槽刀具

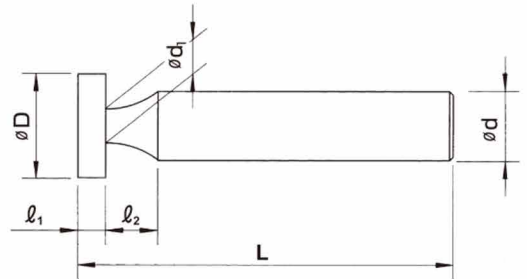
Cutters Series

# KC 直柄鍵槽銑刀

Keyseat Cutters



單面切削



|           |       |                |
|-----------|-------|----------------|
| 刃徑<br>許容差 | 8~16  | +0.3<br>+0.18  |
|           | 18~28 | +0.35<br>+0.21 |
|           | 30~45 | +0.43<br>+0.26 |
|           | 50~60 | +0.5<br>+0.3   |

|           |        |                  |
|-----------|--------|------------------|
| 刃長<br>許容差 | 0.5~ 3 | -0.014<br>-0.028 |
|           | 3.5~ 6 | -0.02<br>-0.038  |
|           | 7~10   | -0.025<br>-0.047 |
|           | 11~12  | -0.032<br>-0.059 |

SKH51 柄徑 h8 切削條件 P165

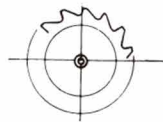
單位：mm

| 刃徑 (D) | 刃長 (l <sub>1</sub> ) | 首徑 (d <sub>1</sub> ) | 柄徑 (d) | 柄長 (l) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|----------------------|----------------------|--------|--------|--------|--------|----------|
| 8      | 0.5                  | 3.7                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 8      | 0.6                  | 3.7                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 8      | 0.7                  | 3.7                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 8      | 0.8                  | 3.7                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 8      | 1                    | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 1.2                  | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 1.5                  | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 1.6                  | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 1.7                  | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 1.8                  | 3.7                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 8      | 2                    | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 2.5                  | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 3                    | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 3.5                  | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 4                    | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 4.5                  | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 8      | 5                    | 3.7                  | 8      | 39     | 50     | 8      | 1,420.00 |
| 10     | 0.5                  | 4.2                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 10     | 0.6                  | 4.2                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 10     | 0.7                  | 4.2                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 10     | 0.8                  | 4.2                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 10     | 0.9                  | 4.2                  | 8      | 39     | 50     | 8      | 1,925.00 |
| 10     | 1                    | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.1                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.2                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.3                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.4                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.5                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.6                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.7                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.8                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 1.9                  | 4.2                  | 8      | 39     | 50     | 8      | 1,650.00 |
| 10     | 2                    | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 10     | 2.5                  | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 10     | 3                    | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 10     | 3.5                  | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |

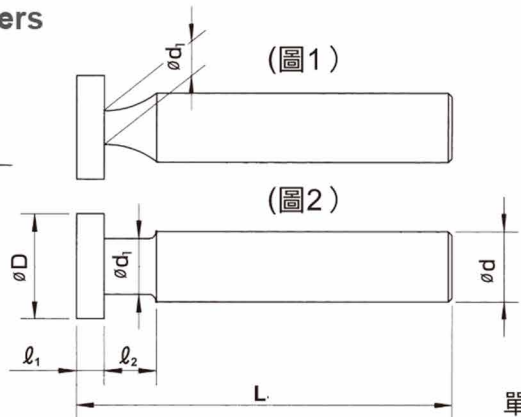
| 刃徑 (D) | 刃長 (l <sub>1</sub> ) | 首徑 (d <sub>1</sub> ) | 柄徑 (d) | 柄長 (l) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|----------------------|----------------------|--------|--------|--------|--------|----------|
| 10     | 4                    | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 10     | 4.5                  | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 10     | 5                    | 4.2                  | 8      | 39     | 50     | 8      | 1,380.00 |
| 12     | 0.5                  | 4.4                  | 10     | 39     | 50     | 8      | 2,000.00 |
| 12     | 0.6                  | 4.4                  | 10     | 39     | 50     | 8      | 2,000.00 |
| 12     | 0.7                  | 4.4                  | 10     | 39     | 50     | 8      | 2,000.00 |
| 12     | 0.8                  | 4.4                  | 10     | 39     | 50     | 8      | 2,000.00 |
| 12     | 0.9                  | 4.4                  | 10     | 39     | 50     | 8      | 2,000.00 |
| 12     | 1                    | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 1.2                  | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 1.3                  | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 1.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 1.6                  | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 1.8                  | 4.4                  | 10     | 39     | 50     | 8      | 1,800.00 |
| 12     | 2                    | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 2.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 3                    | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 3.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 4                    | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 4.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 5                    | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 12     | 6                    | 4.4                  | 10     | 39     | 50     | 8      | 1,540.00 |
| 13     | 0.5                  | 4.4                  | 10     | 39     | 50     | 8      | 2,200.00 |
| 13     | 0.6                  | 4.4                  | 10     | 39     | 50     | 8      | 2,200.00 |
| 13     | 0.7                  | 4.4                  | 10     | 39     | 50     | 8      | 2,200.00 |
| 13     | 0.8                  | 4.4                  | 10     | 39     | 50     | 8      | 2,200.00 |
| 13     | 0.9                  | 4.4                  | 10     | 39     | 50     | 8      | 2,200.00 |
| 13     | 1                    | 4.4                  | 10     | 39     | 50     | 8      | 1,900.00 |
| 13     | 1.2                  | 4.4                  | 10     | 39     | 50     | 8      | 1,900.00 |
| 13     | 1.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,900.00 |
| 13     | 1.6                  | 4.4                  | 10     | 39     | 50     | 8      | 1,900.00 |
| 13     | 1.8                  | 4.4                  | 10     | 39     | 50     | 8      | 1,900.00 |
| 13     | 2                    | 4.4                  | 10     | 39     | 50     | 8      | 1,620.00 |
| 13     | 2.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,620.00 |
| 13     | 3                    | 4.4                  | 10     | 39     | 50     | 8      | 1,590.00 |
| 13     | 3.5                  | 4.4                  | 10     | 39     | 50     | 8      | 1,590.00 |

# KC 直柄鍵槽銑刀

Keyseat Cutters



單面切削



SKH51 高速鋼  
柄徑 h8  
切削條件 P165

\* 刃徑24mm以上，形狀為圖2。

| 刃徑 (D) | 刃長 ( $l_1$ ) | 首徑 ( $d_1$ ) | 柄徑 (d) | 柄長 ( $l$ ) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|--------------|--------------|--------|------------|--------|--------|----------|
| 13     | 4            | 4.4          | 10     | 39         | 50     | 8      | 1,590.00 |
| 13     | 4.5          | 4.4          | 10     | 39         | 50     | 8      | 1,590.00 |
| 13     | 5            | 4.4          | 10     | 39         | 50     | 8      | 1,590.00 |
| 13     | 6            | 4.4          | 10     | 39         | 50     | 8      | 1,590.00 |
| 14     | 0.5          | 4.7          | 10     | 39         | 50     | 8      | 2,400.00 |
| 14     | 0.6          | 4.7          | 10     | 39         | 50     | 8      | 2,400.00 |
| 14     | 0.7          | 4.7          | 10     | 39         | 50     | 8      | 2,400.00 |
| 14     | 0.8          | 4.7          | 10     | 39         | 50     | 8      | 2,400.00 |
| 14     | 0.9          | 4.7          | 10     | 39         | 50     | 8      | 2,400.00 |
| 14     | 1            | 4.7          | 10     | 39         | 50     | 8      | 2,050.00 |
| 14     | 1.2          | 4.7          | 10     | 39         | 50     | 8      | 2,050.00 |
| 14     | 1.5          | 4.7          | 10     | 39         | 50     | 8      | 2,050.00 |
| 14     | 2            | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 2.5          | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 3            | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 3.5          | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 4            | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 5            | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 14     | 6            | 4.7          | 10     | 39         | 50     | 8      | 1,770.00 |
| 15     | 0.5          | 4.7          | 10     | 39         | 50     | 10     | 2,400.00 |
| 15     | 0.6          | 4.7          | 10     | 39         | 50     | 10     | 2,400.00 |
| 15     | 0.7          | 4.7          | 10     | 39         | 50     | 10     | 2,400.00 |
| 15     | 0.8          | 4.7          | 10     | 39         | 50     | 10     | 2,400.00 |
| 15     | 0.9          | 4.7          | 10     | 39         | 50     | 10     | 2,400.00 |
| 15     | 1            | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.1          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.2          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.3          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.4          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.5          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.6          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.7          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.8          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 1.9          | 4.7          | 10     | 39         | 50     | 10     | 2,100.00 |
| 15     | 2            | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 2.5          | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 3            | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 4            | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 4.5          | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 5            | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 15     | 6            | 4.7          | 10     | 39         | 50     | 10     | 1,780.00 |
| 16     | 0.6          | 5            | 12     | 40         | 60     | 10     | 2,630.00 |

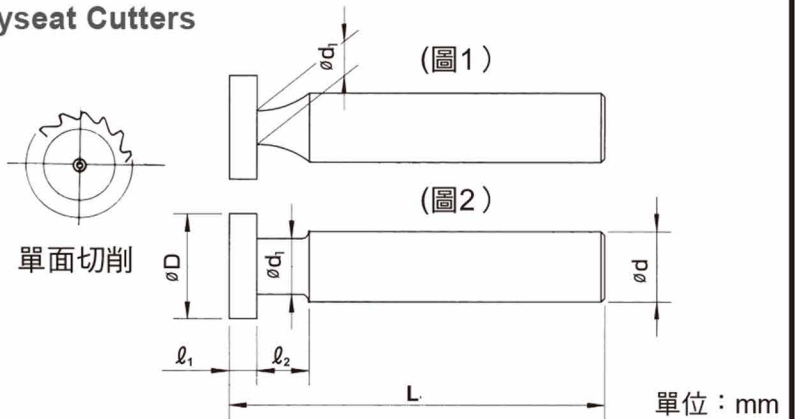
| 刃徑 (D) | 刃長 ( $l_1$ ) | 首徑 ( $d_1$ ) | 柄徑 (d) | 柄長 ( $l$ ) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|--------------|--------------|--------|------------|--------|--------|----------|
| 16     | 1            | 5            | 12     | 40         | 60     | 10     | 2,200.00 |
| 16     | 1.5          | 5            | 12     | 40         | 60     | 10     | 2,200.00 |
| 16     | 2            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 2.5          | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 3            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 3.5          | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 4            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 5            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 6            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 7            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 16     | 8            | 5            | 12     | 40         | 60     | 10     | 1,850.00 |
| 17     | 5            | 7            | 12     | 40         | 60     | 12     | 2,165.00 |
| 18     | 0.5          | 7            | 12     | 40         | 60     | 12     | 3,100.00 |
| 18     | 0.6          | 7            | 12     | 40         | 60     | 12     | 3,100.00 |
| 18     | 0.7          | 7            | 12     | 40         | 60     | 12     | 3,100.00 |
| 18     | 0.8          | 7            | 12     | 40         | 60     | 12     | 3,100.00 |
| 18     | 1            | 7            | 12     | 40         | 60     | 12     | 2,700.00 |
| 18     | 1.2          | 7            | 12     | 40         | 60     | 12     | 2,700.00 |
| 18     | 1.5          | 7            | 12     | 40         | 60     | 12     | 2,700.00 |
| 18     | 1.6          | 7            | 12     | 40         | 60     | 12     | 2,700.00 |
| 18     | 1.8          | 7            | 12     | 40         | 60     | 12     | 2,700.00 |
| 18     | 2            | 7            | 12     | 40         | 60     | 12     | 2,450.00 |
| 18     | 2.5          | 7            | 12     | 40         | 60     | 12     | 2,450.00 |
| 18     | 3            | 7            | 12     | 40         | 60     | 12     | 2,200.00 |
| 18     | 3.5          | 7            | 12     | 40         | 60     | 12     | 2,200.00 |
| 18     | 4            | 7            | 12     | 40         | 60     | 12     | 2,200.00 |
| 18     | 5            | 7            | 12     | 40         | 60     | 12     | 2,200.00 |
| 18     | 6            | 7            | 12     | 40         | 60     | 12     | 2,200.00 |
| 18     | 7            | 7            | 12     | 40         | 60     | 12     | 2,300.00 |
| 18     | 8            | 7            | 12     | 40         | 60     | 12     | 2,300.00 |
| 19     | 0.7          | 8            | 12     | 40         | 60     | 12     | 3,170.00 |
| 19     | 1            | 8            | 12     | 40         | 60     | 12     | 2,650.00 |
| 19     | 1.5          | 8            | 12     | 40         | 60     | 12     | 2,650.00 |
| 19     | 2            | 8            | 12     | 40         | 60     | 12     | 2,490.00 |
| 19     | 2.5          | 8            | 12     | 40         | 60     | 12     | 2,490.00 |
| 19     | 3            | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 3.5          | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 4            | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 4.5          | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 5            | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 6            | 8            | 12     | 40         | 60     | 12     | 2,265.00 |
| 19     | 7            | 8            | 12     | 40         | 60     | 12     | 2,265.00 |

溝槽刀具

Cutters Series

# KC 直柄鍵槽銑刀

Keyseat Cutters



SKH51 高速鋼  
柄徑 h8  
切削條件 P165

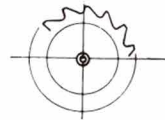
\* 刃徑24mm以上，形狀為圖2。

| 刃徑 (D) | 刃長 ( $l_1$ ) | 首徑 ( $d_1$ ) | 柄徑 (d) | 柄長 ( $l$ ) | 全長 (L) | 刃數 (N) | 價(支)格    | 刃徑 (D) | 刃長 ( $l_1$ ) | 首徑 ( $d_1$ ) | 柄徑 (d) | 柄長 ( $l$ ) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|--------------|--------------|--------|------------|--------|--------|----------|--------|--------------|--------------|--------|------------|--------|--------|----------|
| 19     | 8            | 8            | 12     | 40         | 60     | 12     | 2,265.00 | 22     | 9            | 9            | 12     | 40         | 60     | 12     | 2,660.00 |
| 19     | 9            | 8            | 12     | 40         | 60     | 12     | 2,265.00 | 22     | 10           | 9            | 12     | 40         | 60     | 12     | 2,660.00 |
| 19     | 10           | 8            | 12     | 40         | 60     | 12     | 2,265.00 | 22     | 12           | 9            | 12     | 40         | 60     | 12     | 2,660.00 |
| 20     | 0.5          | 8            | 12     | 40         | 60     | 12     | 3,300.00 | 24     | 0.5          | 10           | 12     | 40         | 65     | 14     | 4,690.00 |
| 20     | 0.6          | 8            | 12     | 40         | 60     | 12     | 3,300.00 | 24     | 0.8          | 10           | 12     | 40         | 65     | 14     | 4,690.00 |
| 20     | 0.7          | 8            | 12     | 40         | 60     | 12     | 3,300.00 | 25     | 0.5          | 10           | 12     | 40         | 65     | 14     | 4,680.00 |
| 20     | 0.8          | 8            | 12     | 40         | 60     | 12     | 3,300.00 | 25     | 0.6          | 10           | 12     | 40         | 65     | 14     | 4,680.00 |
| 20     | 0.9          | 8            | 12     | 40         | 60     | 12     | 3,300.00 | 25     | 0.7          | 10           | 12     | 40         | 65     | 14     | 4,680.00 |
| 20     | 1            | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 0.8          | 10           | 12     | 40         | 65     | 14     | 4,680.00 |
| 20     | 1.1          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1            | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.2          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.1          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.3          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.2          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.4          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.3          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.5          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.4          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.6          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.5          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.7          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.6          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.8          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.7          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 1.9          | 8            | 12     | 40         | 60     | 12     | 2,800.00 | 25     | 1.8          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 2            | 8            | 12     | 40         | 60     | 12     | 2,600.00 | 25     | 1.9          | 10           | 12     | 40         | 65     | 14     | 3,860.00 |
| 20     | 2.5          | 8            | 12     | 40         | 60     | 12     | 2,600.00 | 25     | 2            | 10           | 12     | 40         | 65     | 14     | 3,600.00 |
| 20     | 3            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 2.5          | 10           | 12     | 40         | 65     | 14     | 3,600.00 |
| 20     | 3.5          | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 3            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 4            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 3.5          | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 4.5          | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 4            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 5            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 4.5          | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 6            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 5            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 7            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 6            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 8            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 7            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 9            | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 8            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 10           | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 9            | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 11           | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 10           | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 20     | 12           | 8            | 12     | 40         | 60     | 12     | 2,400.00 | 25     | 11           | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 22     | 0.6          | 9            | 12     | 40         | 60     | 12     | 3,770.00 | 25     | 12           | 10           | 12     | 40         | 65     | 14     | 3,300.00 |
| 22     | 0.8          | 9            | 12     | 40         | 60     | 12     | 3,770.00 | 26     | 1            | 10           | 12     | 40         | 65     | 14     | 4,750.00 |
| 22     | 1            | 9            | 12     | 40         | 60     | 12     | 3,200.00 | 26     | 1.5          | 10           | 12     | 40         | 65     | 14     | 4,750.00 |
| 22     | 2            | 9            | 12     | 40         | 60     | 12     | 2,880.00 | 26     | 2            | 10           | 12     | 40         | 65     | 14     | 4,350.00 |
| 22     | 3            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 26     | 3            | 10           | 12     | 40         | 65     | 14     | 4,000.00 |
| 22     | 4            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 26     | 4            | 10           | 12     | 40         | 65     | 14     | 4,000.00 |
| 22     | 5            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 26     | 5            | 10           | 12     | 40         | 65     | 14     | 4,000.00 |
| 22     | 6            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 26     | 6            | 10           | 12     | 40         | 65     | 14     | 4,000.00 |
| 22     | 7            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 28     | 0.5          | 10           | 12     | 40         | 65     | 14     | 5,880.00 |
| 22     | 8            | 9            | 12     | 40         | 60     | 12     | 2,660.00 | 28     | 1            | 10           | 12     | 40         | 65     | 14     | 4,880.00 |

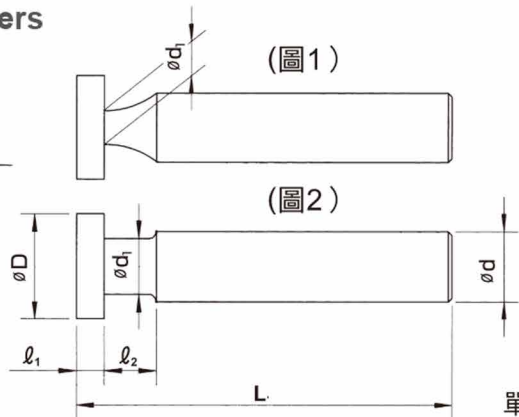
單位：mm

# KC 直柄鍵槽銑刀

Keyseat Cutters



單面切削



單位：mm

SKH51 高速鋼  
柄徑 h8  
切削條件 P165

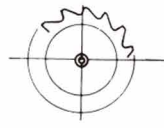
\* 刃徑24mm以上，形狀為圖2。

| 刃徑 (D) | 刃長 (l <sub>1</sub> ) | 首徑 (d <sub>1</sub> ) | 柄徑 (d) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 刃數 (N) | 價(支)格    |
|--------|----------------------|----------------------|--------|----------------------|--------|--------|----------|
| 28     | 1.5                  | 10                   | 12     | 40                   | 65     | 14     | 4,880.00 |
| 28     | 2                    | 10                   | 12     | 40                   | 65     | 14     | 4,500.00 |
| 28     | 3                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 4                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 5                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 6                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 7                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 8                    | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 10                   | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 28     | 12                   | 10                   | 12     | 40                   | 65     | 14     | 4,100.00 |
| 30     | 0.5                  | 10                   | 12     | 45                   | 70     | 14     | 6,380.00 |
| 30     | 0.6                  | 10                   | 12     | 45                   | 70     | 14     | 6,380.00 |
| 30     | 0.7                  | 10                   | 12     | 45                   | 70     | 14     | 6,380.00 |
| 30     | 0.8                  | 10                   | 12     | 45                   | 70     | 14     | 6,380.00 |
| 30     | 1                    | 10                   | 12     | 45                   | 70     | 14     | 5,500.00 |
| 30     | 1.5                  | 10                   | 12     | 45                   | 70     | 14     | 5,500.00 |
| 30     | 2                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 30     | 2.5                  | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 30     | 3                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 3.5                  | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 4                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 4.5                  | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 5                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 6                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 7                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 8                    | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 10                   | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 30     | 12                   | 10                   | 12     | 45                   | 70     | 14     | 4,620.00 |
| 32     | 1                    | 10                   | 12     | 45                   | 70     | 14     | 5,800.00 |
| 32     | 1.5                  | 10                   | 12     | 45                   | 70     | 14     | 5,800.00 |
| 32     | 2                    | 10                   | 12     | 45                   | 70     | 14     | 5,300.00 |
| 32     | 3                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 4                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 5                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 6                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 7                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 8                    | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 10                   | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 32     | 12                   | 10                   | 12     | 45                   | 70     | 14     | 5,000.00 |
| 35     | 0.5                  | 10                   | 12     | 50                   | 75     | 16     | 8,450.00 |
| 35     | 1                    | 10                   | 12     | 50                   | 75     | 16     | 7,000.00 |
| 35     | 1.5                  | 10                   | 12     | 50                   | 75     | 16     | 7,000.00 |

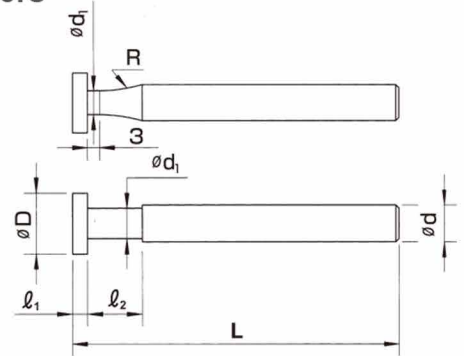
| 刃徑 (D) | 刃長 (l <sub>1</sub> ) | 首徑 (d <sub>1</sub> ) | 柄徑 (d) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 刃數 (N) | 價(支)格     |
|--------|----------------------|----------------------|--------|----------------------|--------|--------|-----------|
| 35     | 2                    | 10                   | 12     | 50                   | 75     | 16     | 6,600.00  |
| 35     | 2.5                  | 10                   | 12     | 50                   | 75     | 16     | 6,600.00  |
| 35     | 3                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 4                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 5                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 6                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 7                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 8                    | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 10                   | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 35     | 12                   | 10                   | 12     | 50                   | 75     | 16     | 5,900.00  |
| 38     | 1                    | 10                   | 12     | 50                   | 75     | 16     | 8,950.00  |
| 38     | 1.5                  | 10                   | 12     | 50                   | 75     | 16     | 8,950.00  |
| 38     | 1.6                  | 10                   | 12     | 50                   | 75     | 16     | 8,950.00  |
| 38     | 2                    | 10                   | 12     | 50                   | 75     | 16     | 8,210.00  |
| 38     | 3                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 4                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 5                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 6                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 7                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 8                    | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 10                   | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 38     | 12                   | 10                   | 12     | 50                   | 75     | 16     | 7,460.00  |
| 40     | 0.5                  | 10                   | 12     | 50                   | 75     | 16     | 11,550.00 |
| 40     | 0.8                  | 10                   | 12     | 50                   | 75     | 16     | 11,550.00 |
| 40     | 1                    | 10                   | 12     | 50                   | 75     | 16     | 9,500.00  |
| 40     | 1.5                  | 10                   | 12     | 50                   | 75     | 16     | 9,500.00  |
| 40     | 2                    | 10                   | 12     | 50                   | 75     | 16     | 8,700.00  |
| 40     | 2.5                  | 10                   | 12     | 50                   | 75     | 16     | 8,700.00  |
| 40     | 3                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 4                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 5                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 6                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 7                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 8                    | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 10                   | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 40     | 12                   | 10                   | 12     | 50                   | 75     | 16     | 8,150.00  |
| 45     | 0.5                  | 10                   | 12     | 50                   | 80     | 16     | 14,390.00 |
| 50     | 0.5                  | 14                   | 16     | 55                   | 80     | 16     | 16,205.00 |
| 50     | 1.5                  | 14                   | 16     | 55                   | 80     | 16     | 13,895.00 |
| 50     | 12                   | 14                   | 16     | 55                   | 80     | 16     | 11,570.00 |
| 60     | 1                    | 18                   | 20     | 60                   | 85     | 18     | 15,790.00 |
| 60     | 1.5                  | 18                   | 20     | 60                   | 85     | 18     | 15,790.00 |

# KCLS 長柄鍵槽銑刀

## Long Shank Keyseat Cutters



單面切削



SKH51 高速鋼  
柄徑 h8  
切削條件 P165

\* 刃徑30mm以上，形狀為圖2。

單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 首徑<br>( $d_1$ ) | 柄徑<br>(d) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格     |
|-----------|-----------------|-----------------|-----------|-----------------|-----------|-----------|-----------|
| 15        | 1               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 15        | 2               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 15        | 3               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 15        | 4               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 15        | 5               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 15        | 6               | 4.7             | 10        | 66              | 80        | 10        | 3,665.00  |
| 20        | 1               | 8               | 12        | 99              | 120       | 12        | 4,720.00  |
| 20        | 2               | 8               | 12        | 99              | 120       | 12        | 4,720.00  |
| 20        | 3               | 8               | 12        | 99              | 120       | 12        | 4,720.00  |
| 20        | 4               | 8               | 12        | 99              | 120       | 12        | 4,720.00  |
| 20        | 5               | 8               | 12        | 99              | 120       | 12        | 4,720.00  |
| 25        | 1               | 10              | 12        | 99              | 120       | 14        | 5,740.00  |
| 25        | 2               | 10              | 12        | 99              | 120       | 14        | 5,740.00  |
| 25        | 3               | 10              | 12        | 99              | 120       | 14        | 5,740.00  |
| 25        | 4               | 10              | 12        | 99              | 120       | 14        | 5,740.00  |
| 25        | 5               | 10              | 12        | 99              | 120       | 14        | 5,740.00  |
| 30        | 1               | 12              | 16        | 125             | 150       | 14        | 8,170.00  |
| 30        | 2               | 12              | 16        | 125             | 150       | 14        | 7,490.00  |
| 30        | 3               | 12              | 16        | 125             | 150       | 14        | 7,490.00  |
| 30        | 4               | 12              | 16        | 125             | 150       | 14        | 7,490.00  |
| 30        | 5               | 12              | 16        | 125             | 150       | 14        | 7,490.00  |
| 35        | 1               | 14              | 16        | 125             | 150       | 16        | 10,030.00 |
| 35        | 2               | 14              | 16        | 125             | 150       | 16        | 9,230.00  |
| 35        | 3               | 14              | 16        | 125             | 150       | 16        | 9,230.00  |
| 35        | 4               | 14              | 16        | 125             | 150       | 16        | 9,230.00  |
| 35        | 5               | 14              | 16        | 125             | 150       | 16        | 9,230.00  |
| 40        | 1               | 14              | 16        | 125             | 150       | 16        | 12,330.00 |
| 40        | 2               | 14              | 16        | 125             | 150       | 16        | 11,330.00 |
| 40        | 3               | 14              | 16        | 125             | 150       | 16        | 11,330.00 |
| 40        | 4               | 14              | 16        | 125             | 150       | 16        | 11,330.00 |
| 40        | 5               | 14              | 16        | 125             | 150       | 16        | 11,330.00 |



# RC 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼<br>HPM · NAK  |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|-------------------|--------|
|      | 12~20 m/min       |        | 10~16 m/min            |        | 8~14 m/min                |        | 6~10 m/min        |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數               | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup> | mm/min |
| 10.5 | 212~354           | 11~35  | 177~283                | 5~17   | 141~248                   | 4~14   | 106~177           | 2~5    |
| 15.5 | 153~255           | 8~25   | 127~204                | 4~12   | 102~178                   | 3~10   | 76~127            | 2~4    |
| 20.5 | 109~182           | 5~18   | 91~146                 | 3~9    | 73~127                    | 2~7    | 55~91             | 1~3    |

# CCB 切削條件參考表

Recommended Cutting Condition

| 被削材 | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼<br>HPM · NAK  |        |
|-----|-------------------|--------|------------------------|--------|---------------------------|--------|-------------------|--------|
|     | 18~35 m/min       |        | 15~25 m/min            |        | 12~20 m/min               |        | 8~16 m/min        |        |
| 規格  | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup> | mm/min |
| 5   | 644~1,252         | 26~150 | 536~894                | 21~107 | 429~715                   | 17~86  | 286~572           | 11~69  |
| 6   | 551~1,071         | 22~129 | 459~765                | 18~92  | 367~612                   | 15~73  | 245~490           | 10~59  |
| 8   | 428~831           | 17~100 | 356~594                | 14~71  | 285~475                   | 11~57  | 190~380           | 8~46   |
| 10  | 341~663           | 14~80  | 284~474                | 11~57  | 227~379                   | 9~45   | 152~303           | 6~36   |
| 12  | 305~593           | 12~71  | 254~423                | 10~51  | 203~339                   | 8~41   | 135~271           | 5~33   |

# ACST 切削條件參考表

Recommended Cutting Condition

| 被削材 | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼<br>HPM · NAK  |        |
|-----|-------------------|--------|------------------------|--------|---------------------------|--------|-------------------|--------|
|     | 10~18 m/min       |        | 6~12 m/min             |        | 5~10 m/min                |        | 4~8 m/min         |        |
| 規格  | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup> | mm/min |
| 角度  | 60°               |        |                        |        |                           |        |                   |        |
| 20  | 159~286           | 36~98  | 95~191                 | 11~44  | 80~159                    | 7~29   | 64~127            | 5~10   |
| 25  | 127~229           | 46~124 | 76~153                 | 14~55  | 64~127                    | 9~37   | 51~102            | 6~12   |
| 30  | 106~191           | 40~108 | 64~127                 | 12~48  | 53~106                    | 8~32   | 42~85             | 5~11   |
| 35  | 91~164            | 36~97  | 55~109                 | 11~43  | 45~91                     | 7~29   | 36~73             | 5~10   |
| 40  | 80~143            | 33~89  | 48~95                  | 10~40  | 40~80                     | 7~26   | 32~64             | 4~9    |
| 45  | 71~127            | 31~83  | 42~85                  | 9~37   | 35~71                     | 6~24   | 28~57             | 4~8    |
| 50  | 64~115            | 29~77  | 38~76                  | 9~34   | 32~64                     | 6~23   | 25~51             | 4~8    |
| 55  | 58~104            | 36~98  | 35~69                  | 11~43  | 29~58                     | 7~29   | 23~46             | 5~10   |
| 60  | 53~95             | 34~93  | 32~64                  | 10~41  | 27~53                     | 7~28   | 21~42             | 5~9    |

# CB · CBT · CBLS 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 14~20 m/min       |        | 10~16 m/min            |        | 8~12 m/min                |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 3    | 755~1,079         | 59~168 | 540~863                | 28~89  | 432~647                   | 17~50  |
| 4    | 602~ 860          | 50~141 | 430~688                | 24~75  | 344~516                   | 14~42  |
| 5    | 501~ 715          | 43~124 | 358~572                | 21~66  | 286~429                   | 12~37  |
| 6    | 428~ 612          | 39~112 | 306~490                | 19~60  | 245~367                   | 11~33  |
| 8    | 333~ 475          | 33~ 95 | 238~380                | 16~51  | 190~285                   | 10~29  |
| 10   | 265~ 379          | 29~ 84 | 189~303                | 14~45  | 152~227                   | 8~25   |
| 12   | 237~ 339          | 28~ 79 | 169~271                | 13~42  | 135~203                   | 8~24   |
| 14   | 186~ 265          | 25~ 70 | 133~212                | 12~37  | 106~159                   | 7~21   |
| 16   | 171~ 245          | 24~ 68 | 122~196                | 11~36  | 98~147                    | 7~20   |
| 18   | 159~ 227          | 23~ 65 | 114~182                | 11~35  | 91~136                    | 7~20   |
| 20   | 149~ 212          | 22~ 64 | 106~170                | 11~34  | 85~127                    | 6~19   |
| 22   | 139~ 199          | 22~ 62 | 99~159                 | 10~33  | 80~119                    | 6~19   |
| 24   | 124~ 177          | 21~ 59 | 88~141                 | 10~32  | 71~106                    | 6~18   |
| 30   | 99~ 141           | 19~ 55 | 71~113                 | 9~29   | 57~ 85                    | 6~17   |

# CB-JM 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 14~20 m/min       |        | 10~16 m/min            |        | 8~12 m/min                |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 3    | 686~979           | 55~156 | 490~784                | 26~83  | 392~588                   | 16~47  |
| 4    | 557~796           | 47~134 | 398~637                | 22~71  | 318~477                   | 13~40  |
| 5    | 469~670           | 42~119 | 335~536                | 20~63  | 268~402                   | 12~36  |
| 6    | 405~579           | 38~108 | 289~463                | 18~57  | 231~347                   | 11~32  |
| 8    | 318~455           | 32~ 83 | 227~364                | 15~49  | 182~273                   | 9~28   |
| 10   | 255~364           | 29~ 82 | 182~291                | 14~44  | 146~218                   | 8~25   |
| 12   | 223~318           | 27~ 76 | 159~255                | 13~41  | 127~191                   | 8~23   |

## CB-TSM 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 14~20 m/min       |        | 10~16 m/min            |        | 8~12 m/min                |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 18   | 154~220           | 23~65  | 110~176                | 11~34  | 88~132                    | 6~19   |
| 20   | 139~199           | 22~62  | 99~159                 | 10~33  | 80~119                    | 6~19   |
| 22   | 127~182           | 21~60  | 91~146                 | 10~32  | 73~109                    | 6~18   |
| 24   | 114~163           | 20~58  | 82~131                 | 10~31  | 65~98                     | 6~17   |
| 30   | 93~133            | 19~54  | 66~106                 | 9~29   | 53~80                     | 5~16   |

## CBO · OCB 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 14~20 m/min       |        | 10~16 m/min            |        | 8~12 m/min                |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 2    | 743~1,061         | 58~166 | 531~849                | 28~88  | 424~637                   | 17~50  |
| 2.5  | 743~1,061         | 58~166 | 531~849                | 28~88  | 424~637                   | 17~50  |
| 3    | 743~1,061         | 58~166 | 531~849                | 28~88  | 424~637                   | 17~50  |
| 3.5  | 557~796           | 47~134 | 398~637                | 22~71  | 318~477                   | 13~40  |
| 4    | 557~796           | 47~134 | 398~637                | 22~71  | 318~477                   | 13~40  |
| 4.5  | 495~707           | 43~123 | 354~566                | 21~66  | 283~424                   | 12~37  |
| 5    | 495~707           | 43~123 | 354~566                | 21~66  | 283~424                   | 12~37  |
| 6    | 446~637           | 40~115 | 318~509                | 19~61  | 255~382                   | 11~34  |
| 7    | 405~579           | 38~108 | 289~463                | 18~57  | 231~347                   | 11~32  |
| 8    | 343~490           | 34~97  | 245~392                | 16~52  | 196~294                   | 10~29  |
| 10   | 297~424           | 31~89  | 212~340                | 15~48  | 170~255                   | 9~27   |
| 12   | 262~374           | 29~83  | 187~300                | 14~44  | 150~225                   | 8~25   |
| 14   | 235~335           | 27~78  | 168~268                | 13~42  | 134~201                   | 8~24   |
| 16   | 212~303           | 26~75  | 152~243                | 12~40  | 121~182                   | 7~22   |

## CBS · SCB 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 14~20 m/min       |        | 10~16 m/min            |        | 8~12 m/min                |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 3    | 594~849           | 49~140 | 424~679                | 23~75  | 340~509                   | 14~42  |
| 4    | 469~670           | 42~119 | 335~536                | 20~63  | 268~402                   | 12~36  |
| 5    | 371~531           | 36~102 | 265~424                | 17~54  | 212~318                   | 10~31  |
| 6    | 318~455           | 32~93  | 227~364                | 15~49  | 182~273                   | 9~28   |
| 8    | 241~344           | 28~79  | 172~275                | 13~42  | 138~206                   | 8~24   |

## DCB 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼~38HRC<br>HPM · NAK |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|------------------------|--------|
| 切削速度 | 16~25 m/min       |        | 12~18 m/min            |        | 10~14 m/min               |        | 8~12 m/min             |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數                    | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup>      | mm/min |
| 3    | 863~1,349         | 71~221 | 647~971                | 35~106 | 540~755                   | 24~62  | 432~647                | 12~35  |
| 4    | 688~1,075         | 64~200 | 516~774                | 32~96  | 430~602                   | 21~56  | 344~516                | 11~32  |
| 5    | 572~894           | 60~186 | 429~644                | 30~89  | 358~501                   | 20~52  | 286~429                | 10~30  |
| 6    | 490~765           | 57~177 | 367~551                | 28~85  | 306~429                   | 19~49  | 245~367                | 9~28   |
| 8    | 380~594           | 52~164 | 285~428                | 26~79  | 238~333                   | 17~46  | 190~285                | 9~26   |
| 10   | 303~474           | 50~155 | 227~341                | 25~74  | 189~265                   | 17~43  | 152~227                | 8~25   |
| 12   | 271~423           | 48~151 | 203~305                | 24~73  | 169~237                   | 16~42  | 135~203                | 8~24   |

## DCBS 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼~38HRC<br>HPM · NAK |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|------------------------|--------|
| 切削速度 | 16~25 m/min       |        | 12~18 m/min            |        | 10~14 m/min               |        | 8~12 m/min             |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數                    | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup>      | mm/min |
| 3    | 679~1,061         | 64~199 | 509~764                | 32~95  | 424~594                   | 21~56  | 340~509                | 11~32  |
| 4    | 536~838           | 58~182 | 402~603                | 29~87  | 335~469                   | 19~51  | 268~402                | 10~29  |
| 5    | 424~663           | 54~169 | 318~477                | 27~81  | 265~371                   | 18~47  | 212~318                | 9~27   |
| 6    | 364~568           | 52~162 | 273~409                | 26~78  | 227~318                   | 17~45  | 182~273                | 9~26   |
| 8    | 275~430           | 49~152 | 206~310                | 24~73  | 172~241                   | 16~42  | 138~206                | 8~24   |

## DCBTA · DCBR 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼~38HRC<br>HPM · NAK |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|------------------------|--------|
| 切削速度 | 16~25 m/min       |        | 12~18 m/min            |        | 10~14 m/min               |        | 8~12 m/min             |        |
| 規格   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數                    | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup>      | mm/min |
| 3    | 784~1,224         | 68~211 | 588~881                | 34~101 | 490~686                   | 23~59  | 392~588                | 11~34  |
| 4    | 637~995           | 62~194 | 477~716                | 31~93  | 398~557                   | 21~54  | 318~477                | 10~31  |
| 5    | 536~838           | 58~182 | 402~603                | 29~87  | 335~469                   | 19~51  | 268~402                | 10~29  |
| 6    | 463~723           | 56~174 | 347~521                | 28~83  | 289~405                   | 19~49  | 232~347                | 9~28   |
| 8    | 364~568           | 52~162 | 273~409                | 26~78  | 227~318                   | 17~45  | 182~273                | 9~26   |
| 10   | 291~455           | 49~153 | 218~327                | 25~74  | 182~255                   | 16~43  | 146~218                | 8~25   |
| 12   | 255~398           | 48~149 | 191~286                | 24~72  | 159~223                   | 16~42  | 127~191                | 8~24   |
| 14   | 221~346           | 47~145 | 166~249                | 23~70  | 138~194                   | 16~41  | 111~166                | 8~23   |
| 16   | 196~306           | 46~142 | 147~220                | 23~68  | 122~171                   | 15~40  | 98~147                 | 8~23   |
| 18   | 176~274           | 45~140 | 132~198                | 22~67  | 110~154                   | 15~39  | 88~132                 | 7~22   |

## DCBSTA 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼~38HRC<br>HPM · NAK   |                |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|
|      | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
| 切削速度 | 16~25 m/min              |                | 12~18 m/min              |                | 10~14 m/min               |                | 8~12 m/min               |                |
| 規格   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
| 3    | 796~1,243                | 68~213         | 597~895                  | 34~102         | 497~696                   | 23~60          | 398~597                  | 11~34          |
| 4    | 606~ 947                 | 61~190         | 455~682                  | 30~ 91         | 379~531                   | 20~53          | 303~455                  | 10~30          |
| 5    | 490~ 765                 | 57~177         | 367~551                  | 28~ 85         | 306~429                   | 19~49          | 245~367                  | 9~28           |
| 6    | 407~ 637                 | 53~167         | 306~458                  | 27~ 80         | 255~357                   | 18~47          | 204~306                  | 9~27           |
| 8    | 309~ 482                 | 50~156         | 232~347                  | 25~ 75         | 193~270                   | 17~44          | 154~232                  | 8~25           |

## KC 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼<br>HPM · NAK         |                | 切削深度 |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|------|
|      | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |      |
| 切削速度 | 12~20 m/min              |                | 9~16 m/min               |                | 7~14 m/min                |                | 6~12 m/min               |                | 切削深度 |
| 刃徑   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |      |
| 8    | 477~796                  | 17~ 48         | 358~637                  | 9~31           | 279~557                   | 7~27           | 239~477                  | 5~11           | 0.8  |
| 10   | 382~637                  | 18~ 51         | 286~509                  | 9~33           | 223~446                   | 7~29           | 191~382                  | 5~12           | 1    |
| 12   | 318~531                  | 24~ 66         | 239~424                  | 12~42          | 186~371                   | 9~37           | 159~318                  | 6~16           | 1.2  |
| 14   | 273~455                  | 25~ 68         | 205~364                  | 12~44          | 159~318                   | 10~38          | 136~273                  | 7~16           | 1.4  |
| 16   | 239~398                  | 30~ 84         | 179~318                  | 15~53          | 139~279                   | 12~47          | 119~239                  | 8~20           | 1.6  |
| 18   | 212~354                  | 31~ 85         | 159~283                  | 15~54          | 124~248                   | 12~48          | 106~212                  | 8~20           | 1.8  |
| 20   | 191~318                  | 31~ 86         | 143~255                  | 15~55          | 111~223                   | 12~48          | 95~191                   | 8~21           | 2    |
| 25   | 153~255                  | 37~102         | 115~204                  | 18~66          | 89~178                    | 14~57          | 76~153                   | 10~25          | 2.5  |
| 30   | 127~212                  | 37~104         | 95~170                   | 19~67          | 74~149                    | 15~58          | 64~127                   | 10~25          | 3    |
| 40   | 95~159                   | 44~121         | 72~127                   | 22~77          | 56~111                    | 17~68          | 48~ 95                   | 12~29          | 4    |
| 50   | 76~127                   | 44~122         | 57~102                   | 22~78          | 45~ 89                    | 17~68          | 38~ 76                   | 12~29          | 5    |
| 60   | 64~106                   | 50~138         | 48~ 85                   | 25~89          | 37~ 74                    | 19~78          | 32~ 64                   | 13~33          | 6    |

## KCLS 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼<br>HPM · NAK         |                | 切削深度 |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|------|
|      | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |      |
| 切削速度 | 15~25 m/min              |                | 10~18 m/min              |                | 9~15 m/min                |                | 6~12 m/min               |                | 切削深度 |
| 刃徑   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |      |
| 15   | 298~497                  | 38~104         | 199~358                  | 17~60          | 179~298                   | 15~50          | 119~239                  | 8~20           | 1.6  |
| 20   | 239~398                  | 39~107         | 159~286                  | 17~62          | 143~239                   | 15~52          | 95~191                   | 8~21           | 2    |
| 25   | 191~318                  | 46~128         | 127~229                  | 20~74          | 115~191                   | 18~61          | 76~153                   | 10~25          | 2.5  |
| 30   | 159~265                  | 47~130         | 106~191                  | 21~75          | 95~159                    | 19~62          | 64~127                   | 10~25          | 3    |
| 40   | 119~199                  | 54~151         | 80~143                   | 24~87          | 72~119                    | 22~73          | 48~ 95                   | 12~29          | 4    |

# ACS 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 9~16 m/min        |        | 5~10 m/min             |        | 4~8 m/min                 |        |
| 刃徑   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 角度   | 30°               |        |                        |        |                           |        |
| 20   | 143~255           | 24~63  | 80~159                 | 7~26   | 64~127                    | 4~17   |
| 30   | 95~170            | 21~56  | 53~106                 | 6~23   | 42~ 85                    | 4~15   |
| 40   | 72~127            | 20~54  | 40~ 80                 | 6~22   | 32~ 64                    | 4~14   |
| 50   | 57~102            | 20~53  | 32~ 64                 | 6~22   | 25~ 51                    | 4~14   |
| 60   | 48~ 85            | 20~54  | 27~ 53                 | 6~22   | 21~ 42                    | 4~14   |
| 角度   | 40~50°            |        |                        |        |                           |        |
| 15   | 191~340           | 26~70  | 106~212                | 7~29   | 85~170                    | 5~19   |
| 20   | 143~255           | 26~69  | 80~159                 | 7~29   | 64~127                    | 5~18   |
| 30   | 95~170            | 23~61  | 53~106                 | 6~25   | 42~ 85                    | 4~16   |
| 40   | 72~127            | 22~58  | 40~ 80                 | 6~24   | 32~ 34                    | 4~16   |
| 50   | 57~102            | 22~58  | 32~ 64                 | 6~24   | 25~ 51                    | 4~15   |
| 60   | 48~ 85            | 22~59  | 27~ 53                 | 6~24   | 21~ 42                    | 4~16   |
| 角度   | 55~60°            |        |                        |        |                           |        |
| 10   | 318~573           | 38~102 | 191~382                | 11~45  | 159~318                   | 8~30   |
| 12   | 265~477           | 34~ 91 | 159~318                | 10~40  | 133~265                   | 7~27   |
| 15   | 212~382           | 28~ 77 | 127~255                | 9~34   | 106~212                   | 6~23   |
| 20   | 159~286           | 28~ 76 | 95~191                 | 8~34   | 80~159                    | 6~22   |
| 30   | 106~191           | 25~ 67 | 64~127                 | 7~30   | 53~106                    | 5~20   |
| 40   | 80~143            | 24~ 64 | 48~ 95                 | 7~29   | 40~ 80                    | 5~19   |
| 50   | 64~115            | 24~ 64 | 38~ 76                 | 7~28   | 32~ 64                    | 5~19   |
| 60   | 53~ 95            | 24~ 65 | 32~ 64                 | 7~29   | 27~ 53                    | 5~19   |
| 角度   | 70~80°            |        |                        |        |                           |        |
| 10   | 318~573           | 41~110 | 191~382                | 12~49  | 159~318                   | 8~33   |
| 12   | 265~477           | 36~ 97 | 159~318                | 11~43  | 133~265                   | 7~29   |
| 15   | 212~382           | 31~ 83 | 127~255                | 9~37   | 106~212                   | 6~24   |
| 20   | 159~286           | 30~ 82 | 95~191                 | 9~36   | 80~159                    | 6~24   |
| 30   | 106~191           | 27~ 72 | 64~127                 | 8~32   | 53~106                    | 5~21   |
| 40   | 80~143            | 26~ 69 | 48~ 95                 | 8~31   | 40~ 80                    | 5~20   |
| 50   | 64~115            | 25~ 69 | 38~ 76                 | 8~31   | 32~ 64                    | 5~20   |
| 60   | 53~ 95            | 26~ 70 | 32~ 64                 | 8~31   | 27~ 53                    | 5~21   |

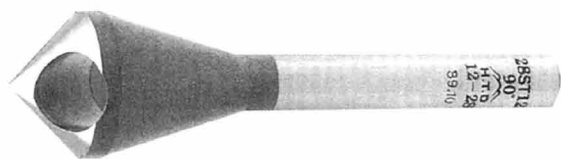
# ACSW 切削條件參考表

Recommended Cutting Condition

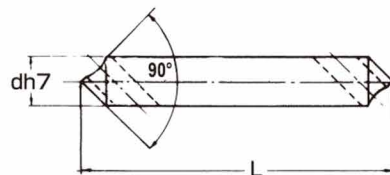
| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度 | 9~16 m/min        |        | 5~10 m/min             |        | 4~8 m/min                 |        |
| 刃徑   | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 角度   | W60°              |        |                        |        |                           |        |
| 10   | 286~509           | 35~93  | 159~318                | 9~39   | 127~255                   | 6~25   |
| 12   | 239~424           | 31~82  | 133~265                | 8~34   | 106~212                   | 5~22   |
| 15   | 191~340           | 26~70  | 106~212                | 7~29   | 85~170                    | 5~19   |
| 20   | 143~255           | 26~69  | 80~159                 | 7~29   | 64~127                    | 5~18   |
| 30   | 95~170            | 23~61  | 53~106                 | 6~25   | 42~ 85                    | 4~16   |
| 40   | 72~127            | 22~58  | 40~ 80                 | 6~24   | 32~ 64                    | 4~16   |
| 50   | 57~102            | 22~58  | 32~ 64                 | 6~24   | 25~ 51                    | 4~15   |
| 60   | 48~ 85            | 22~59  | 27~ 53                 | 6~24   | 21~ 42                    | 4~16   |
| 切削速度 | 10~18 m/min       |        | 6~12 m/min             |        | 5~10 m/min                |        |
| 角度   | W90°              |        |                        |        |                           |        |
| 10   | 318~573           | 38~102 | 191~382                | 11~45  | 159~318                   | 8~30   |
| 12   | 265~477           | 34~ 91 | 159~318                | 10~40  | 133~265                   | 7~27   |
| 15   | 212~382           | 28~ 77 | 127~255                | 9~34   | 106~212                   | 6~23   |
| 20   | 159~286           | 28~ 76 | 95~191                 | 8~34   | 80~159                    | 6~22   |
| 30   | 106~191           | 25~ 67 | 64~127                 | 7~30   | 53~106                    | 5~20   |
| 40   | 80~143            | 24~ 64 | 48~ 95                 | 7~29   | 40~ 80                    | 5~19   |
| 50   | 64~115            | 24~ 64 | 38~ 76                 | 7~28   | 32~ 64                    | 5~19   |
| 60   | 53~ 95            | 24~ 65 | 32~ 64                 | 7~29   | 27~ 53                    | 5~19   |
| 角度   | W120°             |        |                        |        |                           |        |
| 10   | 318~573           | 41~110 | 191~382                | 12~49  | 159~318                   | 8~33   |
| 12   | 265~477           | 36~ 97 | 159~318                | 11~43  | 133~265                   | 7~29   |
| 15   | 212~382           | 31~ 83 | 127~255                | 9~37   | 106~212                   | 6~24   |
| 20   | 159~286           | 30~ 82 | 95~191                 | 9~36   | 80~159                    | 6~24   |
| 30   | 106~191           | 27~ 72 | 64~127                 | 8~32   | 53~106                    | 5~21   |
| 40   | 80~143            | 26~ 69 | 48~ 95                 | 8~31   | 40~ 80                    | 5~20   |
| 50   | 64~115            | 25~ 69 | 38~ 76                 | 8~31   | 32~ 64                    | 5~20   |
| 60   | 53~ 95            | 26~ 70 | 32~ 64                 | 8~31   | 27~ 53                    | 5~21   |

# CDI 軟質斜面銑刀—倒角刀

Conical Drills CDI

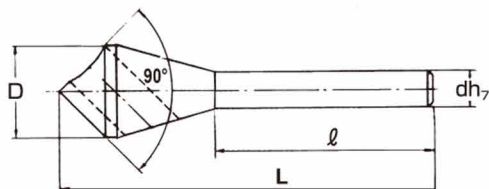


18-ST10-90°



04-ST4-90°

06-ST6-90°



09-ST6-90°

加工粘延性高之軟質金屬之倒角面一如鋁合金、銅合金等。



90°倒角

單位：mm

| 形式      | 倒角度  | 切削面徑       | 刃徑  | 柄徑  | 柄長  | 全長  | 價(支)格           |
|---------|------|------------|-----|-----|-----|-----|-----------------|
|         | (α°) | (capacity) | (D) | (d) | (ℓ) | (L) |                 |
| 04-ST 4 | 90°  | 2~ 4       | 4   | 4   | -   | 50  | <b>560.00</b>   |
| 06-ST 6 | 90°  | 3~ 6       | 6   | 6   | -   | 50  | <b>630.00</b>   |
| 09-ST 6 | 90°  | 4~ 9       | 10  | 6   | 42  | 55  | <b>750.00</b>   |
| 14-ST 8 | 90°  | 6~14       | 15  | 8   | 50  | 70  | <b>970.00</b>   |
| 18-ST10 | 90°  | 8~18       | 20  | 10  | 70  | 100 | <b>1,370.00</b> |
| 23-ST12 | 90°  | 10~23      | 25  | 12  | 73  | 110 | <b>1,970.00</b> |
| 28-ST12 | 90°  | 12~28      | 30  | 12  | 70  | 120 | <b>2,730.00</b> |

60°倒角

|         |     |       |    |    |      |     |                 |
|---------|-----|-------|----|----|------|-----|-----------------|
| 09-ST 6 | 60° | 4~ 9  | 10 | 6  | 40.5 | 55  | <b>910.00</b>   |
| 14-ST 8 | 60° | 6~14  | 15 | 8  | 48.5 | 70  | <b>1,200.00</b> |
| 18-ST10 | 60° | 8~18  | 20 | 10 | 71   | 100 | <b>1,640.00</b> |
| 23-ST12 | 60° | 10~23 | 25 | 12 | 74   | 110 | <b>2,280.00</b> |
| 28-ST12 | 60° | 12~28 | 30 | 12 | 78   | 120 | <b>3,260.00</b> |

120°倒角

|         |      |       |    |    |      |     |                 |
|---------|------|-------|----|----|------|-----|-----------------|
| 09-ST 6 | 120° | 4~ 9  | 10 | 6  | 40.5 | 55  | <b>960.00</b>   |
| 14-ST 8 | 120° | 6~14  | 15 | 8  | 48.5 | 70  | <b>1,290.00</b> |
| 18-ST10 | 120° | 8~18  | 20 | 10 | 71   | 100 | <b>1,820.00</b> |
| 23-ST12 | 120° | 10~23 | 25 | 12 | 74   | 110 | <b>2,640.00</b> |
| 28-ST12 | 120° | 12~28 | 30 | 12 | 78   | 120 | <b>3,560.00</b> |

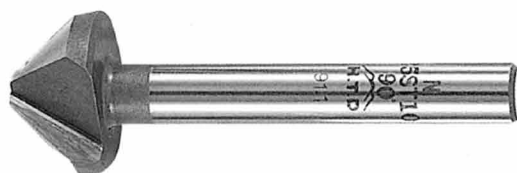


# CDII 硬質斜面銑刀—倒角刀

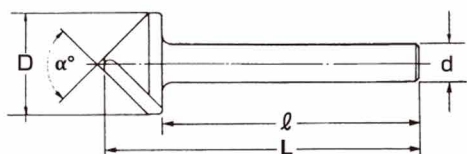
Conical Drills CDII



07ST-8-90°



25ST-10-90°



### 優點：

1. 一刀型式容易研磨，繼續使用很久。
2. 使用含鈷8%之SKH56高速鋼材料。
3. 加工低粘延性之硬質金屬之倒角面。



### 90°倒角

單位：mm

| 形式      | 倒角度  | 切削面徑<br>(capacity) | 刃徑<br>(D) | 柄徑<br>(d) | 柄長<br>(ℓ) | 全長<br>(L) | 價(支)格           |
|---------|------|--------------------|-----------|-----------|-----------|-----------|-----------------|
|         | (α°) |                    |           |           |           |           |                 |
| 07ST-8  | 90°  | 1.5~7              | 8         | 8         | -         | 55        | <b>1,630.00</b> |
| 15ST-8  | 90°  | 2~15               | 16        | 8         | 54        | 65        | <b>1,830.00</b> |
| 25ST-10 | 90°  | 6~25               | 26        | 10        | 55        | 80        | <b>3,075.00</b> |
| 35ST-12 | 90°  | 11~35              | 36        | 12        | 74        | 90        | <b>4,950.00</b> |
| 45ST-12 | 90°  | 16~45              | 46        | 12        | 76        | 95        | <b>6,745.00</b> |

### 60°倒角

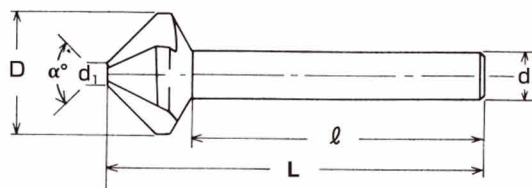
|         |     |       |    |    |    |    |                 |
|---------|-----|-------|----|----|----|----|-----------------|
| 07ST-8  | 60° | 1.5~7 | 8  | 8  | -  | 55 | <b>1,845.00</b> |
| 15ST-8  | 60° | 2~15  | 16 | 8  | 53 | 65 | <b>2,266.00</b> |
| 25ST-10 | 60° | 6~25  | 26 | 10 | 64 | 80 | <b>3,840.00</b> |
| 35ST-12 | 60° | 20~35 | 36 | 12 | 73 | 90 | <b>5,970.00</b> |
| 45ST-12 | 60° | 26~45 | 46 | 12 | 74 | 95 | <b>8,190.00</b> |

### 120°倒角

|         |      |       |    |    |    |    |                 |
|---------|------|-------|----|----|----|----|-----------------|
| 07ST-8  | 120° | 1.5~7 | 8  | 8  | -  | 55 | <b>2,014.00</b> |
| 15ST-8  | 120° | 2~15  | 16 | 8  | 52 | 60 | <b>2,474.00</b> |
| 25ST-10 | 120° | 6~25  | 26 | 10 | 63 | 75 | <b>4,130.00</b> |
| 35ST-12 | 120° | 20~35 | 36 | 12 | 72 | 85 | <b>6,452.00</b> |
| 45ST-12 | 120° | 26~45 | 46 | 12 | 74 | 85 | <b>8,740.00</b> |

# CDIII 三刃型硬質斜面銑刀—倒角刀

Conical Drills CDIII

 對不銹鋼倒角時 $\text{min}^{-1}$ 可提高


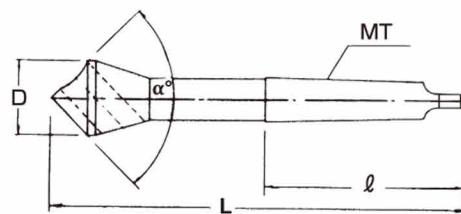
單位：mm



| 形式      | 倒角度                | 切削面徑       | 刃徑  | 先端徑       | 全長  | 柄長      | 柄徑  | 價(支)格           |
|---------|--------------------|------------|-----|-----------|-----|---------|-----|-----------------|
|         | ( $\alpha^\circ$ ) | (capacity) | (D) | ( $d_1$ ) | (L) | ( $l$ ) | (d) |                 |
| 15ST-8  | 90°                | 2~15       | 16  | 5         | 65  | 54      | 8   | <b>1,960.00</b> |
| 25ST-10 | 90°                | 6~25       | 26  | 8         | 80  | 63      | 10  | <b>3,160.00</b> |
| 35ST-12 | 90°                | 11~35      | 36  | 10        | 90  | 66      | 12  | <b>5,110.00</b> |
| 45ST-12 | 90°                | 16~45      | 46  | 15        | 95  | 64      | 12  | <b>6,950.00</b> |

# 斜柄軟質斜面銑刀—倒角刀

Conical Drills CDI with MT Shank



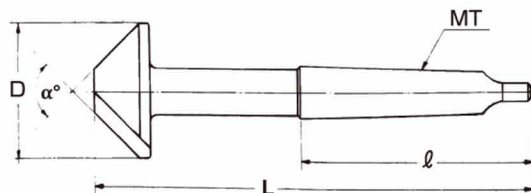
單位：mm



| 形式     | 倒角度                | 切削面徑       | 刃徑  | 柄長      | 全長    | 推拔柄    | 價(支)格           |
|--------|--------------------|------------|-----|---------|-------|--------|-----------------|
|        | ( $\alpha^\circ$ ) | (capacity) | (D) | ( $l$ ) | (L)   | MT NO. |                 |
| 09-MT1 | 90°                | 4~9        | 10  | 65.5    | 106   | 1      | <b>1,040.00</b> |
| 14-MT1 | 90°                | 6~14       | 15  | 65.5    | 120   | 1      | <b>1,460.00</b> |
| 18-MT1 | 90°                | 8~18       | 20  | 65.5    | 130.5 | 1      | <b>1,990.00</b> |
| 23-MT1 | 90°                | 10~23      | 25  | 65.5    | 140.5 | 1      | <b>2,910.00</b> |
| 28-MT2 | 90°                | 12~28      | 30  | 80      | 174   | 2      | <b>4,140.00</b> |
| 33-MT2 | 90°                | 14~33      | 35  | 80      | 180   | 2      | <b>5,360.00</b> |
| 38-MT2 | 90°                | 16~38      | 40  | 80      | 185   | 2      | <b>6,580.00</b> |

