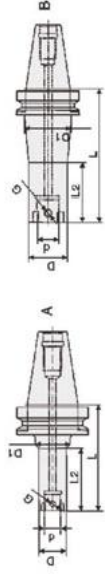


★ CKB 系列镗刀柄 CKB Chuck



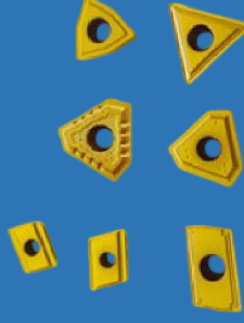
◎ BT50 MAS 403 BT ISO50

| 型号<br>Model    | 图<br>Figure | L   | L2  | D  | d  | D1 | G       | 图<br>Figure |
|----------------|-------------|-----|-----|----|----|----|---------|-------------|
| BT 30-CKB1-80  | A           | 80  | 46  | 19 | 11 | 31 | M4×0.5  | 图<br>Figure |
| BT 30-CKB2-80  |             | 80  | 46  | 24 | 14 | 31 | M5×0.5  |             |
| BT 30-CKB3-80  |             | 80  | 58  | 31 | 18 | 31 | M6×0.75 |             |
| BT 30-CKB4-80  |             | 80  | 58  | 39 | 22 | 39 | M8×0.75 |             |
| BT 30-CKB5-65  |             |     |     |    |    |    |         |             |
| BT 30-CKB6-60  |             |     |     |    |    |    |         |             |
| BT 40-CKB1-85  |             | 85  | 49  | 19 | 