# 斜柄硬質斜面銑刀—倒角刀

Conical Drills CDII with MT Shank



單位：mm

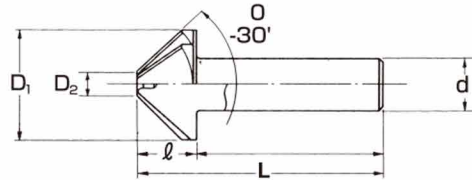
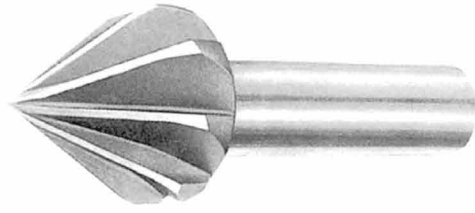


| 形式     | 倒角度                | 切削面徑       | 刃徑  | 柄長      | 全長  | 推拔柄    | 價(支)格            |
|--------|--------------------|------------|-----|---------|-----|--------|------------------|
|        | ( $\alpha^\circ$ ) | (capacity) | (D) | ( $l$ ) | (L) | MT NO. |                  |
| 15-MT1 | 90°                | 2~15       | 16  | 65      | 120 | 1      | <b>2,820.00</b>  |
| 25-MT2 | 90°                | 6~25       | 26  | 80      | 145 | 2      | <b>5,050.00</b>  |
| 35-MT2 | 90°                | 11~35      | 36  | 80      | 145 | 2      | <b>7,500.00</b>  |
| 45-MT2 | 90°                | 16~45      | 46  | 80      | 150 | 2      | <b>10,260.00</b> |

## CF 直柄中心絞刀—倒角絞刀

Countersink with Straight Shank

右刃直刃型  
修面加工用  
取屑加工用



SKH51 高速鋼  
h8 精徑  
倒角 0 -30' 切削條件  
P210

單位：mm

| 直徑<br>(D <sub>1</sub> ) | 先端徑<br>(D <sub>2</sub> ) | 刃長<br>(l) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 倒角度<br>(θ) | 價(支)格     |        |
|-------------------------|--------------------------|-----------|-----------|-----------|-----------|------------|-----------|--------|
| 6                       | -                        | -         | 35        | 6         | 6         | 60°倒角      | 590.00    |        |
| 8                       | -                        | 12        | 40        | 6         | 6         |            | 690.00    |        |
| 10                      | -                        | 14        | 52        | 6         | 6         |            | 850.00    |        |
| 12                      | -                        | 15        | 52        | 8         | 6         |            | 930.00    |        |
| 15                      | -                        | 18        | 55        | 10        | 6         |            | 1,370.00  |        |
| 16                      | -                        | 19        | 58        | 10        | 6         |            | 1,370.00  |        |
| 20                      | -                        | 22        | 62        | 10        | 7         |            | 1,480.00  |        |
| 25                      | -                        | 24        | 64        | 12        | 7         |            | 2,090.00  |        |
| 30                      | -                        | 29        | 69        | 12        | 10        |            | 2,610.00  |        |
| 40                      | 8                        | 33        | 88        | 12        | 12        |            | 6,220.00  |        |
| 50                      | 12                       | 44        | 98        | 16        | 12        |            | 12,660.00 |        |
| 60                      | 15                       | 49        | 103       | 16        | 14        |            | 19,900.00 |        |
| 6                       | -                        | -         | 35        | 6         | 6         |            | 90°倒角     | 590.00 |
| 8                       | -                        | 4         | 40        | 6         | 6         |            |           | 690.00 |
| 10                      | -                        | 10        | 45        | 6         | 6         | 850.00     |           |        |
| 12                      | -                        | 11        | 48        | 8         | 6         | 930.00     |           |        |
| 15                      | -                        | 12        | 50        | 10        | 6         | 1,370.00   |           |        |
| 16                      | -                        | 13        | 50        | 10        | 6         | 1,370.00   |           |        |
| 20                      | -                        | 17        | 55        | 10        | 7         | 1,480.00   |           |        |
| 25                      | -                        | 17        | 58        | 12        | 7         | 2,090.00   |           |        |
| 30                      | -                        | 19        | 60        | 12        | 10        | 2,610.00   |           |        |
| 40                      | 8                        | 26        | 71        | 12        | 12        | 6,220.00   |           |        |
| 50                      | 12                       | 29        | 76        | 16        | 12        | 12,660.00  |           |        |
| 60                      | 15                       | 33        | 80        | 16        | 14        | 19,900.00  |           |        |

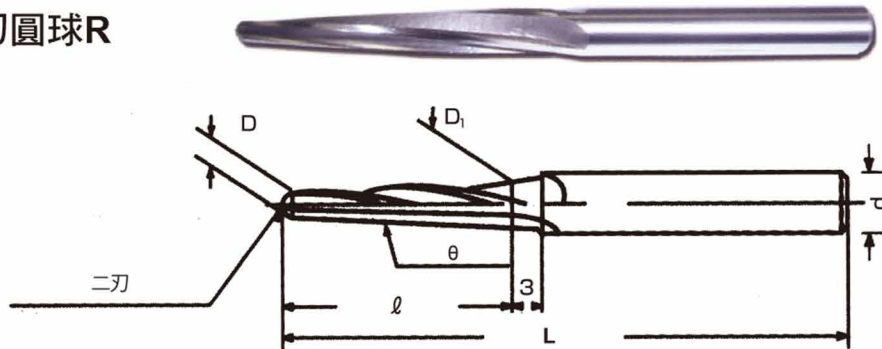


# PGR 先端圓球R灌嘴絞刀

Reamers for Pin Gate

右刃右螺旋 四刃  
模具加工專用刀具

先端二刃圓球R



優點：

1. 本刀具是模具在灌嘴加工上先端需要圓球時特別設計的。
2. 在不貫通孔底加工時，刀具先端特別設計圓球刃立銑刀，以利加工。
3. 在加工中，使切削屑順暢排出而特別設計的右刃右螺旋。
4. 刀具先端特別設計二刃型圓球立銑刀。

單位：mm



| 先端R<br>(R) | 兩角<br>(θ) | 刃長<br>(ℓ) | 粗端徑<br>(D <sub>1</sub> ) | 全長<br>(L) | 柄徑<br>(d) | 價(支)格           |
|------------|-----------|-----------|--------------------------|-----------|-----------|-----------------|
| 0.5        | 1°        | 25        | 1.44                     | 70        | 4         | <b>5,210.00</b> |
| 0.5        | 2°        | 25        | 1.87                     | 70        | 4         | <b>5,210.00</b> |
| 0.5        | 3°        | 25        | 2.31                     | 70        | 4         | <b>5,660.00</b> |
| 0.5        | 4°        | 25        | 2.75                     | 70        | 4         | <b>5,660.00</b> |
| 0.5        | 5°        | 25        | 3.19                     | 70        | 4         | <b>5,940.00</b> |
| 0.75       | 1°        | 30        | 2.03                     | 80        | 6         | <b>4,280.00</b> |
| 0.75       | 2°        | 30        | 2.52                     | 80        | 6         | <b>4,280.00</b> |
| 0.75       | 3°        | 30        | 3.03                     | 80        | 6         | <b>4,280.00</b> |
| 0.75       | 4°        | 30        | 3.55                     | 80        | 6         | <b>4,280.00</b> |
| 0.75       | 5°        | 30        | 4.06                     | 80        | 6         | <b>4,280.00</b> |
| 1          | 1°        | 40        | 2.7                      | 90        | 6         | <b>3,530.00</b> |
| 1          | 2°        | 40        | 3.36                     | 90        | 6         | <b>3,530.00</b> |
| 1          | 3°        | 40        | 4.04                     | 90        | 6         | <b>3,530.00</b> |
| 1          | 4°        | 40        | 4.72                     | 90        | 6         | <b>3,530.00</b> |
| 1          | 5°        | 40        | 5.4                      | 90        | 6         | <b>3,530.00</b> |
| 1          | 1°        | 70        | 3.23                     | 120       | 6         | <b>4,065.00</b> |
| 1          | 2°        | 70        | 4.4                      | 120       | 6         | <b>4,065.00</b> |
| 1          | 3°        | 70        | 5.61                     | 120       | 6         | <b>4,065.00</b> |
| 1          | 4°        | 70        | 6.81                     | 120       | 6         | <b>4,065.00</b> |
| 1          | 5°        | 70        | 8.02                     | 120       | 8         | <b>4,520.00</b> |
| 1          | 1°        | 120       | 4.1                      | 170       | 6         | <b>6,100.00</b> |
| 1          | 2°        | 120       | 6.19                     | 170       | 6         | <b>6,340.00</b> |
| 1          | 3°        | 120       | 8.29                     | 170       | 8         | <b>6,340.00</b> |
| 1          | 4°        | 120       | 10.39                    | 170       | 10        | <b>6,770.00</b> |
| 1          | 5°        | 120       | 12.5                     | 170       | 12        | <b>6,825.00</b> |
| 1.25       | 1°        | 60        | 3.55                     | 110       | 6         | <b>5,080.00</b> |
| 1.25       | 2°        | 60        | 4.59                     | 110       | 6         | <b>5,080.00</b> |
| 1.25       | 3°        | 60        | 5.64                     | 110       | 6         | <b>5,080.00</b> |
| 1.25       | 4°        | 60        | 6.69                     | 110       | 6         | <b>5,365.00</b> |
| 1.25       | 5°        | 60        | 7.75                     | 110       | 8         | <b>5,440.00</b> |
| 1.5        | 1°        | 45        | 3.79                     | 95        | 6         | <b>3,920.00</b> |
| 1.5        | 2°        | 45        | 4.51                     | 95        | 6         | <b>3,920.00</b> |
| 1.5        | 3°        | 45        | 5.27                     | 95        | 6         | <b>3,920.00</b> |
| 1.5        | 4°        | 45        | 6.03                     | 95        | 6         | <b>3,920.00</b> |
| 1.5        | 5°        | 45        | 6.79                     | 95        | 6         | <b>4,250.00</b> |
| 1.5        | 1°        | 80        | 4.4                      | 130       | 6         | <b>4,260.00</b> |

| 先端R<br>(R) | 兩角<br>(θ) | 刃長<br>(ℓ) | 粗端徑<br>(D <sub>1</sub> ) | 全長<br>(L) | 柄徑<br>(d) | 價(支)格            |
|------------|-----------|-----------|--------------------------|-----------|-----------|------------------|
| 1.5        | 2°        | 80        | 5.74                     | 130       | 6         | <b>4,260.00</b>  |
| 1.5        | 3°        | 80        | 7.11                     | 130       | 8         | <b>4,260.00</b>  |
| 1.5        | 4°        | 80        | 8.48                     | 130       | 8         | <b>4,910.00</b>  |
| 1.5        | 5°        | 80        | 9.85                     | 130       | 10        | <b>5,175.00</b>  |
| 1.5        | 1°        | 130       | 5.28                     | 180       | 6         | <b>6,100.00</b>  |
| 1.5        | 2°        | 130       | 7.54                     | 180       | 8         | <b>6,555.00</b>  |
| 1.5        | 3°        | 130       | 9.81                     | 180       | 10        | <b>6,555.00</b>  |
| 1.5        | 4°        | 130       | 12.09                    | 180       | 12        | <b>6,970.00</b>  |
| 1.5        | 5°        | 130       | 14.38                    | 180       | 12        | <b>7,315.00</b>  |
| 2          | 1°        | 50        | 4.88                     | 100       | 6         | <b>3,920.00</b>  |
| 2          | 2°        | 50        | 5.67                     | 100       | 6         | <b>3,920.00</b>  |
| 2          | 3°        | 50        | 6.51                     | 100       | 6         | <b>3,920.00</b>  |
| 2          | 4°        | 50        | 7.35                     | 100       | 8         | <b>4,455.00</b>  |
| 2          | 5°        | 50        | 8.38                     | 100       | 8         | <b>4,995.00</b>  |
| 2          | 1°        | 90        | 5.58                     | 140       | 6         | <b>4,715.00</b>  |
| 2          | 2°        | 90        | 7.07                     | 140       | 8         | <b>4,715.00</b>  |
| 2          | 3°        | 90        | 8.6                      | 140       | 8         | <b>4,715.00</b>  |
| 2          | 4°        | 90        | 10.14                    | 140       | 10        | <b>5,085.00</b>  |
| 2          | 5°        | 90        | 11.88                    | 140       | 12        | <b>5,735.00</b>  |
| 2          | 1°        | 130       | 6.28                     | 180       | 6         | <b>6,290.00</b>  |
| 2          | 2°        | 130       | 8.54                     | 180       | 8         | <b>6,290.00</b>  |
| 2          | 3°        | 130       | 10.7                     | 180       | 10        | <b>6,290.00</b>  |
| 2          | 4°        | 130       | 12.93                    | 180       | 12        | <b>7,305.00</b>  |
| 2          | 5°        | 130       | 15.38                    | 180       | 16        | <b>7,315.00</b>  |
| 2.5        | 1°        | 60        | 6.05                     | 110       | 6         | <b>4,180.00</b>  |
| 2.5        | 2°        | 60        | 7                        | 110       | 8         | <b>4,180.00</b>  |
| 2.5        | 3°        | 60        | 8.01                     | 110       | 8         | <b>4,180.00</b>  |
| 2.5        | 4°        | 60        | 9.01                     | 110       | 10        | <b>4,565.00</b>  |
| 2.5        | 1°        | 100       | 6.75                     | 150       | 6         | <b>5,280.00</b>  |
| 2.5        | 2°        | 100       | 8.4                      | 150       | 8         | <b>5,280.00</b>  |
| 2.5        | 3°        | 100       | 10.1                     | 150       | 10        | <b>5,280.00</b>  |
| 2.5        | 4°        | 100       | 11.8                     | 150       | 12        | <b>5,555.00</b>  |
| 2.5        | 1°        | 150       | 7.63                     | 200       | 8         | <b>7,285.00</b>  |
| 2.5        | 2°        | 150       | 10.24                    | 200       | 10        | <b>7,725.00</b>  |
| 2.5        | 3°        | 150       | 12.72                    | 200       | 12        | <b>8,655.00</b>  |
| 2.5        | 4°        | 150       | 15.3                     | 200       | 16        | <b>10,040.00</b> |

絞刀刀具

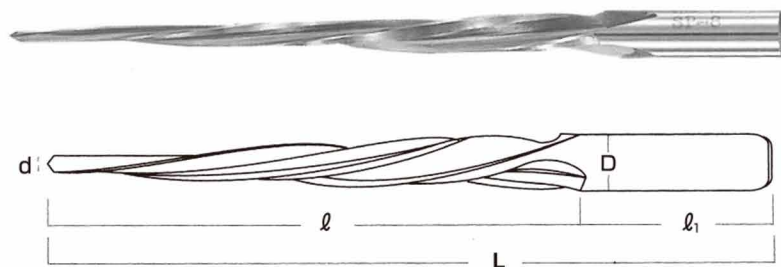
Reamers

# SPR 灌嘴絞刀

Sprue Reamers

塑膠模具必須刀具

塑膠快速射出進入模具成型之導孔工具。



 番號：SP

 番號：FC



單位：mm

| 番號    | 先端徑<br>( $d_1$ ) | 粗端徑<br>( $D$ ) | 刃長<br>( $l$ ) | 全長<br>( $L$ ) | 兩角<br>( $\theta$ ) | 柄徑<br>( $d$ ) | 刃數<br>( $N$ ) | 價(支)格     |
|-------|------------------|----------------|---------------|---------------|--------------------|---------------|---------------|-----------|
| FC- 1 | 2.5              | 7.7            | 50            | 90            | 6°                 | 8             | 3             | 3,160.00  |
| SP- 1 | 2.5              | 7.7            | 50            | 90            | 6°                 | 8             | 3             | 3,160.00  |
| FC- 2 | 2.5              | 9.5            | 50            | 90            | 8°                 | 8             | 3             | 3,160.00  |
| SP- 2 | 2.5              | 9.5            | 50            | 90            | 8°                 | 8             | 3             | 3,160.00  |
| FC- 3 | 2.8              | 6.3            | 80            | 120           | 2°30'              | 6             | 3             | 3,470.00  |
| SP- 3 | 2.8              | 6.3            | 80            | 120           | 2°30'              | 6             | 3             | 3,470.00  |
| FC- 4 | 2.8              | 7.15           | 80            | 120           | 3°                 | 8             | 3             | 3,705.00  |
| SP- 4 | 2.8              | 7.15           | 80            | 120           | 3°                 | 8             | 3             | 3,705.00  |
| FC- 5 | 2.8              | 8.4            | 80            | 120           | 4°                 | 8             | 3             | 3,945.00  |
| SP- 5 | 2.8              | 8.4            | 80            | 120           | 4°                 | 8             | 3             | 3,945.00  |
| FC- 6 | 2.8              | 9.8            | 80            | 120           | 5°                 | 10            | 3             | 4,255.00  |
| SP- 6 | 2.8              | 9.8            | 80            | 120           | 5°                 | 10            | 3             | 4,255.00  |
| FC- 7 | 3                | 8.24           | 120           | 160           | 2°30'              | 8             | 3             | 5,205.00  |
| SP- 7 | 3                | 8.24           | 120           | 160           | 2°30'              | 8             | 3             | 5,205.00  |
| FC- 8 | 3                | 9.3            | 120           | 160           | 3°                 | 10            | 3             | 6,070.00  |
| SP- 8 | 3                | 9.3            | 120           | 160           | 3°                 | 10            | 3             | 6,070.00  |
| FC- 9 | 3                | 11.2           | 120           | 160           | 4°                 | 10            | 3             | 6,930.00  |
| SP- 9 | 3                | 11.2           | 120           | 160           | 4°                 | 10            | 3             | 6,930.00  |
| FC-10 | 3.5              | 11.4           | 150           | 190           | 3°                 | 12            | 3             | 9,450.00  |
| SP-10 | 3.5              | 11.4           | 150           | 190           | 3°                 | 12            | 3             | 9,450.00  |
| FC-12 | 4                | 12.4           | 160           | 210           | 3°                 | 12            | 3             | 11,245.00 |
| SP-12 | 4                | 12.4           | 160           | 210           | 3°                 | 12            | 3             | 11,245.00 |

# NPM 粉末高速鋼圓棒

NP Powder HSS Round Stick

| 外徑<br>( $D$ ) | 全長<br>( $L$ ) | 價(支)格    |
|---------------|---------------|----------|
| 3             | 70            | 590.00   |
| 5             | 100           | 500.00   |
| 10            | 100           | 800.00   |
| 12            | 100           | 1,470.00 |



# COR 全鎢鋼超硬直刃機械絞刀

Solid Carbide Straight Reamers

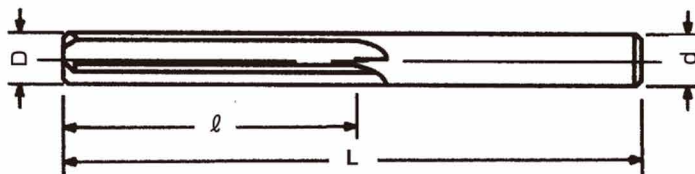


~3.6 兩端突出型

~1.5 柄徑是1.5  
1.5~ 柄徑是同刃徑



3.7~ 中心孔型



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------------|
| 1         | 20        | 50        | 4         | <b>1,705.00</b> | 2.3       | 25        | 50        | 4         | <b>1,860.00</b> |
| 1.01~1.09 | 20        | 50        | 4         | <b>2,210.00</b> | 2.31~2.39 | 25        | 50        | 4         | <b>2,415.00</b> |
| 1.1       | 20        | 50        | 4         | <b>1,705.00</b> | 2.4       | 25        | 50        | 4         | <b>1,860.00</b> |
| 1.11~1.19 | 20        | 50        | 4         | <b>2,210.00</b> | 2.41~2.49 | 25        | 50        | 4         | <b>2,415.00</b> |
| 1.2       | 20        | 50        | 4         | <b>1,705.00</b> | 2.5       | 25        | 50        | 4         | <b>1,860.00</b> |
| 1.21~1.29 | 20        | 50        | 4         | <b>2,210.00</b> | 2.51~2.59 | 25        | 50        | 4         | <b>2,700.00</b> |
| 1.3       | 20        | 50        | 4         | <b>1,705.00</b> | 2.6       | 25        | 50        | 4         | <b>2,075.00</b> |
| 1.31~1.39 | 20        | 50        | 4         | <b>2,210.00</b> | 2.61~2.69 | 25        | 50        | 4         | <b>2,700.00</b> |
| 1.4       | 20        | 50        | 4         | <b>1,705.00</b> | 2.7       | 25        | 50        | 4         | <b>2,075.00</b> |
| 1.41~1.49 | 20        | 50        | 4         | <b>2,210.00</b> | 2.71~2.79 | 25        | 50        | 4         | <b>2,700.00</b> |
| 1.5       | 25        | 50        | 4         | <b>1,650.00</b> | 2.8       | 25        | 50        | 4         | <b>2,075.00</b> |
| 1.51~1.59 | 25        | 50        | 4         | <b>2,150.00</b> | 2.81~2.89 | 30        | 60        | 4         | <b>2,700.00</b> |
| 1.6       | 25        | 50        | 4         | <b>1,575.00</b> | 2.9       | 30        | 60        | 4         | <b>2,075.00</b> |
| 1.61~1.69 | 25        | 50        | 4         | <b>2,040.00</b> | 2.91~2.99 | 30        | 60        | 4         | <b>2,700.00</b> |
| 1.7       | 25        | 50        | 4         | <b>1,575.00</b> | 3         | 30        | 60        | 4         | <b>2,075.00</b> |
| 1.71~1.79 | 25        | 50        | 4         | <b>2,040.00</b> | 3.01~3.09 | 30        | 60        | 4         | <b>3,075.00</b> |
| 1.8       | 25        | 50        | 4         | <b>1,575.00</b> | 3.1       | 30        | 60        | 4         | <b>2,365.00</b> |
| 1.81~1.89 | 25        | 50        | 4         | <b>2,040.00</b> | 3.11~3.19 | 30        | 60        | 4         | <b>3,075.00</b> |
| 1.9       | 25        | 50        | 4         | <b>1,575.00</b> | 3.2       | 30        | 60        | 4         | <b>2,365.00</b> |
| 1.91~1.99 | 25        | 50        | 4         | <b>2,040.00</b> | 3.21~3.29 | 30        | 60        | 4         | <b>3,075.00</b> |
| 2         | 25        | 50        | 4         | <b>1,575.00</b> | 3.3       | 30        | 60        | 4         | <b>2,365.00</b> |
| 2.01~2.09 | 25        | 50        | 4         | <b>2,415.00</b> | 3.31~3.39 | 30        | 60        | 4         | <b>3,075.00</b> |
| 2.1       | 25        | 50        | 4         | <b>1,860.00</b> | 3.4       | 30        | 60        | 4         | <b>2,365.00</b> |
| 2.11~2.19 | 25        | 50        | 4         | <b>2,415.00</b> | 3.41~3.49 | 30        | 60        | 4         | <b>3,075.00</b> |
| 2.2       | 25        | 50        | 4         | <b>1,860.00</b> | 3.5       | 30        | 60        | 4         | <b>2,365.00</b> |
| 2.21~2.29 | 25        | 50        | 4         | <b>2,415.00</b> | 3.51~3.59 | 30        | 60        | 4         | <b>3,165.00</b> |



# COR 全鎢鋼超硬直刃機械絞刀

Solid Carbide Straight Reamers

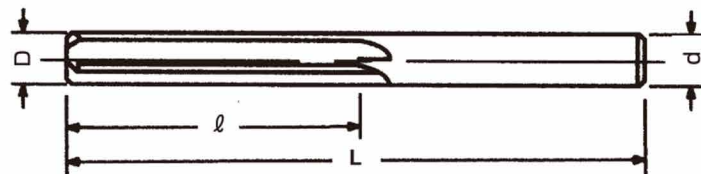


~3.6 兩端突出型

~1.5 柄徑是1.5  
1.5~ 柄徑是同刃徑



3.7~ 中心孔型



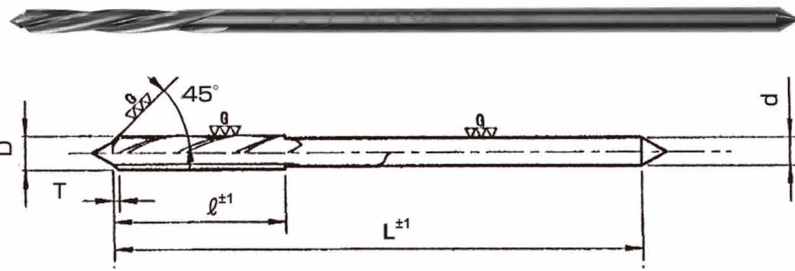
單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 3.6       | 30        | 60        | 4         | <b>2,440.00</b> |
| 3.61~3.69 | 35        | 70        | 4         | <b>3,165.00</b> |
| 3.7       | 35        | 70        | 4         | <b>2,440.00</b> |
| 3.71~3.79 | 35        | 70        | 4         | <b>3,165.00</b> |
| 3.8       | 35        | 70        | 4         | <b>2,440.00</b> |
| 3.81~3.89 | 35        | 70        | 4         | <b>3,165.00</b> |
| 3.9       | 35        | 70        | 4         | <b>2,440.00</b> |
| 3.91~3.99 | 35        | 70        | 4         | <b>3,165.00</b> |
| 4         | 35        | 70        | 6         | <b>2,440.00</b> |
| 4.01~4.09 | 35        | 70        | 6         | <b>3,550.00</b> |
| 4.1       | 35        | 70        | 6         | <b>2,725.00</b> |
| 4.11~4.19 | 35        | 70        | 6         | <b>3,550.00</b> |
| 4.2       | 35        | 70        | 6         | <b>2,725.00</b> |
| 4.21~4.29 | 35        | 70        | 6         | <b>3,550.00</b> |
| 4.3       | 35        | 70        | 6         | <b>2,725.00</b> |
| 4.31~4.39 | 35        | 70        | 6         | <b>3,550.00</b> |
| 4.4       | 35        | 70        | 6         | <b>2,725.00</b> |
| 4.41~4.49 | 35        | 70        | 6         | <b>3,550.00</b> |
| 4.5       | 35        | 70        | 6         | <b>2,725.00</b> |
| 4.51~4.59 | 35        | 70        | 6         | <b>3,820.00</b> |
| 4.6       | 35        | 70        | 6         | <b>2,945.00</b> |
| 4.61~4.69 | 40        | 80        | 6         | <b>3,820.00</b> |
| 4.7       | 40        | 80        | 6         | <b>2,945.00</b> |
| 4.71~4.79 | 40        | 80        | 6         | <b>3,820.00</b> |
| 4.8       | 40        | 80        | 6         | <b>2,945.00</b> |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------------|
| 4.81~4.89 | 40        | 80        | 6         | <b>3,820.00</b> |
| 4.9       | 40        | 80        | 6         | <b>2,945.00</b> |
| 4.91~4.99 | 40        | 80        | 6         | <b>3,820.00</b> |
| 5         | 40        | 80        | 6         | <b>2,945.00</b> |
| 5.01~5.09 | 40        | 80        | 6         | <b>4,370.00</b> |
| 5.1       | 40        | 80        | 6         | <b>3,375.00</b> |
| 5.11~5.19 | 40        | 80        | 6         | <b>4,370.00</b> |
| 5.2       | 40        | 80        | 6         | <b>3,375.00</b> |
| 5.21~5.29 | 40        | 80        | 6         | <b>4,370.00</b> |
| 5.3       | 40        | 80        | 6         | <b>3,375.00</b> |
| 5.31~5.39 | 40        | 80        | 6         | <b>4,370.00</b> |
| 5.4       | 40        | 80        | 6         | <b>3,375.00</b> |
| 5.41~5.49 | 40        | 80        | 6         | <b>4,370.00</b> |
| 5.5       | 40        | 80        | 6         | <b>3,375.00</b> |
| 5.51~5.59 | 40        | 80        | 6         | <b>4,585.00</b> |
| 5.6       | 40        | 80        | 6         | <b>3,515.00</b> |
| 5.61~5.69 | 45        | 90        | 6         | <b>4,585.00</b> |
| 5.7       | 45        | 90        | 6         | <b>3,515.00</b> |
| 5.71~5.79 | 45        | 90        | 6         | <b>4,585.00</b> |
| 5.8       | 45        | 90        | 6         | <b>3,515.00</b> |
| 5.81~5.89 | 45        | 90        | 6         | <b>4,585.00</b> |
| 5.9       | 45        | 90        | 6         | <b>3,515.00</b> |
| 5.91~5.99 | 45        | 90        | 6         | <b>4,585.00</b> |
| 6         | 45        | 90        | 6         | <b>3,515.00</b> |
| 6.01~6.05 | 45        | 90        | 6         | <b>4,585.00</b> |

# CSPSCR 全鎢鋼超硬直柄機械絞刀

Solid Carbide Spiral Chucking Reamers



兩端突出型

右刃左螺旋刃

有精度、有品質  
低價位、可信賴

單位：mm

| 刃徑 (D) | 許容差              | 刃長 (ℓ) | 全長 (L) | 柄徑 (d) | 刃數 (N) | 價(支)格           |
|--------|------------------|--------|--------|--------|--------|-----------------|
| 1      | +0.007<br>+0.002 | 6      | 55     | 1      | 3      | <b>2,045.00</b> |
| 1.1    |                  | 8      | 60     | 1.1    | 3      | <b>1,960.00</b> |
| 1.2    |                  | 8      | 60     | 1.2    | 3      | <b>1,960.00</b> |
| 1.3    |                  | 8      | 60     | 1.3    | 3      | <b>1,960.00</b> |
| 1.4    |                  | 8      | 60     | 1.4    | 3      | <b>1,960.00</b> |
| 1.5    |                  | 8      | 60     | 1.5    | 3      | <b>1,775.00</b> |
| 1.6    |                  | 12     | 70     | 1.6    | 4      | <b>1,870.00</b> |
| 1.7    |                  | 12     | 70     | 1.7    | 4      | <b>1,870.00</b> |
| 1.8    |                  | 12     | 70     | 1.8    | 4      | <b>1,870.00</b> |
| 1.9    |                  | 12     | 70     | 1.9    | 4      | <b>1,870.00</b> |
| 2      |                  | 12     | 70     | 2      | 4      | <b>1,700.00</b> |
| 2.1    |                  | 15     | 80     | 2.1    | 4      | <b>2,070.00</b> |
| 2.2    |                  | 15     | 80     | 2.2    | 4      | <b>2,070.00</b> |
| 2.3    |                  | 15     | 80     | 2.3    | 4      | <b>2,070.00</b> |

| 刃徑 (D) | 許容差              | 刃長 (ℓ) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           |
|--------|------------------|--------|--------|--------|-----------------|-----------------|
| 2.4    | +0.007<br>+0.002 | 15     | 80     | 2.4    | 4               | <b>2,070.00</b> |
| 2.5    |                  | 15     | 80     | 2.5    | 4               | <b>1,875.00</b> |
| 2.6    |                  | 15     | 85     | 2.6    | 4               | <b>2,580.00</b> |
| 2.7    |                  | 15     | 85     | 2.7    | 4               | <b>2,580.00</b> |
| 2.8    |                  | 15     | 85     | 2.8    | 4               | <b>2,580.00</b> |
| 2.9    |                  | 15     | 85     | 2.9    | 4               | <b>2,580.00</b> |
| 3      | +0.009<br>+0.004 | 15     | 85     | 3      | 4               | <b>2,345.00</b> |
| 3.1    |                  | 18     | 90     | 3.1    | 4               | <b>2,675.00</b> |
| 3.2    |                  | 18     | 90     | 3.2    | 4               | <b>2,675.00</b> |
| 3.3    |                  | 18     | 90     | 3.3    | 4               | <b>2,675.00</b> |
| 3.4    |                  | 18     | 90     | 3.4    | 4               | <b>2,675.00</b> |
| 3.5    |                  | 18     | 90     | 3.5    | 4               | <b>2,425.00</b> |
| 3.6    | 20               | 100    | 3.6    | 4      | <b>2,845.00</b> |                 |

| 刃徑 (D) | 許容差         | 刃長 (ℓ) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           |
|--------|-------------|--------|--------|--------|-----------------|-----------------|
| 1.01   | +0.005<br>0 | 6      | 55     | 1      | 3               | <b>2,350.00</b> |
| 1.02   |             | 6      | 55     | 1      | 3               | <b>2,350.00</b> |
| 1.03   |             | 6      | 55     | 1      | 3               | <b>2,350.00</b> |
| 1.04   |             | 6      | 55     | 1      | 3               | <b>2,350.00</b> |
| 1.05   |             | 6      | 55     | 1      | 3               | <b>2,350.00</b> |
| 1.45   |             | 8      | 60     | 1.4    | 3               | <b>2,295.00</b> |
| 1.46   |             | 8      | 60     | 1.4    | 3               | <b>2,295.00</b> |
| 1.47   |             | 8      | 60     | 1.4    | 3               | <b>2,295.00</b> |
| 1.48   |             | 8      | 60     | 1.4    | 3               | <b>2,295.00</b> |
| 1.49   |             | 8      | 60     | 1.4    | 3               | <b>2,295.00</b> |
| 1.51   |             | 8      | 60     | 1.5    | 3               | <b>2,260.00</b> |
| 1.52   |             | 8      | 60     | 1.5    | 3               | <b>2,260.00</b> |
| 1.53   |             | 8      | 60     | 1.5    | 3               | <b>2,260.00</b> |
| 1.54   |             | 8      | 60     | 1.5    | 3               | <b>2,260.00</b> |
| 1.55   |             | 8      | 60     | 1.5    | 3               | <b>2,260.00</b> |
| 1.95   |             | 12     | 70     | 1.9    | 4               | <b>2,235.00</b> |
| 1.96   |             | 12     | 70     | 1.9    | 4               | <b>2,235.00</b> |
| 1.97   |             | 12     | 70     | 1.9    | 4               | <b>2,235.00</b> |
| 1.98   |             | 12     | 70     | 1.9    | 4               | <b>2,235.00</b> |
| 1.99   |             | 12     | 70     | 1.9    | 4               | <b>2,235.00</b> |
| 2.01   | 12          | 70     | 2      | 4      | <b>2,420.00</b> |                 |
| 2.02   | 12          | 70     | 2      | 4      | <b>2,420.00</b> |                 |
| 2.03   | 12          | 70     | 2      | 4      | <b>2,420.00</b> |                 |

| 刃徑 (D) | 許容差         | 刃長 (ℓ) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           |
|--------|-------------|--------|--------|--------|-----------------|-----------------|
| 2.04   | +0.005<br>0 | 12     | 70     | 2      | 4               | <b>2,420.00</b> |
| 2.05   |             | 12     | 70     | 2      | 4               | <b>2,420.00</b> |
| 2.45   |             | 15     | 80     | 2.4    | 4               | <b>2,485.00</b> |
| 2.46   |             | 15     | 80     | 2.4    | 4               | <b>2,485.00</b> |
| 2.47   |             | 15     | 80     | 2.4    | 4               | <b>2,485.00</b> |
| 2.48   |             | 15     | 80     | 2.4    | 4               | <b>2,485.00</b> |
| 2.49   |             | 15     | 80     | 2.4    | 4               | <b>2,485.00</b> |
| 2.51   |             | 15     | 80     | 2.5    | 4               | <b>2,710.00</b> |
| 2.52   |             | 15     | 80     | 2.5    | 4               | <b>2,710.00</b> |
| 2.53   |             | 15     | 80     | 2.5    | 4               | <b>2,710.00</b> |
| 2.54   |             | 15     | 80     | 2.5    | 4               | <b>2,710.00</b> |
| 2.55   |             | 15     | 80     | 2.5    | 4               | <b>2,710.00</b> |
| 2.95   |             | 15     | 85     | 2.9    | 4               | <b>2,845.00</b> |
| 2.96   |             | 15     | 85     | 2.9    | 4               | <b>2,845.00</b> |
| 2.97   |             | 15     | 85     | 2.9    | 4               | <b>2,845.00</b> |
| 2.98   |             | 15     | 85     | 2.9    | 4               | <b>2,845.00</b> |
| 2.99   |             | 15     | 85     | 2.9    | 4               | <b>2,845.00</b> |
| 3.01   |             | 15     | 85     | 3      | 4               | <b>3,125.00</b> |
| 3.02   |             | 15     | 85     | 3      | 4               | <b>3,125.00</b> |
| 3.03   |             | 15     | 85     | 3      | 4               | <b>3,125.00</b> |
| 3.04   | 15          | 85     | 3      | 4      | <b>3,125.00</b> |                 |
| 3.05   | 15          | 85     | 3      | 4      | <b>3,125.00</b> |                 |



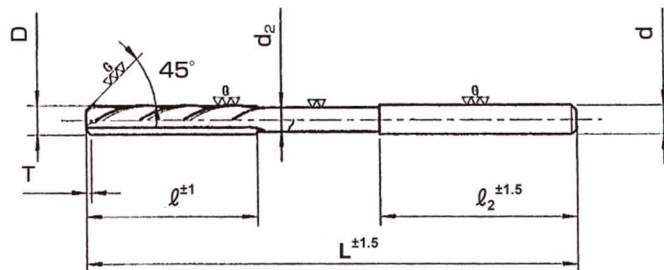
# CSPSCR 全鎢鋼超硬直柄機械絞刀

Solid Carbide Spiral Chucking Reamers



兩端中心孔型

右刃左螺旋刃



有精度、有品質  
低價位、可信賴



單位：mm

| 刃徑 (D) | 許容差              | 刃長 (ℓ) | 全長 (L) | 首徑 (d <sub>2</sub> ) | 柄徑 (d) | 許容差         | 柄長 (ℓ <sub>2</sub> ) | 刃數 (N) | 價(支)格           |
|--------|------------------|--------|--------|----------------------|--------|-------------|----------------------|--------|-----------------|
| 3.7    | +0.009<br>+0.004 | 20     | 100    | 3.6                  | 3.7    | 0<br>-0.012 | 32                   | 4      | <b>2,845.00</b> |
| 3.8    |                  | 20     | 100    | 3.7                  | 3.8    |             | 32                   | 4      | <b>2,845.00</b> |
| 3.9    |                  | 20     | 100    | 3.8                  | 3.9    |             | 32                   | 4      | <b>2,845.00</b> |
| 4      |                  | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>2,585.00</b> |
| 4.1    |                  | 22     | 105    | 4                    | 4.1    |             | 33                   | 4      | <b>3,295.00</b> |
| 4.2    |                  | 22     | 105    | 4.1                  | 4.2    |             | 33                   | 4      | <b>3,295.00</b> |
| 4.3    |                  | 22     | 105    | 4.2                  | 4.3    |             | 33                   | 4      | <b>3,295.00</b> |
| 4.4    |                  | 22     | 105    | 4.3                  | 4.4    |             | 33                   | 4      | <b>3,295.00</b> |
| 4.5    |                  | 22     | 105    | 4.4                  | 4.5    |             | 33                   | 6      | <b>2,995.00</b> |
| 4.6    |                  | 23     | 110    | 4.5                  | 4.6    |             | 34                   | 6      | <b>3,520.00</b> |
| 4.7    |                  | 23     | 110    | 4.6                  | 4.7    |             | 34                   | 6      | <b>3,520.00</b> |
| 4.8    |                  | 23     | 110    | 4.7                  | 4.8    |             | 34                   | 6      | <b>3,520.00</b> |
| 4.9    |                  | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>3,520.00</b> |
| 5      |                  | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>3,195.00</b> |
| 5.1    |                  | 26     | 115    | 5                    | 5.1    |             | 36                   | 6      | <b>4,200.00</b> |
| 5.2    |                  | 26     | 115    | 5.1                  | 5.2    |             | 36                   | 6      | <b>4,200.00</b> |
| 5.3    |                  | 26     | 115    | 5.2                  | 5.3    |             | 36                   | 6      | <b>4,200.00</b> |
| 5.4    | 26               | 115    | 5.3    | 5.4                  | 36     | 6           | <b>4,200.00</b>      |        |                 |
| 5.5    | 26               | 115    | 5.4    | 5.5                  | 36     | 6           | <b>3,820.00</b>      |        |                 |
| 5.6    | 26               | 120    | 5.5    | 5.6                  | 36     | 6           | <b>4,285.00</b>      |        |                 |
| 5.7    | 26               | 120    | 5.6    | 5.7                  | 36     | 6           | <b>4,285.00</b>      |        |                 |
| 5.8    | 26               | 120    | 5.7    | 5.8                  | 36     | 6           | <b>4,285.00</b>      |        |                 |
| 5.9    | 26               | 120    | 5.8    | 5.9                  | 36     | 6           | <b>4,285.00</b>      |        |                 |
| 6      | 26               | 120    | 5.9    | 6                    | 36     | 6           | <b>3,895.00</b>      |        |                 |
| 6.1    | +0.012<br>+0.006 | 28     | 125    | 6                    | 6.1    | 0<br>-0.015 | 38                   | 6      | <b>4,350.00</b> |
| 6.2    |                  | 28     | 125    | 6.1                  | 6.2    |             | 38                   | 6      | <b>4,350.00</b> |
| 6.3    |                  | 28     | 125    | 6.2                  | 6.3    |             | 38                   | 6      | <b>4,350.00</b> |
| 6.4    |                  | 28     | 125    | 6.3                  | 6.4    |             | 38                   | 6      | <b>4,350.00</b> |
| 6.5    |                  | 28     | 125    | 6.4                  | 6.5    |             | 38                   | 6      | <b>3,950.00</b> |

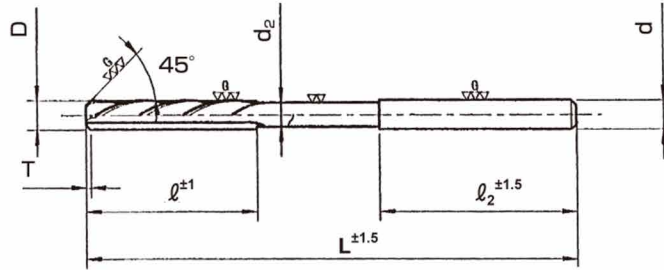
# CSPSCR 全鎢鋼超硬直柄機械絞刀

Solid Carbide Spiral Chucking Reamers



兩端中心孔型

右刃左螺旋刃



有精度、有品質  
低價位、可信賴

單位：mm

P212

| 刃徑 (D) | 許容差         | 刃長 (ℓ) | 全長 (L) | 首徑 (d <sub>2</sub> ) | 柄徑 (d) | 許容差         | 柄長 (ℓ <sub>2</sub> ) | 刃數 (N) | 價(支)格           |
|--------|-------------|--------|--------|----------------------|--------|-------------|----------------------|--------|-----------------|
| 3.95   | 0<br>+0.005 | 20     | 100    | 3.8                  | 3.9    | 0<br>-0.012 | 32                   | 4      | <b>3,415.00</b> |
| 3.96   |             | 20     | 100    | 3.8                  | 3.9    |             | 32                   | 4      | <b>3,415.00</b> |
| 3.97   |             | 20     | 100    | 3.8                  | 3.9    |             | 32                   | 4      | <b>3,415.00</b> |
| 3.98   |             | 20     | 100    | 3.8                  | 3.9    |             | 32                   | 4      | <b>3,415.00</b> |
| 3.99   |             | 20     | 100    | 3.8                  | 3.9    |             | 32                   | 4      | <b>3,415.00</b> |
| 4.01   |             | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>3,625.00</b> |
| 4.02   |             | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>3,625.00</b> |
| 4.03   |             | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>3,625.00</b> |
| 4.04   |             | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>3,625.00</b> |
| 4.05   |             | 20     | 100    | 3.9                  | 4      |             | 32                   | 4      | <b>3,625.00</b> |
| 4.95   |             | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>4,225.00</b> |
| 4.96   |             | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>4,225.00</b> |
| 4.97   |             | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>4,225.00</b> |
| 4.98   |             | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>4,225.00</b> |
| 4.99   |             | 23     | 110    | 4.8                  | 4.9    |             | 34                   | 6      | <b>4,225.00</b> |
| 5.01   |             | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>4,625.00</b> |
| 5.02   |             | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>4,625.00</b> |
| 5.03   |             | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>4,625.00</b> |
| 5.04   |             | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>4,625.00</b> |
| 5.05   |             | 23     | 110    | 4.9                  | 5      |             | 34                   | 6      | <b>4,625.00</b> |
| 5.95   |             | 26     | 120    | 5.8                  | 5.9    |             | 36                   | 6      | <b>4,720.00</b> |
| 5.96   |             | 26     | 120    | 5.8                  | 5.9    |             | 36                   | 6      | <b>4,720.00</b> |
| 5.97   |             | 26     | 120    | 5.8                  | 5.9    |             | 36                   | 6      | <b>4,720.00</b> |
| 5.98   |             | 26     | 120    | 5.8                  | 5.9    |             | 36                   | 6      | <b>4,720.00</b> |
| 5.99   |             | 26     | 120    | 5.8                  | 5.9    |             | 36                   | 6      | <b>4,720.00</b> |
| 6.01   |             | 26     | 120    | 5.9                  | 6      |             | 36                   | 6      | <b>4,795.00</b> |
| 6.02   |             | 26     | 120    | 5.9                  | 6      |             | 36                   | 6      | <b>4,795.00</b> |
| 6.03   |             | 26     | 120    | 5.9                  | 6      |             | 36                   | 6      | <b>4,795.00</b> |
| 6.04   |             | 26     | 120    | 5.9                  | 6      |             | 36                   | 6      | <b>4,795.00</b> |
| 6.05   |             | 26     | 120    | 5.9                  | 6      |             | 36                   | 6      | <b>4,795.00</b> |

絞刀刀具

Reamers

# CSPSCR 先端刃全鎢鋼直柄機械絞刀

Carbide Tipped Spiral Chucking Reamers



長柄型

特點：

1. 絞孔時，以柄為基準，刃部振幅在0.02mm以內。
2. 長柄型，可長、可短隨意選擇使用。
3. 切削加工後之面光滑亮麗。
4. 精密銑床，MC機械加工時，不可或缺之刀具。
5. 品質超群，長時間加工使用，不低劣之慮。



P212

\* 右刃左螺旋刃型。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------|-----------------|
| 6.6       | 28        | 130       | 5         | 6         | <b>5,115.00</b> |
| 6.7       | 28        | 140       | 6         | 6         | <b>5,115.00</b> |
| 6.8       | 28        | 140       | 6         | 6         | <b>5,115.00</b> |
| 6.9       | 28        | 140       | 6         | 6         | <b>5,115.00</b> |
| 7         | 28        | 140       | 6         | 6         | <b>5,000.00</b> |
| 7.1       | 28        | 140       | 6         | 6         | <b>5,275.00</b> |
| 7.2       | 28        | 140       | 6         | 6         | <b>5,275.00</b> |
| 7.3       | 28        | 140       | 6         | 6         | <b>5,275.00</b> |
| 7.4       | 28        | 140       | 6         | 6         | <b>5,275.00</b> |
| 7.5       | 28        | 140       | 6         | 6         | <b>5,435.00</b> |
| 7.6       | 28        | 140       | 6         | 6         | <b>5,275.00</b> |
| 7.7       | 28        | 150       | 6         | 6         | <b>5,275.00</b> |
| 7.8       | 28        | 150       | 6         | 6         | <b>5,275.00</b> |
| 7.9       | 28        | 150       | 6         | 6         | <b>5,275.00</b> |
| 8         | 32        | 150       | 6         | 6         | <b>5,505.00</b> |
| 8.1       | 32        | 150       | 6         | 6         | <b>6,165.00</b> |
| 8.2       | 32        | 150       | 6         | 6         | <b>6,165.00</b> |
| 8.3       | 32        | 150       | 6         | 6         | <b>6,165.00</b> |
| 8.4       | 32        | 150       | 6         | 6         | <b>6,165.00</b> |
| 8.5       | 32        | 150       | 8         | 6         | <b>6,350.00</b> |
| 8.6       | 32        | 150       | 8         | 6         | <b>6,520.00</b> |
| 8.7       | 32        | 160       | 8         | 6         | <b>6,520.00</b> |
| 8.8       | 32        | 160       | 8         | 6         | <b>6,520.00</b> |
| 8.9       | 32        | 160       | 8         | 6         | <b>6,520.00</b> |
| 9         | 34        | 160       | 8         | 6         | <b>6,705.00</b> |
| 9.1       | 34        | 160       | 8         | 6         | <b>7,050.00</b> |
| 9.2       | 34        | 160       | 8         | 6         | <b>7,050.00</b> |
| 9.3       | 34        | 160       | 8         | 6         | <b>7,050.00</b> |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|-----------|-----------|-----------|-----------------|
| 9.4       | 34        | 160       | 8         | 6         | <b>7,050.00</b> |
| 9.5       | 34        | 160       | 8         | 6         | <b>7,260.00</b> |
| 9.6       | 34        | 160       | 8         | 6         | <b>7,745.00</b> |
| 9.7       | 34        | 160       | 8         | 6         | <b>7,745.00</b> |
| 9.8       | 34        | 160       | 8         | 6         | <b>7,745.00</b> |
| 9.9       | 34        | 160       | 8         | 6         | <b>7,745.00</b> |
| 10        | 36        | 160       | 8         | 6         | <b>7,570.00</b> |
| 10.1      | 36        | 160       | 8         | 6         | <b>8,455.00</b> |
| 10.2      | 36        | 160       | 8         | 6         | <b>8,455.00</b> |
| 10.3      | 36        | 160       | 8         | 6         | <b>8,455.00</b> |
| 10.4      | 36        | 160       | 8         | 6         | <b>8,455.00</b> |
| 10.5      | 36        | 160       | 8         | 6         | <b>8,705.00</b> |
| 10.6      | 36        | 160       | 8         | 6         | <b>8,810.00</b> |
| 10.7      | 36        | 170       | 8         | 6         | <b>8,810.00</b> |
| 10.8      | 36        | 170       | 8         | 6         | <b>8,810.00</b> |
| 10.9      | 36        | 170       | 8         | 6         | <b>8,810.00</b> |
| 11        | 38        | 170       | 8         | 6         | <b>8,615.00</b> |
| 11.1      | 38        | 170       | 8         | 6         | <b>9,340.00</b> |
| 11.2      | 38        | 170       | 8         | 6         | <b>9,340.00</b> |
| 11.3      | 38        | 170       | 8         | 6         | <b>9,340.00</b> |
| 11.4      | 38        | 170       | 8         | 6         | <b>9,340.00</b> |
| 11.5      | 38        | 170       | 8         | 6         | <b>9,620.00</b> |
| 11.6      | 38        | 170       | 8         | 6         | <b>9,855.00</b> |
| 11.7      | 38        | 170       | 8         | 6         | <b>9,855.00</b> |
| 11.8      | 38        | 170       | 8         | 6         | <b>9,855.00</b> |
| 11.9      | 38        | 170       | 8         | 6         | <b>9,855.00</b> |
| 12        | 40        | 170       | 10        | 6         | <b>9,640.00</b> |

# CSPSCR 先端刃全鎢鋼直柄機械絞刀

Carbide Tipped Spiral Chucking Reamers



長柄型

特點：

1. 絞孔時，以柄為基準，刃部振幅在0.02mm以內。
2. 長柄型，可長、可短隨意選擇使用。
3. 切削加工後之面光滑亮麗。
4. 精密銑床，MC機械加工時，不可或缺之刀具。
5. 品質超群，長時間加工使用，不低劣之處。



\* 右刃左螺旋刃型。

單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格            |
|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------|------------------|
| 6.95      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 9.95      | 34        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 6.96      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 9.96      | 34        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 6.97      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 9.97      | 34        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 6.98      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 9.98      | 34        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 6.99      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 9.99      | 34        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.01      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 10.01     | 36        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.02      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 10.02     | 36        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.03      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 10.03     | 36        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.04      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 10.04     | 36        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.05      | 28        | 140       | 6         | 6         | <b>6,140.00</b> | 10.05     | 36        | 160       | 8         | 6         | <b>9,295.00</b>  |
| 7.95      | 30        | 150       | 6         | 6         | <b>6,330.00</b> | 10.95     | 36        | 170       | 8         | 6         | <b>10,575.00</b> |
| 7.96      | 30        | 150       | 6         | 6         | <b>6,330.00</b> | 10.96     | 36        | 170       | 8         | 6         | <b>10,575.00</b> |
| 7.97      | 30        | 150       | 6         | 6         | <b>6,330.00</b> | 10.97     | 36        | 170       | 8         | 6         | <b>10,575.00</b> |
| 7.98      | 30        | 150       | 6         | 6         | <b>6,330.00</b> | 10.98     | 36        | 170       | 8         | 6         | <b>10,575.00</b> |
| 7.99      | 30        | 150       | 6         | 6         | <b>6,330.00</b> | 10.99     | 36        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.01      | 32        | 150       | 6         | 6         | <b>6,330.00</b> | 11.01     | 38        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.02      | 32        | 150       | 6         | 6         | <b>6,330.00</b> | 11.02     | 38        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.03      | 32        | 150       | 6         | 6         | <b>6,330.00</b> | 11.03     | 38        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.04      | 32        | 150       | 6         | 6         | <b>6,330.00</b> | 11.04     | 38        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.05      | 32        | 150       | 6         | 6         | <b>6,330.00</b> | 11.05     | 38        | 170       | 8         | 6         | <b>10,575.00</b> |
| 8.95      | 32        | 160       | 8         | 6         | <b>7,825.00</b> | 11.95     | 38        | 170       | 8         | 6         | <b>11,830.00</b> |
| 8.96      | 32        | 160       | 8         | 6         | <b>7,825.00</b> | 11.96     | 38        | 170       | 8         | 6         | <b>11,830.00</b> |
| 8.97      | 32        | 160       | 8         | 6         | <b>7,825.00</b> | 11.97     | 38        | 170       | 8         | 6         | <b>11,830.00</b> |
| 8.98      | 32        | 160       | 8         | 6         | <b>7,825.00</b> | 11.98     | 38        | 170       | 8         | 6         | <b>11,830.00</b> |
| 8.99      | 32        | 160       | 8         | 6         | <b>7,825.00</b> | 11.99     | 38        | 170       | 8         | 6         | <b>11,830.00</b> |
| 9.01      | 34        | 160       | 8         | 6         | <b>7,825.00</b> | 12.01     | 40        | 180       | 10        | 6         | <b>11,830.00</b> |
| 9.02      | 34        | 160       | 8         | 6         | <b>7,825.00</b> | 12.02     | 40        | 180       | 10        | 6         | <b>11,830.00</b> |
| 9.03      | 34        | 160       | 8         | 6         | <b>7,825.00</b> | 12.03     | 40        | 180       | 10        | 6         | <b>11,830.00</b> |
| 9.04      | 34        | 160       | 8         | 6         | <b>7,825.00</b> | 12.04     | 40        | 180       | 10        | 6         | <b>11,830.00</b> |
| 9.05      | 34        | 160       | 8         | 6         | <b>7,825.00</b> | 12.05     | 40        | 180       | 10        | 6         | <b>11,830.00</b> |

# 全鎢鋼高螺旋角直柄拉式絞刀

Carbide Straight Shank Spiral Reamers with End Mills Function on Tip

60°高螺旋角

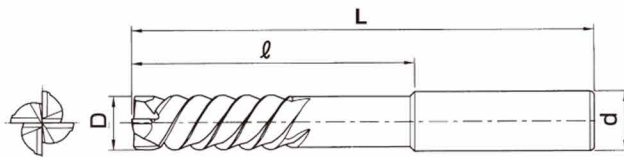


FHR 先端無銑刀刃型



FEHR 先端銑刀刃型

單位：mm



| 刃徑 (D) | 刃長 (l) | 柄徑 (d) | 全長 (L) | FHR 價(支)格 | FEHR 價(支)格 |
|--------|--------|--------|--------|-----------|------------|
| 3      | 55     | 3      | 80     | 9,920.00  | 11,390.00  |
| 4      | 55     | 4      | 80     | 9,920.00  | 11,390.00  |
| 5      | 70     | 5      | 100    | 9,920.00  | 11,390.00  |
| 6      | 70     | 6      | 100    | 9,920.00  | 11,390.00  |
| 7      | 70     | 7      | 100    | 10,370.00 | 11,920.00  |
| 8      | 80     | 8      | 125    | 11,800.00 | 13,570.00  |
| 9      | 85     | 9      | 135    | 13,230.00 | 15,210.00  |
| 10     | 90     | 10     | 150    | 14,660.00 | 16,860.00  |
| 11     | 90     | 12     | 150    | 16,090.00 | 18,500.00  |
| 12     | 90     | 12     | 150    | 16,450.00 | 18,910.00  |
| 13     | 100    | 16     | 160    | 20,740.00 | 23,850.00  |
| 14     | 100    | 16     | 160    | 20,740.00 | 23,850.00  |
| 15     | 100    | 16     | 160    | 20,740.00 | 23,850.00  |

FHR · FEHR 切削條件參考表

| 被削材 | 工具鋼                     |        | 不銹鋼               |        | 鑄鐵                |        |
|-----|-------------------------|--------|-------------------|--------|-------------------|--------|
|     | SCMA · SNCM8SUS · SKD11 |        | FCD               |        | FCD               |        |
| 刃徑  | 回轉數                     | 進刀速度   | 回轉數               | 進刀速度   | 回轉數               | 進刀速度   |
|     | min <sup>-1</sup>       | mm/min | min <sup>-1</sup> | mm/min | min <sup>-1</sup> | mm/min |
| 6   | 950                     | 170    | 800               | 120    | 1,160             | 175    |
| 8   | 720                     | 144    | 600               | 110    | 875               | 160    |
| 10  | 570                     | 130    | 480               | 96     | 700               | 140    |
| 12  | 480                     | 120    | 400               | 90     | 580               | 127    |
| 15  | 360                     | 90     | 300               | 75     | 440               | 110    |

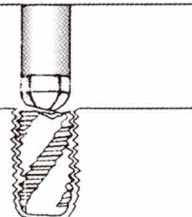
## ①切削前

務必使用套筒式夾套 (油壓式夾頭不可使用)



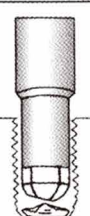
折斷絲攻從工作物突出很多時請先磨平。

## ②中心點



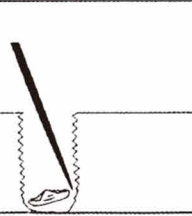
使用符合絲攻尺寸之，破損TAP鑽頭與工作物之中心一定要正確。

## ③切削開始→終了



注入多量切削油，切削以濕式，主軸以手動為之，待切削抗壓消除時即切削完成。

## ④最終切屑處理



將孔穴中切削殘屑清理，再以清除針清掃乾淨。

## 注意點：

- 1.切削前，務必將折斷絲攻面磨平。
- 2.請使用銑床加工，不可使用油壓式夾具之鑽床或攻牙機加工使用。
- 3.加工前請確認絲攻之中心點後再進行加工。

# TD 折斷絲攻取出用全鎢鋼鑽頭

Tap Remover

30°螺旋角  
右刃右螺旋



單位：mm

| 型號    | 絲攻徑 | 外徑 (D) | 有效長 (l <sub>1</sub> ) | 柄徑 (d) | 全長 (L) | 價(支)格     |
|-------|-----|--------|-----------------------|--------|--------|-----------|
| TD- 3 | M 3 | 2.2    | 9                     | 6      | 50     | 6,300.00  |
| TD- 4 | M 4 | 3.1    | 12                    | 6      | 50     | 6,300.00  |
| TD- 5 | M 5 | 3.3    | 15                    | 6      | 50     | 6,300.00  |
| TD- 6 | M 6 | 4.6    | 18                    | 6      | 50     | 6,300.00  |
| TD- 8 | M 8 | 6.2    | 21                    | 8      | 63     | 7,350.00  |
| TD-10 | M10 | 7.1    | 30                    | 10     | 63     | 9,100.00  |
| TD-12 | M12 | 8.6    | 32                    | 12     | 63     | 10,850.00 |

切削條件參考表

| 型號    | 有效長 | 回轉數 min <sup>-1</sup> | 進刀速度 mm/min |
|-------|-----|-----------------------|-------------|
| TD- 3 | 9   | 700~750               | 5~7         |
| TD- 4 | 12  | 700~750               | 5~7         |
| TD- 5 | 15  | 700~750               | 5~7         |
| TD- 6 | 18  | 700~750               | 5~7         |
| TD- 8 | 24  | 700~750               | 5~7         |
| TD-10 | 30  | 700~750               | 5~7         |
| TD-12 | 30  | 650~700               | 5~7         |



# HLX 直柄拉式絞刀

Helix Reamers

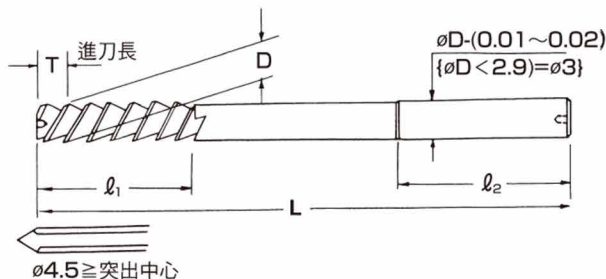
HSS-Co 鈷鋼

螺旋角40°(刃徑1.9以下)

50°(刃徑2.0以下)

優點：

- (1) 右刃強左螺旋，三刃型，適宜高速回轉、重切削，很有威力。
- (2) 使用鈷鋼、耐熱耐磨，很有特性之加工刀具。
- (3) 可獲得穩定的加工面及精度。
- (4)  $\phi 1 \sim \phi 2.5$  為2刃，其餘為3刃。



硬度66~67HRC參考：

- (1) 切削回轉數要比一般絞刀高，才能顯現效果。
- (2) 使用時特別留意偏心，因機械之精度、裝置之不確實，易影響刀具之壽命及精度。
- (3) 充分使用切削油，才能保持加工面精度及刀具壽命。

刃徑公差

推獎切削條件(特殊鋼)

柄徑公差

|         |                  |
|---------|------------------|
| 1 ~ 3   | +0.005<br>+0.002 |
| 3.1~ 6  | +0.008<br>+0.004 |
| 6.1~10  | +0.01<br>+0.006  |
| 10.1~14 | +0.012<br>+0.007 |

| 刃徑 | 切削速度  | 回轉數               | 進刀速度      |
|----|-------|-------------------|-----------|
|    | m/min | min <sup>-1</sup> | mm/min    |
| 3  | 8~15  | 1,000~1,300       | 0.1 ~0.2  |
| 6  | 8~15  | 500~ 900          | 0.1 ~0.2  |
| 8  | 8~15  | 300~ 500          | 0.1 ~0.2  |
| 10 | 8~15  | 280~ 450          | 0.15~0.25 |
| 14 | 7~12  | 200~ 250          | 0.15~0.25 |

|         |                  |
|---------|------------------|
| 1 ~ 3   | +0.009<br>+0.007 |
| 3.1~ 6  | +0.01<br>+0.008  |
| 6.1~10  | +0.015<br>+0.009 |
| 10.1~14 | +0.017<br>+0.01  |

推獎切削條件(合金鋼)

推獎切削條件(非鐵金屬)

| 刃徑 | 切削速度  | 回轉數               | 進刀速度    |
|----|-------|-------------------|---------|
|    | m/min | min <sup>-1</sup> | mm/min  |
| 3  | 17~20 | 1,760~2,100       | 0.1~0.2 |
| 6  | 17~20 | 800~1,100         | 0.1~0.2 |
| 8  | 17~20 | 600~ 700          | 0.1~0.2 |
| 10 | 17~20 | 480~ 600          | 0.2~0.3 |
| 14 | 15~18 | 300~ 400          | 0.2~0.3 |

| 刃徑 | 切削速度  | 回轉數               | 進刀速度      |
|----|-------|-------------------|-----------|
|    | m/min | min <sup>-1</sup> | mm/min    |
| 3  | 18~28 | 2,000~3,000       | 0.1 ~0.2  |
| 6  | 35~45 | 1,600~3,000       | 0.1 ~0.2  |
| 8  | 35~45 | 1,200~2,500       | 0.15~0.25 |
| 10 | 35~45 | 1,000~1,700       | 0.25~0.35 |
| 14 | 20~35 | 600~ 800          | 0.25~0.35 |

單位：mm

| 刃徑 (D)    | 刃長 (l <sub>1</sub> ) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 導角長 (T) | 刃數 (N) | 價(支)格    |
|-----------|----------------------|----------------------|--------|---------|--------|----------|
| 1         | 10                   | 20                   | 40     | 2.5     | 2      | 3,220.00 |
| 1.01~1.09 | 10                   | 20                   | 40     | 2.5     | 2      | 4,190.00 |
| 1.1       | 10                   | 20                   | 40     | 2.5     | 2      | 3,080.00 |
| 1.11~1.19 | 10                   | 20                   | 40     | 2.5     | 2      | 4,010.00 |
| 1.2       | 10                   | 20                   | 40     | 2.5     | 2      | 3,080.00 |
| 1.21~1.29 | 10                   | 20                   | 40     | 2.5     | 2      | 4,010.00 |
| 1.3       | 10                   | 20                   | 40     | 2.5     | 2      | 2,790.00 |
| 1.31~1.39 | 10                   | 20                   | 40     | 2.5     | 2      | 3,630.00 |
| 1.4       | 10                   | 20                   | 40     | 2.5     | 2      | 2,790.00 |
| 1.41~1.49 | 10                   | 20                   | 40     | 2.5     | 2      | 3,630.00 |
| 1.5       | 10                   | 20                   | 40     | 2.5     | 2      | 2,720.00 |
| 1.51~1.59 | 10                   | 25                   | 40     | 2.5     | 2      | 3,540.00 |
| 1.6       | 10                   | 25                   | 50     | 3       | 2      | 2,720.00 |
| 1.61~1.69 | 10                   | 25                   | 50     | 3       | 2      | 3,540.00 |
| 1.7       | 10                   | 25                   | 50     | 3       | 2      | 2,650.00 |
| 1.71~1.79 | 10                   | 25                   | 50     | 3       | 2      | 3,450.00 |
| 1.8       | 10                   | 25                   | 50     | 3       | 2      | 2,650.00 |
| 1.81~1.89 | 10                   | 25                   | 50     | 3       | 2      | 3,450.00 |
| 1.9       | 10                   | 25                   | 50     | 3       | 2      | 2,360.00 |

| 刃徑 (D)    | 刃長 (l <sub>1</sub> ) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 導角長 (T) | 刃數 (N) | 價(支)格    |
|-----------|----------------------|----------------------|--------|---------|--------|----------|
| 1.91~1.99 | 10                   | 25                   | 50     | 3       | 2      | 3,070.00 |
| 2         | 13                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.01~2.09 | 13                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.1       | 13                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.11~2.19 | 13                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.2       | 13                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.21~2.29 | 13                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.3       | 15                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.31~2.39 | 15                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.4       | 15                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.41~2.49 | 15                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.5       | 15                   | 25                   | 60     | 3       | 2      | 1,295.00 |
| 2.51~2.59 | 15                   | 25                   | 60     | 3       | 2      | 1,975.00 |
| 2.6       | 20                   | 25                   | 60     | 4       | 3      | 1,295.00 |
| 2.61~2.69 | 20                   | 25                   | 60     | 4       | 3      | 1,975.00 |
| 2.7       | 20                   | 25                   | 60     | 4       | 3      | 1,295.00 |
| 2.71~2.79 | 20                   | 25                   | 60     | 4       | 3      | 1,975.00 |
| 2.8       | 20                   | 25                   | 60     | 4       | 3      | 1,295.00 |
| 2.81~2.89 | 20                   | 25                   | 60     | 4       | 3      | 1,975.00 |



# HLX 直柄拉式絞刀

Helix Reamers

HSS-Co 鈷鋼

右刃強左螺旋50°  
三刃型



~4.59mm以下規格

4.6mm~以上規格

單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------------|-----------------|-----------|------------|-----------|-----------------|
| 2.9       | 20              | 25              | 70        | 4          | 3         | <b>1,295.00</b> |
| 2.91~2.99 | 20              | 25              | 70        | 4          | 3         | <b>1,975.00</b> |
| 3         | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.01~3.09 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.1       | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.11~3.19 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.2       | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.21~3.29 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.3       | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.31~3.39 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.4       | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.41~3.49 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.5       | 20              | 25              | 70        | 4          | 3         | <b>1,095.00</b> |
| 3.51~3.59 | 20              | 25              | 70        | 4          | 3         | <b>1,375.00</b> |
| 3.6       | 22              | 30              | 75        | 5          | 3         | <b>1,095.00</b> |
| 3.61~3.69 | 22              | 30              | 75        | 5          | 3         | <b>1,375.00</b> |
| 3.7       | 22              | 30              | 75        | 5          | 3         | <b>1,095.00</b> |
| 3.71~3.79 | 22              | 30              | 75        | 5          | 3         | <b>1,375.00</b> |
| 3.8       | 22              | 30              | 75        | 5          | 3         | <b>1,095.00</b> |
| 3.81~3.89 | 22              | 30              | 75        | 5          | 3         | <b>1,375.00</b> |
| 3.9       | 22              | 30              | 75        | 5          | 3         | <b>1,095.00</b> |
| 3.91~3.99 | 22              | 30              | 75        | 5          | 3         | <b>1,375.00</b> |
| 4         | 22              | 30              | 75        | 5          | 3         | <b>1,095.00</b> |
| 4.01~4.09 | 22              | 30              | 75        | 5          | 3         | <b>1,375.00</b> |
| 4.1       | 22              | 30              | 80        | 5          | 3         | <b>1,095.00</b> |
| 4.11~4.19 | 22              | 30              | 80        | 5          | 3         | <b>1,375.00</b> |
| 4.2       | 22              | 30              | 80        | 5          | 3         | <b>1,095.00</b> |
| 4.21~4.29 | 22              | 30              | 80        | 5          | 3         | <b>1,375.00</b> |
| 4.3       | 22              | 30              | 80        | 5          | 3         | <b>1,095.00</b> |
| 4.31~4.39 | 22              | 30              | 80        | 5          | 3         | <b>1,375.00</b> |
| 4.4       | 22              | 30              | 80        | 5          | 3         | <b>1,095.00</b> |
| 4.41~4.49 | 22              | 30              | 80        | 5          | 3         | <b>1,375.00</b> |
| 4.5       | 22              | 30              | 80        | 5          | 3         | <b>1,095.00</b> |
| 4.51~4.59 | 22              | 30              | 80        | 5          | 3         | <b>1,375.00</b> |
| 4.6       | 25              | 30              | 85        | 6          | 3         | <b>1,095.00</b> |
| 4.61~4.69 | 25              | 30              | 85        | 6          | 3         | <b>1,375.00</b> |
| 4.7       | 25              | 30              | 85        | 6          | 3         | <b>1,095.00</b> |
| 4.71~4.79 | 25              | 30              | 85        | 6          | 3         | <b>1,375.00</b> |
| 4.8       | 25              | 30              | 85        | 6          | 3         | <b>1,095.00</b> |
| 4.81~4.89 | 25              | 30              | 85        | 6          | 3         | <b>1,375.00</b> |
| 4.9       | 25              | 30              | 85        | 6          | 3         | <b>1,095.00</b> |
| 4.91~4.99 | 25              | 30              | 85        | 6          | 3         | <b>1,375.00</b> |

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------------|-----------------|-----------|------------|-----------|-----------------|
| 5         | 25              | 30              | 85        | 6          | 3         | <b>1,095.00</b> |
| 5.01~5.09 | 25              | 30              | 85        | 6          | 3         | <b>1,410.00</b> |
| 5.1       | 25              | 35              | 90        | 6          | 3         | <b>1,110.00</b> |
| 5.11~5.19 | 25              | 35              | 90        | 6          | 3         | <b>1,410.00</b> |
| 5.2       | 25              | 35              | 90        | 6          | 3         | <b>1,110.00</b> |
| 5.21~5.29 | 25              | 35              | 90        | 6          | 3         | <b>1,410.00</b> |
| 5.3       | 25              | 35              | 90        | 6          | 3         | <b>1,110.00</b> |
| 5.31~5.39 | 25              | 35              | 90        | 6          | 3         | <b>1,410.00</b> |
| 5.4       | 25              | 35              | 90        | 6          | 3         | <b>1,110.00</b> |
| 5.41~5.49 | 25              | 35              | 90        | 6          | 3         | <b>1,410.00</b> |
| 5.5       | 25              | 35              | 90        | 6          | 3         | <b>1,110.00</b> |
| 5.51~5.59 | 25              | 35              | 90        | 6          | 3         | <b>1,410.00</b> |
| 5.6       | 30              | 35              | 100       | 7          | 3         | <b>1,110.00</b> |
| 5.61~5.69 | 30              | 35              | 100       | 7          | 3         | <b>1,410.00</b> |
| 5.7       | 30              | 35              | 100       | 7          | 3         | <b>1,110.00</b> |
| 5.71~5.79 | 30              | 35              | 100       | 7          | 3         | <b>1,410.00</b> |
| 5.8       | 30              | 35              | 100       | 7          | 3         | <b>1,110.00</b> |
| 5.81~5.89 | 30              | 35              | 100       | 7          | 3         | <b>1,410.00</b> |
| 5.9       | 30              | 35              | 100       | 7          | 3         | <b>1,110.00</b> |
| 5.91~5.99 | 30              | 35              | 100       | 7          | 3         | <b>1,410.00</b> |
| 6         | 30              | 35              | 100       | 7          | 3         | <b>1,110.00</b> |
| 6.01~6.09 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.1       | 30              | 35              | 100       | 7          | 3         | <b>1,215.00</b> |
| 6.11~6.19 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.2       | 30              | 35              | 100       | 7          | 3         | <b>1,215.00</b> |
| 6.21~6.29 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.3       | 30              | 35              | 100       | 7          | 3         | <b>1,215.00</b> |
| 6.31~6.39 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.4       | 30              | 35              | 100       | 7          | 3         | <b>1,215.00</b> |
| 6.41~6.49 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.5       | 30              | 35              | 100       | 7          | 3         | <b>1,215.00</b> |
| 6.51~6.59 | 30              | 35              | 100       | 7          | 3         | <b>1,540.00</b> |
| 6.6       | 30              | 40              | 110       | 7          | 3         | <b>1,215.00</b> |
| 6.61~6.69 | 30              | 40              | 110       | 7          | 3         | <b>1,540.00</b> |
| 6.7       | 30              | 40              | 110       | 7          | 3         | <b>1,215.00</b> |
| 6.71~6.79 | 30              | 40              | 110       | 7          | 3         | <b>1,540.00</b> |
| 6.8       | 30              | 40              | 110       | 7          | 3         | <b>1,215.00</b> |
| 6.81~6.89 | 30              | 40              | 110       | 7          | 3         | <b>1,540.00</b> |
| 6.9       | 30              | 40              | 110       | 7          | 3         | <b>1,215.00</b> |
| 6.91~6.99 | 30              | 40              | 110       | 7          | 3         | <b>1,540.00</b> |
| 7         | 30              | 40              | 110       | 7          | 3         | <b>1,215.00</b> |
| 7.01~7.09 | 30              | 40              | 110       | 7          | 3         | <b>1,680.00</b> |



# HLX 直柄拉式絞刀

Helix Reamers

HSS-Co 鈷鋼

右刃強左螺旋50°  
三刃型



單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D)   | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------------|-----------------|-----------|------------|-----------|-----------------|-------------|-----------------|-----------------|-----------|------------|-----------|-----------------|
| 7.1       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.2         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.11~7.19 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.21~9.29   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.2       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.3         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.21~7.29 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.31~9.39   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.3       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.4         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.31~7.39 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.41~9.49   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.4       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.5         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.41~7.49 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.51~9.59   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.5       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.6         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.51~7.59 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.61~9.69   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.6       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.7         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.61~7.69 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.71~9.79   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.7       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.8         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.71~7.79 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.81~9.89   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.8       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 9.9         | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.81~7.89 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 9.91~9.99   | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> |
| 7.9       | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 10          | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> |
| 7.91~7.99 | 35              | 40              | 120       | 8          | 3         | <b>1,680.00</b> | 10.01~10.09 | 40              | 50              | 150       | 10         | 3         | <b>2,180.00</b> |
| 8         | 35              | 40              | 120       | 8          | 3         | <b>1,325.00</b> | 10.1        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.01~8.09 | 35              | 40              | 120       | 8          | 3         | <b>1,780.00</b> | 10.11~10.19 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.1       | 35              | 45              | 125       | 8          | 3         | <b>1,395.00</b> | 10.2        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.11~8.19 | 35              | 45              | 125       | 8          | 3         | <b>1,780.00</b> | 10.21~10.29 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.2       | 35              | 45              | 125       | 8          | 3         | <b>1,395.00</b> | 10.3        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.21~8.29 | 35              | 45              | 125       | 8          | 3         | <b>1,780.00</b> | 10.31~10.39 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.3       | 35              | 45              | 125       | 8          | 3         | <b>1,395.00</b> | 10.4        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.31~8.39 | 35              | 45              | 125       | 8          | 3         | <b>1,780.00</b> | 10.41~10.49 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.4       | 35              | 45              | 125       | 8          | 3         | <b>1,395.00</b> | 10.5        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.41~8.49 | 35              | 45              | 125       | 8          | 3         | <b>1,780.00</b> | 10.51~10.59 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.5       | 35              | 45              | 125       | 8          | 3         | <b>1,395.00</b> | 10.6        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.51~8.59 | 35              | 45              | 125       | 8          | 3         | <b>1,780.00</b> | 10.61~10.69 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.6       | 35              | 45              | 135       | 8          | 3         | <b>1,395.00</b> | 10.7        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.61~8.69 | 35              | 45              | 135       | 8          | 3         | <b>1,780.00</b> | 10.71~10.79 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.7       | 35              | 45              | 135       | 8          | 3         | <b>1,395.00</b> | 10.8        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.71~8.79 | 35              | 45              | 135       | 8          | 3         | <b>1,780.00</b> | 10.81~10.89 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.8       | 35              | 45              | 135       | 8          | 3         | <b>1,395.00</b> | 10.9        | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.81~8.89 | 35              | 45              | 135       | 8          | 3         | <b>1,780.00</b> | 10.91~10.99 | 40              | 50              | 155       | 10         | 3         | <b>2,180.00</b> |
| 8.9       | 35              | 45              | 135       | 8          | 3         | <b>1,395.00</b> | 11          | 40              | 50              | 155       | 10         | 3         | <b>1,675.00</b> |
| 8.91~8.99 | 35              | 45              | 135       | 8          | 3         | <b>1,780.00</b> | 11.01~11.05 | 40              | 50              | 155       | 10         | 3         | <b>2,955.00</b> |
| 9         | 35              | 45              | 135       | 8          | 3         | <b>1,395.00</b> | 11.1        | 40              | 55              | 160       | 10         | 3         | <b>2,270.00</b> |
| 9.01~9.09 | 35              | 45              | 135       | 8          | 3         | <b>1,955.00</b> | 11.2        | 40              | 55              | 160       | 10         | 3         | <b>2,270.00</b> |
| 9.1       | 40              | 50              | 150       | 10         | 3         | <b>1,545.00</b> | 11.3        | 40              | 55              | 160       | 10         | 3         | <b>2,270.00</b> |
| 9.11~9.19 | 40              | 50              | 150       | 10         | 3         | <b>1,955.00</b> | 11.4        | 40              | 55              | 160       | 10         | 3         | <b>2,270.00</b> |

絞刀刀具

Reamers





# HLX 直柄拉式絞刀

Helix Reamers

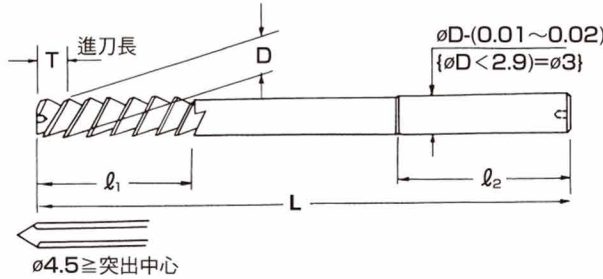
HSS-Co 鈷鋼

螺旋角40°(刃徑1.9以下)

50°(刃徑2.0以下)

優點：

- (1) 右刃強左螺旋，三刃型，適宜高速回轉、重切削，很有威力。
- (2) 使用鈷鋼、耐熱耐磨，很有特性之加工刀具。
- (3) 可獲得穩定的加工面及精度。
- (4) §1~§2.5為2刃，其餘為3刃。



硬度66~67HRC參考：

- (1) 切削回轉數要比一般絞刀高，才能顯現效果。
- (2) 使用時特別留意偏心，因機械之精度、裝置之不確實，易影響刀具之壽命及精度。
- (3) 充分使用切削油，才能保持加工面精度及刀具壽命。

單位：mm

| 刃徑 (D)      | 刃長 (l <sub>1</sub> ) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 導角長 (T) | 刃數 (N) | 價(支)格           |
|-------------|----------------------|----------------------|--------|---------|--------|-----------------|
| 11.5        | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 11.6        | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 11.7        | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 11.8        | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 11.9        | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 12          | 40                   | 55                   | 160    | 10      | 3      | <b>2,270.00</b> |
| 12.01~12.05 | 40                   | 55                   | 160    | 10      | 3      | <b>3,125.00</b> |
| 12.1        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.2        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.3        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.4        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.5        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.6        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.7        | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 1/8         | 20                   | 25                   | 70     | 4       | 3      | <b>1,375.00</b> |
| 5/32        | 22                   | 30                   | 75     | 5       | 3      | <b>1,375.00</b> |
| 3/16        | 25                   | 30                   | 85     | 6       | 3      | <b>1,375.00</b> |
| 1/4         | 30                   | 35                   | 100    | 7       | 3      | <b>1,540.00</b> |

| 刃徑 (D) | 刃長 (l <sub>1</sub> ) | 柄長 (l <sub>2</sub> ) | 全長 (L) | 導角長 (T) | 刃數 (N) | 價(支)格           |
|--------|----------------------|----------------------|--------|---------|--------|-----------------|
| 12.8   | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 12.9   | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 13     | 45                   | 55                   | 165    | 10      | 3      | <b>2,400.00</b> |
| 13.1   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.2   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.3   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.4   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.5   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.6   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.7   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.8   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 13.9   | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 14     | 45                   | 60                   | 170    | 10      | 3      | <b>2,400.00</b> |
| 5/16   | 35                   | 40                   | 120    | 8       | 3      | <b>1,680.00</b> |
| 3/8    | 40                   | 50                   | 150    | 10      | 3      | <b>1,955.00</b> |
| 7/16   | 40                   | 55                   | 160    | 10      | 3      | <b>2,955.00</b> |
| 1/2    | 45                   | 55                   | 165    | 10      | 3      | <b>3,125.00</b> |

## 刃徑公差

## 推獎切削條件(特殊鋼)

## 柄徑公差

| 1 ~ 3   | +0.005<br>+0.002 | 刃徑 | 切削速度  | 回轉數               | 進刀速度      | 1 ~ 3   | +0.009<br>+0.007 |
|---------|------------------|----|-------|-------------------|-----------|---------|------------------|
|         |                  |    | m/min | min <sup>-1</sup> | mm/min    |         |                  |
| 3.1~ 6  | +0.008<br>+0.004 | 3  | 8~15  | 1,000~1,300       | 0.1 ~0.2  | 3.1~ 6  | +0.01<br>+0.008  |
|         |                  | 6  | 8~15  | 500~ 900          | 0.1 ~0.2  |         |                  |
| 6.1~10  | +0.01<br>+0.006  | 8  | 8~15  | 300~ 500          | 0.1 ~0.2  | 6.1~10  | +0.015<br>+0.009 |
|         |                  | 10 | 8~15  | 280~ 450          | 0.15~0.25 |         |                  |
| 10.1~14 | +0.012<br>+0.007 | 14 | 7~12  | 200~ 250          | 0.15~0.25 | 10.1~14 | +0.017<br>+0.01  |

## 推獎切削條件(合金鋼)

## 推獎切削條件(非鐵金屬)

| 刃徑 | 切削速度  | 回轉數         | 進刀速度    | 刃徑 | 切削速度              | 回轉數         | 進刀速度      |
|----|-------|-------------|---------|----|-------------------|-------------|-----------|
|    | m/min |             |         |    | min <sup>-1</sup> |             |           |
| 3  | 17~20 | 1,760~2,100 | 0.1~0.2 | 3  | 18~28             | 2,000~3,000 | 0.1 ~0.2  |
| 6  | 17~20 | 800~1,100   | 0.1~0.2 | 6  | 35~45             | 1,600~3,000 | 0.1 ~0.2  |
| 8  | 17~20 | 600~ 700    | 0.1~0.2 | 8  | 35~45             | 1,200~2,500 | 0.15~0.25 |
| 10 | 17~20 | 480~ 600    | 0.2~0.3 | 10 | 35~45             | 1,000~1,700 | 0.25~0.35 |
| 14 | 15~18 | 300~ 400    | 0.2~0.3 | 14 | 20~35             | 600~ 800    | 0.25~0.35 |



# HLXT 斜柄拉式絞刀

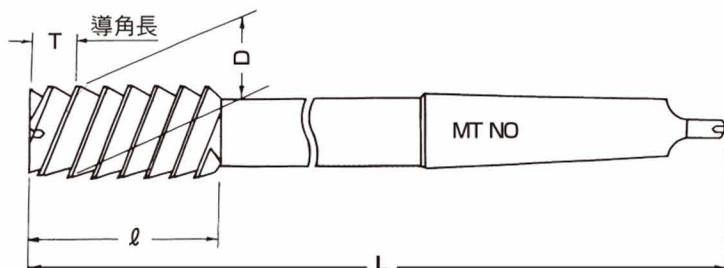
Helix Reamers with MT Shank

HSS-Co鈷鋼



右刃強左螺旋60°

加工力輕、切削面亮麗



單位：mm

| 刃徑<br>(D) | 公差<br>Tolerance  | 導角長<br>(T) | 刃長<br>( $l$ ) | 首下長<br>( $l_1$ ) | 全長<br>(L) | 刃數<br>(N) | 推拔柄<br>MT NO.    | 價(支)格            |
|-----------|------------------|------------|---------------|------------------|-----------|-----------|------------------|------------------|
| 4         | +0.008<br>+0.004 | 5          | 22            | 44               | 110       | 3         | 1                | <b>2,130.00</b>  |
| 5         |                  | 6          | 25            | 49               | 115       | 3         | 1                | <b>1,960.00</b>  |
| 6         |                  | 7          | 30            | 59               | 125       | 3         | 1                | <b>1,960.00</b>  |
| 7         | +0.01<br>+0.006  | 7          | 30            | 69               | 135       | 3         | 1                | <b>2,005.00</b>  |
| 8         |                  | 8          | 35            | 82               | 148       | 3         | 1                | <b>2,085.00</b>  |
| 9         |                  | 8          | 40            | 99               | 165       | 3         | 1                | <b>2,130.00</b>  |
| 10        | +0.012<br>+0.007 | 10         | 40            | 99               | 165       | 3         | 1                | <b>2,175.00</b>  |
| 11        |                  | 10         | 40            | 104              | 170       | 3         | 1                | <b>2,290.00</b>  |
| 12        |                  | 10         | 40            | 104              | 170       | 3         | 1                | <b>2,390.00</b>  |
| 13        |                  | 10         | 45            | 114              | 180       | 3         | 1                | <b>2,980.00</b>  |
| 14        |                  | 10         | 45            | 114              | 180       | 3         | 1                | <b>3,150.00</b>  |
| 15        |                  | 10         | 46            | 120              | 200       | 3         | 2                | <b>3,420.00</b>  |
| 16        |                  | 10.5       | 47            | 125              | 205       | 3         | 2                | <b>4,390.00</b>  |
| 17        |                  | 10.5       | 47            | 125              | 205       | 3         | 2                | <b>4,795.00</b>  |
| 18        |                  | 10.5       | 50            | 130              | 210       | 4         | 2                | <b>5,220.00</b>  |
| 19        |                  | 10.5       | 50            | 130              | 210       | 4         | 2                | <b>5,535.00</b>  |
| 20        | +0.012<br>+0.007 | 10.5       | 55            | 140              | 220       | 4         | 2                | <b>5,845.00</b>  |
| 21        |                  | 10.5       | 55            | 150              | 230       | 4         | 2                | <b>6,295.00</b>  |
| 22        |                  | 10.5       | 55            | 150              | 230       | 4         | 2                | <b>6,750.00</b>  |
| 23        |                  | 11         | 60            | 160              | 240       | 4         | 2                | <b>7,260.00</b>  |
| 24        |                  | 11         | 60            | 151              | 250       | 4         | 3                | <b>7,945.00</b>  |
| 25        |                  | 11         | 60            | 156              | 255       | 4         | 3                | <b>8,680.00</b>  |
| 26        |                  | 11         | 60            | 156              | 255       | 4         | 3                | <b>9,415.00</b>  |
| 27        |                  | 11         | 60            | 156              | 255       | 4         | 3                | <b>10,610.00</b> |
| 28        |                  | 11         | 60            | 161              | 260       | 4         | 3                | <b>11,630.00</b> |
| 29        |                  | 11         | 60            | 161              | 260       | 4         | 3                | <b>12,025.00</b> |
| 30        | 11               | 60         | 161           | 260              | 4         | 3         | <b>12,650.00</b> |                  |

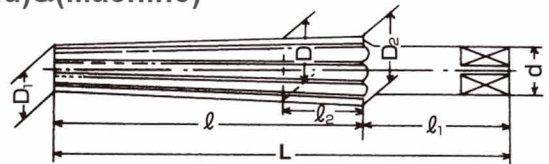
絞刀刀具

Reamers

# MTR 莫耳斯推拔絞刀

Morse Taper Reamers (Hand)&(Machine)

右刃直刃型

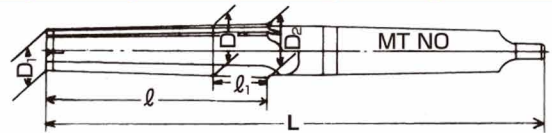


單位：mm



手動式

| 番號<br>NO. | 推拔比                | D      |       | 小徑        | 刃長      | 大徑        | 柄長        | $l_2$ | 全長  | 柄徑  | 刃數  | 價(支)格            |
|-----------|--------------------|--------|-------|-----------|---------|-----------|-----------|-------|-----|-----|-----|------------------|
|           |                    | 寸法     | 許容差   | ( $D_1$ ) | ( $l$ ) | ( $D_2$ ) | ( $l_1$ ) |       | (L) | (d) | (N) |                  |
| #0        | $\frac{1}{19.212}$ | 9.045  | ±0.03 | 6.547     | 65      | 9.93      | 30        | 17    | 95  | 8   | 6   | <b>1,795.00</b>  |
| #1        | $\frac{1}{20.047}$ | 12.065 | ±0.03 | 9.571     | 68      | 12.963    | 32        | 18    | 100 | 10  | 6   | <b>2,370.00</b>  |
| #2        | $\frac{1}{20.020}$ | 17.78  | ±0.03 | 14.733    | 80      | 18.729    | 45        | 19    | 125 | 15  | 8   | <b>4,760.00</b>  |
| #3        | $\frac{1}{19.922}$ | 23.825 | ±0.03 | 20.01     | 98      | 24.929    | 52        | 22    | 150 | 18  | 8   | <b>8,790.00</b>  |
| #4        | $\frac{1}{19.254}$ | 31.267 | ±0.06 | 26.229    | 120     | 32.462    | 60        | 23    | 180 | 25  | 10  | <b>16,540.00</b> |
| #5        | $\frac{1}{19.002}$ | 44.399 | ±0.06 | 37.873    | 150     | 45.767    | 80        | 26    | 230 | 35  | 12  | <b>31,435.00</b> |



單位：mm



機械式

| 番號<br>NO. | 推拔比                | D      |       | 小徑        | 刃長      | 大徑        | $l_1$ | 全長  | 推拔柄    | 刃數  | 價(支)格            |
|-----------|--------------------|--------|-------|-----------|---------|-----------|-------|-----|--------|-----|------------------|
|           |                    | 寸法     | 許容差   | ( $D_1$ ) | ( $l$ ) | ( $D_2$ ) |       | (L) | MT NO. | (N) |                  |
| #0        | $\frac{1}{19.212}$ | 9.045  | ±0.03 | 6.547     | 65      | 9.93      | 17    | 155 | 1      | 6   | <b>3,420.00</b>  |
| #1        | $\frac{1}{20.047}$ | 12.065 | ±0.03 | 9.571     | 68      | 12.963    | 18    | 155 | 1      | 6   | <b>4,485.00</b>  |
| #2        | $\frac{1}{20.020}$ | 17.78  | ±0.03 | 14.733    | 80      | 18.729    | 19    | 180 | 2      | 8   | <b>6,710.00</b>  |
| #3        | $\frac{1}{19.922}$ | 23.825 | ±0.03 | 20.01     | 98      | 24.929    | 22    | 220 | 3      | 8   | <b>12,170.00</b> |
| #4        | $\frac{1}{19.254}$ | 31.267 | ±0.06 | 26.229    | 120     | 32.462    | 23    | 265 | 4      | 10  | <b>20,205.00</b> |
| #5        | $\frac{1}{19.002}$ | 44.399 | ±0.06 | 37.873    | 150     | 45.767    | 26    | 330 | 5      | 12  | <b>39,520.00</b> |

# HR 小徑手絞刀

Hand Reamers



單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------------|-----------------|-----------|-----------|-----------------|-----------|-----------------|-----------------|-----------|-----------|-----------------|
| 0.45~0.49 | 12              | 14              | 30        | 4         | <b>3,050.00</b> | 0.71~0.79 | 15              | 15              | 35        | 4         | <b>1,770.00</b> |
| 0.5       | 12              | 14              | 30        | 4         | <b>1,560.00</b> | 0.8       | 15              | 15              | 35        | 4         | <b>1,330.00</b> |
| 0.51~0.59 | 12              | 14              | 30        | 4         | <b>1,770.00</b> | 0.81~0.89 | 15              | 15              | 35        | 4         | <b>1,550.00</b> |
| 0.6       | 12              | 14              | 30        | 4         | <b>1,520.00</b> | 0.9       | 20              | 15              | 40        | 4         | <b>1,330.00</b> |
| 0.61~0.69 | 12              | 14              | 30        | 4         | <b>1,770.00</b> | 0.91~0.99 | 20              | 15              | 40        | 4         | <b>1,550.00</b> |
| 0.7       | 12              | 14              | 30        | 4         | <b>1,520.00</b> |           |                 |                 |           |           |                 |

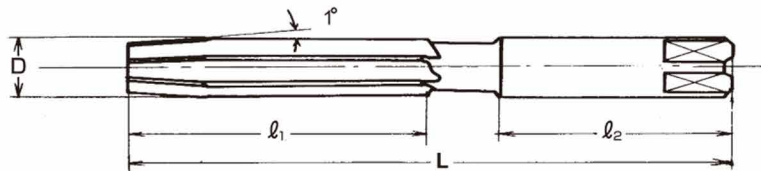
# HR 手絞刀

## Hand Reamers

直刃型



螺旋刃型



刃徑公差

|         |                  |
|---------|------------------|
| 0.5~ 3  | +0.007<br>+0.002 |
| 3.1~ 6  | +0.009<br>+0.004 |
| 6.1~10  | +0.012<br>+0.006 |
| 10.1~18 | +0.015<br>+0.007 |
| 18.1~30 | +0.017<br>+0.008 |
| 每增0.01  | +0.005<br>+0     |



\* 刃長切削範圍大，再研磨容易。

\* 被切削物之真圓度精良；刃部硬度69HRC。

單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格    | 螺旋刃型<br>價(支)格 |
|-----------|-----------------|-----------------|-----------|-----------|-----------------|---------------|
| 1         | 20              | 15              | 40        | 4         | <b>1,200.00</b> |               |
| 1.01~1.09 | 20              | 15              | 40        | 4         | <b>1,540.00</b> |               |
| 1.1       | 20              | 15              | 40        | 4         | <b>1,250.00</b> |               |
| 1.11~1.19 | 20              | 15              | 40        | 4         | <b>1,540.00</b> |               |
| 1.2       | 25              | 15              | 45        | 4         | <b>890.00</b>   |               |
| 1.21~1.29 | 25              | 15              | 45        | 4         | <b>1,100.00</b> |               |
| 1.3       | 25              | 15              | 45        | 4         | <b>890.00</b>   |               |
| 1.31~1.39 | 25              | 15              | 45        | 4         | <b>1,100.00</b> |               |
| 1.4       | 25              | 15              | 45        | 4         | <b>890.00</b>   |               |
| 1.41~1.49 | 25              | 15              | 45        | 4         | <b>1,100.00</b> |               |
| 1.5       | 25              | 19              | 50        | 4         | <b>860.00</b>   |               |
| 1.51~1.59 | 25              | 19              | 50        | 4         | <b>1,100.00</b> |               |
| 1.6       | 25              | 19              | 50        | 4         | <b>890.00</b>   |               |
| 1.61~1.69 | 25              | 19              | 50        | 4         | <b>1,100.00</b> |               |
| 1.7       | 25              | 19              | 50        | 4         | <b>890.00</b>   |               |
| 1.71~1.79 | 25              | 19              | 50        | 4         | <b>1,100.00</b> |               |
| 1.8       | 25              | 19              | 50        | 4         | <b>890.00</b>   |               |
| 1.81~1.89 | 25              | 19              | 50        | 4         | <b>1,100.00</b> |               |
| 1.9       | 25              | 19              | 50        | 4         | <b>890.00</b>   |               |
| 1.91~1.99 | 25              | 19              | 50        | 4         | <b>1,100.00</b> |               |
| 2         | 30              | 23              | 60        | 4         | <b>730.00</b>   | <b>780.00</b> |
| 2.01~2.09 | 30              | 23              | 60        | 4         | <b>910.00</b>   |               |
| 2.1       | 30              | 23              | 60        | 4         | <b>760.00</b>   |               |
| 2.11~2.19 | 30              | 23              | 60        | 4         | <b>910.00</b>   |               |
| 2.2       | 30              | 23              | 60        | 4         | <b>760.00</b>   |               |
| 2.21~2.29 | 30              | 23              | 60        | 4         | <b>910.00</b>   |               |
| 2.3       | 30              | 23              | 60        | 4         | <b>760.00</b>   |               |
| 2.31~2.39 | 30              | 23              | 60        | 4         | <b>910.00</b>   |               |
| 2.4       | 30              | 23              | 60        | 4         | <b>760.00</b>   |               |
| 2.41~2.49 | 30              | 23              | 60        | 4         | <b>910.00</b>   |               |
| 2.5       | 35              | 23              | 65        | 4         | <b>620.00</b>   | <b>710.00</b> |
| 2.51~2.59 | 35              | 23              | 65        | 4         | <b>780.00</b>   |               |
| 2.6       | 35              | 23              | 65        | 4         | <b>650.00</b>   |               |
| 2.61~2.69 | 35              | 23              | 65        | 4         | <b>780.00</b>   |               |
| 2.7       | 35              | 23              | 65        | 4         | <b>650.00</b>   |               |
| 2.71~2.79 | 35              | 23              | 65        | 4         | <b>780.00</b>   |               |
| 2.8       | 35              | 23              | 65        | 4         | <b>650.00</b>   |               |
| 2.81~2.89 | 35              | 23              | 65        | 4         | <b>780.00</b>   |               |

# HR 手絞刀

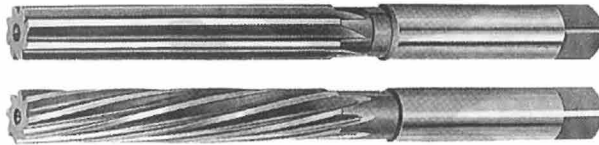
## Hand Reamers

柄徑規格：

0.5~1.25=φ2

1.26~2.99=φ3

3以上與刃徑相同



直刃型

螺旋刃型

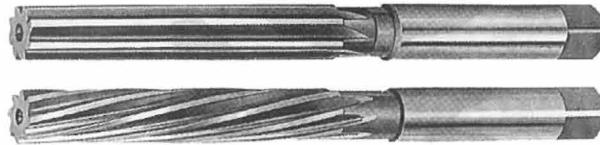


單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-----------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 2.9       | 40              | 23              | 72        | 6         | 650.00       |               |
| 2.91~2.99 | 40              | 23              | 72        | 6         | 780.00       |               |
| 3         | 40              | 23              | 72        | 6         | 620.00       | 680.00        |
| 3.01~3.09 | 40              | 23              | 72        | 6         | 780.00       |               |
| 3.1       | 40              | 23              | 72        | 6         | 650.00       |               |
| 3.11~3.19 | 40              | 23              | 72        | 6         | 780.00       |               |
| 3.2       | 40              | 23              | 75        | 6         | 650.00       |               |
| 3.21~3.29 | 40              | 23              | 75        | 6         | 780.00       |               |
| 3.3       | 40              | 23              | 75        | 6         | 650.00       |               |
| 3.31~3.39 | 40              | 23              | 75        | 6         | 780.00       |               |
| 3.4       | 40              | 23              | 75        | 6         | 650.00       |               |
| 3.41~3.49 | 40              | 23              | 75        | 6         | 780.00       |               |
| 3.5       | 40              | 26              | 75        | 6         | 620.00       | 700.00        |
| 3.51~3.59 | 40              | 26              | 75        | 6         | 780.00       |               |
| 3.6       | 40              | 26              | 75        | 6         | 650.00       |               |
| 3.61~3.69 | 40              | 26              | 75        | 6         | 780.00       |               |
| 3.7       | 40              | 26              | 80        | 6         | 650.00       |               |
| 3.71~3.79 | 40              | 26              | 80        | 6         | 780.00       |               |
| 3.8       | 40              | 26              | 80        | 6         | 650.00       |               |
| 3.81~3.89 | 40              | 26              | 80        | 6         | 780.00       |               |
| 3.9       | 40              | 26              | 80        | 6         | 650.00       |               |
| 3.91~3.99 | 40              | 26              | 80        | 6         | 780.00       |               |
| 4         | 40              | 30              | 80        | 6         | 620.00       | 680.00        |
| 4.01~4.09 | 40              | 30              | 80        | 6         | 780.00       |               |
| 4.1       | 40              | 30              | 80        | 6         | 650.00       |               |
| 4.11~4.19 | 40              | 30              | 80        | 6         | 780.00       |               |
| 4.2       | 45              | 30              | 85        | 6         | 650.00       |               |
| 4.21~4.29 | 45              | 30              | 85        | 6         | 780.00       |               |
| 4.3       | 45              | 30              | 85        | 6         | 650.00       |               |
| 4.31~4.39 | 45              | 30              | 85        | 6         | 780.00       |               |
| 4.4       | 45              | 30              | 85        | 6         | 650.00       |               |
| 4.41~4.49 | 45              | 30              | 85        | 6         | 780.00       |               |
| 4.5       | 45              | 30              | 85        | 6         | 620.00       | 700.00        |
| 4.51~4.59 | 45              | 30              | 85        | 6         | 780.00       |               |
| 4.6       | 45              | 30              | 85        | 6         | 650.00       |               |
| 4.61~4.69 | 45              | 30              | 85        | 6         | 780.00       |               |
| 4.7       | 45              | 30              | 90        | 6         | 650.00       |               |
| 4.71~4.79 | 45              | 30              | 90        | 6         | 780.00       |               |
| 4.8       | 45              | 30              | 90        | 6         | 650.00       |               |
| 4.81~4.89 | 45              | 30              | 90        | 6         | 780.00       |               |
| 4.9       | 45              | 30              | 90        | 6         | 650.00       |               |
| 4.91~4.99 | 45              | 30              | 90        | 6         | 780.00       |               |

# HR 手絞刀

Hand Reamers



直刃型

螺旋刃型

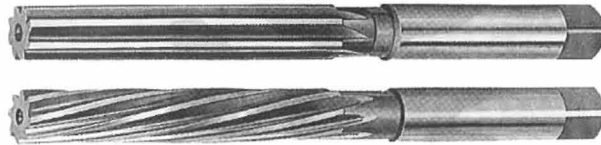


單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-----------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 5         | 45              | 35              | 90        | 6         | 620.00       | 680.00        |
| 5.01~5.09 | 45              | 35              | 90        | 6         | 780.00       |               |
| 5.1       | 45              | 35              | 90        | 6         | 650.00       |               |
| 5.11~5.19 | 45              | 35              | 90        | 6         | 780.00       |               |
| 5.2       | 45              | 35              | 95        | 6         | 650.00       |               |
| 5.21~5.29 | 45              | 35              | 95        | 6         | 780.00       |               |
| 5.3       | 45              | 35              | 95        | 6         | 650.00       |               |
| 5.31~5.39 | 45              | 35              | 95        | 6         | 780.00       |               |
| 5.4       | 45              | 35              | 95        | 6         | 650.00       |               |
| 5.41~5.49 | 45              | 35              | 95        | 6         | 780.00       |               |
| 5.5       | 45              | 38              | 95        | 6         | 680.00       | 790.00        |
| 5.51~5.59 | 45              | 38              | 95        | 6         | 870.00       |               |
| 5.6       | 50              | 38              | 95        | 6         | 710.00       |               |
| 5.61~5.69 | 50              | 38              | 95        | 6         | 870.00       |               |
| 5.7       | 50              | 38              | 100       | 6         | 710.00       |               |
| 5.71~5.79 | 50              | 38              | 100       | 6         | 870.00       |               |
| 5.8       | 50              | 38              | 100       | 6         | 710.00       |               |
| 5.81~5.89 | 50              | 38              | 100       | 6         | 870.00       |               |
| 5.9       | 50              | 38              | 100       | 6         | 710.00       |               |
| 5.91~5.99 | 50              | 38              | 100       | 6         | 870.00       |               |
| 6         | 50              | 38              | 100       | 6         | 810.00       | 890.00        |
| 6.01~6.09 | 50              | 38              | 100       | 6         | 1,040.00     |               |
| 6.1       | 50              | 38              | 100       | 6         | 850.00       |               |
| 6.11~6.19 | 50              | 38              | 100       | 6         | 1,040.00     |               |
| 6.2       | 50              | 38              | 100       | 6         | 850.00       |               |
| 6.21~6.29 | 50              | 38              | 100       | 6         | 1,040.00     |               |
| 6.3       | 50              | 38              | 100       | 6         | 850.00       |               |
| 6.31~6.39 | 50              | 38              | 100       | 6         | 1,040.00     |               |
| 6.4       | 50              | 38              | 100       | 6         | 850.00       |               |
| 6.41~6.49 | 50              | 38              | 100       | 6         | 1,040.00     |               |
| 6.5       | 50              | 38              | 100       | 6         | 830.00       | 940.00        |
| 6.51~6.59 | 50              | 38              | 100       | 6         | 1,050.00     |               |
| 6.6       | 50              | 38              | 100       | 6         | 860.00       |               |
| 6.61~6.69 | 50              | 38              | 100       | 6         | 1,050.00     |               |
| 6.7       | 55              | 38              | 105       | 6         | 860.00       |               |
| 6.71~6.79 | 55              | 38              | 105       | 6         | 1,050.00     |               |
| 6.8       | 55              | 38              | 105       | 6         | 860.00       |               |
| 6.81~6.89 | 55              | 38              | 105       | 6         | 1,050.00     |               |
| 6.9       | 55              | 38              | 105       | 6         | 860.00       |               |
| 6.91~6.99 | 55              | 38              | 105       | 6         | 1,050.00     |               |
| 7         | 55              | 38              | 105       | 6         | 840.00       | 900.00        |
| 7.01~7.09 | 55              | 38              | 105       | 6         | 1,050.00     |               |

# HR 手絞刀

Hand Reamers



直刃型

螺旋刃型



單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-----------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 7.1       | 55              | 38              | 105       | 6         | 860.00       |               |
| 7.11~7.19 | 55              | 38              | 105       | 6         | 1,050.00     |               |
| 7.2       | 55              | 38              | 110       | 6         | 860.00       |               |
| 7.21~7.29 | 55              | 38              | 110       | 6         | 1,050.00     |               |
| 7.3       | 55              | 38              | 110       | 6         | 860.00       |               |
| 7.31~7.39 | 55              | 38              | 110       | 6         | 1,050.00     |               |
| 7.4       | 55              | 38              | 110       | 6         | 860.00       |               |
| 7.41~7.49 | 55              | 38              | 110       | 6         | 1,050.00     |               |
| 7.5       | 55              | 42              | 110       | 6         | 870.00       | 980.00        |
| 7.51~7.59 | 55              | 42              | 110       | 6         | 1,150.00     |               |
| 7.6       | 55              | 42              | 110       | 6         | 890.00       |               |
| 7.61~7.69 | 55              | 42              | 110       | 6         | 1,150.00     |               |
| 7.7       | 60              | 42              | 115       | 6         | 890.00       |               |
| 7.71~7.79 | 60              | 42              | 115       | 6         | 1,150.00     |               |
| 7.8       | 60              | 42              | 115       | 6         | 890.00       |               |
| 7.81~7.89 | 60              | 42              | 115       | 6         | 1,150.00     |               |
| 7.9       | 60              | 42              | 115       | 6         | 890.00       |               |
| 7.91~7.99 | 60              | 42              | 115       | 6         | 1,150.00     |               |
| 8         | 60              | 42              | 115       | 6         | 860.00       | 940.00        |
| 8.01~8.09 | 60              | 42              | 115       | 6         | 1,150.00     |               |
| 8.1       | 60              | 42              | 115       | 6         | 890.00       |               |
| 8.11~8.19 | 60              | 42              | 115       | 6         | 1,150.00     |               |
| 8.2       | 60              | 42              | 115       | 6         | 890.00       |               |
| 8.21~8.29 | 60              | 42              | 120       | 6         | 1,150.00     |               |
| 8.3       | 60              | 42              | 120       | 6         | 890.00       |               |
| 8.31~8.39 | 60              | 42              | 120       | 6         | 1,150.00     |               |
| 8.4       | 60              | 42              | 120       | 6         | 890.00       |               |
| 8.41~8.49 | 60              | 42              | 120       | 6         | 1,150.00     |               |
| 8.5       | 60              | 45              | 120       | 6         | 1,000.00     | 1,130.00      |
| 8.51~8.59 | 60              | 45              | 120       | 6         | 1,300.00     |               |
| 8.6       | 60              | 45              | 120       | 6         | 1,030.00     |               |
| 8.61~8.69 | 60              | 45              | 120       | 6         | 1,300.00     |               |
| 8.7       | 65              | 45              | 125       | 6         | 1,030.00     |               |
| 8.71~8.79 | 65              | 45              | 125       | 6         | 1,300.00     |               |
| 8.8       | 65              | 45              | 125       | 6         | 1,030.00     |               |
| 8.81~8.89 | 65              | 45              | 125       | 6         | 1,300.00     |               |
| 8.9       | 65              | 45              | 125       | 6         | 1,030.00     |               |
| 8.91~8.99 | 65              | 45              | 125       | 6         | 1,300.00     |               |
| 9         | 65              | 45              | 125       | 6         | 1,080.00     | 1,170.00      |
| 9.01~9.09 | 65              | 45              | 125       | 6         | 1,450.00     |               |
| 9.1       | 65              | 45              | 125       | 6         | 1,130.00     |               |
| 9.11~9.19 | 65              | 45              | 125       | 6         | 1,450.00     |               |

# HR 手絞刀

Hand Reamers



直刃型



螺旋刃型



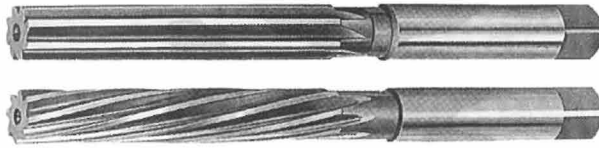
單位：mm

| 刃徑<br>(D)   | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-------------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 9.2         | 65              | 45              | 125       | 6         | 1,130.00     |               |
| 9.21~9.29   | 65              | 45              | 125       | 6         | 1,450.00     |               |
| 9.3         | 65              | 45              | 125       | 6         | 1,130.00     |               |
| 9.31~9.39   | 65              | 45              | 125       | 6         | 1,450.00     |               |
| 9.4         | 65              | 45              | 125       | 6         | 1,130.00     |               |
| 9.41~9.49   | 65              | 45              | 125       | 6         | 1,450.00     |               |
| 9.5         | 65              | 45              | 125       | 6         | 1,180.00     | 1,340.00      |
| 9.51~9.59   | 65              | 45              | 125       | 6         | 1,580.00     |               |
| 9.6         | 65              | 45              | 125       | 6         | 1,220.00     |               |
| 9.61~9.69   | 65              | 45              | 125       | 6         | 1,580.00     |               |
| 9.7         | 70              | 45              | 130       | 6         | 1,220.00     |               |
| 9.71~9.79   | 70              | 45              | 130       | 6         | 1,580.00     |               |
| 9.8         | 70              | 45              | 130       | 6         | 1,220.00     |               |
| 9.81~9.89   | 70              | 45              | 130       | 6         | 1,580.00     |               |
| 9.9         | 70              | 45              | 130       | 6         | 1,220.00     |               |
| 9.91~9.99   | 70              | 45              | 130       | 6         | 1,580.00     |               |
| 10          | 70              | 45              | 130       | 6         | 1,280.00     | 1,420.00      |
| 10.01~10.09 | 70              | 45              | 130       | 6         | 1,700.00     |               |
| 10.1        | 70              | 45              | 130       | 6         | 1,340.00     |               |
| 10.11~10.19 | 70              | 45              | 130       | 6         | 1,700.00     |               |
| 10.2        | 70              | 45              | 135       | 6         | 1,340.00     |               |
| 10.21~10.29 | 70              | 45              | 135       | 6         | 1,700.00     |               |
| 10.3        | 70              | 45              | 135       | 6         | 1,340.00     |               |
| 10.31~10.39 | 70              | 45              | 135       | 6         | 1,700.00     |               |
| 10.4        | 70              | 45              | 135       | 6         | 1,340.00     |               |
| 10.41~10.49 | 70              | 45              | 135       | 6         | 1,700.00     |               |
| 10.5        | 70              | 50              | 135       | 6         | 1,300.00     | 1,480.00      |
| 10.51~10.59 | 70              | 50              | 135       | 6         | 1,700.00     |               |
| 10.6        | 70              | 50              | 135       | 6         | 1,340.00     |               |
| 10.61~10.69 | 70              | 50              | 135       | 6         | 1,700.00     |               |
| 10.7        | 75              | 50              | 140       | 6         | 1,340.00     |               |
| 10.71~10.79 | 75              | 50              | 140       | 6         | 1,700.00     |               |
| 10.8        | 75              | 50              | 140       | 6         | 1,340.00     |               |
| 10.81~10.89 | 75              | 50              | 140       | 6         | 1,700.00     |               |
| 10.9        | 75              | 50              | 140       | 6         | 1,340.00     |               |
| 10.91~10.99 | 75              | 50              | 140       | 6         | 1,700.00     |               |
| 11          | 75              | 50              | 140       | 6         | 1,400.00     | 1,530.00      |
| 11.01~11.09 | 75              | 50              | 140       | 6         | 1,970.00     |               |
| 11.1        | 75              | 50              | 140       | 6         | 1,510.00     |               |
| 11.11~11.19 | 75              | 50              | 140       | 6         | 1,970.00     |               |
| 11.2        | 75              | 50              | 145       | 6         | 1,510.00     |               |
| 11.21~11.29 | 75              | 50              | 145       | 6         | 1,970.00     |               |



# HR 手絞刀

Hand Reamers



直刃型

螺旋刃型



單位：mm

| 刃徑<br>(D)   | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-------------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 11.3        | 75              | 54              | 145       | 6         | 1,510.00     |               |
| 11.31~11.39 | 75              | 54              | 145       | 6         | 1,970.00     |               |
| 11.4        | 75              | 54              | 145       | 6         | 1,510.00     |               |
| 11.41~11.49 | 75              | 54              | 145       | 6         | 1,970.00     |               |
| 11.5        | 75              | 54              | 145       | 6         | 1,450.00     | 1,600.00      |
| 11.51~11.59 | 75              | 54              | 145       | 6         | 1,970.00     |               |
| 11.6        | 75              | 54              | 145       | 6         | 1,510.00     |               |
| 11.61~11.69 | 75              | 58              | 145       | 6         | 1,970.00     |               |
| 11.7        | 75              | 58              | 145       | 6         | 1,510.00     |               |
| 11.71~11.79 | 75              | 58              | 150       | 6         | 1,970.00     |               |
| 11.8        | 75              | 58              | 150       | 6         | 1,510.00     |               |
| 11.81~11.89 | 75              | 58              | 150       | 6         | 1,970.00     |               |
| 11.9        | 75              | 58              | 150       | 6         | 1,510.00     |               |
| 11.91~11.99 | 75              | 58              | 150       | 6         | 1,970.00     |               |
| 12          | 75              | 58              | 150       | 6         | 1,590.00     | 1,710.00      |
| 12.01~12.05 | 75              | 58              | 150       | 6         | 2,260.00     |               |
| 12.1        | 75              | 58              | 150       | 6         | 1,820.00     |               |
| 12.2        | 80              | 58              | 155       | 6         | 1,820.00     |               |
| 12.3        | 80              | 58              | 155       | 6         | 1,820.00     |               |
| 12.4        | 80              | 58              | 155       | 6         | 1,820.00     |               |
| 12.5        | 80              | 58              | 155       | 6         | 1,680.00     | 2,100.00      |
| 12.6        | 80              | 62              | 155       | 8         | 1,900.00     |               |
| 12.7        | 80              | 62              | 160       | 8         | 1,900.00     |               |
| 12.8        | 80              | 62              | 160       | 8         | 1,900.00     |               |
| 12.9        | 80              | 62              | 160       | 8         | 1,900.00     |               |
| 13          | 80              | 62              | 160       | 8         | 1,680.00     | 1,850.00      |
| 13.1        | 80              | 62              | 160       | 8         | 2,160.00     |               |
| 13.2        | 85              | 62              | 165       | 8         | 2,160.00     |               |
| 13.3        | 85              | 62              | 165       | 8         | 2,160.00     |               |
| 13.4        | 85              | 62              | 165       | 8         | 2,160.00     |               |
| 13.5        | 85              | 62              | 165       | 8         | 2,350.00     |               |
| 13.6        | 85              | 62              | 165       | 8         | 2,400.00     |               |
| 13.7        | 85              | 62              | 165       | 8         | 2,400.00     |               |
| 13.8        | 85              | 62              | 165       | 8         | 2,400.00     |               |
| 13.9        | 85              | 62              | 165       | 8         | 2,400.00     |               |
| 14          | 85              | 62              | 165       | 8         | 1,950.00     | 2,150.00      |
| 14.1        | 85              | 62              | 165       | 8         | 2,500.00     |               |
| 14.2        | 90              | 62              | 170       | 8         | 2,500.00     |               |
| 14.3        | 90              | 62              | 170       | 8         | 2,500.00     |               |
| 14.4        | 90              | 62              | 170       | 8         | 2,500.00     |               |
| 14.5        | 90              | 62              | 170       | 8         | 2,450.00     |               |
| 14.6        | 90              | 66              | 170       | 8         | 2,500.00     |               |
| 14.7        | 90              | 66              | 175       | 8         | 2,500.00     |               |

# HR 手絞刀

Hand Reamers



直刃型



螺旋刃型



單位：mm

| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|-----------|-----------------|-----------------|-----------|-----------|--------------|---------------|
| 14.8      | 90              | 66              | 175       | 8         | 2,500.00     |               |
| 14.9      | 90              | 66              | 175       | 8         | 2,500.00     |               |
| 15        | 90              | 66              | 175       | 8         | 2,200.00     | 2,420.00      |
| 15.1      | 90              | 66              | 175       | 8         | 2,850.00     |               |
| 15.2      | 95              | 66              | 185       | 8         | 2,850.00     |               |
| 15.3      | 95              | 66              | 185       | 8         | 2,850.00     |               |
| 15.4      | 95              | 66              | 185       | 8         | 2,850.00     |               |
| 15.5      | 95              | 66              | 185       | 8         | 2,800.00     |               |
| 15.6      | 95              | 70              | 185       | 8         | 2,850.00     |               |
| 15.7      | 95              | 70              | 185       | 8         | 2,850.00     |               |
| 15.8      | 95              | 70              | 185       | 8         | 2,850.00     |               |
| 15.9      | 95              | 70              | 185       | 8         | 2,850.00     |               |
| 16        | 95              | 70              | 185       | 8         | 2,480.00     | 2,750.00      |
| 16.1      | 95              | 70              | 185       | 8         | 3,200.00     |               |
| 16.2      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.3      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.4      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.5      | 100             | 70              | 190       | 8         | 3,180.00     |               |
| 16.6      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.7      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.8      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 16.9      | 100             | 70              | 190       | 8         | 3,200.00     |               |
| 17        | 100             | 70              | 190       | 8         | 2,850.00     | 3,150.00      |
| 17.1      | 100             | 70              | 190       | 8         | 3,600.00     |               |
| 17.2      | 105             | 70              | 200       | 8         | 3,600.00     |               |
| 17.3      | 105             | 70              | 200       | 8         | 3,600.00     |               |
| 17.4      | 105             | 70              | 200       | 8         | 3,600.00     |               |
| 17.5      | 105             | 70              | 200       | 8         | 3,550.00     |               |
| 17.6      | 105             | 75              | 200       | 8         | 3,600.00     |               |
| 17.7      | 105             | 75              | 200       | 8         | 3,600.00     |               |
| 17.8      | 105             | 75              | 200       | 8         | 3,600.00     |               |
| 17.9      | 105             | 75              | 200       | 8         | 3,600.00     |               |
| 18        | 105             | 75              | 200       | 8         | 3,250.00     | 3,580.00      |
| 18.1      | 105             | 75              | 200       | 8         | 4,260.00     |               |
| 18.2      | 105             | 75              | 210       | 8         | 4,260.00     |               |
| 18.3      | 105             | 75              | 210       | 8         | 4,260.00     |               |
| 18.4      | 105             | 75              | 210       | 8         | 4,260.00     |               |
| 18.5      | 105             | 75              | 210       | 8         | 4,200.00     |               |
| 18.6      | 105             | 85              | 210       | 8         | 4,260.00     |               |
| 18.7      | 105             | 85              | 210       | 8         | 4,260.00     |               |
| 18.8      | 105             | 85              | 210       | 8         | 4,260.00     |               |
| 18.9      | 105             | 85              | 210       | 8         | 4,260.00     |               |

# HR 手絞刀

## Hand Reamers



單位：mm

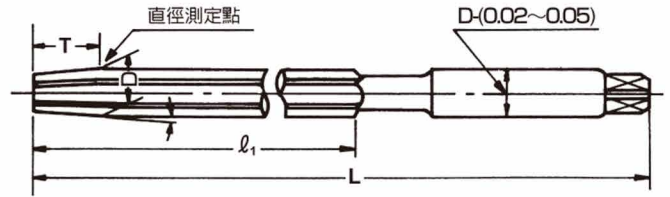
| 刃徑<br>(D) | 刃長<br>( $l_1$ ) | 柄長<br>( $l_2$ ) | 全長<br>(L) | 刃數<br>(N) | 直刃型<br>價(支)格    | 螺旋刃型<br>價(支)格   |
|-----------|-----------------|-----------------|-----------|-----------|-----------------|-----------------|
| 19        | 105             | 85              | 210       | 8         | <b>3,860.00</b> | <b>4,250.00</b> |
| 19.1      | 105             | 85              | 210       | 8         | <b>4,800.00</b> |                 |
| 19.2      | 110             | 85              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.3      | 110             | 85              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.4      | 110             | 85              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.5      | 110             | 85              | 220       | 8         | <b>4,600.00</b> | <b>5,100.00</b> |
| 19.6      | 110             | 88              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.7      | 110             | 88              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.8      | 110             | 88              | 220       | 8         | <b>4,800.00</b> |                 |
| 19.9      | 110             | 88              | 220       | 8         | <b>4,800.00</b> |                 |
| 20        | 110             | 88              | 220       | 8         | <b>3,850.00</b> | <b>4,200.00</b> |
| 20.1      | 110             | 88              | 220       | 8         | <b>4,800.00</b> |                 |
| 20.2      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.3      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.4      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.5      | 120             | 88              | 230       | 8         | <b>4,750.00</b> |                 |
| 20.6      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.7      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.8      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 20.9      | 120             | 88              | 230       | 8         | <b>4,800.00</b> |                 |
| 21        | 120             | 88              | 230       | 8         | <b>4,100.00</b> |                 |
| 21.5      | 120             | 88              | 235       | 8         | <b>4,900.00</b> |                 |
| 22        | 120             | 90              | 235       | 8         | <b>4,600.00</b> | <b>5,100.00</b> |
| 22.5      | 130             | 90              | 250       | 8         | <b>5,200.00</b> |                 |
| 23        | 130             | 95              | 250       | 8         | <b>5,050.00</b> | <b>5,600.00</b> |
| 23.5      | 130             | 95              | 255       | 8         | <b>5,700.00</b> |                 |
| 24        | 130             | 100             | 255       | 8         | <b>5,500.00</b> |                 |
| 24.5      | 130             | 100             | 260       | 8         | <b>6,300.00</b> |                 |
| 25        | 130             | 102             | 260       | 8         | <b>6,360.00</b> | <b>7,000.00</b> |
| 26        | 140             | 102             | 270       | 10        | <b>6,700.00</b> |                 |
| 27        | 140             | 120             | 290       | 10        | <b>6,950.00</b> |                 |
| 28        | 140             | 120             | 290       | 10        | <b>7,750.00</b> |                 |
| 29        | 150             | 120             | 305       | 10        | <b>8,400.00</b> |                 |
| 30        | 150             | 120             | 305       | 10        | <b>8,900.00</b> | <b>9,800.00</b> |
| 1/16      | 30              | 19              | 55        | 4         | <b>1,040.00</b> |                 |
| 3/32      | 35              | 23              | 65        | 4         | <b>900.00</b>   |                 |
| 1/8       | 40              | 26              | 75        | 6         | <b>640.00</b>   |                 |
| 5/32      | 40              | 30              | 80        | 6         | <b>640.00</b>   |                 |
| 3/16      | 45              | 35              | 90        | 6         | <b>640.00</b>   |                 |
| 1/4       | 50              | 38              | 100       | 6         | <b>830.00</b>   | <b>1,000.00</b> |
| 5/16      | 60              | 42              | 115       | 6         | <b>910.00</b>   | <b>1,150.00</b> |
| 3/8       | 65              | 45              | 125       | 6         | <b>1,210.00</b> | <b>1,450.00</b> |
| 7/16      | 75              | 54              | 145       | 6         | <b>1,560.00</b> | <b>1,970.00</b> |
| 1/2       | 80              | 62              | 160       | 8         | <b>1,790.00</b> | <b>2,240.00</b> |
| 5/8       | 95              | 70              | 185       | 8         | <b>2,450.00</b> | <b>3,080.00</b> |
| 3/4       | 105             | 85              | 210       | 8         | <b>3,900.00</b> | <b>4,850.00</b> |
| 7/8       | 130             | 95              | 250       | 8         | <b>4,980.00</b> |                 |
| 1         | 140             | 102             | 270       | 8         | <b>6,600.00</b> |                 |

絞刀刀具

Reamers

# LHR 長刃手絞刀

## Long Hand Reamers



單位：mm

| 刃徑<br>(D) | 公差<br>Tolerance  | 刃長<br>( $l_1$ ) | 全長<br>(L) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格    |
|-----------|------------------|-----------------|-----------|------------|-----------|----------|
| 2         | +0.007<br>+0.002 | 60              | 100       | 6          | 4         | 3,365.00 |
| 2.5       |                  | 60              | 100       | 7          | 4         | 3,050.00 |
| 3         |                  | 60              | 100       | 8          | 6         | 2,850.00 |
| 3.5       | +0.009<br>+0.004 | 60              | 100       | 8          | 6         | 3,040.00 |
| 4         |                  | 60              | 100       | 8          | 6         | 2,690.00 |
| 4         |                  | 80              | 120       | 8          | 6         | 3,100.00 |
| 4.5       |                  | 80              | 120       | 9          | 6         | 3,200.00 |
| 5         |                  | 100             | 140       | 9          | 6         | 3,075.00 |
| 5         |                  | 120             | 160       | 9          | 6         | 3,250.00 |
| 5         |                  | 120             | 170       | 9          | 6         | 3,250.00 |
| 5.5       |                  | 120             | 160       | 10         | 6         | 3,490.00 |
| 6         |                  | 100             | 150       | 10         | 6         | 2,900.00 |
| 6         |                  | 120             | 160       | 10         | 6         | 3,050.00 |
| 6.5       | +0.012<br>+0.006 | 120             | 160       | 10         | 6         | 3,415.00 |
| 6.5       |                  | 120             | 170       | 10         | 6         | 3,415.00 |
| 7         |                  | 120             | 160       | 11         | 6         | 3,290.00 |
| 7         |                  | 150             | 200       | 11         | 6         | 3,965.00 |
| 7.5       |                  | 150             | 210       | 11         | 6         | 4,365.00 |
| 8         |                  | 150             | 200       | 12         | 6         | 4,115.00 |
| 8         |                  | 150             | 210       | 12         | 6         | 4,365.00 |
| 8.5       |                  | 150             | 200       | 12         | 6         | 4,525.00 |
| 8.5       |                  | 150             | 210       | 12         | 6         | 4,525.00 |
| 9         |                  | 150             | 200       | 13         | 6         | 4,340.00 |
| 9         | 150              | 210             | 13        | 6          | 4,590.00  |          |
| 9.5       | 150              | 210             | 13        | 6          | 4,765.00  |          |
| 10        | 150              | 200             | 14        | 6          | 4,615.00  |          |
| 10        | 150              | 210             | 14        | 6          | 4,725.00  |          |
| 10.5      | +0.015<br>+0.007 | 150             | 210       | 14         | 6         | 4,915.00 |
| 11        |                  | 150             | 200       | 15         | 6         | 5,265.00 |
| 11        |                  | 150             | 210       | 15         | 6         | 5,265.00 |
| 11.5      |                  | 150             | 210       | 15         | 6         | 5,365.00 |
| 12        |                  | 150             | 200       | 15         | 6         | 5,940.00 |
| 12        |                  | 160             | 230       | 15         | 6         | 6,040.00 |
| 12.5      |                  | 150             | 200       | 16         | 8         | 6,175.00 |
| 12.5      |                  | 160             | 230       | 16         | 8         | 6,375.00 |
| 13        |                  | 160             | 230       | 16         | 8         | 6,625.00 |
| 13.5      |                  | 160             | 230       | 17         | 8         | 6,675.00 |
| 14        | 150              | 200             | 17        | 8          | 6,990.00  |          |
| 14        | 160              | 230             | 17        | 8          | 6,990.00  |          |
| 14.5      | 160              | 230             | 18        | 8          | 7,265.00  |          |
| 15        | 150              | 200             | 18        | 8          | 7,600.00  |          |
| 15        | 160              | 230             | 18        | 8          | 7,600.00  |          |
| 15.5      | 200              | 300             | 19        | 8          | 8,450.00  |          |
| 16        | 200              | 250             | 19        | 8          | 8,825.00  |          |
| 16        | 200              | 300             | 19        | 8          | 9,415.00  |          |
| 16        | 250              | 300             | 19        | 8          | 9,415.00  |          |

絞刀刀具

Reamers

# TPR 推拔刃絞刀

## Taper Pin Reamers

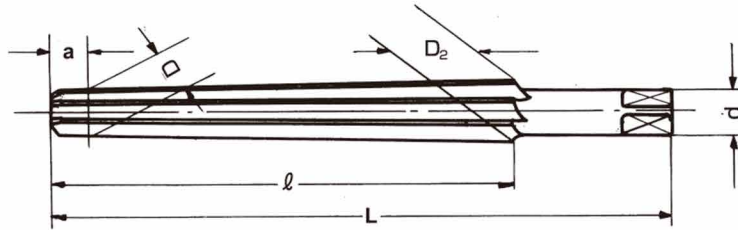
1/48推拔



直刃型



螺旋刃型



單位：mm

| 番號    | 先端徑   | 導角長 | 刃長  | 粗端徑               | 全長  | 柄徑    | 先端刃長 | 刃數  | 直刃型              | 螺旋刃型            |
|-------|-------|-----|-----|-------------------|-----|-------|------|-----|------------------|-----------------|
|       | (D)   | (T) | (ℓ) | (D <sub>2</sub> ) | (L) | (d)   | (a)  | (N) | 價(支)格            | 價(支)格           |
| # 7/0 | 1.36  | -   | 21  | 1.69              | 40  | 1.984 | 5    | 4   | <b>875.00</b>    |                 |
| # 6/0 | 1.65  | -   | 24  | 2.05              | 40  | 2.381 | 5    | 4   | <b>760.00</b>    |                 |
| # 5/0 | 1.93  | -   | 30  | 2.45              | 45  | 2.778 | 5    | 4   | <b>725.00</b>    |                 |
| # 4/0 | 2.33  | -   | 32  | 2.9               | 45  | 3.5   | 5    | 4   | <b>670.00</b>    |                 |
| # 3/0 | 2.65  | -   | 35  | 3.28              | 50  | 4     | 5    | 4   | <b>645.00</b>    |                 |
| # 2/0 | 2.99  | -   | 38  | 3.68              | 58  | 4     | 5    | 4   | <b>645.00</b>    |                 |
| # 0   | 3.32  | 0.5 | 42  | 4.09              | 60  | 4.5   | 5    | 6   | <b>645.00</b>    | <b>715.00</b>   |
| # 1   | 3.8   | 0.5 | 45  | 4.64              | 65  | 5     | 5    | 6   | <b>645.00</b>    | <b>715.00</b>   |
| # 2   | 4.21  | 0.5 | 52  | 5.19              | 75  | 5.5   | 5    | 6   | <b>685.00</b>    | <b>840.00</b>   |
| # 3   | 4.74  | 0.5 | 58  | 5.85              | 90  | 5.5   | 5    | 6   | <b>730.00</b>    | <b>900.00</b>   |
| # 4   | 5.38  | 1   | 65  | 6.63              | 105 | 6.5   | 5    | 6   | <b>860.00</b>    | <b>1,060.00</b> |
| # 5   | 6.19  | 1   | 78  | 7.71              | 115 | 6.5   | 5    | 6   | <b>935.00</b>    | <b>1,180.00</b> |
| # 6   | 7.18  | 1   | 92  | 9                 | 130 | 7.5   | 5    | 6   | <b>1,235.00</b>  | <b>1,560.00</b> |
| # 7   | 8.5   | 1   | 115 | 10.8              | 155 | 9     | 5    | 6   | <b>1,565.00</b>  | <b>1,980.00</b> |
| # 8   | 10.21 | 1   | 135 | 12.92             | 175 | 11    | 5    | 8   | <b>2,400.00</b>  | <b>3,025.00</b> |
| # 9   | 12.4  | 1   | 155 | 15.47             | 205 | 13    | 8    | 8   | <b>3,685.00</b>  | <b>4,660.00</b> |
| # 10  | 14.9  | 1.5 | 180 | 18.5              | 230 | 16    | 8    | 8   | <b>4,845.00</b>  | <b>6,075.00</b> |
| # 11  | 18.13 | 1.5 | 210 | 22.3              | 285 | 19    | 10   | 8   | <b>9,525.00</b>  |                 |
| # 12  | 21.58 | 1.5 | 255 | 26.69             | 340 | 23    | 10   | 8   | <b>15,930.00</b> |                 |

# HTPR 強螺旋角機械推拔刃絞刀

Helical Taper Pin Reamers

1/48推拔



右刃左螺旋刃型

例：被切削材為FC25，切削長100m/m，由右表可看出加工速度為10倍，加工量為9倍，總計90倍之耐久力。

| 適用品種類    | 1支之加工時間 | 1支之加工數量 | 面精度 |
|----------|---------|---------|-----|
| 一般製品     | 300/秒   | 30      | 可   |
| 強螺旋角推拔絞刀 | 30/秒    | 268     | 優   |



單位：mm

| 番號  | 先端徑<br>(D) | 粗端徑<br>(D <sub>2</sub> ) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----|------------|--------------------------|-----------|-----------|-----------|-----------|----------|
| # 0 | 3.32       | 4.1                      | 42        | 60        | 4.5       | 3         | 1,200.00 |
| # 1 | 3.8        | 4.64                     | 45        | 65        | 5         | 3         | 1,255.00 |
| # 2 | 4.21       | 5.19                     | 52        | 75        | 5.5       | 3         | 1,340.00 |
| # 3 | 4.74       | 5.85                     | 58        | 90        | 5.5       | 3         | 1,415.00 |
| # 4 | 5.38       | 6.63                     | 65        | 105       | 6.5       | 3         | 1,610.00 |
| # 5 | 6.19       | 7.72                     | 78        | 115       | 6.5       | 3         | 1,800.00 |
| # 6 | 7.18       | 9                        | 92        | 130       | 7.5       | 3         | 2,395.00 |
| # 7 | 8.5        | 10.8                     | 115       | 155       | 9         | 3         | 2,805.00 |
| # 8 | 10.21      | 12.92                    | 135       | 175       | 11        | 3         | 3,210.00 |
| # 9 | 12.4       | 15.47                    | 155       | 205       | 13        | 3         | 4,335.00 |
| #10 | 14.91      | 18.5                     | 180       | 230       | 16        | 3         | 5,875.00 |

# TPR 推拔刃絞刀

Taper Pin Reamers

1/50推拔



單位：mm

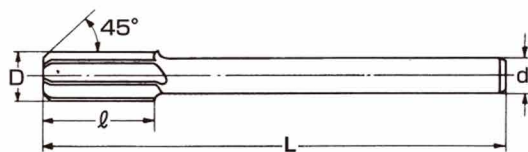
| 先端徑<br>(D) | 導角長<br>(T) | 粗端徑<br>(D <sub>2</sub> ) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 先端刃長<br>(a) | 刃數<br>(N) | 直刃型<br>價(支)格 | 螺旋刃型<br>價(支)格 |
|------------|------------|--------------------------|-----------|-----------|-----------|-------------|-----------|--------------|---------------|
| 2          | -          | 2.86                     | 48        | 70        | 3.5       | 5           | 4         | 855.00       | 1,020.00      |
| 2.5        | -          | 3.46                     | 53        | 75        | 4         | 5           | 4         | 855.00       | 1,020.00      |
| 3          | -          | 4.16                     | 63        | 88        | 5         | 5           | 6         | 935.00       | 1,120.00      |
| 3.5        | 0.5        | 4.9                      | 75        | 102       | 6         | 5           | 6         | 945.00       | 1,140.00      |
| 4          | 0.5        | 5.4                      | 75        | 102       | 6         | 5           | 6         | 990.00       | 1,180.00      |
| 5          | 1          | 6.64                     | 87        | 115       | 6.5       | 5           | 6         | 1,045.00     | 1,265.00      |
| 6          | 1          | 7.88                     | 99        | 130       | 6.5       | 5           | 6         | 1,300.00     | 1,560.00      |
| 7          | 1          | 9.28                     | 119       | 152       | 7.5       | 5           | 6         | 1,420.00     | 1,675.00      |
| 8          | 1          | 10.72                    | 141       | 178       | 9         | 5           | 6         | 2,280.00     | 2,740.00      |
| 9          | 1          | 12.16                    | 163       | 205       | 11        | 5           | 8         | 2,545.00     | 3,050.00      |
| 10         | 1          | 13.16                    | 163       | 205       | 11        | 5           | 8         | 2,805.00     | 3,350.00      |
| 11         | 1          | 14.74                    | 194       | 240       | 12        | 7           | 8         | 3,520.00     | 4,225.00      |
| 12         | 1          | 15.74                    | 194       | 240       | 13        | 7           | 8         | 4,425.00     | 5,310.00      |
| 13         | 1          | 16.74                    | 194       | 240       | 14        | 7           | 8         | 5,250.00     | 6,315.00      |
| 16         | 1.5        | 20.52                    | 234       | 290       | 17        | 8           | 8         | 8,545.00     | 10,240.00     |
| 18         | 1.5        | 23.2                     | 270       | 340       | 22        | 10          | 8         | 10,550.00    | 12,625.00     |
| 20         | 1.5        | 25.2                     | 270       | 340       | 22        | 10          | 8         | 13,585.00    | 16,240.00     |
| 25         | 1.5        | 30.94                    | 310       | 390       | 27        | 13          | 10        | 20,325.00    | 25,260.00     |
| 30         | 1.5        | 36.06                    | 318       | 405       | 32        | 15          | 10        | 30,535.00    | 37,080.00     |

# CSSPSCR 全鎢鋼超硬直柄機械絞刀

Solid Carbide Straight Shank Chucking Reamers

右刃左螺旋刃型  
右刃直刃型

精密銑床上加工  
常使用到之刀具



直柄 切削條件 P212

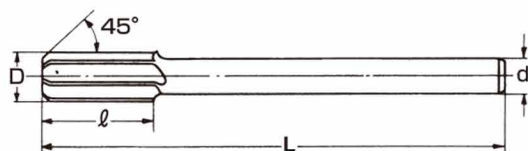
單位：mm

| 刃徑<br>(D) | 刃長<br>(l) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-----------|-----------|----------|
| 2         | 20        | 80        | 2         | 4         | 3,720.00 |
| 2.5       | 25        | 90        | 2.2       | 4         | 4,060.00 |
| 3         | 30        | 110       | 3         | 4         | 4,240.00 |
| 3.5       | 30        | 110       | 3         | 4         | 4,580.00 |
| 4         | 30        | 110       | 4         | 4         | 5,420.00 |
| 4.5       | 30        | 120       | 4         | 4         | 6,280.00 |
| 5         | 30        | 120       | 4         | 4         | 6,440.00 |
| 5.5       | 30        | 120       | 4         | 4         | 6,780.00 |
| 6         | 30        | 130       | 6         | 4         | 7,770.00 |

# CSCR 鎢鋼刃超硬直柄機械絞刀

Carbide Tipped Straight Shank Chucking Reamers

右刃直刃型



直柄 切削條件 P212

單位：mm

| 刃徑<br>(D) | 刃長<br>(l) | 全長<br>(L) | 柄徑<br>(d) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-----------|-----------|----------|
| 6         | 20        | 130       | 6         | 4         | 3,560.00 |
| 6.5       | 20        | 140       | 6         | 4         | 3,560.00 |
| 7         | 20        | 140       | 6         | 4         | 3,650.00 |
| 7.5       | 30        | 150       | 6         | 4         | 3,720.00 |
| 8         | 30        | 160       | 6         | 4         | 3,900.00 |
| 8.5       | 30        | 160       | 8         | 4         | 3,990.00 |
| 9         | 30        | 160       | 8         | 4         | 4,060.00 |
| 9.5       | 30        | 160       | 8         | 4         | 4,060.00 |
| 10        | 35        | 160       | 8         | 4         | 4,060.00 |
| 10.5      | 35        | 170       | 8         | 4         | 4,240.00 |
| 11        | 35        | 170       | 8         | 4         | 4,580.00 |
| 12        | 40        | 170       | 10        | 4         | 5,250.00 |
| 16        | 40        | 200       | 12        | 6         | 7,380.00 |
| 20        | 50        | 230       | 16        | 6         | 9,650.00 |

# SCR 全鎢鋼直柄機械絞刀

Solid Carbide Straight Shank Chucking Reamers

右刃左螺旋刃型



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 有效長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           | 刃徑<br>(D) | 刃長<br>(ℓ) | 有效長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|--------------------------|-----------|-----------|-----------------|-----------|-----------|--------------------------|-----------|-----------|-----------------|
| 1         | 6         | -                        | 36        | 4         | <b>995.00</b>   | 4.1       | 19        | 43                       | 75        | 4         | <b>1,490.00</b> |
| 1.1       | 8         | -                        | 44        | 4         | <b>1,210.00</b> | 4.2       | 19        | 43                       | 75        | 4         | <b>1,490.00</b> |
| 1.2       | 8         | -                        | 44        | 4         | <b>1,210.00</b> | 4.3       | 21        | 47                       | 80        | 4         | <b>1,490.00</b> |
| 1.3       | 8         | -                        | 44        | 4         | <b>1,210.00</b> | 4.4       | 21        | 47                       | 80        | 4         | <b>1,490.00</b> |
| 1.4       | 8         | -                        | 44        | 4         | <b>1,210.00</b> | 4.5       | 21        | 47                       | 80        | 4         | <b>1,260.00</b> |
| 1.5       | 8         | -                        | 44        | 4         | <b>1,100.00</b> | 4.6       | 21        | 47                       | 80        | 4         | <b>1,490.00</b> |
| 1.6       | 12        | -                        | 48        | 4         | <b>1,210.00</b> | 4.7       | 21        | 47                       | 80        | 4         | <b>1,490.00</b> |
| 1.7       | 12        | -                        | 48        | 4         | <b>1,210.00</b> | 4.8       | 23        | 52                       | 86        | 4         | <b>1,490.00</b> |
| 1.8       | 12        | -                        | 48        | 4         | <b>1,210.00</b> | 4.9       | 23        | 52                       | 86        | 4         | <b>1,490.00</b> |
| 1.9       | 12        | -                        | 48        | 4         | <b>1,210.00</b> | 5         | 23        | 52                       | 86        | 4         | <b>1,260.00</b> |
| 2         | 11        | 24                       | 49        | 4         | <b>865.00</b>   | 5.1       | 23        | 52                       | 86        | 4         | <b>1,860.00</b> |
| 2.1       | 11        | 24                       | 49        | 4         | <b>1,090.00</b> | 5.2       | 23        | 52                       | 86        | 4         | <b>1,860.00</b> |
| 2.2       | 12        | 26                       | 53        | 4         | <b>1,090.00</b> | 5.3       | 23        | 52                       | 86        | 4         | <b>1,860.00</b> |
| 2.3       | 12        | 26                       | 53        | 4         | <b>1,090.00</b> | 5.4       | 26        | 57                       | 93        | 4         | <b>1,860.00</b> |
| 2.4       | 14        | 28                       | 57        | 4         | <b>1,090.00</b> | 5.5       | 26        | 57                       | 93        | 4         | <b>1,340.00</b> |
| 2.5       | 14        | 28                       | 57        | 4         | <b>990.00</b>   | 5.6       | 26        | 57                       | 93        | 4         | <b>1,860.00</b> |
| 2.6       | 14        | 28                       | 57        | 4         | <b>1,120.00</b> | 5.7       | 26        | 57                       | 93        | 4         | <b>1,860.00</b> |
| 2.7       | 15        | 32                       | 61        | 4         | <b>1,120.00</b> | 5.8       | 26        | 57                       | 93        | 4         | <b>1,860.00</b> |
| 2.8       | 15        | 32                       | 61        | 4         | <b>1,120.00</b> | 5.9       | 26        | 57                       | 93        | 4         | <b>1,860.00</b> |
| 2.9       | 15        | 32                       | 61        | 4         | <b>1,120.00</b> | 6         | 26        | 57                       | 93        | 6         | <b>1,260.00</b> |
| 3         | 15        | 32                       | 61        | 4         | <b>990.00</b>   | 6.1       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.1       | 16        | 35                       | 65        | 4         | <b>1,300.00</b> | 6.2       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.2       | 16        | 35                       | 65        | 4         | <b>1,300.00</b> | 6.3       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.3       | 16        | 35                       | 65        | 4         | <b>1,300.00</b> | 6.4       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.4       | 18        | 40                       | 70        | 4         | <b>1,300.00</b> | 6.5       | 28        | 63                       | 101       | 6         | <b>2,010.00</b> |
| 3.5       | 18        | 40                       | 70        | 4         | <b>1,090.00</b> | 6.6       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.6       | 18        | 40                       | 70        | 4         | <b>1,300.00</b> | 6.7       | 28        | 63                       | 101       | 6         | <b>2,050.00</b> |
| 3.7       | 18        | 40                       | 70        | 4         | <b>1,300.00</b> | 6.8       | 31        | 69                       | 109       | 6         | <b>2,050.00</b> |
| 3.8       | 19        | 43                       | 75        | 4         | <b>1,300.00</b> | 6.9       | 31        | 69                       | 109       | 6         | <b>2,050.00</b> |
| 3.9       | 19        | 43                       | 75        | 4         | <b>1,300.00</b> | 7         | 31        | 69                       | 109       | 6         | <b>2,010.00</b> |
| 4         | 19        | 43                       | 75        | 4         | <b>1,090.00</b> | 7.1       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |



# SCR 全鎢鋼直柄機械絞刀

Solid Carbide Straight Shank Chucking Reamers

右刃左螺旋刃型



單位：mm

| 刃徑<br>(D) | 刃長<br>(ℓ) | 有效長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-----------|-----------|--------------------------|-----------|-----------|-----------------|
| 7.2       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.3       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.4       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.5       | 31        | 69                       | 109       | 6         | <b>2,100.00</b> |
| 7.6       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.7       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.8       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 7.9       | 31        | 69                       | 109       | 6         | <b>2,420.00</b> |
| 8         | 31        | 69                       | 110       | 6         | <b>2,100.00</b> |
| 8.1       | 31        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.2       | 31        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.3       | 31        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.4       | 31        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.5       | 31        | 69                       | 110       | 6         | <b>2,770.00</b> |
| 8.6       | 33        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.7       | 33        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.8       | 33        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 8.9       | 33        | 69                       | 110       | 6         | <b>3,160.00</b> |
| 9         | 33        | 80                       | 125       | 6         | <b>2,770.00</b> |
| 9.1       | 33        | 80                       | 125       | 6         | <b>3,720.00</b> |
| 9.2       | 33        | 80                       | 125       | 6         | <b>3,720.00</b> |
| 9.3       | 33        | 80                       | 125       | 6         | <b>3,720.00</b> |
| 9.4       | 33        | 80                       | 125       | 6         | <b>3,720.00</b> |
| 9.5       | 33        | 80                       | 125       | 6         | <b>3,120.00</b> |
| 9.6       | 36        | 90                       | 133       | 6         | <b>3,720.00</b> |
| 9.7       | 38        | 90                       | 133       | 6         | <b>3,720.00</b> |
| 9.8       | 36        | 90                       | 133       | 6         | <b>3,720.00</b> |
| 9.9       | 36        | 90                       | 133       | 6         | <b>3,720.00</b> |
| 10        | 36        | 90                       | 133       | 6         | <b>2,990.00</b> |
| 11        | 41        | 95                       | 142       | 6         | <b>4,020.00</b> |
| 12        | 44        | 105                      | 151       | 6         | <b>4,060.00</b> |

| 刃徑<br>(D)   | 刃長<br>(ℓ) | 有效長<br>(ℓ <sub>1</sub> ) | 全長<br>(L) | 刃數<br>(N) | 價(支)格           |
|-------------|-----------|--------------------------|-----------|-----------|-----------------|
| 13          | 44        | 105                      | 151       | 6         | <b>5,200.00</b> |
| 1.01~ 1.49  | 8         | -                        | 43.5      | 4         | <b>1,500.00</b> |
| 1.51~ 1.99  | 12        | -                        | 48        | 4         | <b>1,500.00</b> |
| 2.01~ 2.09  | 11        | 24                       | 49        | 4         | <b>1,500.00</b> |
| 2.11~ 2.29  | 12        | 26                       | 53        | 4         | <b>1,500.00</b> |
| 2.31~ 2.59  | 14        | 28                       | 57        | 4         | <b>1,500.00</b> |
| 2.61~ 2.99  | 15        | 32                       | 61        | 4         | <b>1,500.00</b> |
| 3.01~ 3.29  | 16        | 35                       | 65        | 4         | <b>1,720.00</b> |
| 3.31~ 3.69  | 18        | 40                       | 70        | 4         | <b>1,720.00</b> |
| 3.71~ 3.99  | 19        | 43                       | 75        | 4         | <b>1,720.00</b> |
| 4.01~ 4.19  | 19        | 43                       | 75        | 4         | <b>1,930.00</b> |
| 4.21~ 4.69  | 21        | 47                       | 80        | 4         | <b>1,930.00</b> |
| 4.71~ 4.99  | 23        | 52                       | 86        | 4         | <b>1,930.00</b> |
| 5.01~ 5.29  | 23        | 52                       | 86        | 4         | <b>2,360.00</b> |
| 5.31~ 5.89  | 26        | 57                       | 93        | 4         | <b>2,360.00</b> |
| 5.91~ 5.99  | 26        | 57                       | 93        | 6         | <b>2,360.00</b> |
| 6.01~ 6.69  | 28        | 63                       | 101       | 6         | <b>2,580.00</b> |
| 6.71~ 6.99  | 31        | 69                       | 109       | 6         | <b>2,580.00</b> |
| 7.01~ 7.89  | 31        | 69                       | 109       | 6         | <b>3,020.00</b> |
| 7.91~ 7.99  | 31        | 69                       | 110       | 6         | <b>3,020.00</b> |
| 8.01~ 8.49  | 31        | 69                       | 110       | 6         | <b>3,860.00</b> |
| 8.51~ 8.89  | 33        | 69                       | 110       | 6         | <b>3,860.00</b> |
| 8.91~ 8.99  | 33        | 80                       | 125       | 6         | <b>3,860.00</b> |
| 9.01~ 9.49  | 33        | 80                       | 125       | 6         | <b>4,500.00</b> |
| 9.51~ 9.99  | 36        | 90                       | 133       | 6         | <b>4,500.00</b> |
| 10.01~10.49 | 41        | 95                       | 142       | 6         | <b>4,930.00</b> |
| 10.51~10.99 | 41        | 95                       | 142       | 6         | <b>4,930.00</b> |
| 11.01~11.49 | 44        | 105                      | 151       | 6         | <b>5,790.00</b> |
| 11.51~11.99 | 44        | 105                      | 151       | 6         | <b>5,790.00</b> |
| 12.01~12.05 | 44        | 105                      | 151       | 6         | <b>6,220.00</b> |

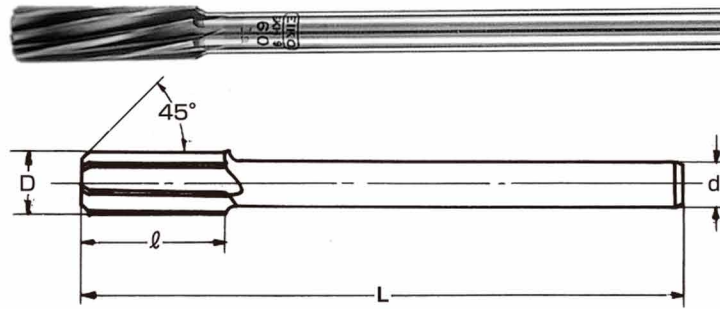
絞刀刀具

Reamers

# SPSCR 直柄機械絞刀

Straight Shank Spiral Chucking Reamers

右刃左螺旋刃型



單位：mm

| 刃徑 (D)    | 公差               | 刃長 (ℓ) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           | 刃徑 (D)    | 公差               | 刃長 (ℓ) | 全長 (L) | 柄徑 (d)          | 刃數 (N)          | 價(支)格           |
|-----------|------------------|--------|--------|--------|-----------------|-----------------|-----------|------------------|--------|--------|-----------------|-----------------|-----------------|
| 2         | +0.007<br>+0.002 | 20     | 80     | 1.8    | 4               | <b>1,720.00</b> | 5.4       | +0.009<br>+0.004 | 30     | 120    | 4               | 6               | <b>1,950.00</b> |
| 2.01~2.05 |                  | 20     | 80     | 1.8    | 4               | <b>2,450.00</b> | 5.5       |                  | 30     | 120    | 4               | 6               | <b>1,650.00</b> |
| 2.1       |                  | 20     | 80     | 1.8    | 4               | <b>2,000.00</b> | 5.6       |                  | 30     | 120    | 4               | 6               | <b>1,950.00</b> |
| 2.2       |                  | 20     | 80     | 1.8    | 4               | <b>2,000.00</b> | 5.7       |                  | 30     | 130    | 5               | 6               | <b>1,950.00</b> |
| 2.3       |                  | 20     | 80     | 1.8    | 4               | <b>2,000.00</b> | 5.8       |                  | 30     | 130    | 5               | 6               | <b>1,950.00</b> |
| 2.4       |                  | 20     | 80     | 1.8    | 4               | <b>2,000.00</b> | 5.9       |                  | 30     | 130    | 5               | 6               | <b>1,950.00</b> |
| 2.5       |                  | 25     | 90     | 2.2    | 4               | <b>1,720.00</b> | 6         |                  | 30     | 130    | 5               | 6               | <b>1,650.00</b> |
| 2.6       |                  | 25     | 90     | 2.2    | 4               | <b>1,950.00</b> | 6.01~6.05 |                  | 30     | 130    | 5               | 6               | <b>2,400.00</b> |
| 2.7       |                  | 25     | 90     | 2.2    | 4               | <b>1,950.00</b> | 6.1       |                  | 30     | 130    | 5               | 6               | <b>1,950.00</b> |
| 2.8       |                  | 25     | 90     | 2.2    | 4               | <b>1,950.00</b> | 6.2       |                  | 35     | 130    | 5               | 6               | <b>1,950.00</b> |
| 2.9       | 25               | 90     | 2.2    | 4      | <b>1,950.00</b> | 6.3             | 35        | 130              | 5      | 6      | <b>1,950.00</b> |                 |                 |
| 3         | +0.009<br>+0.004 | 30     | 110    | 2.5    | 4               | <b>1,620.00</b> | 6.4       | 35               | 130    | 5      | 6               | <b>1,950.00</b> |                 |
| 3.01~3.05 |                  | 30     | 110    | 2.5    | 6               | <b>2,400.00</b> | 6.5       | 35               | 130    | 5      | 6               | <b>1,650.00</b> |                 |
| 3.1       |                  | 30     | 110    | 2.5    | 6               | <b>1,830.00</b> | 6.6       | 35               | 130    | 5      | 6               | <b>1,950.00</b> |                 |
| 3.2       |                  | 30     | 110    | 2.8    | 6               | <b>1,830.00</b> | 6.7       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 3.3       |                  | 30     | 110    | 2.8    | 6               | <b>1,830.00</b> | 6.8       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 3.4       |                  | 30     | 110    | 2.8    | 6               | <b>1,830.00</b> | 6.9       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 3.5       |                  | 30     | 110    | 2.8    | 6               | <b>1,520.00</b> | 7         | 35               | 140    | 6      | 6               | <b>1,650.00</b> |                 |
| 3.6       |                  | 30     | 110    | 2.8    | 6               | <b>1,830.00</b> | 7.01~7.05 | 35               | 140    | 6      | 6               | <b>2,400.00</b> |                 |
| 3.7       |                  | 30     | 110    | 3.5    | 6               | <b>1,830.00</b> | 7.1       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 3.8       |                  | 30     | 110    | 3.5    | 6               | <b>1,830.00</b> | 7.2       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 3.9       | 30               | 110    | 3.5    | 6      | <b>1,830.00</b> | 7.3             | 35        | 140              | 6      | 6      | <b>1,950.00</b> |                 |                 |
| 4         | +0.009<br>+0.004 | 30     | 110    | 3.5    | 6               | <b>1,520.00</b> | 7.4       | 35               | 140    | 6      | 6               | <b>1,950.00</b> |                 |
| 4.01~4.05 |                  | 30     | 110    | 3.5    | 6               | <b>2,200.00</b> | 7.5       | 35               | 140    | 6      | 6               | <b>1,680.00</b> |                 |
| 4.1       |                  | 30     | 110    | 3.5    | 6               | <b>1,950.00</b> | 7.6       | 35               | 140    | 6      | 6               | <b>2,000.00</b> |                 |
| 4.2       |                  | 30     | 120    | 3.5    | 6               | <b>1,950.00</b> | 7.7       | 40               | 150    | 6      | 6               | <b>2,000.00</b> |                 |
| 4.3       |                  | 30     | 120    | 3.5    | 6               | <b>1,950.00</b> | 7.8       | 40               | 150    | 6      | 6               | <b>2,000.00</b> |                 |
| 4.4       |                  | 30     | 120    | 3.5    | 6               | <b>1,950.00</b> | 7.9       | 40               | 150    | 6      | 6               | <b>2,000.00</b> |                 |
| 4.5       |                  | 30     | 120    | 3.5    | 6               | <b>1,650.00</b> | 8         | 40               | 150    | 6      | 6               | <b>1,680.00</b> |                 |
| 4.6       |                  | 30     | 120    | 3.5    | 6               | <b>1,950.00</b> | 8.01~8.05 | 40               | 150    | 6      | 6               | <b>2,580.00</b> |                 |
| 4.7       |                  | 30     | 120    | 4      | 6               | <b>1,950.00</b> | 8.1       | 40               | 150    | 6      | 6               | <b>2,100.00</b> |                 |
| 4.8       |                  | 30     | 120    | 4      | 6               | <b>1,950.00</b> | 8.2       | 40               | 150    | 6      | 6               | <b>2,100.00</b> |                 |
| 4.9       | 30               | 120    | 4      | 6      | <b>1,950.00</b> | 8.3             | 40        | 150              | 6      | 6      | <b>2,100.00</b> |                 |                 |
| 5         | +0.012<br>+0.006 | 30     | 120    | 4      | 6               | <b>1,650.00</b> | 8.4       | 40               | 150    | 6      | 6               | <b>2,100.00</b> |                 |
| 5.01~5.05 |                  | 30     | 120    | 4      | 6               | <b>2,400.00</b> | 8.5       | 40               | 150    | 8      | 6               | <b>1,750.00</b> |                 |
| 5.1       |                  | 30     | 120    | 4      | 6               | <b>1,950.00</b> | 8.6       | 40               | 150    | 8      | 6               | <b>2,100.00</b> |                 |
| 5.2       |                  | 30     | 120    | 4      | 6               | <b>1,950.00</b> | 8.7       | 40               | 160    | 8      | 6               | <b>2,100.00</b> |                 |
| 5.3       |                  | 30     | 120    | 4      | 6               | <b>1,950.00</b> | 8.8       | 40               | 160    | 8      | 6               | <b>2,100.00</b> |                 |

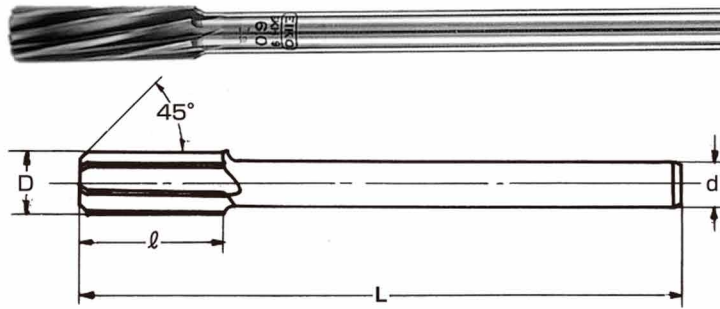
絞刀刀具

Reamers

# SPSCR 直柄機械絞刀

Straight Shank Spiral Chucking Reamers

右刃左螺旋刃型



單位：mm

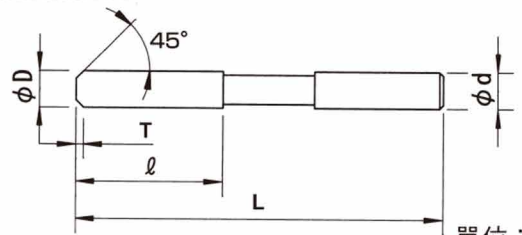
| 刃徑 (D)      | 公差               | 刃長 (l) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           |
|-------------|------------------|--------|--------|--------|-----------------|-----------------|
| 8.9         | +0.012<br>+0.006 | 40     | 160    | 8      | 6               | <b>2,100.00</b> |
| 9           |                  | 40     | 160    | 8      | 6               | <b>1,750.00</b> |
| 9.01~9.05   |                  | 40     | 160    | 8      | 6               | <b>2,580.00</b> |
| 9.1         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.2         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.3         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.4         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.5         |                  | 40     | 160    | 8      | 6               | <b>1,940.00</b> |
| 9.6         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.7         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.8         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 9.9         |                  | 40     | 160    | 8      | 6               | <b>2,300.00</b> |
| 10          |                  | 40     | 160    | 8      | 6               | <b>1,940.00</b> |
| 10.01~10.05 | +0.015<br>+0.007 | 40     | 160    | 8      | 6               | <b>2,800.00</b> |
| 10.1        |                  | 40     | 160    | 8      | 6               | <b>2,440.00</b> |
| 10.2        |                  | 40     | 160    | 8      | 6               | <b>2,440.00</b> |
| 10.3        |                  | 40     | 160    | 8      | 6               | <b>2,440.00</b> |
| 10.4        |                  | 40     | 160    | 8      | 6               | <b>2,440.00</b> |
| 10.5        |                  | 40     | 160    | 8      | 6               | <b>2,040.00</b> |
| 10.6        |                  | 40     | 160    | 8      | 6               | <b>2,440.00</b> |
| 10.7        |                  | 45     | 170    | 8      | 6               | <b>2,440.00</b> |
| 10.8        |                  | 45     | 170    | 8      | 6               | <b>2,440.00</b> |
| 10.9        |                  | 45     | 170    | 8      | 6               | <b>2,440.00</b> |
| 11          |                  | 45     | 170    | 8      | 6               | <b>2,040.00</b> |
| 11.01~11.05 |                  | 45     | 170    | 8      | 6               | <b>2,980.00</b> |
| 11.1        |                  | 45     | 170    | 8      | 6               | <b>2,580.00</b> |
| 11.2        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.3        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.4        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.5        | 45               | 170    | 8      | 6      | <b>2,200.00</b> |                 |
| 11.6        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.7        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.8        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 11.9        | 45               | 170    | 8      | 6      | <b>2,580.00</b> |                 |
| 12          | 45               | 170    | 10     | 6      | <b>2,200.00</b> |                 |
| 12.01~12.05 | +0.017<br>+0.008 | 45     | 180    | 10     | 6               | <b>3,200.00</b> |
| 12.1        |                  | 45     | 180    | 10     | 6               | <b>2,720.00</b> |
| 12.2        |                  | 45     | 180    | 10     | 6               | <b>2,720.00</b> |

| 刃徑 (D) | 公差               | 刃長 (l) | 全長 (L) | 柄徑 (d) | 刃數 (N)          | 價(支)格           |
|--------|------------------|--------|--------|--------|-----------------|-----------------|
| 12.3   | +0.015<br>+0.007 | 45     | 180    | 10     | 6               | <b>2,720.00</b> |
| 12.4   |                  | 45     | 180    | 10     | 6               | <b>2,720.00</b> |
| 12.5   |                  | 45     | 180    | 10     | 6               | <b>2,300.00</b> |
| 12.6   |                  | 45     | 180    | 10     | 8               | <b>2,720.00</b> |
| 12.7   |                  | 45     | 180    | 10     | 8               | <b>2,720.00</b> |
| 12.8   |                  | 45     | 180    | 10     | 8               | <b>2,720.00</b> |
| 12.9   |                  | 45     | 180    | 10     | 8               | <b>2,720.00</b> |
| 13     |                  | 45     | 180    | 10     | 8               | <b>2,300.00</b> |
| 13.5   |                  | 45     | 180    | 10     | 8               | <b>2,400.00</b> |
| 14     |                  | 50     | 190    | 10     | 8               | <b>2,400.00</b> |
| 14.5   |                  | 50     | 200    | 12     | 8               | <b>2,800.00</b> |
| 15     |                  | 50     | 200    | 12     | 8               | <b>2,800.00</b> |
| 15.5   |                  | 50     | 200    | 12     | 8               | <b>3,100.00</b> |
| 16     | 50               | 200    | 12     | 8      | <b>3,100.00</b> |                 |
| 16.5   | 55               | 200    | 12     | 8      | <b>3,410.00</b> |                 |
| 17     | 55               | 200    | 12     | 8      | <b>3,410.00</b> |                 |
| 17.5   | 55               | 220    | 12     | 8      | <b>3,500.00</b> |                 |
| 18     | 55               | 220    | 12     | 8      | <b>3,500.00</b> |                 |
| 18.5   | 55               | 220    | 12     | 8      | <b>3,760.00</b> |                 |
| 19     | 55               | 220    | 12     | 8      | <b>3,760.00</b> |                 |
| 19.5   | 60               | 230    | 16     | 8      | <b>4,490.00</b> |                 |
| 20     | 60               | 230    | 16     | 8      | <b>4,490.00</b> |                 |
| 25     | 65               | 260    | 20     | 8      | <b>6,320.00</b> |                 |
| 30     | 75               | 280    | 20     | 10     | <b>7,800.00</b> |                 |
| 3/32   | +0.007           | 20     | 80     | 1.8    | 4               | <b>2,090.00</b> |
| 1/8    | +0.002           | 30     | 100    | 2.8    | 6               | <b>1,850.00</b> |
| 5/32   | 30               | 100    | 3.5    | 6      | <b>1,850.00</b> |                 |
| 3/16   | +0.009<br>+0.004 | 30     | 120    | 4      | 6               | <b>2,030.00</b> |
| 1/4    | 35               | 130    | 5      | 6      | <b>2,030.00</b> |                 |
| 5/16   | +0.012           | 40     | 150    | 6      | 6               | <b>2,100.00</b> |
| 3/8    | +0.006           | 40     | 160    | 8      | 6               | <b>2,365.00</b> |
| 7/16   | 45               | 170    | 8      | 6      | <b>2,650.00</b> |                 |
| 1/2    | +0.015<br>+0.007 | 45     | 180    | 10     | 6               | <b>2,750.00</b> |
| 5/8    | 50               | 200    | 12     | 8      | <b>3,700.00</b> |                 |
| 3/4    | 55               | 220    | 12     | 8      | <b>4,500.00</b> |                 |
| 7/8    | +0.017<br>+0.008 | 60     | 230    | 16     | 8               | <b>6,900.00</b> |
| 1      | 65               | 260    | 20     | 8      | <b>7,700.00</b> |                 |

# MCR 直柄短刃機械絞刀

右刃左螺旋刃型

Short Machine Chucking Reamers



單位：mm



| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格  |
|-----------|-----------|-----------|-----------|------------|-----------|--------|
| 2         | 11        | 50        | 2         | 0.3        | 4         | 740.00 |
| 2.1       | 11        | 50        | 2         | 0.3        | 4         | 780.00 |
| 2.2       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.3       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.4       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.5       | 15        | 60        | 3         | 0.3        | 4         | 740.00 |
| 2.6       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.7       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.8       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 2.9       | 15        | 60        | 3         | 0.3        | 4         | 780.00 |
| 3         | 15        | 60        | 3         | 0.3        | 4         | 710.00 |
| 3.1       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.2       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.3       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.4       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.5       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.6       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.7       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.8       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 3.9       | 18        | 70        | 4         | 0.3        | 6         | 795.00 |
| 4         | 18        | 70        | 4         | 0.5        | 6         | 740.00 |
| 4.1       | 18        | 70        | 4         | 0.5        | 6         | 795.00 |
| 4.2       | 18        | 70        | 4         | 0.5        | 6         | 795.00 |
| 4.3       | 18        | 70        | 4         | 0.5        | 6         | 795.00 |
| 4.4       | 18        | 70        | 4         | 0.5        | 6         | 795.00 |
| 4.5       | 23        | 80        | 5         | 0.5        | 6         | 795.00 |
| 4.6       | 23        | 80        | 5         | 0.5        | 6         | 795.00 |
| 4.7       | 23        | 80        | 5         | 0.5        | 6         | 795.00 |
| 4.8       | 23        | 80        | 5         | 0.5        | 6         | 795.00 |
| 4.9       | 23        | 80        | 5         | 0.5        | 6         | 795.00 |
| 5         | 23        | 80        | 5         | 0.5        | 6         | 760.00 |
| 5.1       | 23        | 80        | 5         | 0.5        | 6         | 840.00 |
| 5.2       | 23        | 80        | 5         | 0.5        | 6         | 840.00 |
| 5.3       | 23        | 80        | 5         | 0.5        | 6         | 840.00 |
| 5.4       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 5.5       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 5.6       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 5.7       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 5.8       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 5.9       | 26        | 90        | 6         | 0.5        | 6         | 925.00 |
| 6         | 26        | 90        | 6         | 0.5        | 6         | 805.00 |
| 6.1       | 26        | 90        | 6         | 0.5        | 6         | 965.00 |
| 6.2       | 26        | 90        | 6         | 0.5        | 6         | 965.00 |
| 6.3       | 26        | 90        | 6         | 0.5        | 6         | 965.00 |
| 6.4       | 26        | 90        | 6         | 0.5        | 6         | 965.00 |
| 6.5       | 26        | 90        | 6         | 0.5        | 6         | 965.00 |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-----------|------------|-----------|----------|
| 6.6       | 26        | 90        | 6         | 0.5        | 6         | 965.00   |
| 6.7       | 26        | 90        | 6         | 0.5        | 6         | 965.00   |
| 6.8       | 31        | 100       | 8         | 0.7        | 6         | 965.00   |
| 6.9       | 31        | 100       | 8         | 0.7        | 6         | 965.00   |
| 7         | 31        | 100       | 8         | 0.7        | 6         | 965.00   |
| 7.1       | 31        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.2       | 31        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.3       | 31        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.4       | 31        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.5       | 31        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.6       | 33        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.7       | 33        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.8       | 33        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 7.9       | 33        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 8         | 33        | 100       | 8         | 0.7        | 6         | 1,000.00 |
| 8.1       | 33        | 100       | 8         | 0.7        | 6         | 1,050.00 |
| 8.2       | 33        | 100       | 8         | 0.7        | 6         | 1,050.00 |
| 8.3       | 33        | 100       | 8         | 0.7        | 6         | 1,050.00 |
| 8.4       | 33        | 100       | 8         | 0.7        | 6         | 1,050.00 |
| 8.5       | 33        | 100       | 8         | 0.7        | 6         | 1,050.00 |
| 8.6       | 36        | 110       | 10        | 0.7        | 6         | 1,175.00 |
| 8.7       | 36        | 110       | 10        | 0.7        | 6         | 1,175.00 |
| 8.8       | 36        | 110       | 10        | 0.7        | 6         | 1,175.00 |
| 8.9       | 36        | 110       | 10        | 0.7        | 6         | 1,175.00 |
| 9         | 36        | 110       | 10        | 0.7        | 6         | 1,175.00 |
| 9.1       | 36        | 110       | 10        | 0.7        | 6         | 1,235.00 |
| 9.2       | 36        | 110       | 10        | 0.7        | 6         | 1,235.00 |
| 9.3       | 36        | 110       | 10        | 0.7        | 6         | 1,235.00 |
| 9.4       | 36        | 110       | 10        | 0.7        | 6         | 1,235.00 |
| 9.5       | 36        | 110       | 10        | 0.7        | 6         | 1,235.00 |
| 9.6       | 38        | 120       | 10        | 0.7        | 6         | 1,235.00 |
| 9.7       | 38        | 120       | 10        | 0.7        | 6         | 1,235.00 |
| 9.8       | 38        | 120       | 10        | 0.7        | 6         | 1,235.00 |
| 9.9       | 38        | 120       | 10        | 0.7        | 6         | 1,235.00 |
| 10        | 38        | 120       | 10        | 0.7        | 6         | 1,175.00 |
| 11        | 41        | 130       | 10        | 0.7        | 6         | 1,675.00 |
| 12        | 44        | 130       | 10        | 0.7        | 6         | 1,720.00 |
| 13        | 44        | 130       | 12        | 0.7        | 8         | 1,935.00 |
| 14        | 47        | 130       | 12        | 0.7        | 8         | 1,985.00 |
| 15        | 50        | 130       | 12        | 0.7        | 8         | 2,040.00 |
| 16        | 52        | 130       | 12        | 0.7        | 8         | 2,115.00 |
| 17        | 54        | 130       | 16        | 0.7        | 8         | 2,515.00 |
| 18        | 56        | 140       | 16        | 0.7        | 8         | 2,600.00 |
| 19        | 58        | 140       | 16        | 0.7        | 8         | 3,015.00 |
| 20        | 60        | 150       | 16        | 0.7        | 8         | 2,910.00 |

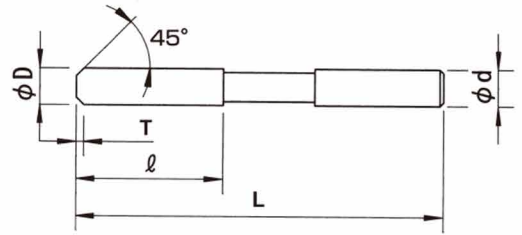
絞刀刀具

Reamers

# MCR 直柄短刃機械絞刀

右刃左螺旋刃型

Short Machine Chucking Reamers



單位：mm



| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格  |
|-----------|-----------|-----------|-----------|------------|-----------|--------|
| 1.95      | 1         | 50        | 2         | 0.3        | 4         | 860.00 |
| 1.96      | 11        | 50        | 2         | 0.3        | 4         | 860.00 |
| 1.97      | 11        | 50        | 2         | 0.3        | 4         | 860.00 |
| 1.98      | 11        | 50        | 2         | 0.3        | 4         | 860.00 |
| 1.99      | 11        | 50        | 2         | 0.3        | 4         | 860.00 |
| 2.01      | 11        | 50        | 2         | 0.3        | 4         | 820.00 |
| 2.02      | 11        | 50        | 2         | 0.3        | 4         | 820.00 |
| 2.03      | 11        | 50        | 2         | 0.3        | 4         | 820.00 |
| 2.04      | 11        | 50        | 2         | 0.3        | 4         | 820.00 |
| 2.05      | 11        | 50        | 2         | 0.3        | 4         | 820.00 |
| 2.95      | 15        | 60        | 3         | 0.3        | 4         | 820.00 |
| 2.96      | 15        | 60        | 3         | 0.3        | 4         | 820.00 |
| 2.97      | 15        | 60        | 3         | 0.3        | 4         | 820.00 |
| 2.98      | 15        | 60        | 3         | 0.3        | 4         | 820.00 |
| 2.99      | 15        | 60        | 3         | 0.3        | 4         | 820.00 |
| 3.01      | 15        | 60        | 3         | 0.3        | 4         | 815.00 |
| 3.02      | 15        | 60        | 3         | 0.3        | 4         | 815.00 |
| 3.03      | 15        | 60        | 3         | 0.3        | 4         | 815.00 |
| 3.04      | 15        | 60        | 3         | 0.3        | 4         | 815.00 |
| 3.05      | 15        | 60        | 3         | 0.3        | 4         | 815.00 |
| 3.95      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 3.96      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 3.97      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 3.98      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 3.99      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.01      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.02      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.03      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.04      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.05      | 18        | 70        | 4         | 0.5        | 6         | 815.00 |
| 4.95      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 4.96      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 4.97      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 4.98      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 4.99      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.01      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.02      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.03      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.04      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.05      | 23        | 80        | 5         | 0.5        | 6         | 835.00 |
| 5.95      | 26        | 90        | 6         | 0.5        | 6         | 975.00 |
| 5.96      | 26        | 90        | 6         | 0.5        | 6         | 975.00 |
| 5.97      | 26        | 90        | 6         | 0.5        | 6         | 975.00 |
| 5.98      | 26        | 90        | 6         | 0.5        | 6         | 975.00 |
| 5.99      | 26        | 90        | 6         | 0.5        | 6         | 975.00 |

| 刃徑<br>(D) | 刃長<br>(ℓ) | 全長<br>(L) | 柄徑<br>(d) | 導角長<br>(T) | 刃數<br>(N) | 價(支)格    |
|-----------|-----------|-----------|-----------|------------|-----------|----------|
| 6.01      | 26        | 90        | 6         | 0.5        | 6         | 1,015.00 |
| 6.02      | 26        | 90        | 6         | 0.5        | 6         | 1,015.00 |
| 6.03      | 26        | 90        | 6         | 0.5        | 6         | 1,015.00 |
| 6.04      | 26        | 90        | 6         | 0.5        | 6         | 1,015.00 |
| 6.05      | 26        | 90        | 6         | 0.5        | 6         | 1,015.00 |
| 6.95      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 6.96      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 6.97      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 6.98      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 6.99      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.01      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.02      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.03      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.04      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.05      | 31        | 100       | 8         | 0.7        | 6         | 1,060.00 |
| 7.95      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 7.96      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 7.97      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 7.98      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 7.99      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.01      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.02      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.03      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.04      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.05      | 33        | 100       | 8         | 0.7        | 6         | 1,105.00 |
| 8.95      | 36        | 110       | 10        | 0.7        | 6         | 1,285.00 |
| 8.96      | 36        | 110       | 10        | 0.7        | 6         | 1,285.00 |
| 8.97      | 36        | 110       | 10        | 0.7        | 6         | 1,285.00 |
| 8.98      | 36        | 110       | 10        | 0.7        | 6         | 1,285.00 |
| 8.99      | 36        | 110       | 10        | 0.7        | 6         | 1,285.00 |
| 9.01      | 36        | 110       | 10        | 0.7        | 6         | 1,300.00 |
| 9.02      | 36        | 110       | 10        | 0.7        | 6         | 1,300.00 |
| 9.03      | 36        | 110       | 10        | 0.7        | 6         | 1,300.00 |
| 9.04      | 36        | 110       | 10        | 0.7        | 6         | 1,300.00 |
| 9.05      | 36        | 110       | 10        | 0.7        | 6         | 1,300.00 |
| 9.95      | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 9.96      | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 9.97      | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 9.98      | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 9.99      | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 10.01     | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 10.02     | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 10.03     | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 10.04     | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |
| 10.05     | 38        | 120       | 10        | 0.7        | 6         | 1,300.00 |

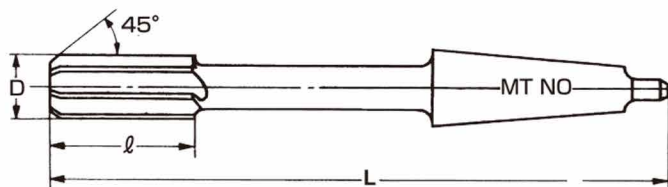
絞刀刀具

Reamers

# SPTCR 短刃MT機械絞刀

Taper Shank Spiral Chucking Reamers

右刃左螺旋刃型



| 刃徑<br>公差 | 16~18            | 19~30            | 32~50           |
|----------|------------------|------------------|-----------------|
|          | +0.015<br>+0.007 | +0.017<br>+0.008 | +0.02<br>+0.009 |



單位：mm

| 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(ℓ) | 全長<br>(L) | MT<br>NO | 刃數<br>(N) | 價(支)格            | 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(ℓ) | 全長<br>(L) | MT<br>NO | 刃數<br>(N) | 價(支)格            |
|-----------|------------|-----------|-----------|----------|-----------|------------------|-----------|------------|-----------|-----------|----------|-----------|------------------|
| 16        | 1.5        | 50        | 205       | 2        | 8         | <b>3,175.00</b>  | 35        | 2          | 80        | 320       | 4        | 10        | <b>15,640.00</b> |
| 17        | 1.5        | 55        | 210       | 2        | 8         | <b>3,500.00</b>  | 36        | 2          | 80        | 320       | 4        | 10        | <b>15,900.00</b> |
| 18        | 1.5        | 55        | 220       | 2        | 8         | <b>4,230.00</b>  | 38        | 2          | 85        | 325       | 4        | 10        | <b>17,980.00</b> |
| 19        | 1.5        | 55        | 220       | 2        | 8         | <b>4,520.00</b>  | 40        | 2          | 90        | 330       | 4        | 12        | <b>19,465.00</b> |
| 20        | 1.5        | 60        | 230       | 2        | 8         | <b>4,860.00</b>  | 42        | 2          | 90        | 330       | 4        | 12        | <b>21,615.00</b> |
| 21        | 1.5        | 60        | 240       | 2        | 8         | <b>5,490.00</b>  | 44        | 2          | 95        | 340       | 4        | 12        | <b>24,160.00</b> |
| 22        | 1.5        | 60        | 240       | 2        | 8         | <b>6,090.00</b>  | 45        | 2          | 95        | 340       | 4        | 12        | <b>25,440.00</b> |
| 23        | 1.5        | 65        | 250       | 2        | 8         | <b>6,570.00</b>  | 46        | 2          | 95        | 340       | 4        | 12        | <b>26,380.00</b> |
| 24        | 1.5        | 65        | 260       | 3        | 8         | <b>7,320.00</b>  | 48        | 2          | 100       | 350       | 4        | 12        | <b>28,610.00</b> |
| 25        | 1.5        | 65        | 260       | 3        | 8         | <b>7,790.00</b>  | 50        | 2          | 100       | 385       | 5        | 12        | <b>34,365.00</b> |
| 26        | 1.5        | 70        | 270       | 3        | 10        | <b>8,305.00</b>  | 5/8       | 1.5        | 50        | 205       | 2        | 8         | <b>3,900.00</b>  |
| 27        | 1.5        | 70        | 270       | 3        | 10        | <b>9,360.00</b>  | 3/4       | 1.5        | 55        | 220       | 2        | 8         | <b>5,605.00</b>  |
| 28        | 1.5        | 70        | 270       | 3        | 10        | <b>9,925.00</b>  | 7/8       | 1.5        | 65        | 250       | 2        | 8         | <b>7,855.00</b>  |
| 29        | 1.5        | 75        | 280       | 3        | 10        | <b>10,240.00</b> | 1         | 1.5        | 70        | 270       | 3        | 8         | <b>9,820.00</b>  |
| 30        | 1.5        | 75        | 280       | 3        | 10        | <b>10,515.00</b> | 1 1/8     | 1.5        | 75        | 280       | 3        | 10        | <b>11,740.00</b> |
| 32        | 1.5        | 75        | 280       | 3        | 10        | <b>13,875.00</b> | 1 1/4     | 1.5        | 75        | 280       | 3        | 10        | <b>15,960.00</b> |
| 34        | 2          | 80        | 320       | 4        | 10        | <b>14,500.00</b> | 1 1/2     | 2          | 90        | 330       | 4        | 10        | <b>22,900.00</b> |

# MR 機械絞刀

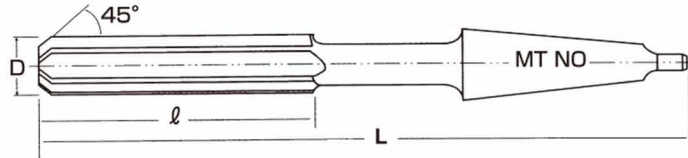
Straight & Spiral Flute Machine Reamers



直刃型



螺旋刃型



刃部硬度**69HRC**  
可切削素材**30HRC**



\* 真圓度控制在0.002~0.004以內。  
\* 精度控制在+0.008~+0.006以內。  
\* 兩端有中心孔皆有研磨，再研磨，可以繼續使用精度高。

| 刃徑<br>公差 | 1~3              | 3.5~6            | 6.5~10           | 10.5~18          | 19~30            | 31~50           |
|----------|------------------|------------------|------------------|------------------|------------------|-----------------|
|          | +0.007<br>+0.002 | +0.009<br>+0.004 | +0.012<br>+0.006 | +0.015<br>+0.007 | +0.017<br>+0.008 | +0.02<br>+0.008 |

單位：mm

| 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(l) | 全長<br>(L) | 推拔柄<br>MT NO. | 刃數<br>(N) | 直刃型<br>價(支)格    | 螺旋刃型<br>價(支)格   |
|-----------|------------|-----------|-----------|---------------|-----------|-----------------|-----------------|
| 4         | 0.5        | 35        | 110       | 1             | 6         | <b>2,005.00</b> | <b>2,305.00</b> |
| 4.5       | 0.5        | 45        | 120       | 1             | 6         | <b>2,005.00</b> | <b>2,305.00</b> |
| 5         | 1          | 45        | 120       | 1             | 6         | <b>2,005.00</b> | <b>2,305.00</b> |
| 5.5       | 1          | 45        | 120       | 1             | 6         | <b>2,005.00</b> | <b>2,305.00</b> |
| 6         | 1          | 50        | 130       | 1             | 6         | <b>2,005.00</b> | <b>2,305.00</b> |
| 6.5       | 1          | 50        | 130       | 1             | 6         | <b>2,015.00</b> | <b>2,320.00</b> |
| 7         | 1          | 55        | 140       | 1             | 6         | <b>2,015.00</b> | <b>2,320.00</b> |
| 7.5       | 1          | 55        | 140       | 1             | 6         | <b>2,105.00</b> | <b>2,425.00</b> |
| 8         | 1          | 60        | 150       | 1             | 6         | <b>2,105.00</b> | <b>2,425.00</b> |
| 8.5       | 1          | 60        | 150       | 1             | 6         | <b>2,140.00</b> | —               |
| 9         | 1          | 70        | 160       | 1             | 6         | <b>2,140.00</b> | —               |
| 9.5       | 1          | 70        | 160       | 1             | 6         | <b>2,140.00</b> | <b>2,460.00</b> |
| 10        | 1          | 70        | 160       | 1             | 6         | <b>2,140.00</b> | <b>2,460.00</b> |
| 10.5      | 1          | 70        | 160       | 1             | 6         | <b>2,165.00</b> | —               |
| 11        | 1          | 75        | 170       | 1             | 6         | <b>2,165.00</b> | —               |
| 11.5      | 1          | 75        | 170       | 1             | 6         | <b>2,255.00</b> | —               |
| 12        | 1          | 75        | 170       | 1             | 6         | <b>2,255.00</b> | <b>2,595.00</b> |
| 12.5      | 1          | 80        | 180       | 1             | 6         | <b>2,350.00</b> | —               |
| 13        | 1          | 80        | 180       | 1             | 8         | <b>2,350.00</b> | —               |
| 13.5      | 1          | 85        | 190       | 1             | 8         | <b>2,485.00</b> | —               |

# MR 機械絞刀

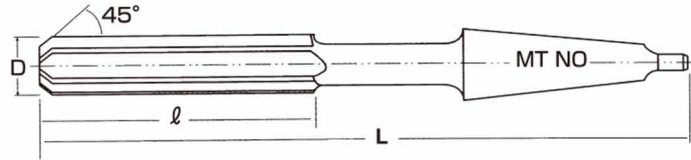
Straight & Spiral Flute Machine Reamers



直刃型



螺旋刃型



刃部硬度69HRC  
可切削素材30HRC



- \* 真圓度控制在0.002~0.004以內。
- \* 精度控制在+0.008~+0.006以內。
- \* 兩端有中心孔皆有研磨，再研磨，可以繼續使用精度高。

| 刃徑<br>公差 | 1~3              | 3.5~6            | 6.5~10           | 10.5~18          | 19~30            | 31~50           |
|----------|------------------|------------------|------------------|------------------|------------------|-----------------|
|          | +0.007<br>+0.002 | +0.009<br>+0.004 | +0.012<br>+0.006 | +0.015<br>+0.007 | +0.017<br>+0.008 | +0.02<br>+0.008 |

單位：mm

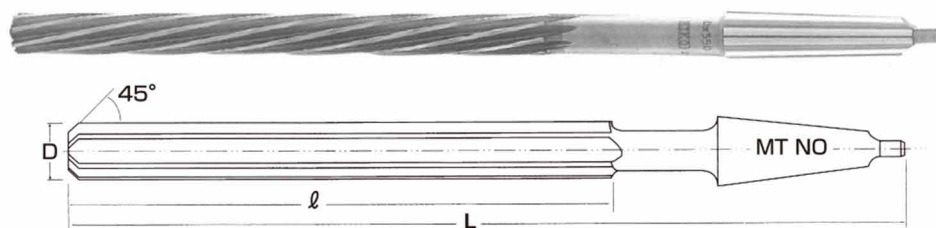
| 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(ℓ) | 全長<br>(L) | 推拔柄<br>MT NO. | 刃數<br>(N) | 直刃型       | 螺旋刃型      |
|-----------|------------|-----------|-----------|---------------|-----------|-----------|-----------|
|           |            |           |           |               |           | 價(支)格     | 價(支)格     |
| 14        | 1          | 85        | 190       | 1             | 8         | 2,485.00  | 2,860.00  |
| 14.5      | 1.5        | 90        | 210       | 2             | 8         | 2,820.00  | -         |
| 15        | 1.5        | 90        | 210       | 2             | 8         | 2,820.00  | 3,235.00  |
| 16        | 1.5        | 95        | 215       | 2             | 8         | 2,970.00  | 3,405.00  |
| 17        | 1.5        | 100       | 220       | 2             | 8         | 3,115.00  | 3,580.00  |
| 18        | 1.5        | 105       | 225       | 2             | 8         | 3,480.00  | 3,990.00  |
| 19        | 1.5        | 105       | 225       | 2             | 8         | 3,820.00  | 4,380.00  |
| 20        | 1.5        | 110       | 230       | 2             | 8         | 4,040.00  | 4,630.00  |
| 21        | 1.5        | 120       | 240       | 2             | 8         | 4,510.00  | 5,170.00  |
| 22        | 1.5        | 120       | 240       | 2             | 8         | 4,995.00  | 5,730.00  |
| 23        | 1.5        | 120       | 250       | 2             | 8         | 5,390.00  | 6,180.00  |
| 24        | 1.5        | 120       | 270       | 3             | 8         | 6,005.00  | 6,900.00  |
| 25        | 1.5        | 120       | 270       | 3             | 8         | 6,385.00  | 7,335.00  |
| 26        | 1.5        | 140       | 280       | 3             | 10        | 6,800.00  | 7,800.00  |
| 27        | 1.5        | 140       | 280       | 3             | 10        | 7,675.00  | 8,810.00  |
| 28        | 1.5        | 140       | 280       | 3             | 10        | 8,135.00  | 9,340.00  |
| 29        | 1.5        | 150       | 290       | 3             | 10        | 8,385.00  | 9,625.00  |
| 30        | 1.5        | 150       | 290       | 3             | 10        | 8,605.00  | 9,880.00  |
| 32        | 1.5        | 160       | 300       | 3             | 10        | 11,355.00 | 13,035.00 |
| 34        | 2          | 160       | 325       | 4             | 10        | 11,870.00 | 13,635.00 |
| 35        | 2          | 165       | 330       | 4             | 10        | 12,815.00 | 14,715.00 |
| 36        | 2          | 165       | 330       | 4             | 10        | 13,260.00 | 15,230.00 |
| 38        | 2          | 165       | 330       | 4             | 10        | 14,720.00 | 16,900.00 |
| 40        | 2          | 165       | 330       | 4             | 12        | 17,050.00 | 19,585.00 |
| 42        | 2          | 170       | 335       | 4             | 12        | 18,930.00 | 21,735.00 |
| 44        | 2          | 170       | 335       | 4             | 12        | 21,310.00 | 24,470.00 |
| 45        | 2          | 175       | 340       | 4             | 12        | 22,175.00 | 25,455.00 |
| 46        | 2          | 175       | 340       | 4             | 12        | 22,990.00 | 26,390.00 |
| 48        | 2          | 180       | 350       | 4             | 12        | 24,290.00 | 27,890.00 |
| 50        | 2          | 180       | 385       | 5             | 12        | 29,305.00 | 33,590.00 |



# SPLMR 長刃機械絞刀

右刃左螺旋刃型

Spiral Long Machine Reamers



單位：mm

| 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(ℓ) | 全長<br>(L) | MT<br>NO | 刃數<br>(N) | 價(支)格     |
|-----------|------------|-----------|-----------|----------|-----------|-----------|
| 5         | 1          | 120       | 200       | 1        | 6         | 5,090.00  |
| 6         | 1          | 120       | 200       | 1        | 6         | 5,090.00  |
| 7         | 1          | 120       | 200       | 1        | 6         | 5,090.00  |
| 8         | 1          | 120       | 200       | 1        | 6         | 5,090.00  |
| 8         | 1          | 150       | 250       | 1        | 6         | 5,290.00  |
| 9         | 1          | 130       | 200       | 1        | 6         | 5,090.00  |
| 9         | 1          | 150       | 250       | 1        | 6         | 5,290.00  |
| 10        | 1          | 150       | 250       | 1        | 6         | 5,290.00  |
| 10        | 1          | 150       | 300       | 1        | 6         | 5,565.00  |
| 11        | 1          | 150       | 300       | 1        | 6         | 5,565.00  |
| 12        | 1          | 150       | 250       | 1        | 6         | 5,890.00  |
| 12        | 1          | 200       | 300       | 1        | 6         | 6,350.00  |
| 12        | 1          | 200       | 350       | 1        | 6         | 6,625.00  |
| 13        | 1          | 150       | 250       | 1        | 8         | 6,350.00  |
| 13        | 1          | 200       | 350       | 1        | 8         | 6,625.00  |
| 14        | 1          | 200       | 300       | 1        | 8         | 6,625.00  |
| 14        | 1          | 200       | 350       | 1        | 8         | 6,915.00  |
| 14        | 1          | 250       | 400       | 1        | 8         | 8,450.00  |
| 15        | 1.5        | 200       | 350       | 2        | 8         | 8,290.00  |
| 15        | 1.5        | 200       | 400       | 2        | 8         | 8,450.00  |
| 15        | 1.5        | 250       | 400       | 2        | 8         | 9,390.00  |
| 16        | 1.5        | 200       | 350       | 2        | 8         | 8,450.00  |
| 16        | 1.5        | 200       | 400       | 2        | 8         | 8,950.00  |
| 17        | 1.5        | 200       | 400       | 2        | 8         | 9,790.00  |
| 18        | 1.5        | 200       | 400       | 2        | 8         | 9,790.00  |
| 19        | 1.5        | 200       | 400       | 2        | 8         | 11,275.00 |

| 刃徑<br>(D) | 導角長<br>(T) | 刃長<br>(ℓ) | 全長<br>(L) | MT<br>NO | 刃數<br>(N) | 價(支)格     |
|-----------|------------|-----------|-----------|----------|-----------|-----------|
| 20        | 1.5        | 200       | 400       | 2        | 8         | 11,500.00 |
| 20        | 1.5        | 250       | 350       | 2        | 8         | 11,890.00 |
| 20        | 1.5        | 250       | 400       | 2        | 8         | 12,140.00 |
| 21        | 1.5        | 200       | 400       | 2        | 8         | 12,400.00 |
| 22        | 1.5        | 200       | 400       | 2        | 8         | 13,450.00 |
| 23        | 1.5        | 200       | 400       | 2        | 8         | 14,290.00 |
| 24        | 1.5        | 200       | 400       | 3        | 8         | 14,900.00 |
| 24        | 1.5        | 200       | 450       | 3        | 8         | 16,615.00 |
| 24        | 1.5        | 250       | 450       | 3        | 10        | 17,150.00 |
| 25        | 1.5        | 250       | 450       | 3        | 10        | 17,590.00 |
| 25        | 1.5        | 350       | 500       | 3        | 10        | 23,975.00 |
| 26        | 1.5        | 250       | 450       | 3        | 10        | 18,550.00 |
| 27        | 1.5        | 250       | 450       | 3        | 10        | 18,890.00 |
| 28        | 1.5        | 250       | 450       | 3        | 10        | 21,565.00 |
| 30        | 1.5        | 250       | 450       | 3        | 10        | 24,365.00 |
| 30        | 1.5        | 300       | 450       | 3        | 10        | 26,975.00 |
| 30        | 1.5        | 300       | 500       | 3        | 10        | 28,715.00 |
| 32        | 1.5        | 250       | 450       | 3        | 10        | 28,600.00 |
| 32        | 1.5        | 300       | 500       | 3        | 10        | 32,100.00 |
| 34        | 2          | 250       | 450       | 4        | 10        | 28,715.00 |
| 34        | 2          | 300       | 500       | 4        | 10        | 33,200.00 |
| 35        | 2          | 250       | 450       | 4        | 10        | 30,925.00 |
| 35        | 2          | 300       | 500       | 4        | 10        | 34,650.00 |
| 36        | 2          | 250       | 450       | 4        | 10        | 32,565.00 |
| 36        | 2          | 300       | 500       | 4        | 10        | 36,190.00 |

絞刀刀具

Reamers

# CF 切削條件參考表

Recommended Cutting Condition

| 被削材    | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        |
|--------|-------------------|--------|------------------------|--------|---------------------------|--------|
| 切削速度   | 9~16 m/min        |        | 5~10 m/min             |        | 4~8 m/min                 |        |
| 規格     | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   |
|        | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min |
| 6x60°  | 477~849           | 45~119 | 265~531                | 12~50  | 212~424                   | 8~32   |
| 8x60°  | 358~637           | 34~ 91 | 199~398                | 9~38   | 159~318                   | 6~24   |
| 10x60° | 286~509           | 28~ 74 | 159~318                | 7~31   | 127~255                   | 5~20   |
| 15x60° | 191~340           | 19~ 52 | 106~212                | 5~21   | 85~170                    | 3~14   |
| 20x60° | 143~255           | 20~ 54 | 80~159                 | 5~22   | 64~127                    | 4~14   |
| 30x60° | 95~170            | 18~ 48 | 53~106                 | 5~20   | 42~ 85                    | 3~13   |
| 40x60° | 72~127            | 18~ 47 | 40~ 80                 | 5~20   | 32~ 64                    | 3~12   |
| 50x60° | 57~102            | 15~ 40 | 32~ 64                 | 4~17   | 25~ 51                    | 3~11   |
| 60x60° | 48~ 85            | 16~ 41 | 27~ 53                 | 4~17   | 21~ 42                    | 3~11   |
| 切削速度   | 10~18 m/min       |        | 6~12 m/min             |        | 5~10 m/min                |        |
| 6x90°  | 531~955           | 49~131 | 318~637                | 15~58  | 265~531                   | 10~39  |
| 8x90°  | 398~716           | 37~100 | 239~477                | 11~44  | 199~398                   | 7~30   |
| 10x90° | 318~573           | 30~ 82 | 191~382                | 9~36   | 159~318                   | 6~24   |
| 15x90° | 212~382           | 21~ 57 | 127~255                | 6~25   | 106~212                   | 4~17   |
| 20x90° | 159~286           | 22~ 59 | 95~191                 | 7~26   | 80~159                    | 4~18   |
| 30x90° | 106~191           | 20~ 53 | 64~127                 | 6~24   | 53~106                    | 4~16   |
| 40x90° | 80~143            | 19~ 52 | 48~ 95                 | 6~23   | 40~ 80                    | 4~15   |
| 50x90° | 64~115            | 16~ 44 | 38~ 76                 | 5~20   | 32~ 64                    | 3~13   |
| 60x90° | 53~ 95            | 17~ 46 | 32~ 64                 | 5~20   | 27~ 53                    | 3~14   |

# MTR 切削條件參考表

Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU   |        | 炭素鋼<br>FC · FCD · S50C |        | 合金鋼<br>SCM · SKD · SUS304 |        | 調質鋼~38HRC<br>HPM · NAK |        |
|------|-------------------|--------|------------------------|--------|---------------------------|--------|------------------------|--------|
| 切削速度 | 12~20 m/min       |        | 7~10 m/min             |        | 6~9 m/min                 |        | 4~6 m/min              |        |
| 加工徑  | 回轉數               | 進刀速度   | 回轉數                    | 進刀速度   | 回轉數                       | 進刀速度   | 回轉數                    | 進刀速度   |
|      | min <sup>-1</sup> | mm/min | min <sup>-1</sup>      | mm/min | min <sup>-1</sup>         | mm/min | min <sup>-1</sup>      | mm/min |
| 8    | 398~597           | 11~17  | 279~398                | 8~11   | 199~318                   | 6~9    | 159~279                | 4~8    |
| 10   | 318~477           | 10~15  | 223~318                | 7~10   | 159~255                   | 5~8    | 127~223                | 4~7    |
| 12   | 265~398           | 10~15  | 186~265                | 7~10   | 133~212                   | 5~8    | 106~186                | 4~7    |
| 14   | 227~341           | 9~14   | 159~227                | 7~ 9   | 114~182                   | 5~8    | 91~159                 | 4~7    |
| 16   | 199~298           | 9~14   | 139~199                | 6~ 9   | 99~159                    | 5~7    | 80~139                 | 4~6    |
| 18   | 177~265           | 9~13   | 124~177                | 6~ 9   | 88~141                    | 4~7    | 71~124                 | 4~6    |
| 20   | 159~239           | 9~13   | 111~159                | 6~ 9   | 80~127                    | 4~7    | 64~111                 | 3~6    |
| 25   | 127~191           | 8~13   | 89~127                 | 6~ 8   | 64~102                    | 4~7    | 51~ 89                 | 3~6    |
| 30   | 106~159           | 8~12   | 74~106                 | 6~ 8   | 53~ 85                    | 4~7    | 42~ 74                 | 3~6    |
| 35   | 91~136            | 8~12   | 64~ 91                 | 6~ 8   | 45~ 73                    | 4~6    | 36~ 64                 | 3~6    |
| 40   | 80~119            | 8~12   | 56~ 80                 | 6~ 8   | 40~ 64                    | 4~6    | 32~ 56                 | 3~6    |
| 45   | 71~106            | 8~12   | 50~ 71                 | 5~ 8   | 35~ 57                    | 4~6    | 28~ 50                 | 3~5    |
| 50   | 64~ 95            | 8~12   | 45~ 64                 | 5~ 8   | 32~ 51                    | 4~6    | 25~ 45                 | 3~5    |

# HR · SPHR · LHR 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼~38HRC<br>HPM · NAK   |                | 絞刀<br>取值 |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|----------|
| 切削速度 | 12~20 m/min              |                | 7~10 m/min               |                | 6~9 m/min                 |                | 4~6 m/min                |                |          |
| 刃徑   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |          |
| 0.5  | 7,639~12,732             | 34~95          | 4,456~6,366              | 20~48          | 3,820~5,730               | 17~43          | 2,546~3,820              | 11~29          | 0.05     |
| 1    | 3,820~6,366              | 34~95          | 2,228~3,183              | 20~48          | 1,910~2,865               | 17~43          | 1,273~1,910              | 11~29          | 0.06     |
| 2    | 1,910~3,183              | 97~271         | 1,114~1,592              | 57~135         | 955~1,432                 | 49~122         | 637~955                  | 32~81          | 0.08     |
| 3    | 1,273~2,122              | 110~306        | 743~1,061                | 64~153         | 637~955                   | 55~138         | 424~637                  | 37~92          | 0.1      |
| 4    | 955~1,592                | 77~242         | 557~796                  | 45~121         | 477~716                   | 39~109         | 318~477                  | 26~73          | 0.1      |
| 5    | 764~1,273                | 73~204         | 446~637                  | 43~102         | 382~573                   | 37~92          | 255~382                  | 24~61          | 0.1      |
| 6    | 637~1,061                | 64~178         | 371~531                  | 37~89          | 318~477                   | 32~80          | 212~318                  | 21~53          | 0.1      |
| 7    | 546~909                  | 58~160         | 218~455                  | 34~80          | 273~409                   | 29~72          | 182~273                  | 19~48          | 0.1      |
| 8    | 477~796                  | 53~146         | 279~398                  | 31~73          | 239~358                   | 26~66          | 159~239                  | 18~44          | 0.1      |
| 9    | 424~707                  | 49~136         | 248~354                  | 29~68          | 212~318                   | 24~61          | 141~212                  | 16~41          | 0.15     |
| 10   | 382~637                  | 46~127         | 223~318                  | 27~64          | 191~286                   | 23~57          | 127~191                  | 15~38          | 0.15     |
| 12   | 318~531                  | 41~115         | 186~265                  | 24~57          | 159~239                   | 21~52          | 106~159                  | 14~34          | 0.15     |
| 14   | 273~455                  | 38~105         | 159~227                  | 22~53          | 136~205                   | 19~47          | 91~136                   | 13~32          | 0.15     |
| 16   | 239~398                  | 36~99          | 139~199                  | 21~49          | 119~179                   | 18~44          | 80~119                   | 12~30          | 0.15     |
| 18   | 212~354                  | 34~93          | 124~177                  | 20~47          | 106~159                   | 17~42          | 71~106                   | 11~28          | 0.15     |
| 20   | 191~318                  | 32~89          | 111~159                  | 19~45          | 95~143                    | 16~40          | 64~95                    | 11~27          | 0.2      |
| 22   | 174~289                  | 31~86          | 101~145                  | 18~43          | 87~130                    | 15~39          | 58~87                    | 10~26          | 0.2      |
| 24   | 159~265                  | 30~83          | 93~133                   | 17~41          | 80~119                    | 15~37          | 53~80                    | 10~25          | 0.2      |
| 26   | 147~245                  | 29~80          | 86~122                   | 17~40          | 73~110                    | 14~36          | 49~73                    | 10~24          | 0.2      |
| 28   | 136~227                  | 28~78          | 80~114                   | 16~39          | 68~102                    | 14~35          | 45~68                    | 9~23           | 0.2      |
| 30   | 127~212                  | 28~76          | 74~106                   | 16~38          | 64~95                     | 14~34          | 42~64                    | 9~23           | 0.3      |

# TPR · SPTPR · HTPR 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼~38HRC<br>HPM · NAK   |                |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|
| 切削速度 | 10~15 m/min              |                | 7~10 m/min               |                | 5~8 m/min                 |                | 4~7 m/min                |                |
| 加工徑  | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
| 1    | 3,183~4,775              | 38~57          | 2,228~3,183              | 27~38          | 1,592~2,546               | 19~31          | 1,273~2,228              | 15~27          |
| 2    | 1,592~2,387              | 23~34          | 1,114~1,592              | 16~23          | 796~1,273                 | 11~18          | 637~1,114                | 9~16           |
| 3    | 1,061~1,592              | 18~26          | 743~1,061                | 12~18          | 531~849                   | 9~14           | 424~743                  | 7~12           |
| 4    | 796~1,194                | 15~22          | 557~796                  | 10~15          | 398~637                   | 7~12           | 318~557                  | 6~10           |
| 5    | 637~955                  | 13~20          | 446~637                  | 9~13           | 318~509                   | 7~11           | 255~446                  | 5~9            |
| 6    | 531~796                  | 12~19          | 371~531                  | 9~12           | 265~424                   | 6~10           | 212~371                  | 5~9            |
| 7    | 455~682                  | 12~17          | 318~455                  | 8~12           | 227~364                   | 6~9            | 182~318                  | 5~8            |
| 8    | 398~597                  | 11~17          | 279~398                  | 8~11           | 199~318                   | 6~9            | 159~279                  | 4~8            |
| 10   | 318~477                  | 10~15          | 223~318                  | 7~10           | 159~255                   | 5~8            | 127~223                  | 4~7            |
| 12   | 265~398                  | 9~14           | 186~265                  | 6~9            | 133~212                   | 5~7            | 106~186                  | 4~6            |
| 14   | 227~341                  | 8~13           | 159~227                  | 6~8            | 114~182                   | 4~7            | 91~159                   | 3~6            |
| 16   | 199~298                  | 8~12           | 139~199                  | 5~8            | 99~159                    | 4~6            | 80~139                   | 3~5            |
| 18   | 177~265                  | 7~11           | 124~177                  | 5~7            | 88~141                    | 4~6            | 71~124                   | 3~5            |
| 20   | 159~239                  | 7~10           | 111~159                  | 5~7            | 80~127                    | 3~6            | 64~111                   | 3~5            |
| 25   | 127~191                  | 6~9            | 89~127                   | 4~6            | 64~102                    | 3~5            | 51~89                    | 2~4            |
| 30   | 106~159                  | 5~8            | 74~106                   | 4~5            | 53~85                     | 3~4            | 42~74                    | 2~4            |

# SPSCR · SPTCR · MR · SPMR · SPLMR 切削條件參考表

## Recommended Cutting Condition

| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼~38HRC<br>HPM · NAK   |                | 絞刀<br>取值<br>mm/刃徑 |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|-------------------|
| 切削速度 | 12~20 m/min              |                | 7~10 m/min               |                | 6~9 m/min                 |                | 4~6 m/min                |                |                   |
| 刃徑   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |                   |
| 2    | 1,910~3,183              | 102~284        | 1,114~1,592              | 60~142         | 955~1,432                 | 51~128         | 637~955                  | 34~85          | 0.08              |
| 3    | 1,273~2,122              | 116~321        | 743~1,061                | 67~160         | 637~955                   | 58~144         | 424~637                  | 39~96          | 0.1               |
| 4    | 955~1,592                | 91~254         | 557~796                  | 53~127         | 477~716                   | 46~114         | 318~477                  | 30~76          | 0.1               |
| 5    | 764~1,273                | 77~214         | 446~637                  | 45~107         | 382~573                   | 39~96          | 255~382                  | 26~64          | 0.1               |
| 6    | 637~1,061                | 67~187         | 371~531                  | 39~94          | 318~477                   | 34~84          | 212~318                  | 22~56          | 0.1               |
| 7    | 546~909                  | 61~168         | 318~455                  | 35~84          | 273~409                   | 30~76          | 182~273                  | 20~50          | 0.1               |
| 8    | 477~796                  | 55~154         | 279~398                  | 32~77          | 239~358                   | 28~69          | 159~239                  | 18~46          | 0.1               |
| 9    | 424~707                  | 51~143         | 248~354                  | 30~71          | 212~318                   | 26~64          | 141~212                  | 17~43          | 0.15              |
| 10   | 382~637                  | 48~134         | 223~318                  | 28~67          | 191~286                   | 24~60          | 127~191                  | 16~40          | 0.15              |
| 12   | 318~531                  | 43~120         | 186~265                  | 25~60          | 159~239                   | 22~54          | 106~159                  | 14~36          | 0.15              |
| 15   | 255~424                  | 37~103         | 149~212                  | 22~52          | 127~191                   | 19~47          | 85~127                   | 12~31          | 0.15              |
| 20   | 191~318                  | 34~94          | 111~159                  | 20~47          | 95~143                    | 17~42          | 64~95                    | 11~28          | 0.2               |
| 25   | 153~255                  | 31~86          | 89~127                   | 18~43          | 76~115                    | 15~39          | 51~76                    | 10~26          | 0.2               |
| 30   | 127~212                  | 29~80          | 74~106                   | 17~40          | 64~95                     | 14~36          | 42~64                    | 10~24          | 0.3               |
| 35   | 109~182                  | 28~76          | 64~91                    | 16~38          | 55~82                     | 14~34          | 36~55                    | 9~23           | 0.3               |
| 40   | 95~159                   | 26~74          | 56~80                    | 15~37          | 48~72                     | 13~33          | 32~48                    | 9~22           | 0.3               |
| 45   | 85~141                   | 26~71          | 50~71                    | 15~36          | 42~64                     | 13~32          | 28~42                    | 9~21           | 0.3               |
| 50   | 76~127                   | 25~70          | 45~64                    | 15~35          | 38~57                     | 13~31          | 25~38                    | 8~21           | 0.4               |

# CSPSCR · CSSPSCR · CSCR 切削條件參考表

## Recommended Cutting Condition

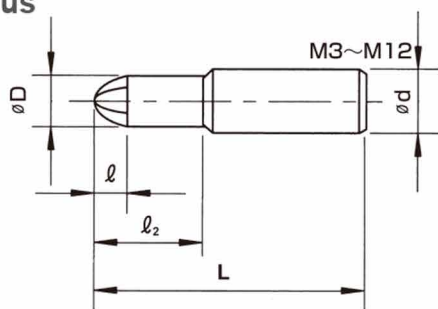
| 被削材  | 非鐵金屬<br>AL · CU          |                | 炭素鋼<br>FC · FCD · S50C   |                | 合金鋼<br>SCM · SKD · SUS304 |                | 調質鋼~38HRC<br>HPM · NAK   |                | 絞刀<br>取值<br>mm/刃徑 |
|------|--------------------------|----------------|--------------------------|----------------|---------------------------|----------------|--------------------------|----------------|-------------------|
| 切削速度 | 16~30 m/min              |                | 11~15 m/min              |                | 10~14 m/min               |                | 7~10 m/min               |                |                   |
| 刃徑   | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup>  | 進刀速度<br>mm/min | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |                   |
| 1    | 5,093~9,549              | 39~122         | 3,501~4,775              | 27~61          | 3,183~4,456               | 24~57          | 2,228~3,183              | 17~41          | 0.06              |
| 1.6  | 3,183~5,968              | 73~228         | 2,188~2,984              | 50~114         | 1,989~2,785               | 46~107         | 1,393~1,989              | 32~76          | 0.08              |
| 2    | 2,546~4,775              | 110~345        | 1,751~2,387              | 76~172         | 1,592~2,228               | 69~161         | 1,114~1,592              | 48~115         | 0.08              |
| 3    | 1,698~3,183              | 125~390        | 1,167~1,592              | 86~195         | 1,061~1,485               | 78~182         | 743~1,061                | 55~130         | 0.1               |
| 4    | 1,273~2,387              | 99~308         | 875~1,194                | 68~154         | 796~1,114                 | 62~144         | 557~796                  | 43~103         | 0.1               |
| 5    | 1,019~1,910              | 83~260         | 700~955                  | 57~130         | 637~891                   | 52~121         | 446~637                  | 36~87          | 0.1               |
| 6    | 849~1,592                | 73~227         | 584~796                  | 50~114         | 531~743                   | 45~106         | 371~531                  | 32~76          | 0.1               |
| 切削速度 | 15~26 m/min              |                | 10~14 m/min              |                | 8~12 m/min                |                | 6~8 m/min                |                | mm/刃徑             |
| 8    | 597~1,035                | 49~148         | 398~557                  | 33~80          | 318~477                   | 26~69          | 239~318                  | 20~46          | 0.1               |
| 10   | 477~828                  | 43~129         | 318~446                  | 29~70          | 255~382                   | 23~60          | 191~255                  | 17~40          | 0.15              |
| 12   | 398~690                  | 39~116         | 265~371                  | 26~63          | 212~318                   | 21~54          | 159~212                  | 15~36          | 0.15              |
| 16   | 298~517                  | 33~100         | 199~279                  | 22~54          | 159~239                   | 18~46          | 119~159                  | 13~31          | 0.15              |
| 20   | 239~414                  | 30~90          | 159~223                  | 20~49          | 127~191                   | 16~42          | 95~127                   | 12~28          | 0.2               |

絞刀  
刀具

Reamers

# TR-P 折斷絲攻取出用鎢鋼鑽頭

Tap Remover Plus



P213

- \* 採用最新開發之P鍍膜，皮膜硬度為Hv3,500，耐熱度1,100°C以上，更加快速，有力的切削加工登場。
- \* 獨特形狀設計，不需要處理斷裂面且不損傷被加工的底孔及螺紋，可簡單移除殘屑。
- \* 適用於各式高速鋼絲攻。

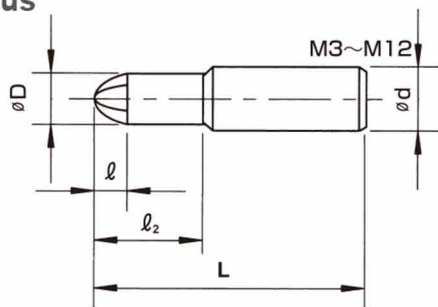
單位：mm

切削條件參考表

| 規格<br>Size | 絲攻規格<br>Tap Size | 外徑<br>(D) | 刃長<br>(l) | 有效長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
|------------|------------------|-----------|-----------|--------------------------|-----------|-----------|------------------|--------------------------|----------------|
| TR-P 3     | M 3              | 2.2       | 3.5       | 9                        | 6         | 40        | <b>5,810.00</b>  | 650~1,000                | 5~10           |
| TR-P 4     | M 4              | 3.1       | 4         | 12                       | 6         | 40        | <b>5,810.00</b>  | 650~1,000                | 5~10           |
| TR-P 5     | M 5              | 3.8       | 4         | 15                       | 6         | 45        | <b>6,060.00</b>  | 650~1,000                | 5~10           |
| TR-P 6     | M 6              | 4.6       | 4.5       | 18                       | 6         | 50        | <b>6,060.00</b>  | 650~1,000                | 5~10           |
| TR-P 8     | M 8              | 6.2       | 5.5       | 24                       | 8         | 55        | <b>8,560.00</b>  | 650~1,000                | 5~10           |
| TR-P 10    | M 10             | 7.1       | 6         | 30                       | 10        | 60        | <b>9,630.00</b>  | 650~1,000                | 5~10           |
| TR-P 12    | M 12             | 8.6       | 6.5       | 30                       | 12        | 60        | <b>12,020.00</b> | 650~1,000                | 5~10           |

# TRL-P 折斷絲攻取出用鎢鋼長刃鑽頭

Tap Remover Plus



P213

- \* 採用最新開發之P鍍膜，皮膜硬度為Hv3,500，耐熱度1,100°C以上，更加快速，有力的切削加工登場。
- \* 獨特形狀設計，不需要處理斷裂面且不損傷被加工的底孔及螺紋，可簡單移除殘屑。
- \* 適用於各式高速鋼絲攻。
- \* 深孔二次加工用。

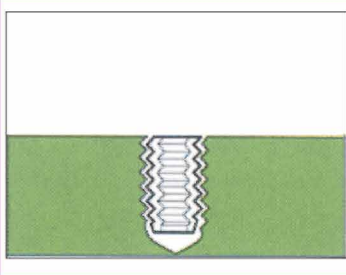
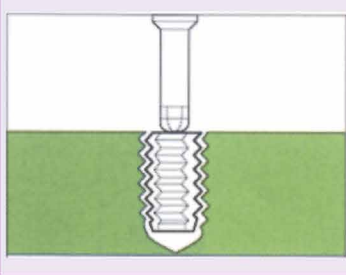
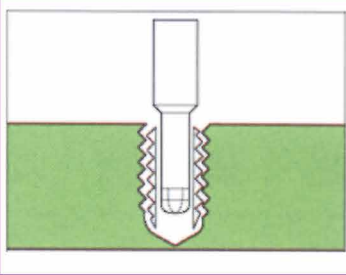
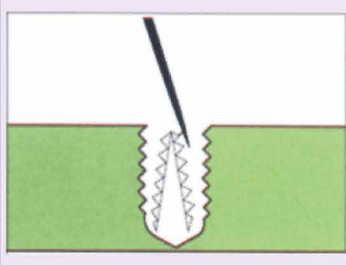
單位：mm

切削條件參考表

| 規格<br>Size | 絲攻規格<br>Tap Size | 外徑<br>(D) | 刃長<br>(l) | 有效長<br>(l <sub>2</sub> ) | 柄徑<br>(d) | 全長<br>(L) | 價(支)格            | 回轉數<br>min <sup>-1</sup> | 進刀速度<br>mm/min |
|------------|------------------|-----------|-----------|--------------------------|-----------|-----------|------------------|--------------------------|----------------|
| TRL-P 3    | M 3              | 2.2       | 3.5       | 15                       | 6         | 40        | <b>6,420.00</b>  | 650~1,000                | 5~10           |
| TRL-P 4    | M 4              | 3.1       | 4         | 20                       | 6         | 45        | <b>6,420.00</b>  | 650~1,000                | 5~10           |
| TRL-P 5    | M 5              | 3.8       | 4         | 25                       | 6         | 50        | <b>8,950.00</b>  | 650~1,000                | 5~10           |
| TRL-P 6    | M 6              | 4.6       | 4.5       | 30                       | 6         | 60        | <b>8,950.00</b>  | 650~1,000                | 5~10           |
| TRL-P 8    | M 8              | 6.2       | 5.5       | 35                       | 8         | 65        | <b>10,780.00</b> | 650~1,000                | 5~10           |
| TRL-P 10   | M 10             | 7.1       | 6         | 40                       | 10        | 75        | <b>12,620.00</b> | 650~1,000                | 5~10           |
| TRL-P 12   | M 12             | 8.6       | 6.5       | 40                       | 12        | 80        | <b>15,740.00</b> | 650~1,000                | 5~10           |

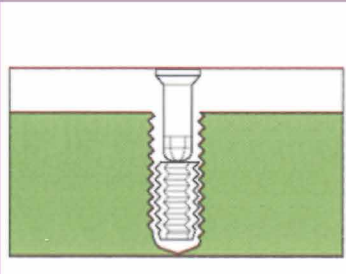
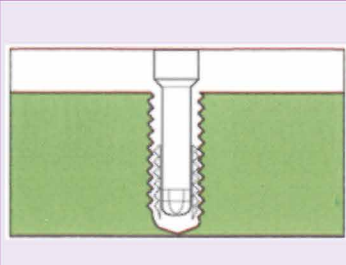
# TR-P 使用方法

## Guideline - How to use Tap Remover

|         |   |  |
|---------|---|--|
| 切削前     |    | <ul style="list-style-type: none"> <li>* 請務必使用銑床(泛用NC、MC)及彈性套筒。</li> <li>* 請使用高剛性之夾頭。</li> <li>* 不可使用油壓夾頭之鑽床或攻牙機。</li> <li>* 當折斷絲攻頂端凸出工件時，請先磨平。</li> </ul> |
| 中心點     |    | <ul style="list-style-type: none"> <li>* 請使用與絲攻尺寸相吻合的折斷絲攻鑽頭。</li> <li>* 折斷絲攻鑽頭的中心定位，要很精準，以便將折斷絲攻取出。</li> </ul>   |
| 切削開始到完成 |   | <ul style="list-style-type: none"> <li>* 開始切削時，請使用大量的切削油，並採用濕式加工。</li> <li>* 主軸進刀速度請用手動控制。</li> <li>* 當切削抵抗力消除時，切削就結束完成了。</li> </ul>                       |
| 最後殘屑處理  |  | <ul style="list-style-type: none"> <li>* 清除孔洞裡殘留的碎屑。</li> <li>* 孔洞殘屑清理乾淨後，就可以再繼續攻牙。</li> </ul>   |

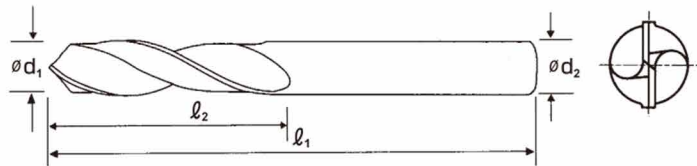
# TRL-P 使用方法

## Guideline - How to use Tap Remover

|      |   |  |
|------|---|--|
| 初次加工 |  | <ul style="list-style-type: none"> <li>* 起始階段，切不可使用長刀型折斷絲攻鑽頭。</li> <li>* 請採用與絲攻規格相吻合的標準型鑽頭，進行切削到一定的深度(有效長的50%)後，進行除去加工。</li> </ul>             |
| 二次加工 |  | <ul style="list-style-type: none"> <li>* 殘留在螺紋牙山的碎屑，用軸針或空氣吹屑完全排除後，再用長刀型鑽頭去除殘留的破損絲攻。</li> <li>* 在初次加工及二次加工中，建議要進行中間幾次切屑處理，確保將切屑清除乾淨。</li> </ul> |

# 全鎢鋼超硬鑽頭

## Solid Carbide Stub Length Drills



\* 適用於一般鋼材、鑄鐵、冷軋鋼、非鐵重金屬、非鐵輕金屬及玻璃纖維。

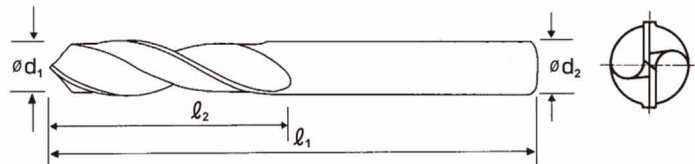
單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 1.01~1.04       | 6               | 26              | <b>815.00</b> |
| 1.05            | 6               | 26              | <b>535.00</b> |
| 1.06~1.09       | 6               | 26              | <b>815.00</b> |
| 1.11~1.14       | 7               | 28              | <b>825.00</b> |
| 1.15            | 7               | 28              | <b>540.00</b> |
| 1.16~1.19       | 7               | 28              | <b>825.00</b> |
| 1.21~1.24       | 8               | 30              | <b>825.00</b> |
| 1.25            | 8               | 30              | <b>540.00</b> |
| 1.26~1.29       | 8               | 30              | <b>825.00</b> |
| 1.31~1.34       | 8               | 30              | <b>830.00</b> |
| 1.35            | 8               | 30              | <b>550.00</b> |
| 1.36~1.39       | 8               | 30              | <b>830.00</b> |
| 1.41~1.44       | 9               | 32              | <b>830.00</b> |
| 1.45            | 9               | 32              | <b>550.00</b> |
| 1.46~1.49       | 9               | 32              | <b>830.00</b> |
| 1.51~1.54       | 9               | 32              | <b>830.00</b> |
| 1.55            | 9               | 32              | <b>550.00</b> |
| 1.56~1.59       | 9               | 32              | <b>830.00</b> |
| 1.61~1.64       | 10              | 34              | <b>885.00</b> |
| 1.65            | 10              | 34              | <b>595.00</b> |
| 1.66~1.69       | 10              | 34              | <b>885.00</b> |
| 1.71~1.74       | 10              | 34              | <b>885.00</b> |
| 1.75            | 10              | 34              | <b>595.00</b> |
| 1.76~1.79       | 10              | 34              | <b>885.00</b> |
| 1.81~1.84       | 11              | 36              | <b>885.00</b> |
| 1.85            | 11              | 36              | <b>595.00</b> |
| 1.86~1.89       | 11              | 36              | <b>885.00</b> |
| 1.91~1.94       | 11              | 36              | <b>885.00</b> |
| 1.95            | 11              | 36              | <b>595.00</b> |
| 1.96~1.99       | 11              | 36              | <b>885.00</b> |
| 2.01~2.04       | 12              | 38              | <b>885.00</b> |
| 2.05            | 12              | 38              | <b>595.00</b> |
| 2.06~2.09       | 12              | 38              | <b>885.00</b> |
| 2.11~2.14       | 12              | 38              | <b>925.00</b> |
| 2.15            | 12              | 38              | <b>630.00</b> |
| 2.16~2.19       | 12              | 38              | <b>925.00</b> |
| 2.21~2.24       | 13              | 40              | <b>925.00</b> |
| 2.25            | 13              | 40              | <b>630.00</b> |

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格           |
|-----------------|-----------------|-----------------|-----------------|
| 2.26~2.29       | 13              | 40              | <b>925.00</b>   |
| 2.31~2.34       | 13              | 40              | <b>925.00</b>   |
| 2.35            | 13              | 40              | <b>630.00</b>   |
| 2.36~2.39       | 13              | 40              | <b>925.00</b>   |
| 2.41~2.44       | 14              | 43              | <b>925.00</b>   |
| 2.45            | 14              | 43              | <b>630.00</b>   |
| 2.46~2.49       | 14              | 43              | <b>925.00</b>   |
| 2.51~2.54       | 14              | 43              | <b>930.00</b>   |
| 2.55            | 14              | 43              | <b>640.00</b>   |
| 2.56~2.59       | 14              | 43              | <b>930.00</b>   |
| 2.61~2.64       | 14              | 43              | <b>985.00</b>   |
| 2.65            | 14              | 43              | <b>685.00</b>   |
| 2.66~2.69       | 14              | 43              | <b>985.00</b>   |
| 2.71~2.74       | 16              | 46              | <b>985.00</b>   |
| 2.75            | 16              | 46              | <b>685.00</b>   |
| 2.76~2.79       | 16              | 46              | <b>985.00</b>   |
| 2.81~2.84       | 16              | 46              | <b>985.00</b>   |
| 2.85            | 16              | 46              | <b>685.00</b>   |
| 2.86~2.89       | 16              | 46              | <b>985.00</b>   |
| 2.91~2.94       | 16              | 46              | <b>985.00</b>   |
| 2.95            | 16              | 46              | <b>685.00</b>   |
| 2.96~2.99       | 16              | 46              | <b>985.00</b>   |
| 3.01~3.04       | 16              | 46              | <b>1,015.00</b> |
| 3.05            | 16              | 46              | <b>710.00</b>   |
| 3.06~3.09       | 16              | 46              | <b>1,015.00</b> |
| 3.11~3.14       | 18              | 49              | <b>1,015.00</b> |
| 3.15            | 18              | 49              | <b>710.00</b>   |
| 3.16~3.19       | 18              | 49              | <b>1,015.00</b> |
| 3.21~3.24       | 18              | 49              | <b>1,015.00</b> |
| 3.25            | 18              | 49              | <b>715.00</b>   |
| 3.26~3.29       | 18              | 49              | <b>1,015.00</b> |
| 3.31~3.34       | 18              | 49              | <b>1,035.00</b> |
| 3.35            | 18              | 49              | <b>735.00</b>   |
| 3.36~3.39       | 18              | 49              | <b>1,035.00</b> |
| 3.41~3.44       | 20              | 52              | <b>1,040.00</b> |
| 3.45            | 20              | 52              | <b>740.00</b>   |
| 3.46~3.49       | 20              | 52              | <b>1,040.00</b> |
| 3.51~3.54       | 20              | 52              | <b>1,080.00</b> |

# 全鎢鋼超硬鑽頭

## Solid Carbide Stub Length Drills



\* 適用於一般鋼材、鑄鐵、冷軋鋼、非鐵重金屬、非鐵輕金屬及玻璃纖維。

單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格           | 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格           |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 3.55            | 20              | 52              | <b>775.00</b>   | 4.76~4.79       | 24              | 58              | <b>1,305.00</b> |
| 3.56~3.59       | 20              | 52              | <b>1,080.00</b> | 4.81~4.84       | 26              | 62              | <b>1,340.00</b> |
| 3.61~3.64       | 20              | 52              | <b>1,080.00</b> | 4.85            | 26              | 62              | <b>1,005.00</b> |
| 3.65            | 20              | 52              | <b>775.00</b>   | 4.86~4.89       | 26              | 62              | <b>1,340.00</b> |
| 3.66~3.69       | 20              | 52              | <b>1,080.00</b> | 4.91~4.94       | 26              | 62              | <b>1,340.00</b> |
| 3.71~3.74       | 20              | 52              | <b>1,100.00</b> | 4.95            | 26              | 62              | <b>1,005.00</b> |
| 3.75            | 20              | 52              | <b>790.00</b>   | 4.96~4.99       | 26              | 62              | <b>1,340.00</b> |
| 3.76~3.79       | 20              | 52              | <b>1,100.00</b> | 5.01~5.04       | 26              | 62              | <b>1,570.00</b> |
| 3.81~3.84       | 20              | 52              | <b>1,110.00</b> | 5.05            | 26              | 62              | <b>1,215.00</b> |
| 3.85            | 20              | 52              | <b>790.00</b>   | 5.06~5.09       | 26              | 62              | <b>1,570.00</b> |
| 3.86~3.89       | 20              | 52              | <b>1,110.00</b> | 5.11~5.14       | 26              | 62              | <b>1,570.00</b> |
| 3.91~3.94       | 22              | 55              | <b>1,110.00</b> | 5.15            | 26              | 62              | <b>1,215.00</b> |
| 3.95            | 22              | 55              | <b>800.00</b>   | 5.16~5.19       | 26              | 62              | <b>1,570.00</b> |
| 3.96~3.99       | 22              | 55              | <b>1,110.00</b> | 5.21~5.24       | 26              | 62              | <b>1,570.00</b> |
| 4.01~4.04       | 22              | 55              | <b>1,155.00</b> | 5.25            | 26              | 62              | <b>1,215.00</b> |
| 4.05            | 22              | 55              | <b>840.00</b>   | 5.26~5.29       | 26              | 62              | <b>1,570.00</b> |
| 4.06~4.09       | 22              | 55              | <b>1,155.00</b> | 5.31~5.34       | 26              | 62              | <b>1,570.00</b> |
| 4.11~4.14       | 22              | 55              | <b>1,155.00</b> | 5.35            | 26              | 62              | <b>1,215.00</b> |
| 4.15            | 22              | 55              | <b>840.00</b>   | 5.36~5.39       | 26              | 62              | <b>1,570.00</b> |
| 4.16~4.19       | 22              | 55              | <b>1,155.00</b> | 5.41~5.44       | 28              | 66              | <b>1,570.00</b> |
| 4.21~4.24       | 22              | 55              | <b>1,285.00</b> | 5.45            | 28              | 66              | <b>1,215.00</b> |
| 4.25            | 22              | 55              | <b>955.00</b>   | 5.46~5.49       | 28              | 66              | <b>1,570.00</b> |
| 4.26~4.29       | 22              | 55              | <b>1,285.00</b> | 5.51~5.54       | 28              | 66              | <b>1,570.00</b> |
| 4.31~4.34       | 24              | 58              | <b>1,285.00</b> | 5.55            | 28              | 66              | <b>1,215.00</b> |
| 4.35            | 24              | 58              | <b>955.00</b>   | 5.56~5.59       | 28              | 66              | <b>1,570.00</b> |
| 4.36~4.39       | 24              | 58              | <b>1,285.00</b> | 5.61~5.64       | 28              | 66              | <b>1,570.00</b> |
| 4.41~4.44       | 24              | 58              | <b>1,285.00</b> | 5.65            | 28              | 66              | <b>1,215.00</b> |
| 4.45            | 24              | 58              | <b>955.00</b>   | 5.66~5.69       | 28              | 66              | <b>1,570.00</b> |
| 4.46~4.49       | 24              | 58              | <b>1,285.00</b> | 5.71~5.74       | 28              | 66              | <b>1,570.00</b> |
| 4.51~4.54       | 24              | 58              | <b>1,305.00</b> | 5.75            | 28              | 66              | <b>1,215.00</b> |
| 4.55            | 24              | 58              | <b>975.00</b>   | 5.76~5.79       | 28              | 66              | <b>1,570.00</b> |
| 4.56~4.59       | 24              | 58              | <b>1,305.00</b> | 5.81~5.84       | 28              | 66              | <b>1,580.00</b> |
| 4.61~4.64       | 24              | 58              | <b>1,305.00</b> | 5.85            | 28              | 66              | <b>1,220.00</b> |
| 4.65            | 24              | 58              | <b>975.00</b>   | 5.86~5.89       | 28              | 66              | <b>1,580.00</b> |
| 4.66~4.69       | 24              | 58              | <b>1,305.00</b> | 5.91~5.94       | 28              | 66              | <b>1,580.00</b> |
| 4.71~4.74       | 24              | 58              | <b>1,305.00</b> | 5.95            | 28              | 66              | <b>1,220.00</b> |
| 4.75            | 24              | 58              | <b>975.00</b>   | 5.96~5.99       | 28              | 66              | <b>1,580.00</b> |



# 全鎢鋼超硬左螺旋刃鑽頭

## Left Hand Solid Carbide Stub Length Drills



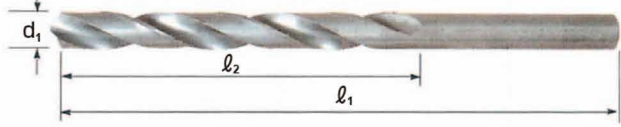
\* 適用於一般鋼材、鑄鐵、冷軋鋼、非鐵重金屬、非鐵輕金屬及玻璃纖維。

單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 價(支)格  | 刃徑<br>(d <sub>1</sub> ) | 價(支)格  | 刃徑<br>(d <sub>1</sub> ) | 價(支)格    |
|-------------------------|--------|-------------------------|--------|-------------------------|----------|
| 1                       | 540.00 | 2.3                     | 540.00 | 3.67                    | 685.00   |
| 1.1                     | 540.00 | 2.31                    | 540.00 | 3.68                    | 685.00   |
| 1.2                     | 540.00 | 2.32                    | 540.00 | 3.7                     | 645.00   |
| 1.25                    | 540.00 | 2.33                    | 540.00 | 3.8                     | 645.00   |
| 1.26                    | 540.00 | 2.4                     | 540.00 | 3.9                     | 645.00   |
| 1.27                    | 540.00 | 2.5                     | 540.00 | 4                       | 760.00   |
| 1.28                    | 540.00 | 2.55                    | 540.00 | 4.1                     | 760.00   |
| 1.3                     | 540.00 | 2.56                    | 540.00 | 4.2                     | 760.00   |
| 1.4                     | 540.00 | 2.57                    | 540.00 | 4.3                     | 760.00   |
| 1.44                    | 540.00 | 2.58                    | 540.00 | 4.4                     | 760.00   |
| 1.45                    | 540.00 | 2.6                     | 540.00 | 4.44                    | 800.00   |
| 1.46                    | 540.00 | 2.7                     | 540.00 | 4.45                    | 800.00   |
| 1.47                    | 540.00 | 2.75                    | 540.00 | 4.46                    | 800.00   |
| 1.48                    | 540.00 | 2.76                    | 540.00 | 4.5                     | 820.00   |
| 1.5                     | 540.00 | 2.77                    | 540.00 | 4.6                     | 820.00   |
| 1.55                    | 540.00 | 2.78                    | 540.00 | 4.65                    | 860.00   |
| 1.6                     | 540.00 | 2.79                    | 540.00 | 4.66                    | 860.00   |
| 1.61                    | 540.00 | 2.8                     | 540.00 | 4.67                    | 860.00   |
| 1.62                    | 540.00 | 2.81                    | 540.00 | 4.68                    | 860.00   |
| 1.63                    | 540.00 | 2.82                    | 540.00 | 4.7                     | 820.00   |
| 1.65                    | 540.00 | 2.9                     | 540.00 | 4.8                     | 820.00   |
| 1.7                     | 540.00 | 3                       | 540.00 | 4.9                     | 820.00   |
| 1.75                    | 540.00 | 3.1                     | 540.00 | 5                       | 895.00   |
| 1.8                     | 540.00 | 3.15                    | 570.00 | 5.1                     | 895.00   |
| 1.81                    | 540.00 | 3.16                    | 570.00 | 5.2                     | 895.00   |
| 1.82                    | 540.00 | 3.17                    | 570.00 | 5.3                     | 895.00   |
| 1.83                    | 540.00 | 3.18                    | 570.00 | 5.4                     | 895.00   |
| 1.84                    | 540.00 | 3.2                     | 540.00 | 5.5                     | 955.00   |
| 1.85                    | 540.00 | 3.25                    | 570.00 | 5.6                     | 955.00   |
| 1.9                     | 540.00 | 3.26                    | 570.00 | 5.7                     | 955.00   |
| 2                       | 540.00 | 3.27                    | 570.00 | 5.8                     | 955.00   |
| 2.1                     | 540.00 | 3.28                    | 570.00 | 5.9                     | 955.00   |
| 2.14                    | 540.00 | 3.3                     | 540.00 | 6                       | 955.00   |
| 2.2                     | 540.00 | 3.4                     | 540.00 | 6.1                     | 1,505.00 |
| 2.25                    | 540.00 | 3.45                    | 570.00 | 6.2                     | 1,505.00 |
| 2.26                    | 540.00 | 3.5                     | 540.00 | 6.3                     | 1,505.00 |
| 2.27                    | 540.00 | 3.6                     | 645.00 | 6.35                    | 1,695.00 |
| 2.28                    | 540.00 | 3.65                    | 685.00 | 6.4                     | 1,505.00 |
| 2.29                    | 540.00 | 3.66                    | 685.00 | 6.5                     | 1,505.00 |

# SSD 直柄標準刃鑽頭

## Straight Shank Regular Length Twist Drills



\* 適用於一般鋼材、合金鑄鐵、非合金鋼、鑄鐵、可鍛鑄鐵及石墨。

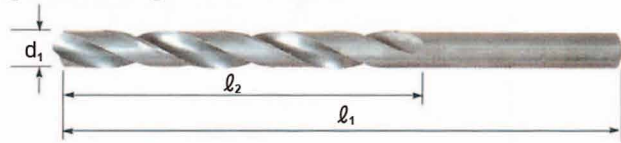
單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格  | 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格  | 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格     |
|-------------------------|-------------------------|-------------------------|--------|-------------------------|-------------------------|-------------------------|--------|-------------------------|-------------------------|-------------------------|-----------|
| 0.2                     | 3                       | 19                      | 160.00 | 4.1                     | 54                      | 83                      | 45.00  | 8.7                     | 87                      | 121                     | 140.00    |
| 0.3                     | 3.5                     | 20                      | 100.00 | 4.2                     | 54                      | 83                      | 45.00  | 8.8                     | 89                      | 124                     | 140.00    |
| 0.35                    | 5.5                     | 24                      | 130.00 | 4.3                     | 54                      | 83                      | 45.00  | 8.9                     | 89                      | 124                     | 140.00    |
| 0.4                     | 5.5                     | 24                      | 70.00  | 4.4                     | 56                      | 86                      | 45.00  | 9                       | 89                      | 124                     | 140.00    |
| 0.45                    | 7.5                     | 27                      | 115.00 | 4.5                     | 56                      | 86                      | 45.00  | 9.1                     | 89                      | 124                     | 170.00    |
| 0.5                     | 7.5                     | 27                      | 56.00  | 4.6                     | 56                      | 86                      | 52.00  | 9.2                     | 92                      | 127                     | 170.00    |
| 0.55                    | 8.5                     | 30                      | 90.00  | 4.7                     | 59                      | 89                      | 52.00  | 9.3                     | 92                      | 127                     | 170.00    |
| 0.6                     | 8.5                     | 30                      | 54.00  | 4.8                     | 59                      | 89                      | 52.00  | 9.4                     | 92                      | 127                     | 170.00    |
| 0.65                    | 10                      | 32                      | 80.00  | 4.9                     | 62                      | 92                      | 52.00  | 9.5                     | 92                      | 127                     | 170.00    |
| 0.7                     | 10                      | 32                      | 50.00  | 5                       | 62                      | 92                      | 52.00  | 9.6                     | 95                      | 130                     | 180.00    |
| 0.75                    | 11                      | 34                      | 62.00  | 5.1                     | 62                      | 92                      | 60.00  | 9.7                     | 95                      | 130                     | 180.00    |
| 0.8                     | 11                      | 34                      | 38.00  | 5.2                     | 64                      | 95                      | 60.00  | 9.8                     | 95                      | 130                     | 180.00    |
| 0.85                    | 13                      | 36                      | 58.00  | 5.3                     | 64                      | 95                      | 60.00  | 9.9                     | 95                      | 130                     | 180.00    |
| 0.9                     | 13                      | 36                      | 38.00  | 5.4                     | 64                      | 95                      | 60.00  | 10                      | 95                      | 130                     | 180.00    |
| 0.95                    | 18                      | 40                      | 58.00  | 5.5                     | 64                      | 95                      | 60.00  | 10.1                    | 98                      | 133                     | 220.00    |
| 1                       | 18                      | 40                      | 35.00  | 5.6                     | 67                      | 98                      | 68.00  | 10.2                    | 98                      | 133                     | 220.00    |
| 1.1                     | 20                      | 42                      | 32.00  | 5.7                     | 67                      | 98                      | 68.00  | 10.3                    | 98                      | 133                     | 220.00    |
| 1.2                     | 20                      | 42                      | 32.00  | 5.8                     | 67                      | 98                      | 68.00  | 10.4                    | 98                      | 133                     | 220.00    |
| 1.3                     | 22                      | 45                      | 32.00  | 5.9                     | 67                      | 98                      | 68.00  | 10.5                    | 100                     | 137                     | 220.00    |
| 1.4                     | 23                      | 48                      | 32.00  | 6                       | 70                      | 102                     | 68.00  | 10.6                    | 100                     | 137                     | 230.00    |
| 1.5                     | 23                      | 48                      | 32.00  | 6.1                     | 70                      | 102                     | 76.00  | 10.7                    | 100                     | 137                     | 230.00    |
| 1.6                     | 25                      | 50                      | 32.00  | 6.2                     | 70                      | 102                     | 76.00  | 10.8                    | 103                     | 140                     | 230.00    |
| 1.7                     | 25                      | 50                      | 32.00  | 6.3                     | 70                      | 102                     | 76.00  | 10.9                    | 103                     | 140                     | 230.00    |
| 1.8                     | 28                      | 52                      | 32.00  | 6.4                     | 73                      | 105                     | 76.00  | 11                      | 103                     | 140                     | 230.00    |
| 1.9                     | 28                      | 52                      | 32.00  | 6.5                     | 73                      | 105                     | 76.00  | 11.1                    | 103                     | 140                     | 270.00    |
| 2                       | 29                      | 55                      | 32.00  | 6.6                     | 73                      | 105                     | 88.00  | 11.2                    | 106                     | 143                     | 270.00    |
| 2.1                     | 29                      | 55                      | 32.00  | 6.7                     | 73                      | 105                     | 88.00  | 11.3                    | 106                     | 143                     | 270.00    |
| 2.2                     | 33                      | 58                      | 32.00  | 6.8                     | 73                      | 105                     | 88.00  | 11.4                    | 106                     | 143                     | 270.00    |
| 2.3                     | 33                      | 58                      | 32.00  | 6.9                     | 73                      | 105                     | 88.00  | 11.5                    | 106                     | 143                     | 270.00    |
| 2.4                     | 35                      | 61                      | 32.00  | 7                       | 73                      | 105                     | 88.00  | 11.6                    | 109                     | 146                     | 300.00    |
| 2.5                     | 35                      | 61                      | 32.00  | 7.1                     | 75                      | 108                     | 100.00 | 11.7                    | 109                     | 146                     | 300.00    |
| 2.6                     | 37                      | 64                      | 32.00  | 7.2                     | 75                      | 108                     | 100.00 | 11.8                    | 109                     | 146                     | 300.00    |
| 2.7                     | 37                      | 64                      | 32.00  | 7.3                     | 75                      | 108                     | 100.00 | 11.9                    | 109                     | 146                     | 300.00    |
| 2.8                     | 39                      | 67                      | 32.00  | 7.4                     | 78                      | 111                     | 100.00 | 12                      | 111                     | 149                     | 300.00    |
| 2.9                     | 42                      | 71                      | 32.00  | 7.5                     | 78                      | 111                     | 100.00 | 12.1                    | 111                     | 149                     | 320.00    |
| 3                       | 42                      | 71                      | 32.00  | 7.6                     | 78                      | 111                     | 120.00 | 12.2                    | 111                     | 149                     | 320.00    |
| 3.1                     | 42                      | 71                      | 34.00  | 7.7                     | 81                      | 114                     | 120.00 | 12.3                    | 111                     | 149                     | 320.00    |
| 3.2                     | 42                      | 71                      | 34.00  | 7.8                     | 81                      | 114                     | 120.00 | 12.4                    | 114                     | 152                     | 320.00    |
| 3.3                     | 45                      | 73                      | 34.00  | 7.9                     | 81                      | 114                     | 120.00 | 12.5                    | 114                     | 152                     | 320.00    |
| 3.4                     | 45                      | 73                      | 34.00  | 8                       | 81                      | 114                     | 120.00 | 12.6                    | 114                     | 152                     | 340.00    |
| 3.5                     | 45                      | 73                      | 34.00  | 8.1                     | 84                      | 117                     | 130.00 | 12.7                    | 114                     | 152                     | 340.00    |
| 3.6                     | 48                      | 76                      | 38.00  | 8.2                     | 84                      | 117                     | 130.00 | 12.8                    | 114                     | 152                     | 340.00    |
| 3.7                     | 48                      | 76                      | 38.00  | 8.3                     | 84                      | 117                     | 130.00 | 12.9                    | 114                     | 152                     | 340.00    |
| 3.8                     | 48                      | 76                      | 38.00  | 8.4                     | 87                      | 121                     | 130.00 | 13                      | 114                     | 152                     | 340.00    |
| 3.9                     | 51                      | 79                      | 38.00  | 8.5                     | 87                      | 121                     | 130.00 | 1~13 (圓盤式)              | 100支                    |                         | 9,730.00  |
| 4                       | 54                      | 83                      | 38.00  | 8.6                     | 87                      | 121                     | 140.00 | 1~13 (組)                | 121支                    |                         | 15,580.00 |

註解：1. 圓盤式 (100 支)：1 ~ 10mm (隔 0.1mm)、10.5、10.9、11、11.5、11.9、12、12.5、12.9、13  
 2. 組 (121 支)：1 ~ 13mm (隔 0.1mm)

# SSD 直柄標準刃鑽頭

Straight Shank Regular Length Twist Drills



單位：mm

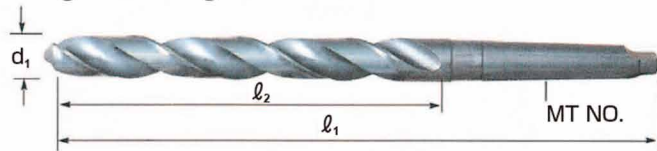


| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 3/64            | 19              | 44              | <b>35.00</b>  |
| 1/16            | 22              | 48              | <b>32.00</b>  |
| 5/64            | 25              | 51              | <b>35.00</b>  |
| 3/32            | 32              | 57              | <b>32.00</b>  |
| 7/64            | 38              | 67              | <b>35.00</b>  |
| 1/8             | 41              | 70              | <b>34.00</b>  |
| 9/64            | 44              | 73              | <b>46.00</b>  |
| 5/32            | 51              | 79              | <b>38.00</b>  |
| 11/64           | 54              | 83              | <b>50.00</b>  |
| 3/16            | 59              | 89              | <b>52.00</b>  |
| 13/64           | 62              | 92              | <b>66.00</b>  |
| 7/32            | 64              | 95              | <b>68.00</b>  |
| 15/64           | 67              | 98              | <b>80.00</b>  |
| 1/4             | 70              | 102             | <b>76.00</b>  |
| 17/64           | 73              | 105             | <b>100.00</b> |

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 9/32            | 75              | 108             | <b>110.00</b> |
| 19/64           | 78              | 111             | <b>130.00</b> |
| 5/16            | 81              | 114             | <b>120.00</b> |
| 21/64           | 84              | 117             | <b>160.00</b> |
| 11/32           | 87              | 121             | <b>140.00</b> |
| 23/64           | 89              | 124             | <b>190.00</b> |
| 3/8             | 92              | 127             | <b>170.00</b> |
| 25/64           | 95              | 130             | <b>230.00</b> |
| 13/32           | 98              | 133             | <b>230.00</b> |
| 27/64           | 100             | 137             | <b>310.00</b> |
| 7/16            | 103             | 140             | <b>270.00</b> |
| 29/64           | 106             | 143             | <b>330.00</b> |
| 15/32           | 110             | 146             | <b>300.00</b> |
| 31/64           | 111             | 149             | <b>360.00</b> |
| 1/2             | 114             | 152             | <b>340.00</b> |

# TSD 斜柄標準刃鑽頭

Morse Taper Shank Regular Length Twist Drills



\* 適用於一般鋼材、合金鑄鐵、非合金鋼、鑄鐵、可鍛鑄鐵及石墨。

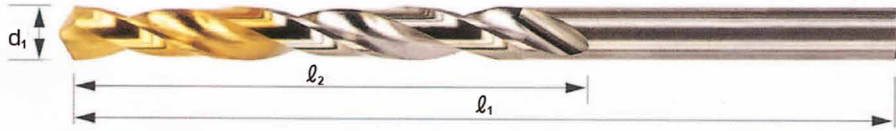
單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 推拔柄<br>MT NO. | 價(支)格           |
|-----------------|-----------------|-----------------|---------------|-----------------|
| 13              | 115             | 198             | 1             | <b>690.00</b>   |
| 13.5            | 118             | 202             | 1             | <b>710.00</b>   |
| 14              | 122             | 205             | 1             | <b>710.00</b>   |
| 14.5            | 122             | 222             | 2             | <b>830.00</b>   |
| 15              | 125             | 225             | 2             | <b>830.00</b>   |
| 15.5            | 128             | 228             | 2             | <b>900.00</b>   |
| 16              | 130             | 230             | 2             | <b>900.00</b>   |
| 16.5            | 132             | 232             | 2             | <b>1,020.00</b> |
| 17              | 135             | 235             | 2             | <b>1,020.00</b> |
| 17.5            | 140             | 240             | 2             | <b>1,130.00</b> |
| 18.5            | 145             | 245             | 2             | <b>1,210.00</b> |
| 19.5            | 150             | 250             | 2             | <b>1,250.00</b> |
| 20.5            | 155             | 255             | 2             | <b>1,400.00</b> |
| 21.5            | 160             | 260             | 2             | <b>1,510.00</b> |
| 22.5            | 165             | 265             | 2             | <b>1,620.00</b> |
| 23.5            | 165             | 285             | 3             | <b>1,840.00</b> |
| 24.5            | 165             | 285             | 3             | <b>1,980.00</b> |
| 25.5            | 165             | 285             | 3             | <b>2,230.00</b> |
| 26.5            | 170             | 290             | 3             | <b>2,350.00</b> |
| 27.5            | 175             | 295             | 3             | <b>2,540.00</b> |
| 28.5            | 180             | 300             | 3             | <b>2,800.00</b> |

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 推拔柄<br>MT NO. | 價(支)格            |
|-----------------|-----------------|-----------------|---------------|------------------|
| 29.5            | 185             | 305             | 3             | <b>3,050.00</b>  |
| 30.5            | 190             | 310             | 3             | <b>3,500.00</b>  |
| 31.5            | 195             | 315             | 3             | <b>3,800.00</b>  |
| 32              | 200             | 345             | 4             | <b>4,340.00</b>  |
| 33              | 205             | 350             | 4             | <b>4,595.00</b>  |
| 34              | 205             | 350             | 4             | <b>4,720.00</b>  |
| 35              | 210             | 355             | 4             | <b>5,285.00</b>  |
| 36              | 210             | 355             | 4             | <b>5,565.00</b>  |
| 37              | 215             | 360             | 4             | <b>5,945.00</b>  |
| 38              | 215             | 360             | 4             | <b>6,765.00</b>  |
| 39              | 220             | 365             | 4             | <b>7,215.00</b>  |
| 40              | 220             | 365             | 4             | <b>7,880.00</b>  |
| 41              | 225             | 370             | 4             | <b>8,185.00</b>  |
| 42              | 225             | 370             | 4             | <b>9,290.00</b>  |
| 43              | 230             | 375             | 4             | <b>9,645.00</b>  |
| 44              | 230             | 375             | 4             | <b>9,865.00</b>  |
| 45              | 235             | 380             | 4             | <b>10,355.00</b> |
| 46              | 235             | 380             | 4             | <b>10,910.00</b> |
| 47              | 240             | 385             | 4             | <b>11,980.00</b> |
| 48              | 240             | 385             | 4             | <b>12,480.00</b> |
| 49              | 245             | 390             | 4             | <b>13,550.00</b> |

# SSDG 先端鈦覆膜直柄標準刃鑽頭

Straight Shank Regular Length Twist Drills with TiN Coating



\* 適用於一般鋼材、合金鑄鐵、非合金鋼、鑄鐵、可鍛鑄鐵及石墨。

單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格 | 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格  | 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格     |
|-------------------------|-------------------------|-------------------------|-------|-------------------------|-------------------------|-------------------------|--------|-------------------------|-------------------------|-------------------------|-----------|
| 1                       | 18                      | 40                      | 42.00 | 5.1                     | 62                      | 92                      | 72.00  | 9.2                     | 92                      | 127                     | 204.00    |
| 1.1                     | 20                      | 42                      | 38.00 | 5.2                     | 64                      | 95                      | 72.00  | 9.3                     | 92                      | 127                     | 214.00    |
| 1.2                     | 20                      | 42                      | 38.00 | 5.3                     | 64                      | 95                      | 72.00  | 9.4                     | 92                      | 127                     | 214.00    |
| 1.3                     | 22                      | 45                      | 38.00 | 5.4                     | 64                      | 95                      | 72.00  | 9.5                     | 92                      | 127                     | 214.00    |
| 1.4                     | 23                      | 48                      | 38.00 | 5.5                     | 64                      | 95                      | 82.00  | 9.6                     | 95                      | 130                     | 216.00    |
| 1.5                     | 23                      | 48                      | 38.00 | 5.6                     | 67                      | 98                      | 82.00  | 9.7                     | 95                      | 130                     | 216.00    |
| 1.6                     | 25                      | 50                      | 38.00 | 5.7                     | 67                      | 98                      | 82.00  | 9.8                     | 95                      | 130                     | 216.00    |
| 1.7                     | 25                      | 50                      | 38.00 | 5.8                     | 67                      | 98                      | 82.00  | 9.9                     | 95                      | 130                     | 216.00    |
| 1.8                     | 28                      | 52                      | 38.00 | 5.9                     | 67                      | 98                      | 82.00  | 10                      | 95                      | 130                     | 216.00    |
| 1.9                     | 28                      | 52                      | 38.00 | 6                       | 70                      | 102                     | 91.00  | 10.1                    | 98                      | 133                     | 264.00    |
| 2                       | 29                      | 55                      | 38.00 | 6.1                     | 70                      | 102                     | 91.00  | 10.2                    | 98                      | 133                     | 264.00    |
| 2.1                     | 29                      | 55                      | 38.00 | 6.2                     | 70                      | 102                     | 91.00  | 10.3                    | 98                      | 133                     | 272.00    |
| 2.2                     | 33                      | 58                      | 38.00 | 6.3                     | 70                      | 102                     | 91.00  | 10.4                    | 98                      | 133                     | 272.00    |
| 2.3                     | 33                      | 58                      | 38.00 | 6.4                     | 73                      | 105                     | 91.00  | 10.5                    | 100                     | 137                     | 272.00    |
| 2.4                     | 35                      | 61                      | 38.00 | 6.5                     | 73                      | 105                     | 106.00 | 10.6                    | 100                     | 137                     | 280.00    |
| 2.5                     | 35                      | 61                      | 38.00 | 6.6                     | 73                      | 105                     | 106.00 | 10.7                    | 100                     | 137                     | 280.00    |
| 2.6                     | 37                      | 64                      | 38.00 | 6.7                     | 73                      | 105                     | 106.00 | 10.8                    | 103                     | 140                     | 280.00    |
| 2.7                     | 37                      | 64                      | 38.00 | 6.8                     | 73                      | 105                     | 106.00 | 10.9                    | 103                     | 140                     | 280.00    |
| 2.8                     | 39                      | 67                      | 38.00 | 6.9                     | 73                      | 105                     | 106.00 | 11                      | 103                     | 140                     | 280.00    |
| 2.9                     | 42                      | 71                      | 38.00 | 7                       | 73                      | 105                     | 120.00 | 11.1                    | 103                     | 140                     | 324.00    |
| 3                       | 42                      | 71                      | 38.00 | 7.1                     | 75                      | 108                     | 120.00 | 11.2                    | 106                     | 143                     | 324.00    |
| 3.1                     | 42                      | 71                      | 41.00 | 7.2                     | 75                      | 108                     | 120.00 | 11.3                    | 106                     | 143                     | 324.00    |
| 3.2                     | 42                      | 71                      | 41.00 | 7.3                     | 75                      | 108                     | 120.00 | 11.4                    | 106                     | 143                     | 324.00    |
| 3.3                     | 45                      | 73                      | 41.00 | 7.4                     | 78                      | 111                     | 120.00 | 11.5                    | 106                     | 143                     | 324.00    |
| 3.4                     | 45                      | 73                      | 41.00 | 7.5                     | 78                      | 111                     | 144.00 | 11.6                    | 109                     | 146                     | 360.00    |
| 3.5                     | 45                      | 73                      | 41.00 | 7.6                     | 78                      | 111                     | 144.00 | 11.7                    | 109                     | 146                     | 360.00    |
| 3.6                     | 48                      | 76                      | 46.00 | 7.7                     | 81                      | 114                     | 144.00 | 11.8                    | 109                     | 146                     | 360.00    |
| 3.7                     | 48                      | 76                      | 46.00 | 7.8                     | 81                      | 114                     | 144.00 | 11.9                    | 109                     | 146                     | 360.00    |
| 3.8                     | 48                      | 76                      | 46.00 | 7.9                     | 81                      | 114                     | 144.00 | 12                      | 111                     | 149                     | 360.00    |
| 3.9                     | 51                      | 79                      | 46.00 | 8                       | 81                      | 114                     | 156.00 | 12.1                    | 111                     | 149                     | 384.00    |
| 4                       | 54                      | 83                      | 46.00 | 8.1                     | 84                      | 117                     | 156.00 | 12.2                    | 111                     | 149                     | 384.00    |
| 4.1                     | 54                      | 83                      | 54.00 | 8.2                     | 84                      | 117                     | 156.00 | 12.3                    | 111                     | 149                     | 384.00    |
| 4.2                     | 54                      | 83                      | 54.00 | 8.3                     | 84                      | 117                     | 170.00 | 12.4                    | 114                     | 152                     | 384.00    |
| 4.3                     | 54                      | 83                      | 54.00 | 8.4                     | 87                      | 121                     | 170.00 | 12.5                    | 114                     | 152                     | 384.00    |
| 4.4                     | 56                      | 86                      | 54.00 | 8.5                     | 87                      | 121                     | 170.00 | 12.6                    | 114                     | 152                     | 408.00    |
| 4.5                     | 56                      | 86                      | 54.00 | 8.6                     | 87                      | 121                     | 178.00 | 12.7                    | 114                     | 152                     | 408.00    |
| 4.6                     | 56                      | 86                      | 62.00 | 8.7                     | 87                      | 121                     | 178.00 | 12.8                    | 114                     | 152                     | 408.00    |
| 4.7                     | 59                      | 89                      | 62.00 | 8.8                     | 89                      | 124                     | 178.00 | 12.9                    | 114                     | 152                     | 408.00    |
| 4.8                     | 59                      | 89                      | 62.00 | 8.9                     | 89                      | 124                     | 178.00 | 13                      | 114                     | 152                     | 408.00    |
| 4.9                     | 62                      | 92                      | 62.00 | 9                       | 89                      | 124                     | 178.00 | 1~13 (圓盤式)              | 100支                    |                         | 11,904.00 |
| 5                       | 62                      | 92                      | 72.00 | 9.1                     | 89                      | 124                     | 204.00 | 1~13 (組)                | 121支                    |                         | 18,952.00 |

註解: 1.圓盤式(100支): 1~10mm (隔0.1mm)、10.5、10.9、11、11.5、11.9、12、12.5、12.9、13

2.組(121支): 1~13mm (隔0.1mm)

# SSDG 先端鈦覆膜直柄標準刃鑽頭

Straight Shank Regular Length Twist Drills with TiN Coating

5/100系列



\*適用於一般鋼材、合金鑄鐵、非合金鋼、鑄鐵、可鍛鑄鐵及石墨。

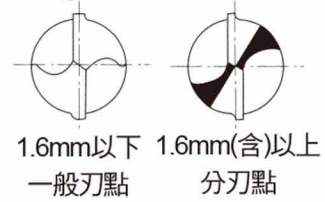
單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格        |
|-----------------|-----------------|-----------------|--------------|
| 1.05            | 20              | 42              | <b>60.00</b> |
| 1.15            | 20              | 42              | <b>54.00</b> |
| 1.25            | 22              | 45              | <b>54.00</b> |
| 1.35            | 23              | 48              | <b>54.00</b> |
| 1.45            | 23              | 48              | <b>54.00</b> |
| 1.55            | 25              | 50              | <b>54.00</b> |
| 1.65            | 25              | 50              | <b>54.00</b> |
| 1.75            | 28              | 52              | <b>54.00</b> |
| 1.85            | 28              | 52              | <b>54.00</b> |
| 1.95            | 29              | 55              | <b>54.00</b> |
| 2.05            | 29              | 55              | <b>52.00</b> |
| 2.15            | 29              | 55              | <b>52.00</b> |
| 2.25            | 33              | 58              | <b>52.00</b> |
| 2.35            | 33              | 58              | <b>52.00</b> |
| 2.45            | 35              | 61              | <b>52.00</b> |
| 2.55            | 37              | 64              | <b>52.00</b> |
| 2.65            | 37              | 64              | <b>52.00</b> |
| 2.75            | 39              | 67              | <b>52.00</b> |
| 2.85            | 39              | 67              | <b>52.00</b> |
| 2.95            | 42              | 71              | <b>52.00</b> |
| 3.05            | 42              | 71              | <b>62.00</b> |
| 3.15            | 42              | 71              | <b>62.00</b> |
| 3.25            | 42              | 71              | <b>62.00</b> |
| 3.35            | 45              | 73              | <b>62.00</b> |
| 3.45            | 45              | 73              | <b>62.00</b> |
| 3.55            | 45              | 73              | <b>64.00</b> |
| 3.65            | 48              | 76              | <b>70.00</b> |
| 3.75            | 48              | 76              | <b>70.00</b> |
| 3.85            | 51              | 79              | <b>70.00</b> |
| 3.95            | 51              | 79              | <b>70.00</b> |
| 4.05            | 54              | 83              | <b>84.00</b> |
| 4.15            | 54              | 83              | <b>84.00</b> |
| 4.25            | 54              | 83              | <b>84.00</b> |
| 4.35            | 54              | 83              | <b>84.00</b> |
| 4.45            | 56              | 86              | <b>84.00</b> |

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 4.55            | 56              | 86              | <b>96.00</b>  |
| 4.65            | 59              | 89              | <b>96.00</b>  |
| 4.75            | 59              | 89              | <b>96.00</b>  |
| 4.85            | 59              | 89              | <b>96.00</b>  |
| 4.95            | 62              | 92              | <b>96.00</b>  |
| 5.05            | 62              | 92              | <b>110.00</b> |
| 5.15            | 62              | 92              | <b>110.00</b> |
| 5.25            | 64              | 95              | <b>110.00</b> |
| 5.35            | 64              | 95              | <b>110.00</b> |
| 5.45            | 64              | 95              | <b>110.00</b> |
| 5.55            | 64              | 95              | <b>130.00</b> |
| 5.65            | 67              | 98              | <b>130.00</b> |
| 5.75            | 67              | 98              | <b>130.00</b> |
| 5.85            | 67              | 98              | <b>130.00</b> |
| 5.95            | 67              | 98              | <b>130.00</b> |
| 6.05            | 70              | 102             | <b>140.00</b> |
| 6.15            | 70              | 102             | <b>140.00</b> |
| 6.25            | 70              | 102             | <b>140.00</b> |
| 6.35            | 70              | 102             | <b>140.00</b> |
| 6.45            | 73              | 105             | <b>140.00</b> |
| 6.55            | 73              | 105             | <b>160.00</b> |
| 6.65            | 73              | 105             | <b>160.00</b> |
| 6.75            | 73              | 105             | <b>160.00</b> |
| 6.85            | 73              | 105             | <b>160.00</b> |
| 6.95            | 73              | 105             | <b>160.00</b> |
| 7.05            | 75              | 108             | <b>190.00</b> |
| 7.15            | 75              | 108             | <b>190.00</b> |
| 7.25            | 75              | 108             | <b>190.00</b> |
| 7.35            | 75              | 108             | <b>190.00</b> |
| 7.45            | 78              | 111             | <b>190.00</b> |
| 7.55            | 78              | 111             | <b>200.00</b> |
| 7.65            | 78              | 111             | <b>200.00</b> |
| 7.75            | 81              | 114             | <b>200.00</b> |
| 7.85            | 81              | 114             | <b>200.00</b> |
| 7.95            | 81              | 114             | <b>200.00</b> |

# GSD 先端鈦覆膜不銹鋼專用高鈷鋼鑽頭

Straight Shank Regular Length Twist Drills with TiN Coating



\* 適用於不銹鋼、鈦合金及鎳合金等難削材之孔加工。

單位：mm

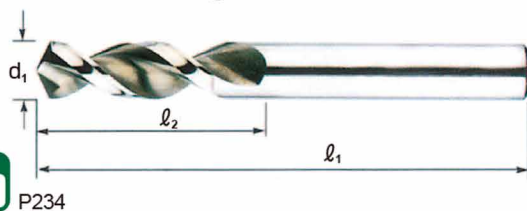
| 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格  | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格  | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格     |
|----------------------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|-----------|
| 1                    | 18                   | 40                   | 90.00  | 5.1                  | 62                   | 92                   | 160.00 | 9.2                  | 92                   | 127                  | 525.00    |
| 1.1                  | 20                   | 42                   | 85.00  | 5.2                  | 64                   | 95                   | 160.00 | 9.3                  | 92                   | 127                  | 525.00    |
| 1.2                  | 20                   | 42                   | 85.00  | 5.3                  | 64                   | 95                   | 160.00 | 9.4                  | 92                   | 127                  | 525.00    |
| 1.3                  | 22                   | 45                   | 85.00  | 5.4                  | 64                   | 95                   | 160.00 | 9.5                  | 92                   | 127                  | 525.00    |
| 1.4                  | 23                   | 48                   | 85.00  | 5.5                  | 64                   | 95                   | 160.00 | 9.6                  | 95                   | 130                  | 560.00    |
| 1.5                  | 23                   | 48                   | 85.00  | 5.6                  | 67                   | 98                   | 190.00 | 9.7                  | 95                   | 130                  | 560.00    |
| 1.6                  | 25                   | 50                   | 85.00  | 5.7                  | 67                   | 98                   | 190.00 | 9.8                  | 95                   | 130                  | 560.00    |
| 1.7                  | 25                   | 50                   | 85.00  | 5.8                  | 67                   | 98                   | 190.00 | 9.9                  | 95                   | 130                  | 560.00    |
| 1.8                  | 28                   | 52                   | 85.00  | 5.9                  | 67                   | 98                   | 190.00 | 10                   | 95                   | 130                  | 560.00    |
| 1.9                  | 28                   | 52                   | 85.00  | 6                    | 70                   | 102                  | 190.00 | 10.1                 | 98                   | 133                  | 660.00    |
| 2                    | 29                   | 55                   | 85.00  | 6.1                  | 70                   | 102                  | 205.00 | 10.2                 | 98                   | 133                  | 660.00    |
| 2.1                  | 29                   | 55                   | 85.00  | 6.2                  | 70                   | 102                  | 205.00 | 10.3                 | 98                   | 133                  | 660.00    |
| 2.2                  | 33                   | 58                   | 85.00  | 6.3                  | 70                   | 102                  | 205.00 | 10.4                 | 98                   | 133                  | 660.00    |
| 2.3                  | 33                   | 58                   | 85.00  | 6.4                  | 73                   | 105                  | 205.00 | 10.5                 | 100                  | 137                  | 660.00    |
| 2.4                  | 35                   | 61                   | 85.00  | 6.5                  | 73                   | 105                  | 205.00 | 10.6                 | 100                  | 137                  | 740.00    |
| 2.5                  | 35                   | 61                   | 85.00  | 6.6                  | 73                   | 105                  | 255.00 | 10.7                 | 100                  | 137                  | 740.00    |
| 2.6                  | 37                   | 64                   | 95.00  | 6.7                  | 73                   | 105                  | 255.00 | 10.8                 | 103                  | 140                  | 740.00    |
| 2.7                  | 37                   | 64                   | 95.00  | 6.8                  | 73                   | 105                  | 255.00 | 10.9                 | 103                  | 140                  | 740.00    |
| 2.8                  | 39                   | 67                   | 95.00  | 6.9                  | 73                   | 105                  | 255.00 | 11                   | 103                  | 140                  | 740.00    |
| 2.9                  | 42                   | 71                   | 95.00  | 7                    | 73                   | 105                  | 255.00 | 11.1                 | 103                  | 140                  | 750.00    |
| 3                    | 42                   | 71                   | 95.00  | 7.1                  | 75                   | 108                  | 290.00 | 11.2                 | 106                  | 143                  | 750.00    |
| 3.1                  | 42                   | 71                   | 105.00 | 7.2                  | 75                   | 108                  | 290.00 | 11.3                 | 106                  | 143                  | 750.00    |
| 3.2                  | 42                   | 71                   | 105.00 | 7.3                  | 75                   | 108                  | 290.00 | 11.4                 | 106                  | 143                  | 750.00    |
| 3.3                  | 45                   | 73                   | 105.00 | 7.4                  | 78                   | 111                  | 290.00 | 11.5                 | 106                  | 143                  | 750.00    |
| 3.4                  | 45                   | 73                   | 105.00 | 7.5                  | 78                   | 111                  | 290.00 | 11.6                 | 109                  | 146                  | 825.00    |
| 3.5                  | 45                   | 73                   | 105.00 | 7.6                  | 78                   | 111                  | 325.00 | 11.7                 | 109                  | 146                  | 825.00    |
| 3.6                  | 48                   | 76                   | 130.00 | 7.7                  | 81                   | 114                  | 325.00 | 11.8                 | 109                  | 146                  | 825.00    |
| 3.7                  | 48                   | 76                   | 130.00 | 7.8                  | 81                   | 114                  | 325.00 | 11.9                 | 109                  | 146                  | 825.00    |
| 3.8                  | 48                   | 76                   | 130.00 | 7.9                  | 81                   | 114                  | 325.00 | 12                   | 111                  | 149                  | 825.00    |
| 3.9                  | 51                   | 79                   | 130.00 | 8                    | 81                   | 114                  | 325.00 | 12.1                 | 111                  | 149                  | 1,015.00  |
| 4                    | 54                   | 83                   | 130.00 | 8.1                  | 84                   | 117                  | 400.00 | 12.2                 | 111                  | 149                  | 1,015.00  |
| 4.1                  | 54                   | 83                   | 140.00 | 8.2                  | 84                   | 117                  | 400.00 | 12.3                 | 111                  | 149                  | 1,015.00  |
| 4.2                  | 54                   | 83                   | 140.00 | 8.3                  | 84                   | 117                  | 400.00 | 12.4                 | 114                  | 152                  | 1,015.00  |
| 4.3                  | 54                   | 83                   | 140.00 | 8.4                  | 87                   | 121                  | 400.00 | 12.5                 | 114                  | 152                  | 1,015.00  |
| 4.4                  | 56                   | 83                   | 140.00 | 8.5                  | 87                   | 121                  | 400.00 | 12.6                 | 114                  | 152                  | 1,285.00  |
| 4.5                  | 56                   | 86                   | 140.00 | 8.6                  | 87                   | 121                  | 475.00 | 12.7                 | 114                  | 152                  | 1,285.00  |
| 4.6                  | 56                   | 86                   | 140.00 | 8.7                  | 87                   | 121                  | 475.00 | 12.8                 | 114                  | 152                  | 1,285.00  |
| 4.7                  | 59                   | 89                   | 140.00 | 8.8                  | 89                   | 124                  | 475.00 | 12.9                 | 114                  | 152                  | 1,285.00  |
| 4.8                  | 59                   | 89                   | 140.00 | 8.9                  | 89                   | 124                  | 475.00 | 13                   | 114                  | 152                  | 1,285.00  |
| 4.9                  | 62                   | 92                   | 140.00 | 9                    | 89                   | 124                  | 475.00 | 1~13 (圓盤式)           | 100支                 |                      | 29,465.00 |
| 5                    | 62                   | 92                   | 140.00 | 9.1                  | 89                   | 124                  | 525.00 | 1~13 (組)             | 121支                 |                      | 47,715.00 |

註解: 1.圓盤式(100支): 1~10mm (隔0.1mm)、10.5、10.9、11、11.5、11.9、12、12.5、12.9、13

2.組(121支): 1~13mm (隔0.1mm)

# PSD 自動斷屑直柄鑽頭

Straight Shank Stub Length Twist Drills for Deep Hole



- \* 高螺旋角及特殊刃形設計，使排屑能力更強，免用中心鑽定位、可直接快速鑽孔到所需的深度。
- \* 切屑呈細片狀且自動斷屑，避免連續捲曲狀之切屑纏繞在鑽頭或機器主軸上而產生危險。
- \* 適合於非合金鋼、合金鋼、鑄鐵、可鍛鑄鐵、特殊鋁及鎂合金之深孔加工。

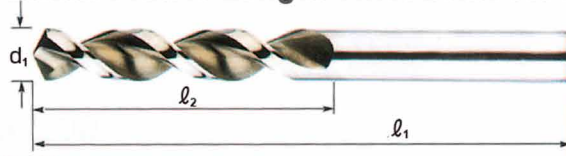
單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         | 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         | 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格            |
|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|------------------|
| 2               | 12              | 38              | <b>85.00</b>  | 5.6             | 28              | 66              | <b>145.00</b> | 9.2             | 40              | 84              | <b>450.00</b>    |
| 2.1             | 12              | 38              | <b>90.00</b>  | 5.7             | 28              | 66              | <b>145.00</b> | 9.3             | 40              | 84              | <b>450.00</b>    |
| 2.2             | 13              | 40              | <b>90.00</b>  | 5.8             | 28              | 66              | <b>145.00</b> | 9.4             | 40              | 84              | <b>450.00</b>    |
| 2.3             | 13              | 40              | <b>90.00</b>  | 5.9             | 28              | 66              | <b>145.00</b> | 9.5             | 40              | 84              | <b>450.00</b>    |
| 2.4             | 14              | 43              | <b>90.00</b>  | 6               | 28              | 66              | <b>145.00</b> | 9.6             | 43              | 89              | <b>500.00</b>    |
| 2.5             | 14              | 43              | <b>90.00</b>  | 6.1             | 31              | 70              | <b>195.00</b> | 9.7             | 43              | 89              | <b>500.00</b>    |
| 2.6             | 14              | 43              | <b>90.00</b>  | 6.2             | 31              | 70              | <b>195.00</b> | 9.8             | 43              | 89              | <b>500.00</b>    |
| 2.7             | 16              | 46              | <b>90.00</b>  | 6.3             | 31              | 70              | <b>195.00</b> | 9.9             | 43              | 89              | <b>500.00</b>    |
| 2.8             | 16              | 46              | <b>90.00</b>  | 6.4             | 31              | 70              | <b>195.00</b> | 10              | 43              | 89              | <b>500.00</b>    |
| 2.9             | 16              | 46              | <b>90.00</b>  | 6.5             | 31              | 70              | <b>195.00</b> | 10.2            | 43              | 89              | <b>550.00</b>    |
| 3               | 16              | 46              | <b>90.00</b>  | 6.6             | 31              | 70              | <b>245.00</b> | 10.3            | 43              | 89              | <b>550.00</b>    |
| 3.1             | 18              | 49              | <b>95.00</b>  | 6.7             | 31              | 70              | <b>245.00</b> | 10.5            | 43              | 89              | <b>550.00</b>    |
| 3.2             | 18              | 49              | <b>95.00</b>  | 6.8             | 34              | 74              | <b>245.00</b> | 10.8            | 47              | 95              | <b>625.00</b>    |
| 3.3             | 18              | 49              | <b>95.00</b>  | 6.9             | 34              | 74              | <b>245.00</b> | 11              | 47              | 95              | <b>625.00</b>    |
| 3.4             | 20              | 52              | <b>95.00</b>  | 7               | 34              | 74              | <b>245.00</b> | 11.2            | 47              | 95              | <b>700.00</b>    |
| 3.5             | 20              | 52              | <b>95.00</b>  | 7.1             | 34              | 74              | <b>280.00</b> | 11.5            | 47              | 95              | <b>700.00</b>    |
| 3.6             | 20              | 52              | <b>95.00</b>  | 7.2             | 34              | 74              | <b>280.00</b> | 11.8            | 47              | 95              | <b>810.00</b>    |
| 3.7             | 20              | 52              | <b>95.00</b>  | 7.3             | 34              | 74              | <b>280.00</b> | 12              | 51              | 102             | <b>810.00</b>    |
| 3.8             | 22              | 55              | <b>95.00</b>  | 7.4             | 34              | 74              | <b>280.00</b> | 12.5            | 51              | 102             | <b>920.00</b>    |
| 3.9             | 22              | 55              | <b>95.00</b>  | 7.5             | 34              | 74              | <b>280.00</b> | 13              | 51              | 102             | <b>950.00</b>    |
| 4               | 22              | 55              | <b>95.00</b>  | 7.6             | 37              | 79              | <b>295.00</b> | 13.5            | 54              | 107             | <b>1,140.00</b>  |
| 4.1             | 22              | 55              | <b>105.00</b> | 7.7             | 37              | 79              | <b>295.00</b> | 14              | 54              | 107             | <b>1,140.00</b>  |
| 4.2             | 22              | 55              | <b>105.00</b> | 7.8             | 37              | 79              | <b>295.00</b> | 14.5            | 56              | 111             | <b>1,365.00</b>  |
| 4.3             | 24              | 58              | <b>105.00</b> | 7.9             | 37              | 79              | <b>295.00</b> | 15              | 56              | 111             | <b>1,365.00</b>  |
| 4.4             | 24              | 58              | <b>105.00</b> | 8               | 37              | 79              | <b>295.00</b> | 15.5            | 58              | 115             | <b>1,635.00</b>  |
| 4.5             | 24              | 58              | <b>105.00</b> | 8.1             | 37              | 79              | <b>325.00</b> | 16              | 58              | 115             | <b>1,635.00</b>  |
| 4.6             | 24              | 58              | <b>115.00</b> | 8.2             | 37              | 79              | <b>325.00</b> | 16.5            | 60              | 119             | <b>1,925.00</b>  |
| 4.7             | 24              | 58              | <b>115.00</b> | 8.3             | 37              | 79              | <b>325.00</b> | 17              | 60              | 119             | <b>1,925.00</b>  |
| 4.8             | 26              | 62              | <b>115.00</b> | 8.4             | 37              | 79              | <b>325.00</b> | 17.5            | 62              | 123             | <b>2,365.00</b>  |
| 4.9             | 26              | 62              | <b>115.00</b> | 8.5             | 37              | 79              | <b>325.00</b> | 18              | 62              | 123             | <b>2,365.00</b>  |
| 5               | 26              | 62              | <b>115.00</b> | 8.6             | 40              | 84              | <b>405.00</b> | 18.5            | 64              | 127             | <b>2,610.00</b>  |
| 5.1             | 26              | 62              | <b>140.00</b> | 8.7             | 40              | 84              | <b>405.00</b> | 19              | 64              | 127             | <b>2,610.00</b>  |
| 5.2             | 26              | 62              | <b>140.00</b> | 8.8             | 40              | 84              | <b>405.00</b> | 19.5            | 66              | 131             | <b>2,980.00</b>  |
| 5.3             | 26              | 66              | <b>140.00</b> | 8.9             | 40              | 84              | <b>405.00</b> | 20              | 66              | 131             | <b>3,310.00</b>  |
| 5.4             | 28              | 66              | <b>140.00</b> | 9               | 40              | 84              | <b>405.00</b> | 2~13 (組)        |                 | 91支             | <b>25,155.00</b> |
| 5.5             | 28              | 66              | <b>140.00</b> | 9.1             | 40              | 84              | <b>450.00</b> |                 |                 |                 |                  |

組(91支)：2~10mm (隔0.1mm)、10.2、10.5、10.8、11、11.2、11.5、11.8、12、12.5、13

# PJD 自動斷屑直柄中長刃鑽頭

Straight Shank Jobber Length Twist Drills for Deep Hole



- \* 高螺旋角及特殊刃形設計，使排屑能力更強，免用中心鑽定位、可直接快速鑽孔到所需的深度。
- \* 切屑呈細片狀且自動斷屑，避免連續捲曲狀之切屑纏繞在鑽頭或機器主軸上而產生危險。
- \* 適合於非合金鋼、合金鋼、鑄鐵、可鍛鑄鐵、特殊鋁及鎂合金之深孔加工。

單位：mm

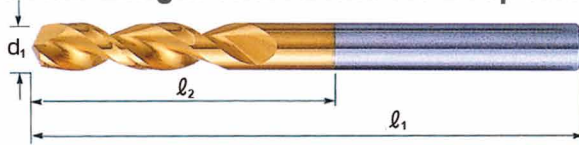
| 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格         | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格         | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格            |
|----------------------|----------------------|----------------------|---------------|----------------------|----------------------|----------------------|---------------|----------------------|----------------------|----------------------|------------------|
| 2                    | 24                   | 49                   | <b>110.00</b> | 5.3                  | 52                   | 86                   | <b>175.00</b> | 8.6                  | 81                   | 125                  | <b>470.00</b>    |
| 2.1                  | 24                   | 49                   | <b>115.00</b> | 5.4                  | 57                   | 93                   | <b>175.00</b> | 8.7                  | 81                   | 125                  | <b>470.00</b>    |
| 2.2                  | 27                   | 53                   | <b>115.00</b> | 5.5                  | 57                   | 93                   | <b>175.00</b> | 8.8                  | 81                   | 125                  | <b>470.00</b>    |
| 2.3                  | 27                   | 53                   | <b>115.00</b> | 5.6                  | 57                   | 93                   | <b>185.00</b> | 8.9                  | 81                   | 125                  | <b>470.00</b>    |
| 2.4                  | 30                   | 57                   | <b>115.00</b> | 5.7                  | 57                   | 93                   | <b>185.00</b> | 9                    | 81                   | 125                  | <b>470.00</b>    |
| 2.5                  | 30                   | 57                   | <b>115.00</b> | 5.8                  | 57                   | 93                   | <b>185.00</b> | 9.1                  | 81                   | 125                  | <b>510.00</b>    |
| 2.6                  | 30                   | 57                   | <b>115.00</b> | 5.9                  | 57                   | 93                   | <b>185.00</b> | 9.2                  | 81                   | 125                  | <b>510.00</b>    |
| 2.7                  | 33                   | 61                   | <b>115.00</b> | 6                    | 57                   | 93                   | <b>185.00</b> | 9.3                  | 81                   | 125                  | <b>510.00</b>    |
| 2.8                  | 33                   | 61                   | <b>115.00</b> | 6.1                  | 63                   | 101                  | <b>245.00</b> | 9.4                  | 81                   | 125                  | <b>510.00</b>    |
| 2.9                  | 33                   | 61                   | <b>115.00</b> | 6.2                  | 63                   | 101                  | <b>245.00</b> | 9.5                  | 81                   | 125                  | <b>510.00</b>    |
| 3                    | 33                   | 61                   | <b>115.00</b> | 6.3                  | 63                   | 101                  | <b>245.00</b> | 9.6                  | 87                   | 133                  | <b>540.00</b>    |
| 3.1                  | 36                   | 65                   | <b>120.00</b> | 6.4                  | 63                   | 101                  | <b>245.00</b> | 9.7                  | 87                   | 133                  | <b>540.00</b>    |
| 3.2                  | 36                   | 65                   | <b>120.00</b> | 6.5                  | 63                   | 101                  | <b>245.00</b> | 9.8                  | 87                   | 133                  | <b>540.00</b>    |
| 3.3                  | 36                   | 65                   | <b>120.00</b> | 6.6                  | 63                   | 101                  | <b>310.00</b> | 9.9                  | 87                   | 133                  | <b>540.00</b>    |
| 3.4                  | 39                   | 70                   | <b>120.00</b> | 6.7                  | 63                   | 101                  | <b>310.00</b> | 10                   | 87                   | 133                  | <b>540.00</b>    |
| 3.5                  | 39                   | 70                   | <b>120.00</b> | 6.8                  | 69                   | 109                  | <b>310.00</b> | 10.2                 | 87                   | 133                  | <b>660.00</b>    |
| 3.6                  | 39                   | 70                   | <b>120.00</b> | 6.9                  | 69                   | 109                  | <b>310.00</b> | 10.3                 | 87                   | 133                  | <b>660.00</b>    |
| 3.7                  | 39                   | 70                   | <b>120.00</b> | 7                    | 69                   | 109                  | <b>310.00</b> | 10.5                 | 87                   | 133                  | <b>660.00</b>    |
| 3.8                  | 43                   | 75                   | <b>120.00</b> | 7.1                  | 69                   | 109                  | <b>350.00</b> | 11                   | 94                   | 142                  | <b>750.00</b>    |
| 3.9                  | 43                   | 75                   | <b>120.00</b> | 7.2                  | 69                   | 109                  | <b>350.00</b> | 11.2                 | 94                   | 142                  | <b>870.00</b>    |
| 4                    | 43                   | 75                   | <b>120.00</b> | 7.3                  | 69                   | 109                  | <b>350.00</b> | 11.5                 | 94                   | 142                  | <b>870.00</b>    |
| 4.1                  | 43                   | 75                   | <b>135.00</b> | 7.4                  | 69                   | 109                  | <b>350.00</b> | 12                   | 101                  | 151                  | <b>920.00</b>    |
| 4.2                  | 43                   | 75                   | <b>135.00</b> | 7.5                  | 69                   | 109                  | <b>350.00</b> | 12.5                 | 101                  | 151                  | <b>1,000.00</b>  |
| 4.3                  | 47                   | 80                   | <b>135.00</b> | 7.6                  | 75                   | 117                  | <b>370.00</b> | 13                   | 101                  | 151                  | <b>1,050.00</b>  |
| 4.4                  | 47                   | 80                   | <b>135.00</b> | 7.7                  | 75                   | 117                  | <b>370.00</b> | 13.5                 | 108                  | 160                  | <b>1,285.00</b>  |
| 4.5                  | 47                   | 80                   | <b>135.00</b> | 7.8                  | 75                   | 117                  | <b>370.00</b> | 14                   | 108                  | 160                  | <b>1,285.00</b>  |
| 4.6                  | 47                   | 80                   | <b>145.00</b> | 7.9                  | 75                   | 117                  | <b>370.00</b> | 14.5                 | 114                  | 169                  | <b>1,545.00</b>  |
| 4.7                  | 47                   | 80                   | <b>145.00</b> | 8                    | 75                   | 117                  | <b>370.00</b> | 15                   | 114                  | 169                  | <b>1,545.00</b>  |
| 4.8                  | 52                   | 86                   | <b>145.00</b> | 8.1                  | 75                   | 117                  | <b>410.00</b> | 15.5                 | 120                  | 178                  | <b>1,860.00</b>  |
| 4.9                  | 52                   | 86                   | <b>145.00</b> | 8.2                  | 75                   | 117                  | <b>410.00</b> | 16                   | 120                  | 178                  | <b>1,860.00</b>  |
| 5                    | 52                   | 86                   | <b>145.00</b> | 8.3                  | 75                   | 117                  | <b>410.00</b> | 2~13 (組)             |                      | 89支                  | <b>28,455.00</b> |
| 5.1                  | 52                   | 86                   | <b>175.00</b> | 8.4                  | 75                   | 117                  | <b>410.00</b> |                      |                      |                      |                  |
| 5.2                  | 52                   | 86                   | <b>175.00</b> | 8.5                  | 75                   | 117                  | <b>410.00</b> |                      |                      |                      |                  |

組(89支)：2~10mm (隔0.1mm)、10.2、10.5、10.8、11、11.2、11.5、11.8、12、12.5、13



# PSDG 鈦覆膜自動斷屑直柄鑽頭

Straight Shank Stub Length Twist Drills for Deep Hole with Coating



- \* 高螺旋角及特殊刀形設計，使排屑能力更強，免用中心鑽定位、可直接快速鑽孔到所需的深度。
- \* 切屑呈細片狀且自動斷屑，避免連續捲曲狀之切屑纏繞在鑽頭或機器主軸上而產生危險。
- \* 適合於非合金鋼、合金鋼、鑄鐵、可鍛鑄鐵、特殊鋁及鎂合金之深孔加工。

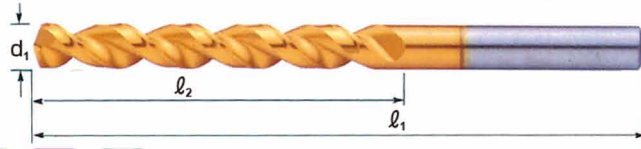
單位：mm

| 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         | 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格         | 刃徑<br>( $d_1$ ) | 刃長<br>( $l_2$ ) | 全長<br>( $l_1$ ) | 價(支)格            |
|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|------------------|
| 2               | 12              | 38              | <b>105.00</b> | 5.6             | 28              | 66              | <b>200.00</b> | 9.2             | 40              | 84              | <b>550.00</b>    |
| 2.1             | 12              | 38              | <b>115.00</b> | 5.7             | 28              | 66              | <b>200.00</b> | 9.3             | 40              | 84              | <b>550.00</b>    |
| 2.2             | 13              | 40              | <b>115.00</b> | 5.8             | 28              | 66              | <b>200.00</b> | 9.4             | 40              | 84              | <b>550.00</b>    |
| 2.3             | 13              | 40              | <b>115.00</b> | 5.9             | 28              | 66              | <b>200.00</b> | 9.5             | 40              | 84              | <b>550.00</b>    |
| 2.4             | 14              | 43              | <b>115.00</b> | 6               | 28              | 66              | <b>200.00</b> | 9.6             | 43              | 89              | <b>605.00</b>    |
| 2.5             | 14              | 43              | <b>115.00</b> | 6.1             | 31              | 70              | <b>255.00</b> | 9.7             | 43              | 89              | <b>605.00</b>    |
| 2.6             | 14              | 43              | <b>120.00</b> | 6.2             | 31              | 70              | <b>255.00</b> | 9.8             | 43              | 89              | <b>605.00</b>    |
| 2.7             | 16              | 46              | <b>120.00</b> | 6.3             | 31              | 70              | <b>255.00</b> | 9.9             | 43              | 89              | <b>605.00</b>    |
| 2.8             | 16              | 46              | <b>120.00</b> | 6.4             | 31              | 70              | <b>255.00</b> | 10              | 43              | 89              | <b>605.00</b>    |
| 2.9             | 16              | 46              | <b>120.00</b> | 6.5             | 31              | 70              | <b>255.00</b> | 10.2            | 43              | 89              | <b>685.00</b>    |
| 3               | 16              | 46              | <b>120.00</b> | 6.6             | 31              | 70              | <b>320.00</b> | 10.3            | 43              | 89              | <b>685.00</b>    |
| 3.1             | 18              | 49              | <b>130.00</b> | 6.7             | 31              | 70              | <b>320.00</b> | 10.5            | 43              | 89              | <b>685.00</b>    |
| 3.2             | 18              | 49              | <b>130.00</b> | 6.8             | 34              | 74              | <b>320.00</b> | 10.8            | 47              | 95              | <b>785.00</b>    |
| 3.3             | 18              | 49              | <b>130.00</b> | 6.9             | 34              | 74              | <b>320.00</b> | 11              | 47              | 95              | <b>785.00</b>    |
| 3.4             | 20              | 52              | <b>130.00</b> | 7               | 34              | 74              | <b>320.00</b> | 11.2            | 47              | 95              | <b>870.00</b>    |
| 3.5             | 20              | 52              | <b>130.00</b> | 7.1             | 34              | 74              | <b>360.00</b> | 11.5            | 47              | 95              | <b>870.00</b>    |
| 3.6             | 20              | 52              | <b>135.00</b> | 7.2             | 34              | 74              | <b>360.00</b> | 11.8            | 47              | 95              | <b>995.00</b>    |
| 3.7             | 20              | 52              | <b>135.00</b> | 7.3             | 34              | 74              | <b>360.00</b> | 12              | 51              | 102             | <b>995.00</b>    |
| 3.8             | 22              | 55              | <b>135.00</b> | 7.4             | 34              | 74              | <b>360.00</b> | 12.5            | 51              | 102             | <b>1,115.00</b>  |
| 3.9             | 22              | 55              | <b>135.00</b> | 7.5             | 34              | 74              | <b>360.00</b> | 13              | 51              | 102             | <b>1,150.00</b>  |
| 4               | 22              | 55              | <b>135.00</b> | 7.6             | 37              | 79              | <b>380.00</b> | 13.5            | 54              | 107             | <b>1,350.00</b>  |
| 4.1             | 22              | 55              | <b>150.00</b> | 7.7             | 37              | 79              | <b>380.00</b> | 14              | 54              | 107             | <b>1,355.00</b>  |
| 4.2             | 22              | 55              | <b>150.00</b> | 7.8             | 37              | 79              | <b>380.00</b> | 14.5            | 56              | 111             | <b>1,600.00</b>  |
| 4.3             | 24              | 58              | <b>150.00</b> | 7.9             | 37              | 79              | <b>380.00</b> | 15              | 56              | 111             | <b>1,605.00</b>  |
| 4.4             | 24              | 58              | <b>150.00</b> | 8               | 37              | 79              | <b>380.00</b> | 15.5            | 58              | 115             | <b>1,890.00</b>  |
| 4.5             | 24              | 58              | <b>150.00</b> | 8.1             | 37              | 79              | <b>410.00</b> | 16              | 58              | 115             | <b>1,905.00</b>  |
| 4.6             | 24              | 58              | <b>160.00</b> | 8.2             | 37              | 79              | <b>410.00</b> | 16.5            | 60              | 119             | <b>2,210.00</b>  |
| 4.7             | 24              | 58              | <b>160.00</b> | 8.3             | 37              | 79              | <b>410.00</b> | 17              | 60              | 119             | <b>2,215.00</b>  |
| 4.8             | 26              | 62              | <b>160.00</b> | 8.4             | 37              | 79              | <b>410.00</b> | 17.5            | 62              | 123             | <b>2,685.00</b>  |
| 4.9             | 26              | 62              | <b>160.00</b> | 8.5             | 37              | 79              | <b>410.00</b> | 18              | 62              | 123             | <b>2,685.00</b>  |
| 5               | 26              | 62              | <b>160.00</b> | 8.6             | 40              | 84              | <b>495.00</b> | 18.5            | 64              | 127             | <b>2,975.00</b>  |
| 5.1             | 26              | 62              | <b>195.00</b> | 8.7             | 40              | 84              | <b>495.00</b> | 19              | 64              | 127             | <b>2,975.00</b>  |
| 5.2             | 26              | 62              | <b>195.00</b> | 8.8             | 40              | 84              | <b>495.00</b> | 19.5            | 66              | 131             | <b>3,370.00</b>  |
| 5.3             | 26              | 66              | <b>195.00</b> | 8.9             | 40              | 84              | <b>495.00</b> | 20              | 66              | 131             | <b>3,700.00</b>  |
| 5.4             | 28              | 66              | <b>195.00</b> | 9               | 40              | 84              | <b>495.00</b> | 2~13 (組)        |                 | 91支             | <b>31,940.00</b> |
| 5.5             | 28              | 66              | <b>195.00</b> | 9.1             | 40              | 84              | <b>550.00</b> |                 |                 |                 |                  |

組(91支)：2~10mm (隔0.1mm)、10.2、10.5、10.8、11、11.2、11.5、11.8、12、12.5、13

# PJDG 鈦覆膜自動斷屑直柄中長刃鑽頭

Straight Shank Jobber Length Twist Drills for Deep Hole with Coating



- \* 高螺旋角及特殊刃形設計，使排屑能力更強。
- \* 免用中心鑽定位、可直接快速鑽孔到所需的深度。
- \* 切屑呈細片狀且自動斷屑，避免連續捲曲狀之切屑纏繞在鑽頭或機器主軸上而產生危險。
- \* 適合於非合金鋼、合金鋼、鑄鐵、可鍛鑄鐵、特殊鋁及鎂合金之深孔加工。

單位：mm

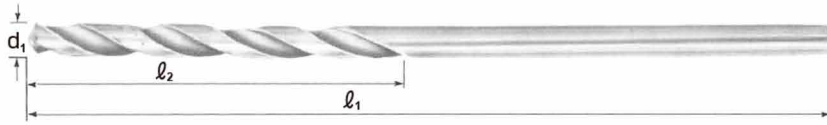
| 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格  | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格  | 刃徑 (d <sub>1</sub> ) | 刃長 (l <sub>2</sub> ) | 全長 (l <sub>1</sub> ) | 價(支)格     |
|----------------------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|-----------|
| 2                    | 24                   | 49                   | 130.00 | 5.3                  | 52                   | 86                   | 235.00 | 8.6                  | 81                   | 125                  | 575.00    |
| 2.1                  | 24                   | 49                   | 145.00 | 5.4                  | 57                   | 93                   | 235.00 | 8.7                  | 81                   | 125                  | 575.00    |
| 2.2                  | 27                   | 53                   | 145.00 | 5.5                  | 57                   | 93                   | 235.00 | 8.8                  | 81                   | 125                  | 575.00    |
| 2.3                  | 27                   | 53                   | 145.00 | 5.6                  | 57                   | 93                   | 250.00 | 8.9                  | 81                   | 125                  | 575.00    |
| 2.4                  | 30                   | 57                   | 145.00 | 5.7                  | 57                   | 93                   | 250.00 | 9                    | 81                   | 125                  | 575.00    |
| 2.5                  | 30                   | 57                   | 145.00 | 5.8                  | 57                   | 93                   | 250.00 | 9.1                  | 81                   | 125                  | 630.00    |
| 2.6                  | 30                   | 57                   | 150.00 | 5.9                  | 57                   | 93                   | 250.00 | 9.2                  | 81                   | 125                  | 630.00    |
| 2.7                  | 33                   | 61                   | 150.00 | 6                    | 57                   | 93                   | 250.00 | 9.3                  | 81                   | 125                  | 630.00    |
| 2.8                  | 33                   | 61                   | 150.00 | 6.1                  | 63                   | 101                  | 320.00 | 9.4                  | 81                   | 125                  | 630.00    |
| 2.9                  | 33                   | 61                   | 150.00 | 6.2                  | 63                   | 101                  | 320.00 | 9.5                  | 81                   | 125                  | 630.00    |
| 3                    | 33                   | 61                   | 150.00 | 6.3                  | 63                   | 101                  | 320.00 | 9.6                  | 87                   | 133                  | 660.00    |
| 3.1                  | 36                   | 65                   | 165.00 | 6.4                  | 63                   | 101                  | 320.00 | 9.7                  | 87                   | 133                  | 660.00    |
| 3.2                  | 36                   | 65                   | 165.00 | 6.5                  | 63                   | 101                  | 320.00 | 9.8                  | 87                   | 133                  | 660.00    |
| 3.3                  | 36                   | 65                   | 165.00 | 6.6                  | 63                   | 101                  | 400.00 | 9.9                  | 87                   | 133                  | 660.00    |
| 3.4                  | 39                   | 70                   | 165.00 | 6.7                  | 63                   | 101                  | 400.00 | 10                   | 87                   | 133                  | 660.00    |
| 3.5                  | 39                   | 70                   | 165.00 | 6.8                  | 69                   | 109                  | 400.00 | 10.2                 | 87                   | 133                  | 815.00    |
| 3.6                  | 39                   | 70                   | 165.00 | 6.9                  | 69                   | 109                  | 400.00 | 10.3                 | 87                   | 133                  | 815.00    |
| 3.7                  | 39                   | 70                   | 165.00 | 7                    | 69                   | 109                  | 400.00 | 10.5                 | 87                   | 133                  | 815.00    |
| 3.8                  | 43                   | 75                   | 165.00 | 7.1                  | 69                   | 109                  | 445.00 | 11                   | 94                   | 142                  | 940.00    |
| 3.9                  | 43                   | 75                   | 165.00 | 7.2                  | 69                   | 109                  | 445.00 | 11.2                 | 94                   | 142                  | 1,065.00  |
| 4                    | 43                   | 75                   | 165.00 | 7.3                  | 69                   | 109                  | 445.00 | 11.5                 | 94                   | 142                  | 1,065.00  |
| 4.1                  | 43                   | 75                   | 190.00 | 7.4                  | 69                   | 109                  | 445.00 | 12                   | 101                  | 151                  | 1,130.00  |
| 4.2                  | 43                   | 75                   | 190.00 | 7.5                  | 69                   | 109                  | 445.00 | 12.5                 | 101                  | 151                  | 1,225.00  |
| 4.3                  | 47                   | 80                   | 190.00 | 7.6                  | 75                   | 117                  | 470.00 | 13                   | 101                  | 151                  | 1,285.00  |
| 4.4                  | 47                   | 80                   | 190.00 | 7.7                  | 75                   | 117                  | 470.00 | 13.5                 | 108                  | 160                  | 1,530.00  |
| 4.5                  | 47                   | 80                   | 190.00 | 7.8                  | 75                   | 117                  | 470.00 | 14                   | 108                  | 160                  | 1,540.00  |
| 4.6                  | 47                   | 80                   | 200.00 | 7.9                  | 75                   | 117                  | 470.00 | 14.5                 | 114                  | 169                  | 1,820.00  |
| 4.7                  | 47                   | 80                   | 200.00 | 8                    | 75                   | 117                  | 470.00 | 15                   | 114                  | 169                  | 1,830.00  |
| 4.8                  | 52                   | 86                   | 200.00 | 8.1                  | 75                   | 117                  | 510.00 | 15.5                 | 120                  | 178                  | 2,160.00  |
| 4.9                  | 52                   | 86                   | 200.00 | 8.2                  | 75                   | 117                  | 510.00 | 16                   | 120                  | 178                  | 2,175.00  |
| 5                    | 52                   | 86                   | 200.00 | 8.3                  | 75                   | 117                  | 510.00 | 2~13 (組)             |                      | 89支                  | 36,025.00 |
| 5.1                  | 52                   | 86                   | 235.00 | 8.4                  | 75                   | 117                  | 510.00 |                      |                      |                      |           |
| 5.2                  | 52                   | 86                   | 235.00 | 8.5                  | 75                   | 117                  | 510.00 |                      |                      |                      |           |

組(89支)：2~10mm (隔0.1mm)、10.2、10.5、11、11.2、11.5、12、12.5、13

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills

右刃右螺旋



單位：mm

| 刃徑<br>( $d_1$ ) | 全長<br>( $l_1$ ) | 刃長<br>( $l_2$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 0.8             | ※ 75            | 30              | <b>340.00</b> |
| 0.8             | ※ 100           | 40              | <b>360.00</b> |
| 0.8             | ※ 150           | 60              | <b>480.00</b> |
| 0.9             | ※ 75            | 30              | <b>340.00</b> |
| 0.9             | ※ 100           | 40              | <b>360.00</b> |
| 0.9             | ※ 150           | 60              | <b>480.00</b> |
| 1               | 75              | 30              | <b>280.00</b> |
| 1               | 100             | 40              | <b>300.00</b> |
| 1               | 150             | 60              | <b>410.00</b> |
| 1.1             | 75              | 30              | <b>280.00</b> |
| 1.1             | 100             | 40              | <b>300.00</b> |
| 1.1             | 150             | 60              | <b>410.00</b> |
| 1.2             | 75              | 30              | <b>280.00</b> |
| 1.2             | 100             | 40              | <b>300.00</b> |
| 1.2             | 150             | 60              | <b>410.00</b> |
| 1.3             | 75              | 30              | <b>280.00</b> |
| 1.3             | 100             | 40              | <b>300.00</b> |
| 1.3             | 150             | 60              | <b>410.00</b> |
| 1.4             | 75              | 30              | <b>280.00</b> |
| 1.4             | 100             | 40              | <b>300.00</b> |
| 1.4             | 150             | 60              | <b>410.00</b> |
| 1.5             | 75              | 30              | <b>280.00</b> |
| 1.5             | 100             | 40              | <b>280.00</b> |
| 1.5             | 150             | 60              | <b>410.00</b> |
| 1.5             | ※ 200           | 80              | <b>600.00</b> |
| 1.6             | 75              | 30              | <b>280.00</b> |
| 1.6             | 100             | 40              | <b>280.00</b> |
| 1.6             | 150             | 60              | <b>410.00</b> |
| 1.6             | ※ 200           | 80              | <b>600.00</b> |
| 1.7             | 75              | 30              | <b>280.00</b> |
| 1.7             | 100             | 40              | <b>280.00</b> |
| 1.7             | 150             | 60              | <b>360.00</b> |
| 1.7             | ※ 200           | 80              | <b>610.00</b> |
| 1.8             | 75              | 30              | <b>280.00</b> |
| 1.8             | 100             | 40              | <b>280.00</b> |
| 1.8             | 150             | 60              | <b>360.00</b> |
| 1.8             | ※ 200           | 80              | <b>610.00</b> |

| 刃徑<br>( $d_1$ ) | 全長<br>( $l_1$ ) | 刃長<br>( $l_2$ ) | 價(支)格         |
|-----------------|-----------------|-----------------|---------------|
| 1.9             | 75              | 30              | <b>280.00</b> |
| 1.9             | 100             | 40              | <b>280.00</b> |
| 1.9             | 150             | 60              | <b>360.00</b> |
| 1.9             | ※ 200           | 80              | <b>610.00</b> |
| 2               | 100             | 50              | <b>240.00</b> |
| 2               | 150             | 75              | <b>290.00</b> |
| 2               | ※ 200           | 100             | <b>530.00</b> |
| 2.1             | 100             | 50              | <b>250.00</b> |
| 2.1             | 150             | 75              | <b>290.00</b> |
| 2.1             | ※ 200           | 100             | <b>560.00</b> |
| 2.2             | 100             | 50              | <b>250.00</b> |
| 2.2             | 150             | 75              | <b>290.00</b> |
| 2.2             | ※ 200           | 100             | <b>560.00</b> |
| 2.3             | 100             | 50              | <b>250.00</b> |
| 2.3             | 150             | 75              | <b>290.00</b> |
| 2.3             | ※ 200           | 100             | <b>560.00</b> |
| 2.4             | 100             | 50              | <b>250.00</b> |
| 2.4             | 150             | 75              | <b>290.00</b> |
| 2.4             | ※ 200           | 100             | <b>560.00</b> |
| 2.5             | 100             | 50              | <b>240.00</b> |
| 2.5             | 150             | 75              | <b>290.00</b> |
| 2.5             | ※ 200           | 100             | <b>470.00</b> |
| 2.6             | 100             | 50              | <b>260.00</b> |
| 2.6             | 150             | 75              | <b>320.00</b> |
| 2.6             | 200             | 100             | <b>400.00</b> |
| 2.7             | 100             | 50              | <b>260.00</b> |
| 2.7             | 150             | 75              | <b>320.00</b> |
| 2.7             | 200             | 100             | <b>400.00</b> |
| 2.8             | 100             | 50              | <b>260.00</b> |
| 2.8             | 150             | 75              | <b>320.00</b> |
| 2.8             | 200             | 100             | <b>400.00</b> |
| 2.9             | 100             | 50              | <b>260.00</b> |
| 2.9             | 150             | 75              | <b>320.00</b> |
| 2.9             | 200             | 100             | <b>400.00</b> |
| 3               | 100             | 50              | <b>250.00</b> |
| 3               | 150             | 75              | <b>300.00</b> |
| 3               | 200             | 100             | <b>380.00</b> |

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 3                       | ※250                    | 125                     | <b>620.00</b>   |
| 3                       | ※300                    | 150                     | <b>760.00</b>   |
| 3.1                     | ※100                    | 50                      | <b>340.00</b>   |
| 3.1                     | 150                     | 75                      | <b>340.00</b>   |
| 3.1                     | 200                     | 100                     | <b>420.00</b>   |
| 3.1                     | ※250                    | 125                     | <b>700.00</b>   |
| 3.2                     | ※100                    | 50                      | <b>340.00</b>   |
| 3.2                     | 150                     | 75                      | <b>340.00</b>   |
| 3.2                     | 200                     | 100                     | <b>420.00</b>   |
| 3.2                     | ※250                    | 125                     | <b>700.00</b>   |
| 3.3                     | ※100                    | 50                      | <b>340.00</b>   |
| 3.3                     | 150                     | 75                      | <b>340.00</b>   |
| 3.3                     | 200                     | 100                     | <b>420.00</b>   |
| 3.3                     | ※250                    | 125                     | <b>700.00</b>   |
| 3.4                     | ※100                    | 50                      | <b>340.00</b>   |
| 3.4                     | 150                     | 75                      | <b>340.00</b>   |
| 3.4                     | 200                     | 100                     | <b>420.00</b>   |
| 3.4                     | ※250                    | 125                     | <b>700.00</b>   |
| 3.5                     | ※100                    | 50                      | <b>320.00</b>   |
| 3.5                     | 150                     | 75                      | <b>320.00</b>   |
| 3.5                     | 200                     | 100                     | <b>390.00</b>   |
| 3.5                     | ※250                    | 125                     | <b>580.00</b>   |
| 3.5                     | ※300                    | 150                     | <b>760.00</b>   |
| 3.6                     | ※100                    | 50                      | <b>370.00</b>   |
| 3.6                     | 150                     | 75                      | <b>370.00</b>   |
| 3.6                     | 200                     | 100                     | <b>450.00</b>   |
| 3.6                     | 250                     | 125                     | <b>530.00</b>   |
| 3.7                     | ※100                    | 50                      | <b>370.00</b>   |
| 3.7                     | 150                     | 75                      | <b>370.00</b>   |
| 3.7                     | 200                     | 100                     | <b>450.00</b>   |
| 3.7                     | 250                     | 125                     | <b>530.00</b>   |
| 3.8                     | ※100                    | 50                      | <b>370.00</b>   |
| 3.8                     | 150                     | 75                      | <b>370.00</b>   |
| 3.8                     | 200                     | 100                     | <b>450.00</b>   |
| 3.8                     | 250                     | 125                     | <b>530.00</b>   |
| 3.9                     | ※100                    | 50                      | <b>370.00</b>   |
| 3.9                     | 150                     | 75                      | <b>370.00</b>   |
| 3.9                     | 200                     | 100                     | <b>450.00</b>   |
| 3.9                     | 250                     | 125                     | <b>530.00</b>   |
| 4                       | ※100                    | 50                      | <b>360.00</b>   |
| 4                       | 150                     | 75                      | <b>360.00</b>   |
| 4                       | 200                     | 100                     | <b>420.00</b>   |
| 4                       | 250                     | 125                     | <b>500.00</b>   |
| 4                       | 300                     | 150                     | <b>600.00</b>   |
| 4                       | ※400                    | 200                     | <b>1,280.00</b> |
| 4                       | ※500                    | 250                     | <b>1,450.00</b> |
| 4.1                     | ※100                    | 50                      | <b>420.00</b>   |
| 4.1                     | 150                     | 75                      | <b>420.00</b>   |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 4.1                     | 200                     | 100                     | <b>490.00</b>   |
| 4.1                     | 250                     | 125                     | <b>600.00</b>   |
| 4.2                     | ※100                    | 50                      | <b>420.00</b>   |
| 4.2                     | 150                     | 75                      | <b>420.00</b>   |
| 4.2                     | 200                     | 100                     | <b>490.00</b>   |
| 4.2                     | 250                     | 125                     | <b>600.00</b>   |
| 4.2                     | 300                     | 150                     | <b>690.00</b>   |
| 4.3                     | ※100                    | 50                      | <b>420.00</b>   |
| 4.3                     | 150                     | 75                      | <b>420.00</b>   |
| 4.3                     | 200                     | 100                     | <b>490.00</b>   |
| 4.3                     | 250                     | 125                     | <b>600.00</b>   |
| 4.3                     | 300                     | 150                     | <b>690.00</b>   |
| 4.4                     | ※100                    | 50                      | <b>420.00</b>   |
| 4.4                     | 150                     | 75                      | <b>420.00</b>   |
| 4.4                     | 200                     | 100                     | <b>490.00</b>   |
| 4.4                     | 250                     | 125                     | <b>600.00</b>   |
| 4.4                     | 300                     | 150                     | <b>690.00</b>   |
| 4.5                     | ※100                    | 50                      | <b>390.00</b>   |
| 4.5                     | 150                     | 75                      | <b>390.00</b>   |
| 4.5                     | 200                     | 100                     | <b>470.00</b>   |
| 4.5                     | 250                     | 125                     | <b>550.00</b>   |
| 4.5                     | 300                     | 150                     | <b>650.00</b>   |
| 4.5                     | ※350                    | 175                     | <b>1,190.00</b> |
| 4.5                     | ※400                    | 200                     | <b>1,410.00</b> |
| 4.5                     | ※500                    | 250                     | <b>2,570.00</b> |
| 4.6                     | ※100                    | 50                      | <b>460.00</b>   |
| 4.6                     | 150                     | 75                      | <b>460.00</b>   |
| 4.6                     | 200                     | 100                     | <b>540.00</b>   |
| 4.6                     | 250                     | 125                     | <b>660.00</b>   |
| 4.6                     | 300                     | 150                     | <b>780.00</b>   |
| 4.7                     | ※100                    | 50                      | <b>460.00</b>   |
| 4.7                     | 150                     | 75                      | <b>460.00</b>   |
| 4.7                     | 200                     | 100                     | <b>540.00</b>   |
| 4.7                     | 250                     | 125                     | <b>660.00</b>   |
| 4.7                     | 300                     | 150                     | <b>780.00</b>   |
| 4.8                     | ※100                    | 50                      | <b>460.00</b>   |
| 4.8                     | 150                     | 75                      | <b>460.00</b>   |
| 4.8                     | 200                     | 100                     | <b>540.00</b>   |
| 4.8                     | 250                     | 125                     | <b>660.00</b>   |
| 4.8                     | 300                     | 150                     | <b>780.00</b>   |
| 4.9                     | ※100                    | 50                      | <b>460.00</b>   |
| 4.9                     | 150                     | 75                      | <b>460.00</b>   |
| 4.9                     | 200                     | 100                     | <b>540.00</b>   |
| 4.9                     | 250                     | 125                     | <b>660.00</b>   |
| 4.9                     | 300                     | 150                     | <b>780.00</b>   |
| 5                       | ※100                    | 50                      | <b>430.00</b>   |
| 5                       | 150                     | 75                      | <b>430.00</b>   |
| 5                       | 200                     | 100                     | <b>500.00</b>   |

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 5                       | 250                     | 125                     | <b>610.00</b>   |
| 5                       | 300                     | 150                     | <b>720.00</b>   |
| 5                       | ※350                    | 175                     | <b>1,350.00</b> |
| 5                       | 400                     | 200                     | <b>1,510.00</b> |
| 5                       | ※500                    | 250                     | <b>2,670.00</b> |
| 5.1                     | 150                     | 75                      | <b>490.00</b>   |
| 5.1                     | 200                     | 100                     | <b>600.00</b>   |
| 5.1                     | 250                     | 125                     | <b>720.00</b>   |
| 5.1                     | 300                     | 150                     | <b>850.00</b>   |
| 5.2                     | 150                     | 75                      | <b>490.00</b>   |
| 5.2                     | 200                     | 100                     | <b>600.00</b>   |
| 5.2                     | 250                     | 125                     | <b>720.00</b>   |
| 5.2                     | 300                     | 150                     | <b>850.00</b>   |
| 5.3                     | 150                     | 75                      | <b>490.00</b>   |
| 5.3                     | 200                     | 100                     | <b>600.00</b>   |
| 5.3                     | 250                     | 125                     | <b>720.00</b>   |
| 5.3                     | 300                     | 150                     | <b>850.00</b>   |
| 5.4                     | 150                     | 75                      | <b>490.00</b>   |
| 5.4                     | 200                     | 100                     | <b>600.00</b>   |
| 5.4                     | 250                     | 125                     | <b>720.00</b>   |
| 5.4                     | 300                     | 150                     | <b>850.00</b>   |
| 5.5                     | 150                     | 75                      | <b>460.00</b>   |
| 5.5                     | 200                     | 100                     | <b>550.00</b>   |
| 5.5                     | 250                     | 125                     | <b>690.00</b>   |
| 5.5                     | 300                     | 150                     | <b>850.00</b>   |
| 5.5                     | ※350                    | 175                     | <b>1,410.00</b> |
| 5.5                     | 400                     | 200                     | <b>1,720.00</b> |
| 5.5                     | ※500                    | 250                     | <b>2,720.00</b> |
| 5.6                     | 150                     | 75                      | <b>530.00</b>   |
| 5.6                     | 200                     | 100                     | <b>660.00</b>   |
| 5.6                     | 250                     | 125                     | <b>800.00</b>   |
| 5.6                     | 300                     | 150                     | <b>940.00</b>   |
| 5.7                     | 150                     | 75                      | <b>530.00</b>   |
| 5.7                     | 200                     | 100                     | <b>660.00</b>   |
| 5.7                     | 250                     | 125                     | <b>800.00</b>   |
| 5.7                     | 300                     | 150                     | <b>940.00</b>   |
| 5.8                     | 150                     | 75                      | <b>530.00</b>   |
| 5.8                     | 200                     | 100                     | <b>660.00</b>   |
| 5.8                     | 250                     | 125                     | <b>800.00</b>   |
| 5.8                     | 300                     | 150                     | <b>940.00</b>   |
| 5.9                     | 150                     | 75                      | <b>530.00</b>   |
| 5.9                     | 200                     | 100                     | <b>660.00</b>   |
| 5.9                     | 250                     | 125                     | <b>800.00</b>   |
| 5.9                     | 300                     | 150                     | <b>940.00</b>   |
| 6                       | 150                     | 75                      | <b>500.00</b>   |
| 6                       | 200                     | 100                     | <b>620.00</b>   |
| 6                       | 250                     | 125                     | <b>760.00</b>   |
| 6                       | 300                     | 150                     | <b>880.00</b>   |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 6                       | ※350                    | 175                     | <b>1,560.00</b> |
| 6                       | 400                     | 200                     | <b>1,800.00</b> |
| 6                       | ※450                    | 225                     | <b>2,520.00</b> |
| 6                       | 500                     | 250                     | <b>2,760.00</b> |
| 6                       | 600                     | 300                     | <b>5,000.00</b> |
| 6.1                     | 150                     | 75                      | <b>570.00</b>   |
| 6.1                     | 200                     | 100                     | <b>710.00</b>   |
| 6.1                     | 250                     | 125                     | <b>860.00</b>   |
| 6.1                     | 300                     | 150                     | <b>1,030.00</b> |
| 6.1                     | ※350                    | 175                     | <b>1,620.00</b> |
| 6.1                     | ※400                    | 200                     | <b>2,080.00</b> |
| 6.2                     | 150                     | 75                      | <b>570.00</b>   |
| 6.2                     | 200                     | 100                     | <b>710.00</b>   |
| 6.2                     | 250                     | 125                     | <b>860.00</b>   |
| 6.2                     | 300                     | 150                     | <b>1,030.00</b> |
| 6.2                     | ※350                    | 175                     | <b>1,620.00</b> |
| 6.2                     | ※400                    | 200                     | <b>2,080.00</b> |
| 6.3                     | 150                     | 75                      | <b>570.00</b>   |
| 6.3                     | 200                     | 100                     | <b>710.00</b>   |
| 6.3                     | 250                     | 125                     | <b>860.00</b>   |
| 6.3                     | 300                     | 150                     | <b>1,030.00</b> |
| 6.3                     | ※350                    | 175                     | <b>1,620.00</b> |
| 6.3                     | ※400                    | 200                     | <b>2,080.00</b> |
| 6.4                     | 150                     | 75                      | <b>570.00</b>   |
| 6.4                     | 200                     | 100                     | <b>710.00</b>   |
| 6.4                     | 250                     | 125                     | <b>860.00</b>   |
| 6.4                     | 300                     | 150                     | <b>1,030.00</b> |
| 6.4                     | ※350                    | 175                     | <b>1,620.00</b> |
| 6.4                     | ※400                    | 200                     | <b>2,080.00</b> |
| 6.5                     | 150                     | 75                      | <b>580.00</b>   |
| 6.5                     | 200                     | 100                     | <b>680.00</b>   |
| 6.5                     | 250                     | 125                     | <b>800.00</b>   |
| 6.5                     | 300                     | 150                     | <b>950.00</b>   |
| 6.5                     | ※350                    | 175                     | <b>1,620.00</b> |
| 6.5                     | 400                     | 200                     | <b>2,080.00</b> |
| 6.5                     | 500                     | 250                     | <b>2,880.00</b> |
| 6.5                     | 600                     | 300                     | <b>5,140.00</b> |
| 6.6                     | 150                     | 75                      | <b>690.00</b>   |
| 6.6                     | 200                     | 100                     | <b>790.00</b>   |
| 6.6                     | 250                     | 125                     | <b>950.00</b>   |
| 6.6                     | 300                     | 150                     | <b>1,070.00</b> |
| 6.6                     | ※350                    | 175                     | <b>1,690.00</b> |
| 6.6                     | ※400                    | 200                     | <b>2,120.00</b> |
| 6.7                     | 150                     | 75                      | <b>690.00</b>   |
| 6.7                     | 200                     | 100                     | <b>790.00</b>   |
| 6.7                     | 250                     | 125                     | <b>950.00</b>   |
| 6.7                     | 300                     | 150                     | <b>1,070.00</b> |
| 6.7                     | ※350                    | 175                     | <b>1,690.00</b> |

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 6.7                     | ※400                    | 200                     | <b>2,120.00</b> |
| 6.8                     | 150                     | 75                      | <b>690.00</b>   |
| 6.8                     | 200                     | 100                     | <b>790.00</b>   |
| 6.8                     | 250                     | 125                     | <b>950.00</b>   |
| 6.8                     | 300                     | 150                     | <b>1,070.00</b> |
| 6.8                     | ※350                    | 175                     | <b>1,690.00</b> |
| 6.8                     | ※400                    | 200                     | <b>2,120.00</b> |
| 6.9                     | 150                     | 75                      | <b>690.00</b>   |
| 6.9                     | 200                     | 100                     | <b>790.00</b>   |
| 6.9                     | 250                     | 125                     | <b>950.00</b>   |
| 6.9                     | 300                     | 150                     | <b>1,070.00</b> |
| 6.9                     | ※350                    | 175                     | <b>1,690.00</b> |
| 6.9                     | ※400                    | 200                     | <b>2,120.00</b> |
| 7                       | 150                     | 75                      | <b>670.00</b>   |
| 7                       | 200                     | 100                     | <b>740.00</b>   |
| 7                       | 250                     | 125                     | <b>860.00</b>   |
| 7                       | 300                     | 150                     | <b>980.00</b>   |
| 7                       | ※350                    | 175                     | <b>1,690.00</b> |
| 7                       | 400                     | 200                     | <b>2,120.00</b> |
| 7                       | ※450                    | 225                     | <b>3,010.00</b> |
| 7                       | 500                     | 250                     | <b>3,090.00</b> |
| 7                       | 600                     | 300                     | <b>5,280.00</b> |
| 7.1                     | 150                     | 75                      | <b>760.00</b>   |
| 7.1                     | 200                     | 100                     | <b>860.00</b>   |
| 7.1                     | 250                     | 125                     | <b>1,030.00</b> |
| 7.1                     | 300                     | 150                     | <b>1,150.00</b> |
| 7.1                     | ※350                    | 175                     | <b>1,950.00</b> |
| 7.1                     | ※400                    | 200                     | <b>2,550.00</b> |
| 7.2                     | 150                     | 75                      | <b>760.00</b>   |
| 7.2                     | 200                     | 100                     | <b>860.00</b>   |
| 7.2                     | 250                     | 125                     | <b>1,030.00</b> |
| 7.2                     | 300                     | 150                     | <b>1,150.00</b> |
| 7.2                     | ※350                    | 175                     | <b>1,950.00</b> |
| 7.2                     | ※400                    | 200                     | <b>2,550.00</b> |
| 7.3                     | 150                     | 75                      | <b>760.00</b>   |
| 7.3                     | 200                     | 100                     | <b>860.00</b>   |
| 7.3                     | 250                     | 125                     | <b>1,030.00</b> |
| 7.3                     | 300                     | 150                     | <b>1,150.00</b> |
| 7.3                     | ※350                    | 175                     | <b>1,950.00</b> |
| 7.3                     | ※400                    | 200                     | <b>2,550.00</b> |
| 7.4                     | 150                     | 75                      | <b>760.00</b>   |
| 7.4                     | 200                     | 100                     | <b>860.00</b>   |
| 7.4                     | 250                     | 125                     | <b>1,030.00</b> |
| 7.4                     | 300                     | 150                     | <b>1,150.00</b> |
| 7.4                     | ※350                    | 175                     | <b>1,950.00</b> |
| 7.4                     | ※400                    | 200                     | <b>2,550.00</b> |
| 7.5                     | 150                     | 75                      | <b>760.00</b>   |
| 7.5                     | 200                     | 100                     | <b>860.00</b>   |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 7.5                     | 250                     | 125                     | <b>1,020.00</b> |
| 7.5                     | 300                     | 150                     | <b>1,140.00</b> |
| 7.5                     | ※350                    | 175                     | <b>1,950.00</b> |
| 7.5                     | 400                     | 200                     | <b>2,300.00</b> |
| 7.5                     | ※450                    | 225                     | <b>3,100.00</b> |
| 7.5                     | 500                     | 250                     | <b>3,450.00</b> |
| 7.5                     | 600                     | 300                     | <b>5,500.00</b> |
| 7.6                     | 150                     | 75                      | <b>850.00</b>   |
| 7.6                     | 200                     | 100                     | <b>1,000.00</b> |
| 7.6                     | 250                     | 125                     | <b>1,190.00</b> |
| 7.6                     | 300                     | 150                     | <b>1,250.00</b> |
| 7.6                     | ※350                    | 175                     | <b>2,120.00</b> |
| 7.6                     | ※400                    | 200                     | <b>2,780.00</b> |
| 7.7                     | 150                     | 75                      | <b>850.00</b>   |
| 7.7                     | 200                     | 100                     | <b>1,000.00</b> |
| 7.7                     | 250                     | 125                     | <b>1,190.00</b> |
| 7.7                     | 300                     | 150                     | <b>1,250.00</b> |
| 7.7                     | ※350                    | 175                     | <b>2,120.00</b> |
| 7.7                     | ※400                    | 200                     | <b>2,780.00</b> |
| 7.8                     | 150                     | 75                      | <b>850.00</b>   |
| 7.8                     | 200                     | 100                     | <b>1,000.00</b> |
| 7.8                     | 250                     | 125                     | <b>1,190.00</b> |
| 7.8                     | 300                     | 150                     | <b>1,250.00</b> |
| 7.8                     | ※350                    | 175                     | <b>2,120.00</b> |
| 7.8                     | ※400                    | 200                     | <b>2,780.00</b> |
| 7.9                     | 150                     | 75                      | <b>850.00</b>   |
| 7.9                     | 200                     | 100                     | <b>1,000.00</b> |
| 7.9                     | 250                     | 125                     | <b>1,190.00</b> |
| 7.9                     | 300                     | 150                     | <b>1,250.00</b> |
| 7.9                     | ※350                    | 175                     | <b>2,120.00</b> |
| 7.9                     | ※400                    | 200                     | <b>2,780.00</b> |
| 8                       | 150                     | 75                      | <b>840.00</b>   |
| 8                       | 200                     | 100                     | <b>920.00</b>   |
| 8                       | 250                     | 125                     | <b>1,080.00</b> |
| 8                       | 300                     | 150                     | <b>1,220.00</b> |
| 8                       | ※350                    | 175                     | <b>2,120.00</b> |
| 8                       | 400                     | 200                     | <b>2,400.00</b> |
| 8                       | ※450                    | 225                     | <b>3,330.00</b> |
| 8                       | 500                     | 250                     | <b>3,500.00</b> |
| 8                       | 600                     | 300                     | <b>5,350.00</b> |
| 8.1                     | ※150                    | 75                      | <b>1,120.00</b> |
| 8.1                     | 200                     | 100                     | <b>1,120.00</b> |
| 8.1                     | 250                     | 125                     | <b>1,260.00</b> |
| 8.1                     | 300                     | 150                     | <b>1,440.00</b> |
| 8.1                     | ※350                    | 175                     | <b>2,490.00</b> |
| 8.1                     | ※400                    | 200                     | <b>3,000.00</b> |
| 8.2                     | ※150                    | 75                      | <b>1,120.00</b> |
| 8.2                     | 200                     | 100                     | <b>1,120.00</b> |

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 8.2                     | 250                     | 125                     | <b>1,260.00</b> |
| 8.2                     | 300                     | 150                     | <b>1,440.00</b> |
| 8.2                     | ※350                    | 175                     | <b>2,490.00</b> |
| 8.2                     | ※400                    | 200                     | <b>3,000.00</b> |
| 8.3                     | ※150                    | 75                      | <b>1,120.00</b> |
| 8.3                     | 200                     | 100                     | <b>1,120.00</b> |
| 8.3                     | 250                     | 125                     | <b>1,260.00</b> |
| 8.3                     | 300                     | 150                     | <b>1,440.00</b> |
| 8.3                     | ※350                    | 175                     | <b>2,490.00</b> |
| 8.3                     | ※400                    | 200                     | <b>3,000.00</b> |
| 8.4                     | ※150                    | 75                      | <b>1,120.00</b> |
| 8.4                     | 200                     | 100                     | <b>1,120.00</b> |
| 8.4                     | 250                     | 125                     | <b>1,260.00</b> |
| 8.4                     | 300                     | 150                     | <b>1,440.00</b> |
| 8.4                     | ※350                    | 175                     | <b>2,490.00</b> |
| 8.4                     | ※400                    | 200                     | <b>3,000.00</b> |
| 8.5                     | ※150                    | 75                      | <b>1,050.00</b> |
| 8.5                     | 200                     | 100                     | <b>1,050.00</b> |
| 8.5                     | 250                     | 125                     | <b>1,190.00</b> |
| 8.5                     | 300                     | 150                     | <b>1,360.00</b> |
| 8.5                     | ※350                    | 175                     | <b>2,420.00</b> |
| 8.5                     | 400                     | 200                     | <b>2,650.00</b> |
| 8.5                     | 500                     | 250                     | <b>4,200.00</b> |
| 8.5                     | 600                     | 300                     | <b>5,630.00</b> |
| 8.6                     | ※150                    | 75                      | <b>1,200.00</b> |
| 8.6                     | 200                     | 100                     | <b>1,200.00</b> |
| 8.6                     | 250                     | 125                     | <b>1,420.00</b> |
| 8.6                     | 300                     | 150                     | <b>1,540.00</b> |
| 8.6                     | ※350                    | 175                     | <b>2,710.00</b> |
| 8.6                     | ※400                    | 200                     | <b>3,390.00</b> |
| 8.7                     | ※150                    | 75                      | <b>1,200.00</b> |
| 8.7                     | 200                     | 100                     | <b>1,200.00</b> |
| 8.7                     | 250                     | 125                     | <b>1,420.00</b> |
| 8.7                     | 300                     | 150                     | <b>1,540.00</b> |
| 8.7                     | ※350                    | 175                     | <b>2,710.00</b> |
| 8.7                     | ※400                    | 200                     | <b>3,390.00</b> |
| 8.8                     | ※150                    | 75                      | <b>1,200.00</b> |
| 8.8                     | 200                     | 100                     | <b>1,200.00</b> |
| 8.8                     | 250                     | 125                     | <b>1,420.00</b> |
| 8.8                     | 300                     | 150                     | <b>1,540.00</b> |
| 8.8                     | ※350                    | 175                     | <b>2,710.00</b> |
| 8.8                     | ※400                    | 200                     | <b>3,390.00</b> |
| 8.9                     | ※150                    | 75                      | <b>1,200.00</b> |
| 8.9                     | 200                     | 100                     | <b>1,200.00</b> |
| 8.9                     | 250                     | 125                     | <b>1,420.00</b> |
| 8.9                     | 300                     | 150                     | <b>1,540.00</b> |
| 8.9                     | ※350                    | 175                     | <b>2,710.00</b> |
| 8.9                     | ※400                    | 200                     | <b>3,390.00</b> |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 9                       | ※150                    | 75                      | <b>1,120.00</b> |
| 9                       | 200                     | 100                     | <b>1,120.00</b> |
| 9                       | 250                     | 125                     | <b>1,350.00</b> |
| 9                       | 300                     | 150                     | <b>1,520.00</b> |
| 9                       | ※350                    | 175                     | <b>2,430.00</b> |
| 9                       | 400                     | 200                     | <b>2,930.00</b> |
| 9                       | ※450                    | 225                     | <b>4,080.00</b> |
| 9                       | 500                     | 250                     | <b>4,920.00</b> |
| 9                       | 600                     | 300                     | <b>6,230.00</b> |
| 9.1                     | ※150                    | 75                      | <b>1,310.00</b> |
| 9.1                     | 200                     | 100                     | <b>1,310.00</b> |
| 9.1                     | 250                     | 125                     | <b>1,480.00</b> |
| 9.1                     | 300                     | 150                     | <b>1,690.00</b> |
| 9.1                     | ※350                    | 175                     | <b>2,910.00</b> |
| 9.1                     | ※400                    | 200                     | <b>3,670.00</b> |
| 9.2                     | ※150                    | 75                      | <b>1,310.00</b> |
| 9.2                     | 200                     | 100                     | <b>1,310.00</b> |
| 9.2                     | 250                     | 125                     | <b>1,480.00</b> |
| 9.2                     | 300                     | 150                     | <b>1,690.00</b> |
| 9.2                     | ※350                    | 175                     | <b>2,910.00</b> |
| 9.2                     | ※400                    | 200                     | <b>3,670.00</b> |
| 9.3                     | ※150                    | 75                      | <b>1,310.00</b> |
| 9.3                     | 200                     | 100                     | <b>1,310.00</b> |
| 9.3                     | 250                     | 125                     | <b>1,480.00</b> |
| 9.3                     | 300                     | 150                     | <b>1,690.00</b> |
| 9.3                     | ※350                    | 175                     | <b>2,910.00</b> |
| 9.3                     | ※400                    | 200                     | <b>3,670.00</b> |
| 9.4                     | ※150                    | 75                      | <b>1,310.00</b> |
| 9.4                     | 200                     | 100                     | <b>1,310.00</b> |
| 9.4                     | 250                     | 125                     | <b>1,480.00</b> |
| 9.4                     | 300                     | 150                     | <b>1,690.00</b> |
| 9.4                     | ※350                    | 175                     | <b>2,910.00</b> |
| 9.4                     | ※400                    | 200                     | <b>3,670.00</b> |
| 9.5                     | ※150                    | 75                      | <b>1,220.00</b> |
| 9.5                     | 200                     | 100                     | <b>1,220.00</b> |
| 9.5                     | 250                     | 125                     | <b>1,480.00</b> |
| 9.5                     | 300                     | 150                     | <b>1,650.00</b> |
| 9.5                     | ※350                    | 175                     | <b>2,700.00</b> |
| 9.5                     | 400                     | 200                     | <b>3,190.00</b> |
| 9.5                     | ※450                    | 225                     | <b>4,350.00</b> |
| 9.5                     | 500                     | 250                     | <b>5,040.00</b> |
| 9.5                     | 600                     | 300                     | <b>6,730.00</b> |
| 9.6                     | ※150                    | 75                      | <b>1,420.00</b> |
| 9.6                     | 200                     | 100                     | <b>1,420.00</b> |
| 9.6                     | 250                     | 125                     | <b>1,660.00</b> |
| 9.6                     | 300                     | 150                     | <b>1,840.00</b> |
| 9.6                     | ※350                    | 175                     | <b>3,160.00</b> |
| 9.6                     | ※400                    | 200                     | <b>3,990.00</b> |

# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 9.7                     | ※150                    | 75                      | <b>1,420.00</b> |
| 9.7                     | 200                     | 100                     | <b>1,420.00</b> |
| 9.7                     | 250                     | 125                     | <b>1,660.00</b> |
| 9.7                     | 300                     | 150                     | <b>1,840.00</b> |
| 9.7                     | ※350                    | 175                     | <b>3,160.00</b> |
| 9.7                     | ※400                    | 200                     | <b>3,990.00</b> |
| 9.8                     | ※150                    | 75                      | <b>1,420.00</b> |
| 9.8                     | 200                     | 100                     | <b>1,420.00</b> |
| 9.8                     | 250                     | 125                     | <b>1,660.00</b> |
| 9.8                     | 300                     | 150                     | <b>1,840.00</b> |
| 9.8                     | ※350                    | 175                     | <b>3,160.00</b> |
| 9.8                     | ※400                    | 200                     | <b>3,990.00</b> |
| 9.9                     | ※150                    | 75                      | <b>1,420.00</b> |
| 9.9                     | 200                     | 100                     | <b>1,420.00</b> |
| 9.9                     | 250                     | 125                     | <b>1,660.00</b> |
| 9.9                     | 300                     | 150                     | <b>1,840.00</b> |
| 9.9                     | ※350                    | 175                     | <b>3,160.00</b> |
| 9.9                     | ※400                    | 200                     | <b>3,990.00</b> |
| 10                      | ※150                    | 75                      | <b>1,330.00</b> |
| 10                      | 200                     | 100                     | <b>1,330.00</b> |
| 10                      | 250                     | 125                     | <b>1,720.00</b> |
| 10                      | 300                     | 150                     | <b>1,760.00</b> |
| 10                      | ※350                    | 175                     | <b>2,870.00</b> |
| 10                      | 400                     | 200                     | <b>3,450.00</b> |
| 10                      | ※450                    | 225                     | <b>5,160.00</b> |
| 10                      | 500                     | 250                     | <b>5,280.00</b> |
| 10                      | 600                     | 300                     | <b>7,050.00</b> |
| 10.1                    | 200                     | 100                     | <b>1,550.00</b> |
| 10.1                    | 250                     | 125                     | <b>1,820.00</b> |
| 10.1                    | 300                     | 150                     | <b>2,040.00</b> |
| 10.1                    | ※350                    | 175                     | <b>3,460.00</b> |
| 10.1                    | ※400                    | 200                     | <b>4,490.00</b> |
| 10.2                    | 200                     | 100                     | <b>1,550.00</b> |
| 10.2                    | 250                     | 125                     | <b>1,820.00</b> |
| 10.2                    | 300                     | 150                     | <b>2,040.00</b> |
| 10.2                    | ※350                    | 175                     | <b>3,460.00</b> |
| 10.2                    | ※400                    | 200                     | <b>4,490.00</b> |
| 10.3                    | 200                     | 100                     | <b>1,550.00</b> |
| 10.3                    | 250                     | 125                     | <b>1,820.00</b> |
| 10.3                    | 300                     | 150                     | <b>2,040.00</b> |
| 10.3                    | ※350                    | 175                     | <b>3,460.00</b> |
| 10.3                    | ※400                    | 200                     | <b>4,490.00</b> |
| 10.4                    | 200                     | 100                     | <b>1,550.00</b> |
| 10.4                    | 250                     | 125                     | <b>1,820.00</b> |
| 10.4                    | 300                     | 150                     | <b>2,040.00</b> |
| 10.4                    | ※350                    | 175                     | <b>3,460.00</b> |
| 10.4                    | ※400                    | 200                     | <b>4,490.00</b> |
| 10.5                    | 200                     | 100                     | <b>1,570.00</b> |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 10.5                    | 250                     | 125                     | <b>1,660.00</b> |
| 10.5                    | 300                     | 150                     | <b>1,850.00</b> |
| 10.5                    | ※350                    | 175                     | <b>3,260.00</b> |
| 10.5                    | 400                     | 200                     | <b>3,790.00</b> |
| 10.5                    | ※450                    | 225                     | <b>5,330.00</b> |
| 10.5                    | 500                     | 250                     | <b>5,470.00</b> |
| 10.5                    | 600                     | 300                     | <b>7,040.00</b> |
| 10.6                    | 200                     | 100                     | <b>1,740.00</b> |
| 10.6                    | 250                     | 125                     | <b>2,020.00</b> |
| 10.6                    | 300                     | 150                     | <b>2,290.00</b> |
| 10.6                    | ※350                    | 175                     | <b>3,890.00</b> |
| 10.6                    | ※400                    | 200                     | <b>4,690.00</b> |
| 10.7                    | 200                     | 100                     | <b>1,740.00</b> |
| 10.7                    | 250                     | 125                     | <b>2,020.00</b> |
| 10.7                    | 300                     | 150                     | <b>2,290.00</b> |
| 10.7                    | ※350                    | 175                     | <b>3,890.00</b> |
| 10.7                    | ※400                    | 200                     | <b>4,690.00</b> |
| 10.8                    | 200                     | 100                     | <b>1,740.00</b> |
| 10.8                    | 250                     | 125                     | <b>2,020.00</b> |
| 10.8                    | 300                     | 150                     | <b>2,290.00</b> |
| 10.8                    | ※350                    | 175                     | <b>3,890.00</b> |
| 10.8                    | ※400                    | 200                     | <b>4,690.00</b> |
| 10.9                    | 200                     | 100                     | <b>1,740.00</b> |
| 10.9                    | 250                     | 125                     | <b>2,020.00</b> |
| 10.9                    | 300                     | 150                     | <b>2,290.00</b> |
| 10.9                    | ※350                    | 175                     | <b>3,890.00</b> |
| 10.9                    | ※400                    | 200                     | <b>4,690.00</b> |
| 11                      | 200                     | 100                     | <b>1,660.00</b> |
| 11                      | 250                     | 125                     | <b>1,770.00</b> |
| 11                      | 300                     | 150                     | <b>2,050.00</b> |
| 11                      | ※350                    | 175                     | <b>3,530.00</b> |
| 11                      | 400                     | 200                     | <b>3,960.00</b> |
| 11                      | ※450                    | 225                     | <b>6,520.00</b> |
| 11                      | 500                     | 250                     | <b>6,630.00</b> |
| 11                      | 600                     | 300                     | <b>7,820.00</b> |
| 11.1                    | 200                     | 100                     | <b>2,030.00</b> |
| 11.1                    | 250                     | 125                     | <b>2,300.00</b> |
| 11.1                    | 300                     | 150                     | <b>2,490.00</b> |
| 11.1                    | ※350                    | 175                     | <b>4,130.00</b> |
| 11.1                    | ※400                    | 200                     | <b>5,150.00</b> |
| 11.2                    | 200                     | 100                     | <b>2,030.00</b> |
| 11.2                    | 250                     | 125                     | <b>2,300.00</b> |
| 11.2                    | 300                     | 150                     | <b>2,490.00</b> |
| 11.2                    | ※350                    | 175                     | <b>4,130.00</b> |
| 11.2                    | ※400                    | 200                     | <b>5,150.00</b> |
| 11.3                    | 200                     | 100                     | <b>2,030.00</b> |
| 11.3                    | 250                     | 125                     | <b>2,300.00</b> |
| 11.3                    | 300                     | 150                     | <b>2,490.00</b> |

鑽頭刀具

Drills



# SSLD 直柄長刃鑽頭

Straight Shank Long Drills



單位：mm

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 11.3                    | ※ 350                   | 175                     | <b>4,130.00</b> |
| 11.3                    | ※ 400                   | 200                     | <b>5,150.00</b> |
| 11.4                    | 200                     | 100                     | <b>2,030.00</b> |
| 11.4                    | 250                     | 125                     | <b>2,300.00</b> |
| 11.4                    | 300                     | 150                     | <b>2,490.00</b> |
| 11.4                    | ※ 350                   | 175                     | <b>4,130.00</b> |
| 11.4                    | ※ 400                   | 200                     | <b>5,150.00</b> |
| 11.5                    | 200                     | 100                     | <b>1,930.00</b> |
| 11.5                    | 250                     | 125                     | <b>2,030.00</b> |
| 11.5                    | 300                     | 150                     | <b>2,210.00</b> |
| 11.5                    | ※ 350                   | 175                     | <b>3,750.00</b> |
| 11.5                    | 400                     | 200                     | <b>4,200.00</b> |
| 11.5                    | ※ 450                   | 225                     | <b>6,540.00</b> |
| 11.5                    | 500                     | 250                     | <b>6,630.00</b> |
| 11.5                    | 600                     | 300                     | <b>8,410.00</b> |
| 11.6                    | 200                     | 100                     | <b>2,050.00</b> |
| 11.6                    | 250                     | 125                     | <b>2,310.00</b> |
| 11.6                    | 300                     | 150                     | <b>2,650.00</b> |
| 11.6                    | ※ 350                   | 175                     | <b>4,390.00</b> |
| 11.6                    | ※ 400                   | 200                     | <b>5,310.00</b> |
| 11.7                    | 200                     | 100                     | <b>2,050.00</b> |
| 11.7                    | 250                     | 125                     | <b>2,310.00</b> |
| 11.7                    | 300                     | 150                     | <b>2,650.00</b> |
| 11.7                    | ※ 350                   | 175                     | <b>4,390.00</b> |
| 11.7                    | ※ 400                   | 200                     | <b>5,310.00</b> |
| 11.8                    | 200                     | 100                     | <b>2,050.00</b> |
| 11.8                    | 250                     | 125                     | <b>2,310.00</b> |
| 11.8                    | 300                     | 150                     | <b>2,650.00</b> |
| 11.8                    | ※ 350                   | 175                     | <b>4,390.00</b> |
| 11.8                    | ※ 400                   | 200                     | <b>5,310.00</b> |
| 11.9                    | 200                     | 100                     | <b>2,050.00</b> |
| 11.9                    | 250                     | 125                     | <b>2,310.00</b> |
| 11.9                    | 300                     | 150                     | <b>2,650.00</b> |
| 11.9                    | ※ 350                   | 175                     | <b>4,390.00</b> |
| 11.9                    | ※ 400                   | 200                     | <b>5,310.00</b> |
| 12                      | 200                     | 100                     | <b>1,960.00</b> |
| 12                      | 250                     | 125                     | <b>2,130.00</b> |
| 12                      | 300                     | 150                     | <b>2,400.00</b> |
| 12                      | ※ 350                   | 175                     | <b>3,990.00</b> |
| 12                      | 400                     | 200                     | <b>4,680.00</b> |
| 12                      | 500                     | 250                     | <b>7,150.00</b> |
| 12                      | 600                     | 300                     | <b>8,820.00</b> |
| 12.1                    | 200                     | 100                     | <b>2,220.00</b> |
| 12.1                    | 250                     | 125                     | <b>2,490.00</b> |
| 12.1                    | 300                     | 150                     | <b>2,900.00</b> |
| 12.1                    | ※ 350                   | 175                     | <b>4,670.00</b> |
| 12.1                    | ※ 400                   | 200                     | <b>5,450.00</b> |
| 12.2                    | 200                     | 100                     | <b>2,220.00</b> |

| 刃徑<br>(d <sub>1</sub> ) | 全長<br>(l <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 12.2                    | 250                     | 125                     | <b>2,490.00</b> |
| 12.2                    | 300                     | 150                     | <b>2,900.00</b> |
| 12.2                    | ※ 350                   | 175                     | <b>4,670.00</b> |
| 12.2                    | ※ 400                   | 200                     | <b>5,450.00</b> |
| 12.3                    | 200                     | 100                     | <b>2,220.00</b> |
| 12.3                    | 250                     | 125                     | <b>2,490.00</b> |
| 12.3                    | 300                     | 150                     | <b>2,900.00</b> |
| 12.3                    | ※ 350                   | 175                     | <b>4,670.00</b> |
| 12.3                    | ※ 400                   | 200                     | <b>5,450.00</b> |
| 12.4                    | 200                     | 100                     | <b>2,220.00</b> |
| 12.4                    | 250                     | 125                     | <b>2,490.00</b> |
| 12.4                    | 300                     | 150                     | <b>2,900.00</b> |
| 12.4                    | ※ 350                   | 175                     | <b>4,670.00</b> |
| 12.4                    | ※ 400                   | 200                     | <b>5,450.00</b> |
| 12.5                    | 200                     | 100                     | <b>2,130.00</b> |
| 12.5                    | 250                     | 125                     | <b>2,310.00</b> |
| 12.5                    | 300                     | 150                     | <b>2,620.00</b> |
| 12.5                    | ※ 350                   | 175                     | <b>4,240.00</b> |
| 12.5                    | 400                     | 200                     | <b>4,720.00</b> |
| 12.5                    | 500                     | 250                     | <b>7,920.00</b> |
| 12.5                    | 600                     | 300                     | <b>9,350.00</b> |
| 12.6                    | 200                     | 100                     | <b>2,400.00</b> |
| 12.6                    | 250                     | 125                     | <b>2,680.00</b> |
| 12.6                    | 300                     | 150                     | <b>3,050.00</b> |
| 12.6                    | ※ 350                   | 175                     | <b>4,940.00</b> |
| 12.6                    | ※ 400                   | 200                     | <b>5,660.00</b> |
| 12.7                    | 200                     | 100                     | <b>2,400.00</b> |
| 12.7                    | 250                     | 125                     | <b>2,680.00</b> |
| 12.7                    | 300                     | 150                     | <b>3,050.00</b> |
| 12.7                    | ※ 350                   | 175                     | <b>4,940.00</b> |
| 12.7                    | ※ 400                   | 200                     | <b>5,660.00</b> |
| 12.8                    | 200                     | 100                     | <b>2,400.00</b> |
| 12.8                    | 250                     | 125                     | <b>2,680.00</b> |
| 12.8                    | 300                     | 150                     | <b>3,050.00</b> |
| 12.8                    | ※ 350                   | 175                     | <b>4,940.00</b> |
| 12.8                    | ※ 400                   | 200                     | <b>5,660.00</b> |
| 12.9                    | 200                     | 100                     | <b>2,400.00</b> |
| 12.9                    | 250                     | 125                     | <b>2,680.00</b> |
| 12.9                    | 300                     | 150                     | <b>3,050.00</b> |
| 12.9                    | ※ 350                   | 175                     | <b>4,940.00</b> |
| 12.9                    | ※ 400                   | 200                     | <b>5,660.00</b> |
| 13                      | 200                     | 100                     | <b>2,310.00</b> |
| 13                      | 250                     | 125                     | <b>2,480.00</b> |
| 13                      | 300                     | 150                     | <b>2,770.00</b> |
| 13                      | ※ 350                   | 175                     | <b>4,490.00</b> |
| 13                      | 400                     | 200                     | <b>4,830.00</b> |
| 13                      | 500                     | 250                     | <b>7,920.00</b> |
| 13                      | 600                     | 300                     | <b>9,450.00</b> |

# 全鎢鋼鑽頭 · 全鎢鋼長刃鑽頭切削條件參考表

## Recommended Cutting Condition

| 被削材 | 非合金鋼                  |         | 合金鋼                    |         | 軟質鑄鐵<br>HB240 · GG25 |         | 硬質鑄鐵<br>HB300 · GG40 |         |
|-----|-----------------------|---------|------------------------|---------|----------------------|---------|----------------------|---------|
| 強度  | 700 N/mm <sup>2</sup> |         | 1000 N/mm <sup>2</sup> |         |                      |         |                      |         |
| 刃徑  | 回轉數                   | 進刀速度    | 回轉數                    | 進刀速度    | 回轉數                  | 進刀速度    | 回轉數                  | 進刀速度    |
|     | min <sup>-1</sup>     | mm/rev. | min <sup>-1</sup>      | mm/rev. | min <sup>-1</sup>    | mm/rev. | min <sup>-1</sup>    | mm/rev. |
| 2   | 11,500                | 0.04    | 8,600                  | 0.04    | 16,000               | 0.05    | 11,500               | 0.05    |
| 3   | 7,800                 | 0.05    | 5,750                  | 0.05    | 10,500               | 0.06    | 7,600                | 0.06    |
| 4   | 5,800                 | 0.06    | 4,300                  | 0.06    | 7,800                | 0.07    | 5,700                | 0.07    |
| 5   | 4,700                 | 0.07    | 3,450                  | 0.07    | 6,200                | 0.08    | 4,550                | 0.08    |
| 6   | 3,900                 | 0.08    | 2,850                  | 0.08    | 5,200                | 0.09    | 3,800                | 0.09    |
| 7   | 3,350                 | 0.09    | 2,450                  | 0.09    | 4,500                | 0.1     | 3,250                | 0.1     |
| 8   | 2,900                 | 0.1     | 2,150                  | 0.1     | 3,900                | 0.12    | 2,850                | 0.12    |
| 9   | 2,600                 | 0.11    | 1,900                  | 0.11    | 3,450                | 0.14    | 2,550                | 0.14    |
| 10  | 2,350                 | 0.12    | 1,700                  | 0.12    | 3,100                | 0.16    | 2,300                | 0.16    |
| 11  | 2,150                 | 0.13    | 1,600                  | 0.13    | 2,850                | 0.18    | 2,100                | 0.18    |
| 12  | 1,950                 | 0.14    | 1,450                  | 0.14    | 2,600                | 0.2     | 1,900                | 0.2     |
| 13  | 1,800                 | 0.16    | 1,350                  | 0.16    | 2,400                | 0.2     | 1,750                | 0.2     |

| 被削材 | 不銹鋼               |         | 鋁 · 矽合金(矽<10%)    |         | 鋁 · 矽合金(矽>10%)    |         | 鈦 · 鎳合金           |         |
|-----|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
| 刃徑  | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    |
|     | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. |
| 2   | 6,000             | 0.03    | 27,000            | 0.06    | 21,000            | 0.06    | 5,900             | 0.03    |
| 3   | 4,000             | 0.04    | 18,000            | 0.07    | 14,000            | 0.07    | 3,900             | 0.04    |
| 4   | 3,000             | 0.05    | 13,000            | 0.08    | 10,500            | 0.08    | 2,950             | 0.05    |
| 5   | 2,400             | 0.06    | 10,500            | 0.09    | 8,500             | 0.09    | 2,350             | 0.06    |
| 6   | 2,000             | 0.07    | 8,800             | 0.11    | 7,100             | 0.11    | 1,950             | 0.07    |
| 7   | 1,700             | 0.08    | 7,600             | 0.13    | 6,100             | 0.13    | 1,700             | 0.08    |
| 8   | 1,500             | 0.09    | 6,600             | 0.15    | 5,350             | 0.15    | 1,450             | 0.09    |
| 9   | 1,350             | 0.1     | 5,900             | 0.17    | 4,750             | 0.17    | 1,300             | 0.1     |
| 10  | 1,200             | 0.11    | 5,300             | 0.19    | 4,250             | 0.19    | 1,200             | 0.11    |
| 11  | 1,100             | 0.12    | 4,850             | 0.21    | 3,900             | 0.21    | 1,050             | 0.12    |
| 12  | 1,000             | 0.13    | 4,450             | 0.23    | 3,550             | 0.23    | 980               | 0.13    |
| 13  | 950               | 0.13    | 4,100             | 0.25    | 3,300             | 0.25    | 905               | 0.13    |

# PSD · PJD · PSDG · PJDG 切削條件參考表

## Recommended Cutting Condition

| 被削材 | 炭素鋼 · 合金鋼<br>15~30HRC      |         | 工具鋼 · 調質鋼<br>20~40HRC      |         | 軟質鑄鐵              |         | 硬質鑄鐵              |         |
|-----|----------------------------|---------|----------------------------|---------|-------------------|---------|-------------------|---------|
| 強度  | 700~1000 N/mm <sup>2</sup> |         | 800~1200 N/mm <sup>2</sup> |         |                   |         |                   |         |
| 刃徑  | 回轉數                        | 進刀速度    | 回轉數                        | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    |
|     | min <sup>-1</sup>          | mm/rev. | min <sup>-1</sup>          | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. |
| 2   | 2,630                      | 0.03    | 2,100                      | 0.025   | 4,200             | 0.06    | 1,680             | 0.05    |
| 2.5 | 2,100                      | 0.04    | 1,680                      | 0.03    | 3,300             | 0.08    | 1,310             | 0.06    |
| 3   | 1,680                      | 0.05    | 1,310                      | 0.04    | 2,630             | 0.1     | 1,050             | 0.08    |
| 4   | 1,310                      | 0.06    | 1,050                      | 0.05    | 2,100             | 0.13    | 840               | 0.1     |
| 5   | 1,050                      | 0.06    | 840                        | 0.05    | 1,680             | 0.13    | 660               | 0.1     |
| 6   | 840                        | 0.08    | 660                        | 0.06    | 1,310             | 0.16    | 530               | 0.13    |
| 8   | 660                        | 0.1     | 530                        | 0.08    | 1,050             | 0.2     | 420               | 0.17    |
| 10  | 530                        | 0.13    | 420                        | 0.1     | 840               | 0.25    | 330               | 0.21    |
| 13  | 420                        | 0.13    | 330                        | 0.1     | 660               | 0.25    | 260               | 0.21    |

## SSD・TSD 切削條件參考表

### Recommended Cutting Condition

| 被削材 | 炭素鋼                    |         | 炭素鋼<br>~23HRC          |         | 炭素鋼<br>23~28HRC           |         | 合金鋼<br>23~34HRC            |         |
|-----|------------------------|---------|------------------------|---------|---------------------------|---------|----------------------------|---------|
|     | ~570 N/mm <sup>2</sup> |         | ~830 N/mm <sup>2</sup> |         | 830~950 N/mm <sup>2</sup> |         | 830~1110 N/mm <sup>2</sup> |         |
| 刃徑  | 回轉數                    | 進刀速度    | 回轉數                    | 進刀速度    | 回轉數                       | 進刀速度    | 回轉數                        | 進刀速度    |
|     | min <sup>-1</sup>      | mm/rev. | min <sup>-1</sup>      | mm/rev. | min <sup>-1</sup>         | mm/rev. | min <sup>-1</sup>          | mm/rev. |
| 2.5 | 3,380                  | 0.025   | 2,550                  | 0.025   | 1,900                     | 0.015   | 2,380                      | 0.02    |
| 3   | 2,700                  | 0.05    | 2,000                  | 0.05    | 1,500                     | 0.025   | 1,880                      | 0.05    |
| 5   | 1,700                  | 0.063   | 1,280                  | 0.063   | 960                       | 0.038   | 1,190                      | 0.063   |
| 8   | 1,050                  | 0.13    | 780                    | 0.13    | 590                       | 0.076   | 730                        | 0.13    |
| 11  | 750                    | 0.15    | 560                    | 0.15    | 425                       | 0.076   | 520                        | 0.18    |
| 19  | 440                    | 0.23    | 330                    | 0.23    | 255                       | 0.13    | 300                        | 0.23    |
| 30  | 260                    | 0.28    | 195                    | 0.28    | 145                       | 0.18    | 180                        | 0.18    |

## SSD・TSD 切削條件參考表

### Recommended Cutting Condition

| 被削材 | 合金鋼<br>34~38HRC             |         | 不銹鋼<br>~23HRC         |         | 鈦合金                   |         | 工具鋼                   |         |
|-----|-----------------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|---------|
|     | 1110~1260 N/mm <sup>2</sup> |         | 830 N/mm <sup>2</sup> |         | 410 N/mm <sup>2</sup> |         | 270 N/mm <sup>2</sup> |         |
| 刃徑  | 回轉數                         | 進刀速度    | 回轉數                   | 進刀速度    | 回轉數                   | 進刀速度    | 回轉數                   | 進刀速度    |
|     | min <sup>-1</sup>           | mm/rev. | min <sup>-1</sup>     | mm/rev. | min <sup>-1</sup>     | mm/rev. | min <sup>-1</sup>     | mm/rev. |
| 2.5 | 1,400                       | 0.015   | 2,550                 | 0.025   | 1,400                 | 0.02    | 3,180                 | 0.042   |
| 3   | 1,100                       | 0.02    | 2,000                 | 0.05    | 1,100                 | 0.025   | 2,500                 | 0.05    |
| 5   | 700                         | 0.025   | 1,280                 | 0.063   | 700                   | 0.038   | 1,590                 | 0.063   |
| 8   | 430                         | 0.038   | 780                   | 0.13    | 430                   | 0.076   | 970                   | 0.13    |
| 11  | 310                         | 0.05    | 560                   | 0.15    | 430                   | 0.076   | 700                   | 0.18    |
| 19  | 180                         | 0.05    | 330                   | 0.23    | 180                   | 0.13    | 440                   | 0.23    |
| 30  | 107                         | 0.076   | 195                   | 0.28    | 107                   | 0.18    | 240                   | 0.3     |

## SSD・TSD 切削條件參考表

### Recommended Cutting Condition

| 被削材 | 鑄鐵<br>21HRC           |         | 鋁合金               |         | 鎂合金               |         | 鋅合金               |         | 塑料                |         |
|-----|-----------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
|     | 800 N/mm <sup>2</sup> |         |                   |         |                   |         |                   |         |                   |         |
| 刃徑  | 回轉數                   | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    |
|     | min <sup>-1</sup>     | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. |
| 2.5 | 2,250                 | 0.025   | 6,400             | 0.038   | 8,600             | 0.038   | 6,400             | 0.038   | 3,380             | 0.025   |
| 3   | 2,000                 | 0.05    | 5,000             | 0.063   | 6,800             | 0.063   | 5,000             | 0.063   | 2,700             | 0.05    |
| 5   | 1,280                 | 0.063   | 3,200             | 0.076   | 4,300             | 0.076   | 3,200             | 0.076   | 1,700             | 0.063   |
| 8   | 780                   | 0.13    | 2,000             | 0.18    | 2,600             | 0.18    | 2,000             | 0.18    | 1,050             | 0.13    |
| 11  | 560                   | 0.15    | 1,400             | 0.2     | 1,900             | 0.2     | 1,400             | 0.2     | 750               | 0.15    |
| 19  | 330                   | 0.23    | 820               | 0.3     | 1,100             | 0.3     | 820               | 0.3     | 440               | 0.23    |
| 30  | 195                   | 0.28    | 490               | 0.38    | 660               | 0.38    | 490               | 0.38    | 260               | 0.28    |

## GSD · SSDG 切削條件參考表

### Recommended Cutting Condition

| 被削材 | 炭素鋼                    |         | 炭素鋼<br>~23HRC          |         | 合金鋼<br>23~34HRC            |         | 不銹鋼<br>~23HRC          |         |
|-----|------------------------|---------|------------------------|---------|----------------------------|---------|------------------------|---------|
| 強度  | ~570 N/mm <sup>2</sup> |         | ~830 N/mm <sup>2</sup> |         | 830~1110 N/mm <sup>2</sup> |         | ~830 N/mm <sup>2</sup> |         |
| 刃徑  | 回轉數                    | 進刀速度    | 回轉數                    | 進刀速度    | 回轉數                        | 進刀速度    | 回轉數                    | 進刀速度    |
|     | min <sup>-1</sup>      | mm/rev. | min <sup>-1</sup>      | mm/rev. | min <sup>-1</sup>          | mm/rev. | min <sup>-1</sup>      | mm/rev. |
| 1   | 14,000                 | 0.02    | 12,500                 | 0.02    | 7,700                      | 0.02    | 7,000                  | 0.02    |
| 2   | 7,000                  | 0.06    | 6,100                  | 0.06    | 3,850                      | 0.06    | 3,500                  | 0.06    |
| 3   | 4,650                  | 0.1     | 4,100                  | 0.08    | 2,550                      | 0.08    | 2,350                  | 0.08    |
| 4   | 3,500                  | 0.11    | 3,050                  | 0.11    | 1,950                      | 0.1     | 1,750                  | 0.1     |
| 5   | 2,800                  | 0.12    | 2,450                  | 0.11    | 1,550                      | 0.1     | 1,400                  | 0.1     |
| 6   | 2,350                  | 0.14    | 2,050                  | 0.13    | 1,300                      | 0.12    | 1,150                  | 0.12    |
| 7   | 2,000                  | 0.16    | 1,750                  | 0.15    | 1,100                      | 0.14    | 1,000                  | 0.14    |
| 8   | 1,750                  | 0.18    | 1,550                  | 0.18    | 960                        | 0.15    | 875                    | 0.15    |
| 9   | 1,550                  | 0.2     | 1,350                  | 0.22    | 855                        | 0.18    | 780                    | 0.18    |
| 10  | 1,400                  | 0.21    | 1,250                  | 0.22    | 770                        | 0.18    | 700                    | 0.18    |
| 11  | 1,250                  | 0.22    | 1,100                  | 0.22    | 700                        | 0.18    | 650                    | 0.18    |
| 12  | 1,150                  | 0.23    | 1,000                  | 0.22    | 650                        | 0.2     | 585                    | 0.2     |
| 13  | 1,050                  | 0.23    | 950                    | 0.22    | 595                        | 0.2     | 540                    | 0.2     |

## GSD · SSDG 切削條件參考表

### Recommended Cutting Condition

| 被削材 | 鈦合金                   |         | 鋁合金 · 鋅合金         |         | 鎂合金               |         |
|-----|-----------------------|---------|-------------------|---------|-------------------|---------|
| 強度  | 410 N/mm <sup>2</sup> |         |                   |         |                   |         |
| 刃徑  | 回轉數                   | 進刀速度    | 回轉數               | 進刀速度    | 回轉數               | 進刀速度    |
|     | min <sup>-1</sup>     | mm/rev. | min <sup>-1</sup> | mm/rev. | min <sup>-1</sup> | mm/rev. |
| 1   | 8,050                 | 0.02    | 30,000            | 0.02    | 11,500            | 0.03    |
| 2   | 4,050                 | 0.06    | 15,000            | 0.06    | 5,800             | 0.09    |
| 3   | 2,700                 | 0.08    | 9,900             | 0.1     | 3,850             | 0.13    |
| 4   | 2,000                 | 0.09    | 7,450             | 0.11    | 2,900             | 0.15    |
| 5   | 1,600                 | 0.1     | 5,950             | 0.12    | 2,300             | 0.17    |
| 6   | 1,350                 | 0.12    | 4,950             | 0.14    | 1,950             | 0.19    |
| 7   | 1,150                 | 0.14    | 4,250             | 0.16    | 1,650             | 0.22    |
| 8   | 1,000                 | 0.15    | 3,700             | 0.18    | 1,450             | 0.24    |
| 9   | 895                   | 0.17    | 3,300             | 0.2     | 1,280             | 0.27    |
| 10  | 805                   | 0.18    | 3,000             | 0.23    | 1,150             | 0.29    |
| 11  | 730                   | 0.18    | 2,700             | 0.23    | 1,050             | 0.3     |
| 12  | 670                   | 0.2     | 2,480             | 0.23    | 960               | 0.31    |
| 13  | 620                   | 0.2     | 2,300             | 0.23    | 890               | 0.31    |

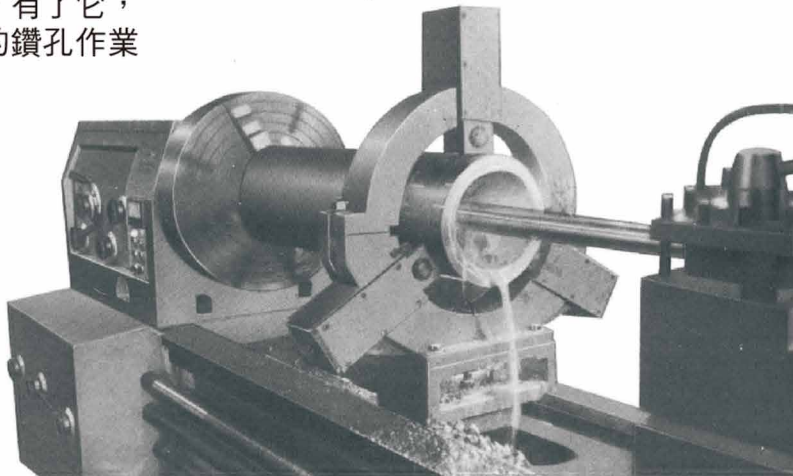
森島牌

# 大口徑深孔鑽頭

Super Drills

簡便的鑽孔工具，有了它，一切深孔大口徑的鑽孔作業便迎刃而易解。

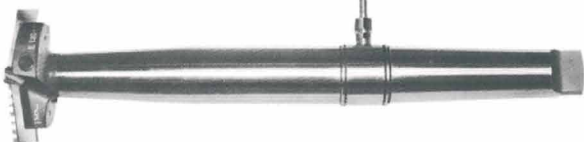
鏟形鑽頭  
在車床上使用情形



伸臂式鑽床，一般鑽床上所使用

120 $\phi$ 以上規格請訂做

MT螺旋牙胴體型車床上使用加工長度250 m/m~1000 m/m



MT標準型車床上使用，加工長度150 m/m~250 m/m



MT標準加工長度150 m/m

| 型 式            | 加工範圍                                      | 加工長度       | 標準推拔   | 價(組)格            |
|----------------|---|------------|--------|------------------|
|                | 直徑(D $\phi$ )                             | m/m        | MT NO. |                  |
| A1 55-150-MT 4 | 50~55 $\phi$<br>(替刃50, 53 $\phi$ 各一組)     | 150m/m (S) | MT 4   | <b>32,550.00</b> |
| A1 55-250-MT 4 |   | 250 (L)    | MT 4   | <b>32,550.00</b> |
| A2 65-150-MT 4 | 55~65 $\phi$<br>(替刃55, 60 $\phi$ 各一組)     | 150 (S)    | MT 4   | <b>32,550.00</b> |
| A2 65-250-MT 4 |   | 250 (L)    | MT 4   | <b>32,550.00</b> |
| B 80-150-MT 4  | 65~80 $\phi$<br>(替刃65, 73 $\phi$ 各一組)     | 150 (S)    | MT 4   | <b>37,000.00</b> |
| B 80-250-MT 4  |   | 250 (L)    | MT 4   | <b>37,000.00</b> |
| B 80-150-MT 5  |   | 150 (S)    | MT 5   | <b>42,000.00</b> |
| B 80-250-MT 5  |   | 250 (L)    | MT 5   | <b>42,000.00</b> |
| C 100-150-MT 4 | 80~100 $\phi$<br>(替刃80, 90 $\phi$ 各一組)    | 150m/m (S) | MT 4   | <b>41,520.00</b> |
| C 100-250-MT 4 |   | 250 (L)    | MT 4   | <b>41,520.00</b> |
| C 100-150-MT 5 |   | 150 (S)    | MT 5   | <b>46,950.00</b> |
| C 100-250-MT 5 |   | 250 (L)    | MT 5   | <b>46,950.00</b> |
| D 120-150-MT 4 | 100~120 $\phi$<br>(替刃100, 110 $\phi$ 各一組) | 150 (S)    | MT 4   | <b>51,000.00</b> |
| D 120-250-MT 4 |   | 250 (L)    | MT 4   | <b>51,000.00</b> |
| D 120-150-MT 5 |   | 150 (S)    | MT 5   | <b>56,410.00</b> |
| D 120-250-MT 5 |   | 250 (L)    | MT 5   | <b>56,410.00</b> |

森島牌

# 大口徑深孔鑽頭

Super Drills



特長型：螺旋胴體

| 型式             | 加工範圍          | 加工長度 | 標準推拔   | 價(組)格             |
|----------------|---------------|------|--------|-------------------|
|                | 直徑(D $\phi$ ) | m/m  | MT NO. |                   |
| A2 65-600-MT 5 | 55~65         | 600  | MT 5   | <b>140,000.00</b> |

特別附屬品  
使用大口徑鑽頭在鑽床  
上使用時之給油裝置



## 大口徑鑽頭用油環 Oil Rings

| 番 號   | 適用型式         | 內徑        | 價(組)格           |
|-------|--------------|-----------|-----------------|
| OR 32 | A1 55 MT 4 用 | 32 $\phi$ | <b>2,690.00</b> |
| OR 32 | A2 65 MT 4 用 | 32 $\phi$ | <b>2,690.00</b> |
| OR 32 | B 80 MT 4 用  | 32 $\phi$ | <b>2,690.00</b> |
| OR 34 | C 100 MT 4 用 | 34 $\phi$ | <b>3,230.00</b> |
| OR 42 | D 120 MT 4 用 | 42 $\phi$ | <b>3,230.00</b> |
| OR 45 | 各型式 MT 5 用   | 45 $\phi$ | <b>4,040.00</b> |

## 中心鑽頭 Center Drills

油孔貫通SKH55



| 番 號        | 適用型式   | 內徑                    | 價(支)格           |
|------------|--------|-----------------------|-----------------|
| MCD-12     | 各種型式通用 | 12 $\phi$ X 46 X 140° | <b>1,660.00</b> |
| MCD-12TiCN | 各種型式通用 | 12 $\phi$ X 46 X 140° | <b>2,010.00</b> |
| MCD-12TiN  | 各種型式通用 | 12 $\phi$ X 46 X 140° | <b>2,010.00</b> |
| MCD-16     | 各種型式通用 | 16 $\phi$ X 51 X 140° | <b>3,720.00</b> |
| MCD-16     | 各種型式通用 | 16 $\phi$ X 61 X 140° | <b>3,720.00</b> |

## 大口徑鑽頭專用押金 Clamp & Set Bolt

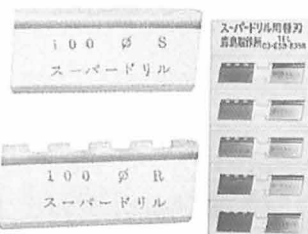


| 番 號    | 適用型式  | 內徑      | 價(組)格           |
|--------|-------|---------|-----------------|
| CS 55  | A1 55 | 50~ 55  | <b>2,420.00</b> |
| CS 65  | A2 65 | 55~ 65  | <b>2,420.00</b> |
| CS 80  | B 80  | 65~ 80  | <b>2,420.00</b> |
| CS 100 | C 100 | 80~100  | <b>2,690.00</b> |
| CS 120 | D 120 | 100~120 | <b>3,230.00</b> |

## 大口徑鑽頭用替刃 New Blades

SKH57  
R：粗削刃  
S：精削刃

A55型用



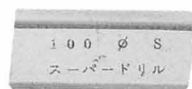
| 番 號   | 加工直徑      | 價(組)格           | 番 號   | 加工直徑      | 價(組)格           |
|-------|-----------|-----------------|-------|-----------|-----------------|
| A50RS | 50 $\phi$ | <b>2,050.00</b> | A53RS | 53 $\phi$ | <b>2,220.00</b> |
| A51RS | 51 $\phi$ | <b>2,220.00</b> | A54RS | 54 $\phi$ | <b>2,220.00</b> |
| A52RS | 52 $\phi$ | <b>2,220.00</b> | A55RS | 55 $\phi$ | <b>2,300.00</b> |

森島牌

# 大口徑鑽頭用替刃

SKH57

New Blades



R：粗削刃

S：精削刃

## A2 65型用

| 番 號    | 加工直徑 | 價(組)格           |
|--------|------|-----------------|
|        | (Dø) |                 |
| A 56RS | 56 ø | <b>2,300.00</b> |
| A 57RS | 57 ø | <b>2,300.00</b> |
| A 58RS | 58 ø | <b>2,300.00</b> |
| A 59RS | 59 ø | <b>2,300.00</b> |
| A 60RS | 60 ø | <b>2,380.00</b> |

| 番 號    | 加工直徑 | 價(組)格           |
|--------|------|-----------------|
|        | (Dø) |                 |
| A 61RS | 61 ø | <b>2,380.00</b> |
| A 62RS | 62 ø | <b>2,440.00</b> |
| A 63RS | 63 ø | <b>2,440.00</b> |
| A 64RS | 64 ø | <b>2,440.00</b> |
| A 65RS | 65 ø | <b>2,440.00</b> |

## B 80型用

|        |      |                 |
|--------|------|-----------------|
| B 66RS | 66 ø | <b>2,780.00</b> |
| B 67RS | 67 ø | <b>2,780.00</b> |
| B 68RS | 68 ø | <b>2,780.00</b> |
| B 69RS | 69 ø | <b>2,780.00</b> |
| B 70RS | 70 ø | <b>2,850.00</b> |
| B 71RS | 71 ø | <b>2,850.00</b> |
| B 72RS | 72 ø | <b>2,850.00</b> |
| B 73RS | 73 ø | <b>2,850.00</b> |

|        |      |                 |
|--------|------|-----------------|
| B 74RS | 74 ø | <b>3,030.00</b> |
| B 75RS | 75 ø | <b>3,030.00</b> |
| B 76RS | 76 ø | <b>3,030.00</b> |
| B 77RS | 77 ø | <b>3,130.00</b> |
| B 78RS | 78 ø | <b>3,130.00</b> |
| B 79RS | 79 ø | <b>3,130.00</b> |
| B 80RS | 80 ø | <b>3,130.00</b> |

## C 100型用

|        |      |                 |
|--------|------|-----------------|
| C 81RS | 81 ø | <b>3,290.00</b> |
| C 82RS | 82 ø | <b>3,290.00</b> |
| C 83RS | 83 ø | <b>3,290.00</b> |
| C 84RS | 84 ø | <b>3,290.00</b> |
| C 85RS | 85 ø | <b>3,290.00</b> |
| C 86RS | 86 ø | <b>3,360.00</b> |
| C 87RS | 87 ø | <b>3,360.00</b> |
| C 88RS | 88 ø | <b>3,360.00</b> |
| C 89RS | 89 ø | <b>3,360.00</b> |
| C 90RS | 90 ø | <b>3,360.00</b> |

|         |       |                 |
|---------|-------|-----------------|
| C 91RS  | 91 ø  | <b>3,520.00</b> |
| C 92RS  | 92 ø  | <b>3,520.00</b> |
| C 93RS  | 93 ø  | <b>3,520.00</b> |
| C 94RS  | 94 ø  | <b>3,520.00</b> |
| C 95RS  | 95 ø  | <b>3,520.00</b> |
| C 96RS  | 96 ø  | <b>3,630.00</b> |
| C 97RS  | 97 ø  | <b>3,630.00</b> |
| C 98RS  | 98 ø  | <b>3,630.00</b> |
| C 99RS  | 99 ø  | <b>3,630.00</b> |
| C 100RS | 100 ø | <b>3,630.00</b> |

## D 120型用

|         |       |                 |
|---------|-------|-----------------|
| D 101RS | 101 ø | <b>3,730.00</b> |
| D 102RS | 102 ø | <b>3,730.00</b> |
| D 103RS | 103 ø | <b>3,730.00</b> |
| D 104RS | 104 ø | <b>3,840.00</b> |
| D 105RS | 105 ø | <b>3,840.00</b> |
| D 106RS | 106 ø | <b>3,840.00</b> |
| D 107RS | 107 ø | <b>3,840.00</b> |
| D 108RS | 108 ø | <b>3,840.00</b> |
| D 109RS | 109 ø | <b>3,840.00</b> |
| D 110RS | 110 ø | <b>3,840.00</b> |

|         |       |                 |
|---------|-------|-----------------|
| D 111RS | 111 ø | <b>4,110.00</b> |
| D 112RS | 112 ø | <b>4,110.00</b> |
| D 113RS | 113 ø | <b>4,110.00</b> |
| D 114RS | 114 ø | <b>4,110.00</b> |
| D 115RS | 115 ø | <b>4,110.00</b> |
| D 116RS | 116 ø | <b>4,240.00</b> |
| D 117RS | 117 ø | <b>4,240.00</b> |
| D 118RS | 118 ø | <b>4,240.00</b> |
| D 119RS | 119 ø | <b>4,240.00</b> |
| D 120RS | 120 ø | <b>4,240.00</b> |



# 鈷鋼深孔直柄長刃鑽頭

螺旋槳刃型

HSSCo8 Long Drills for Deep Hole

AMSIM42  
COBALT



使用含鈷之高級  
高速鋼(M42)材  
料製成

特點：

1. 刃先端之剛韌性特高，刃副寬，排屑易又快。
2. 切削抵抗力少，強螺旋角刃及特殊刃溝，因此切削油極易流到先端刃。
3. 圓孔之精度極高。
4. 使用高鈷(M42)高速鋼材製成，韌性高，再研磨容易，磨損性低。

單位：mm

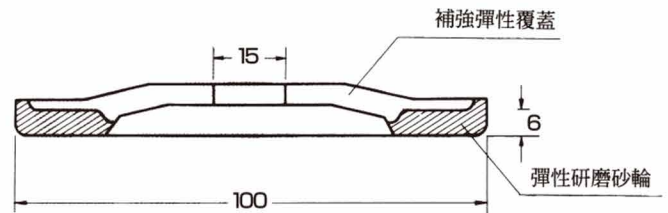
| 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 4.5                     | 100                     | 150                     | <b>730.00</b>   |
| 6                       | 200                     | 300                     | <b>1,530.00</b> |
| 6.5                     | 100                     | 150                     | <b>1,120.00</b> |
| 6.5                     | 150                     | 200                     | <b>1,290.00</b> |
| 6.5                     | 200                     | 300                     | <b>1,680.00</b> |
| 7.5                     | 100                     | 150                     | <b>1,400.00</b> |
| 7.5                     | 150                     | 200                     | <b>1,550.00</b> |
| 7.5                     | 200                     | 300                     | <b>2,090.00</b> |
| 8                       | 150                     | 200                     | <b>1,640.00</b> |
| 8                       | 200                     | 300                     | <b>2,310.00</b> |
| 8.5                     | 150                     | 200                     | <b>1,830.00</b> |
| 8.5                     | 200                     | 300                     | <b>2,550.00</b> |
| 9                       | 150                     | 200                     | <b>1,930.00</b> |

| 刃徑<br>(d <sub>1</sub> ) | 刃長<br>(l <sub>2</sub> ) | 全長<br>(l <sub>1</sub> ) | 價(支)格           |
|-------------------------|-------------------------|-------------------------|-----------------|
| 9                       | 200                     | 300                     | <b>2,690.00</b> |
| 9.5                     | 150                     | 200                     | <b>2,130.00</b> |
| 9.5                     | 200                     | 300                     | <b>2,970.00</b> |
| 10                      | 150                     | 200                     | <b>2,250.00</b> |
| 10                      | 200                     | 300                     | <b>3,160.00</b> |
| 10.5                    | 150                     | 200                     | <b>2,440.00</b> |
| 10.5                    | 200                     | 300                     | <b>3,530.00</b> |
| 11.5                    | 150                     | 200                     | <b>2,900.00</b> |
| 12                      | 150                     | 200                     | <b>2,980.00</b> |
| 12                      | 200                     | 300                     | <b>4,410.00</b> |
| 12.5                    | 150                     | 200                     | <b>3,400.00</b> |
| 12.5                    | 200                     | 300                     | <b>4,790.00</b> |
| 13                      | 150                     | 200                     | <b>3,720.00</b> |



## 彈性平面研磨砂輪

Offset Type Rabins



使用時的注意：

1. 請在12000min<sup>-1</sup>回轉數以下使用。
2. 切不可無理彎曲，或在勉強彎曲狀態下使用。
3. 注意砂輪中心孔徑規格，及在確認已逼緊下使用。
4. 請選擇陰暗之地保管存放。

特點：

1. 一次工程，就可切削，研磨，刨光。
2. 彈性接觸，故噪音少，操作輕便。
3. 砂輪面不易附著屑片，故研磨面相當光美。
4. 操作時不易灰塵飛揚。

用途：

1. 點焊、熔接面之研磨。
2. 金屬之粗糙面，切斷面之研磨。
3. 不銹鋼，鋼鐵，非鐵金屬一般之研磨。

| 標準規格         | 編號          | 價(片)格         |
|--------------|-------------|---------------|
| 100 x 6 x 15 | WA- 60-CM43 | <b>540.00</b> |
| 100 x 6 x 15 | WA- 80-CM43 | <b>540.00</b> |
| 100 x 6 x 15 | WA-120-CM43 | <b>540.00</b> |
| 100 x 6 x 15 | WA-180-CM43 | <b>540.00</b> |
| 100 x 6 x 15 | WA-220-CM43 | <b>650.00</b> |
| 100 x 6 x 15 | WA-320-CM43 | <b>650.00</b> |

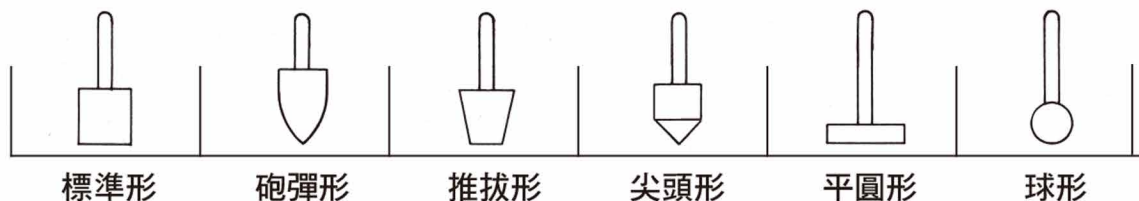




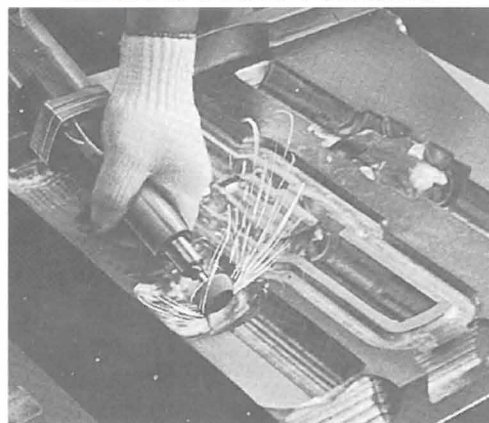
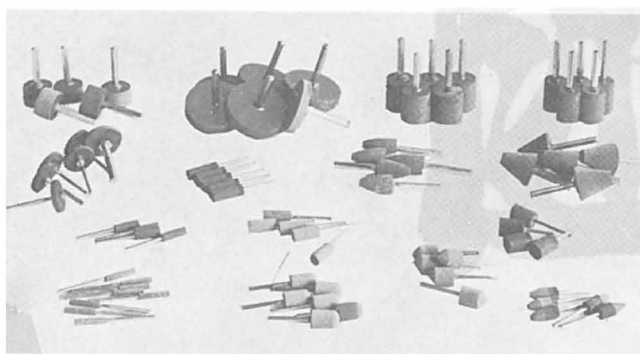
# 正港彈性研磨砂輪

## Mounted Point Standard Type Rabins

研磨界之尖兵，無往不利

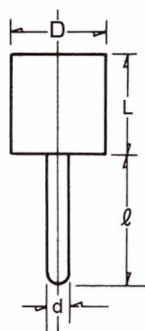


### 鍛造模具研磨中之情況



單位：mm

### 標準形



| 外徑<br>(D) | 長度<br>(L) | 柄徑<br>(d)  | 柄長<br>(l) | 回轉數<br>min <sup>-1</sup> | 價(支)格         |
|-----------|-----------|------------|-----------|--------------------------|---------------|
| 2         | 5         | 外(3)內(1.2) | 40        | 50,000                   | <b>80.00</b>  |
| 3         | 8         | 外(3)內(1.2) | 27        | 50,000                   | <b>64.00</b>  |
| 4         | 13        | 3          | 30        | 30,000                   | <b>42.00</b>  |
| 5         | 15        | 3          | 30        | 30,000                   | <b>42.00</b>  |
| 6         | 17        | 3          | 30        | 30,000                   | <b>47.00</b>  |
| 8         | 20        | 3          | 30        | 30,000                   | <b>48.00</b>  |
| 10        | 20        | 3          | 30        | 30,000                   | <b>51.00</b>  |
| 13        | 20        | 3          | 30        | 20,000                   | <b>60.00</b>  |
| 13        | 25        | 6          | 37        | 20,000                   | <b>75.00</b>  |
| 15        | 20        | 3          | 30        | 20,000                   | <b>72.00</b>  |
| 15        | 25        | 6          | 37        | 20,000                   | <b>83.00</b>  |
| 20        | 25        | 6          | 37        | 20,000                   | <b>110.00</b> |
| 25        | 25        | 6          | 37        | 20,000                   | <b>140.00</b> |
| 30        | 30        | 6          | 37        | 12,000                   | <b>230.00</b> |

WA80—適用鑄鐵、鑄鋼、硬質鋼用。(淺咖啡色)

WA120—適用鏡面研磨用。(墨綠色)

WA180—最適用於不銹鋼研磨。(黃土色)

※註2m/m~3m/m之柄是不銹鋼

※特點:

- 1.獨特之彈力性結合組織。
- 2.彈力性佳，耐久性好，被研磨面易磨成光澤面。
- 3.振動力小，研磨屑少。
- 4.省時、省事、經濟、衛生。

※主要用途:

- 1.引擎之孔及溝之研磨。
- 2.不銹鋼流理台溶接部之研磨。
- 3.玻璃、塑膠、橡膠模型之研磨。
- 4.鍛造模型之研磨。
- 5.磨光滾棒面上傷口之研磨。
- 6.手錶及錶帶之研磨。
- 7.洋食器具之研磨等等。

※註:標準形外形狀歡迎訂作、交貨迅速。

研磨砂輪 · 油石 Rabins & Oil Stones

# 正港FC超級纖維油石

Mould Grinding Stones

輕薄，不易折斷，耐用命長，屑不塞隙縫

揭開研削，研磨界，明日之新光改變向來砥石之形象，新素材。

## 一、素材物性及其潛在特性。

(1)高純度之氧化鋁為原料素材，其硬度可發揮優越之研磨，研削性。

(2)高硬度之氧化鋁纖維。

①纖維先端，很似銳利之切削劈解刀片。

②纖維是可撓性、耐久性，依正常用途可分粗、中、細研削用。

(3)樹脂之結合劑。

①有彈性賦與砥石材之可撓性及耐久性。

②粘性自常溫到使用時之摩擦熱，其研磨面之軟化，使樹脂質中之屑片被摺包而排出。

③纖維先端在研削中適宜劈落，但新的銳利之劈解刃部又再生。

(4)誘發新之技術如新砥材部品工具之出現。

使用對象：普通鋼、特殊鋼、不鏽鋼、銅、鋁、各種合金、玻璃、磁性材料、樹脂、石材等。

## 二、複合體砥石之特性。

(1)品質，形狀，可自由自在的任一設計。

(2)均勻質性佳，標準性優。

①品質之均勻性，包括部份之材質，經濟面之效率，加工之條件等，皆保證有一定之均勻特性。

②提昇工作之品質。

無論初用者或常用者，皆在作業上輕易的得到加工效果。

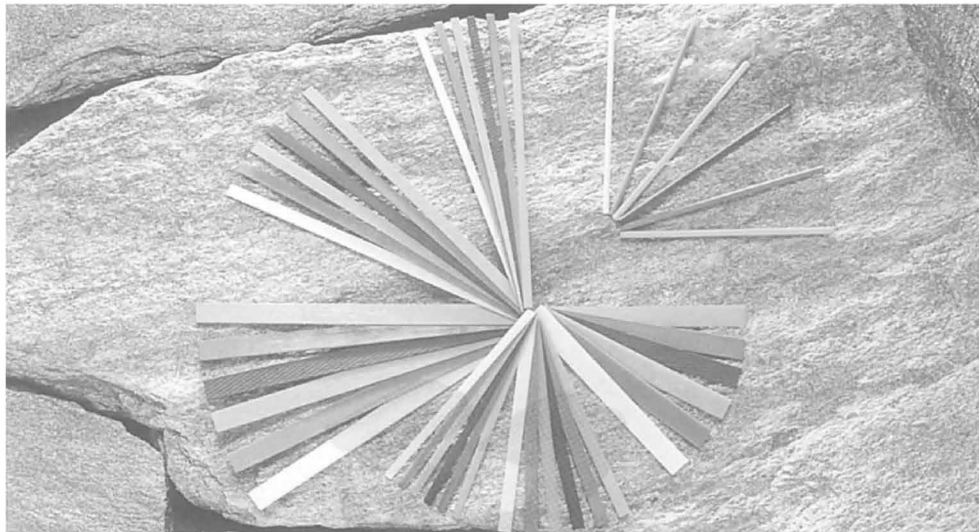
③可以使作業標準化。

常在一定作業效率時，能得到精修面均勻之效果。

(3)經濟性的

有效的利用砥石材及節約作業時間，是相當經濟的，是最理想，合理的新砥石材。

使用方法：最適宜，最有效之角度是40°，超過60°就有可能折斷之慮，研削、切斷、去毛邊、去銹跡等，極有效果。



圓棒型：Round Type

| 番號        | #220      | #600     | #800     | #1000    | #1200    |
|-----------|-----------|----------|----------|----------|----------|
| 規格        | 淺棕色 (SLD) | 棕色 (SPD) | 青色 (SBD) | 白色 (SWD) | 赤色 (SRD) |
| 50 X 1.6  | 850.00    | 850.00   | 730.00   | 730.00   | 730.00   |
| 50 X 2    | 850.00    | 850.00   | 730.00   | 730.00   | 730.00   |
| 50 X 2.34 | 850.00    | 850.00   | 730.00   | 730.00   | 730.00   |
| 50 X 3    | 850.00    | 850.00   | 730.00   | 730.00   | 730.00   |
| 100 X 3   | 1,570.00  | 1,570.00 | 1,350.00 | 1,350.00 | 1,350.00 |

## 正港FC超級纖維油石

Mould Grinding Stones

輕薄，不易折斷，耐用命長，屑不塞隙縫

揭開研削，研磨界，明日之新光改變向來砥石之形象，新素材。

### 平板型：Flat Type

| 番號             | #220     | #320     | #600     | #800     | #1000    | #1200    |
|----------------|----------|----------|----------|----------|----------|----------|
| 規格             | 淺棕色 (SL) | 橙色 (SO)  | 棕色 (SP)  | 青色 (SB)  | 白色 (SW)  | 赤色 (SR)  |
| 0.5 X 100 X 4  | 770.00   | 770.00   | 770.00   | 660.00   | 660.00   | 660.00   |
| 0.5 X 100 X 6  | 1,150.00 | 1,150.00 | 1,150.00 | 1,020.00 | 1,020.00 | 1,020.00 |
| 0.5 X 100 X 10 | 1,520.00 | 1,520.00 | 1,520.00 | 1,320.00 | 1,320.00 | 1,320.00 |
| 0.5 X 150 X 4  | 1,160.00 | 1,160.00 | 1,160.00 | 990.00   | 990.00   | 990.00   |
| 0.5 X 150 X 6  | 1,730.00 | 1,730.00 | 1,730.00 | 1,530.00 | 1,530.00 | 1,530.00 |
| 0.5 X 150 X 10 | 2,280.00 | 2,280.00 | 2,280.00 | 1,980.00 | 1,980.00 | 1,980.00 |
| 1 X 100 X 4    | 770.00   | 770.00   | 770.00   | 660.00   | 660.00   | 660.00   |
| 1 X 100 X 6    | 1,150.00 | 1,150.00 | 1,150.00 | 1,020.00 | 1,020.00 | 1,020.00 |
| 1 X 100 X 10   | 1,520.00 | 1,520.00 | 1,520.00 | 1,320.00 | 1,320.00 | 1,320.00 |
| 1 X 150 X 4    | 1,160.00 | 1,160.00 | 1,160.00 | 990.00   | 990.00   | 990.00   |
| 1 X 150 X 6    | 1,730.00 | 1,730.00 | 1,730.00 | 1,530.00 | 1,530.00 | 1,530.00 |
| 1 X 150 X 10   | 2,280.00 | 2,280.00 | 2,280.00 | 1,980.00 | 1,980.00 | 1,980.00 |

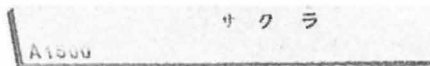
大和櫻花牌



### 支型研磨油石

Oil Stones

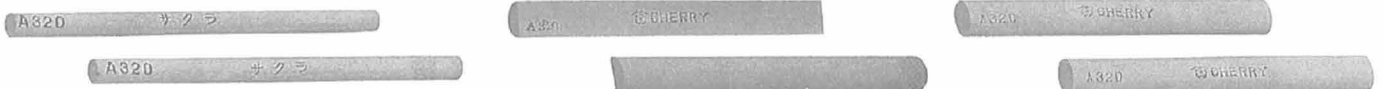
浸在切削油中，愈久愈耐用，愈鋒利，放電模具加工時必須要用。



### 平板型：Square Type

單位：支

| 番號    | 150 X 13 X 3 | 100 X 13 X 3 | 100 X 13 X 2 |
|-------|--------------|--------------|--------------|
| 180A  | 240.00       | 160.00       | 160.00       |
| 240A  | 240.00       | 160.00       | 160.00       |
| 320A  | 275.00       | 185.00       | 185.00       |
| 400A  | 295.00       | 195.00       | 195.00       |
| 600A  | 330.00       | 220.00       | 220.00       |
| 800A  | 330.00       | 220.00       | 220.00       |
| 1000A | 400.00       | 270.00       | 270.00       |
| 1500A | 480.00       | 320.00       | 320.00       |



### 圓棒型：Round

### 半圓型：Half Round

### 橢圓型：Oval

| 規格            | 番號   | 圓棒型    | 半圓型    | 橢圓型    |
|---------------|------|--------|--------|--------|
|               |      | 價(支)格  | 價(支)格  | 價(支)格  |
| 100 X 6(1/4)  | 320A | 165.00 | 165.00 | 165.00 |
| 100 X 9(3/8)  | 320A | 195.00 | 195.00 | 195.00 |
| 100 X 13(1/2) | 320A | 230.00 | 230.00 | 230.00 |

# 攻牙時之切削速度及切削油建議參考表

## Recommended Tapping Speed and Cutting Fluids

下列圖表資料，為絲攻切削速度及切削油之建議參考。絲攻材質、種類、無效導角牙數、鑽頭孔徑形狀、被削材及切削油，都是影響攻牙加工切削速度選擇的重要因素。選用之切削油是否具有潤滑、冷卻及防毛屑黏著等作用，將影響其攻牙加工的效果。

| 被削材     |                          | 攻牙切削速度(m/min) |                |               |       |       |       | 切削油                                    |
|---------|--------------------------|---------------|----------------|---------------|-------|-------|-------|--|
|         |                          | 螺旋絲攻          | 先端絲攻           | HSS手絞絲攻       | 無溝絲攻  | 鎢鋼絲攻  | 管牙絲攻  |  |
| 低炭鋼     | ≤C 0.2%                  | 8~13          | 15~25          | 8~13          | 8~13  | -     | 3~ 6  | 氯化硫油(活性型)<br>攻牙油膏<br>非水溶性切削油<br>(乳化液型) |
| 中炭鋼     | C 0.25~0.4%              | 7~12          | 10~15          | 7~12          | 7~10  | -     | 3~ 6  |  |
| 高炭鋼     | ≥C 0.45%                 | 6~ 9          | 8~13           | 6~ 9          | 5~ 8  | -     | 2~ 5  |  |
| 合金鋼     | SCM                      | 7~12          | 10~15          | 7~12          | 5~ 8  | -     | 2~ 5  |  |
| 硬質鋼     | 25~40HRC                 | 3~ 5<br>(4~8) | 4~ 6<br>(6~10) | 3~ 5<br>(4~8) | 5~ 8  | -     | 2~ 5  |  |
| 不銹鋼     | SUS                      | 5~ 8          | 8~13           | 4~ 7          | 5~10  | -     | 5~10  |  |
| 工具鋼     | SKD                      | 6~ 9          | 7~10           | 6~ 9          | -     | -     | 2~ 5  |  |
| 鑄鋼      | SC                       | 6~11          | 10~15          | 6~11          | -     | -     | 2~ 5  |  |
| 鑄鐵      | FC                       | -             | -              | 10~15         | -     | 10~20 | 2~ 5  |  |
| 可鍛鑄鋼    | FCD                      | 7~12          | 10~20          | 7~12          | -     | 10~20 | 4~ 8  |  |
| 銅       | Cu                       | 6~11          | 7~12           | 6~ 9          | 7~12  | 10~20 | 2~ 5  | 非水溶性切削油<br>(惰性型)<br>水溶性切削油<br>(乳化液型)   |
| 黃銅、黃銅鑄物 | Bs、BsC                   | 10~20         | 15~25          | 10~15         | 7~12  | 15~25 | 5~10  |  |
| 青銅、青銅鑄物 | PB、PBC                   | 6~11          | 10~20          | 6~11          | 7~12  | 10~20 | 6~11  |  |
| 鋁合金     | AL                       | 10~20         | 15~25          | 10~20         | 10~20 | -     | 5~10  |  |
| 鋁合金鑄物   | AC、ADC                   | 10~15         | 15~20          | 10~15         | 10~15 | 10~20 | 10~15 |  |
| 鎂合金     | MC                       | 7~12          | 10~15          | 7~12          | -     | 10~20 | 10~15 |  |
| 鋅合金鑄物   | ZDC                      | 7~12          | 10~15          | 7~12          | 7~12  | 10~20 | 10~15 |  |
| 熱固性塑膠   | BAKELITE<br>PHENOL、EPOXY | -             | -              | 10~20         | -     | 15~25 | 5~10  | 水溶性切削油、<br>霧狀潤滑油、空<br>氣冷卻、乾式           |
| 熱塑性塑膠   | VINYL CHLORIDE<br>NYLON  | 10~15         | 10~20          | 10~20         | -     | 10~20 | 5~10  |  |

( )括弧內數據是建議於使用粉末高速鋼絲攻時用。

# 無屑絲攻鑽頭孔徑對照表

## Recommended Tap Drill Sizes for Fluteless Taps

| 規 格           | 精度         | 最大    | 最小    |
|---------------|------------|-------|-------|
| Thread Sizes  | Tap Limits | Max.  | Min.  |
| M 1 x 0.25    | F4         | 0.92  | 0.9   |
| M 1.2 x 0.25  | F4         | 1.12  | 1.1   |
| M 1.4 x 0.3   | F4         | 1.294 | 1.27  |
| M 1.6 x 0.35  | F4         | 1.45  | 1.4   |
| M 1.7 x 0.35  | F4         | 1.58  | 1.54  |
| M 2 x 0.4     | F4         | 1.85  | 1.81  |
| M 2.3 x 0.4   | F4         | 2.15  | 2.11  |
| M 2.5 x 0.45  | F4         | 2.33  | 2.28  |
| M 2.6 x 0.45  | F4         | 2.43  | 2.38  |
| M 3 x 0.5     | F5         | 2.81  | 2.76  |
| M 3.5 x 0.6   | F5         | 3.26  | 3.2   |
| M 4 x 0.7     | F6         | 3.7   | 3.65  |
| M 5 x 0.8     | F6         | 4.66  | 4.59  |
| M 6 x 1.0     | F7         | 5.57  | 5.48  |
| M 8 x 1.25    | F7         | 7.41  | 7.34  |
| M 10 x 1.25   | F7         | 9.41  | 9.34  |
| M 10 x 1.5    | F7         | 9.28  | 9.18  |
| M 12 x 1.75   | F8         | 11.15 | 11.05 |
| UNF 10 - 32   | F5         | 4.48  | 4.41  |
| UNF 1/4 - 28  | F5         | 5.93  | 5.86  |
| UNF 5/16 - 24 | F6         | 7.46  | 7.38  |
| UNF 3/8 - 24  | F6         | 9.05  | 8.96  |
| UNC 2 - 56    | F4         | 2.02  | 1.96  |
| UNC 4 - 40    | F5         | 2.6   | 2.52  |
| UNC 5 - 40    | F5         | 2.93  | 2.86  |
| UNC 6 - 32    | F5         | 3.17  | 3.09  |
| UNC 8 - 32    | F6         | 3.83  | 3.75  |
| UNC 10 - 24   | F6         | 4.35  | 4.26  |
| UNC 12 - 24   | F6         | 5.01  | 4.92  |
| UNC 1/4 - 20  | F6         | 5.76  | 5.66  |
| UNC 5/16 - 18 | F7         | 7.29  | 7.18  |
| UNC 3/8 - 16  | F7         | 8.78  | 8.66  |

## 攻牙問題解決指南

## Trouble Shooting for Tapping

## 1. 尺寸的精度問題

| 問題      | 原因        | 解決方案   |
|---------|-----------|--|
| 內螺紋牙徑擴大 | 選用不適當的絲攻  | <ol style="list-style-type: none"> <li>1. 使用精度級數適合的螺絲攻。</li> <li>2. 加長無效導角牙長度。</li> </ol>  |
|         | 切屑堵塞      | <ol style="list-style-type: none"> <li>1. 選用螺旋絲攻或先端絲攻。</li> <li>2. 降低絲攻的溝槽數，擴大排屑空間。</li> <li>3. 加大下孔徑。</li> <li>4. 加工深孔孔徑時，下孔儘量加深或縮短攻牙長度。</li> <li>5. 選用適當的切削油。</li> </ol>   |
|         | 熔著        | <ol style="list-style-type: none"> <li>1. 選用表面氧化處理或鍍膜的絲攻。</li> <li>2. 選用適當的切削油。</li> <li>3. 降低攻牙速度。</li> <li>4. 依被削材材質，選用適當的切削角度。</li> <li>5. 加大螺紋孔徑規格。</li> </ol>   |
|         | 不適當的攻牙條件  | <ol style="list-style-type: none"> <li>1. 提供適當的攻牙條件。</li> <li>2. 防止螺絲攻與下孔徑偏心或傾斜。</li> <li>3. 採用浮動式固定。</li> <li>4. 選用適當的攻牙條件，防止崩牙與牙部變形。</li> <li>5. 採用螺距進刀方式。</li> <li>6. 選用有良好性能的攻牙機。</li> <li>7. 避免加工機主軸偏擺與振動。</li> </ol> |
|         | 不適當的絲攻再研磨 | <ol style="list-style-type: none"> <li>1. 在切削刀口的溝槽，選用適當的引導角度。</li> <li>2. 研磨適當的切削角度與導角角度。</li> <li>3. 避免刀刃厚度過小。</li> <li>4. 移除毛邊。</li> </ol>   |
| 內徑擴大    | 下孔徑規格     | <ol style="list-style-type: none"> <li>1. 使用最小的螺紋孔徑。</li> <li>2. 避免下孔徑傾斜。</li> <li>3. 選用導角牙長度適當的絲攻。</li> </ol>   |
|         | 熔著        | <ol style="list-style-type: none"> <li>1. 選用表面氧化處理或鍍膜的絲攻。</li> <li>2. 選用適當的切削油。</li> <li>3. 降低攻牙速度。</li> <li>4. 依被削材材質選用適當的切削角度。</li> </ol>  |

# 攻牙問題解決指南

## Trouble Shooting for Tapping

### 1. 尺寸的精度問題

| 問題      | 原因       | 解決方案  |
|---------|----------|---|
| 內螺紋牙距縮小 | 選用不適當的絲攻 | <ol style="list-style-type: none"> <li>1. 選用加大絲攻。</li> <li>2. 選擇適當的導角角度。</li> <li>3. 加大切削角度。</li> </ol>   |
| 螺紋牙距縮小  | 螺紋損傷     | 1. 選用適當的回轉速度，防止螺紋孔徑損傷；尤其回轉退出時，速度應適當降低。  |
|         | 切屑殘料     | <ol style="list-style-type: none"> <li>1. 提高加工性能，避免切屑殘留在加工孔洞中。</li> <li>2. 將孔洞中的殘料移除乾淨，便於牙規檢驗。</li> </ol> |
| 內牙徑縮小   | 下孔徑規格    | 1. 使用最大的螺紋孔徑。   |

### 2. 絲攻壽命問題

| 問題   | 原因        | 解決方案  |
|------|-----------|---|
| 絲攻崩裂 | 選用不適當的絲攻  | <ol style="list-style-type: none"> <li>1. 避免切屑堵塞在絲攻溝槽或加工孔洞的底部。</li> <li>2. 選用螺旋絲攻、先端絲攻或無溝絲攻。</li> <li>3. 選擇適當的表面處理，如氧化處理或無氧化處理。</li> </ol>  |
|      | 切削扭力過大    | <ol style="list-style-type: none"> <li>1. 選用較大的螺紋孔徑。</li> <li>2. 縮短攻牙長度。</li> <li>3. 加大切削角度。</li> <li>4. 選擇具有更大螺紋間隙與降低刀刃厚度。</li> <li>5. 選用適當的表面處理，如氧化處理。</li> </ol>                 |
|      | 不適當的攻牙條件  | <ol style="list-style-type: none"> <li>1. 降低攻牙速度。</li> <li>2. 避免絲攻、攻牙下孔徑不在一直線上及下孔徑產生錐度傾斜。</li> <li>3. 選用浮動式的攻牙夾具。</li> <li>4. 選用扭力可調式的攻牙夾具。</li> <li>5. 盲孔攻牙時，避免螺絲攻碰擊孔底。</li> </ol> |
|      | 不適當的絲攻再研磨 | <ol style="list-style-type: none"> <li>1. 勿研磨溝槽的底部。</li> <li>2. 避免刀刃厚度過小。</li> <li>3. 再研磨時，磨除所有磨損的部份。</li> <li>4. 更加經常地再研磨絲攻。</li> </ol>  |
| 積屑   | 選用不適當的絲攻  | <ol style="list-style-type: none"> <li>1. 降低攻牙角度。</li> <li>2. 選用不同種類的高速鋼絲攻。</li> <li>3. 加長無效導角牙的長度。</li> <li>4. 選用螺旋絲攻或先端絲攻，防止切屑堵塞在刃部或孔洞的底部。</li> </ol>                             |

# 攻牙問題解決指南

## Trouble Shooting for Tapping

### 2. 絲攻壽命問題

| 問題 | 原因        | 解決方案   |
|----|-----------|--|
| 積屑 | 不適當的攻牙條件  | <ol style="list-style-type: none"> <li>1. 降低攻牙速度。</li> <li>2. 避免絲攻及攻牙孔洞偏心。</li> <li>3. 盲孔加工時，避免突然的回轉退回絲攻。</li> <li>4. 避免黏結。</li> <li>5. 選用較大的下孔徑。</li> </ol> |
| 磨耗 | 選用不適當的絲攻  | <ol style="list-style-type: none"> <li>1. 加工熱處理材質時，選用特殊設計的絲攻。</li> <li>2. 選用含鈮元素的高速鋼絲攻。</li> <li>3. 選用TiCN表面處理或硬化處理絲攻。</li> <li>4. 加長導角牙的長度。</li> </ol>      |
|    | 不適當的攻牙條件  | <ol style="list-style-type: none"> <li>1. 降低攻牙速度。</li> <li>2. 選用適當的切削油。</li> <li>3. 避免加工高硬度孔。</li> <li>4. 選用較大的螺紋下孔徑。</li> </ol>                             |
|    | 不適當的絲攻再研磨 | <ol style="list-style-type: none"> <li>1. 研磨適當的攻牙角度。</li> <li>2. 研磨過程中，避免降低絲攻硬度。</li> </ol>  |

### 3. 絲攻表面光滑度問題

| 問題        | 原因        | 解決方案   |
|-----------|-----------|--|
| 崩牙及牙部粗糙變形 | 無效導角牙過短   | <ol style="list-style-type: none"> <li>1. 加長導角牙的長度。</li> </ol>   |
|           | 錯誤的切削角度   | <ol style="list-style-type: none"> <li>1. 選擇適當的攻牙角度。</li> </ol>  |
|           | 熔著        | <ol style="list-style-type: none"> <li>1. 選用帶有牙後角的絲攻。</li> <li>2. 採用短牙式絲攻。</li> <li>3. 選擇適當的表面處理，如硬化處理或鉻化。</li> <li>4. 選用適當的切削油。</li> <li>5. 降低攻牙速度。</li> <li>6. 選用較大的螺紋孔徑。</li> <li>7. 避免絲攻與加工孔偏心。</li> </ol> |
|           | 切屑積塞      | <ol style="list-style-type: none"> <li>1. 選用螺旋絲攻或先端絲攻。</li> <li>2. 選用較大的下孔徑。</li> </ol>  |
| 振動與異音     | 非固定式攻牙    | <ol style="list-style-type: none"> <li>1. 降低攻牙角度。</li> <li>2. 降低牙刀數。</li> </ol>  |
|           | 不適當的絲攻再研磨 | <ol style="list-style-type: none"> <li>1. 避免刀刃厚度過小。</li> <li>2. 切勿研磨溝槽的底部。</li> </ol>  |



# 銑削問題解決指南

## Factors for End Mill Operation

| 問題      | 原因   | 解決方案   |
|---------|--|--|
| 異常聲音及振動 | 主軸回轉數過大<br>進刀速度過大<br>有效長或刀具突出量過多<br>加工件沒有穩固地締緊<br>切削刀口持續磨耗<br>夾具突出量過多                    | 降低主軸回轉數<br>降低進刀速度<br>儘可能調整有效長及縮短刀具突出量<br>穩固地締緊加工件<br>使用新刀具或再研磨<br>調整夾具的突出量                         |
| 銑刀崩裂    | 切削深度過多<br>切屑堵塞<br>每齒進刀速度過大<br>切削刀口持續磨耗   | 降低切削深度<br>調整切削油噴嘴至正確方向，以便順利移除切屑<br>降低每齒進刀速度<br>使用新刀具或再研磨   |
| 刀口崩裂    | 切削深度過多<br>進刀速度過大<br>加工件沒有穩固地鉗緊<br>主軸回轉數過大<br>有效長或刀具突出量過多<br>切削刀口持續磨耗<br>刀口太過鋒利<br>過多的冷卻液 | 降低切削深度<br>降低進刀速度<br>穩固地鉗緊加工件<br>降低主軸回轉數<br>儘可能調整有效長及縮短刀具突出量<br>使用新刀具或再研磨<br>選擇適當的鍍膜<br>使用空氣吹屑或油霧切削 |
| 刀刃異常磨耗  | 主軸回轉數過大<br>進刀速度太低  | 降低主軸回轉數<br>提高進刀速度  |
| 切屑堵塞與黏屑 | 切屑堵塞<br>進刀速度過大<br>切削深度過多<br>不適合的銑刀刀數<br>切削刀口持續磨耗   | 調整切削油噴嘴至正確方向，以便順利移除切屑<br>降低進刀速度<br>降低切削深度<br>選用較少刀數銑刀<br>使用新刀具或再研磨                                 |
| 銑刀偏斜    | 進刀速度過大<br>切削深度過多<br>有效長或刀具突出量過多<br>過大的刀部螺旋角度   | 降低進刀速度<br>降低切削深度<br>儘可能調整有效長及縮短刀具突出量<br>選用較低螺旋角度銑刀   |

# 銑削問題解決指南

## Factors for End Mill Operation

| 問題       | 原因  | 解決方案  |
|----------|---|---|
| 精加工面產生毛邊 | 切削刀口持續磨耗<br>過小的刃部螺旋角度<br>切削深度過多   | 使用新刀具或再研磨<br>選用較高螺旋角度銑刀<br>降低切削深度   |
| 不良的表面粗糙度 | 切削刀口持續磨耗<br>切屑堵塞<br>進刀速度過大<br>有效長或刀具突出量過多<br>主軸回轉數過小<br>精加工後殘料殘留太多<br>夾具突出量過多 | 使用新刀具或再研磨<br>使用切削油，讓切屑排出順暢<br>降低進刀速度<br>儘可能調整有效長及縮短刀具突出量<br>提高主軸回轉數<br>改善中精加工過程<br>調整夾具的突出量 |
| 不良的加工精度  | 主軸熱量延展不一致<br>精加工後殘料殘留太多<br>進刀速度過大<br>夾具突出量過多                                  | 機器運轉前，讓主軸空轉預熱<br>改善中精加工過程<br>降低進刀速度<br>調整夾具的突出量   |

| 特點      | 操作指南與忠告   |
|---------|---|
| 機械的剛性   | 請選用有剛性之機械<br>切削深度可依機械之剛性條件，調節使用之  |
| 夾具與銑刀鬆脫 | 請選用有剛性及精密的夾具  |
| 振動      | 加工件必須穩固地締緊<br>若加工件沒有穩固地締緊，切削深度請調節使用之  |
| 切削油與排屑  | 提供充足的切削油<br>重切削時，建議使用水溶性切削油<br>留意某些系列銑刀，只能用於乾式銑削<br>乾式銑削時，請使用空氣吹屑<br>加工部位的切屑要移除乾淨 |
| 如何選用立銑刀 | 依據被削材材質及尺寸，選用適合的立銑刀<br>參考最前頁的索引目錄   |
| 切削條件參考表 | 請參考建議的切削條件參考表<br>切削條件可依據機械的剛性條件與加工物的積屑狀況，調整使用之                                    |

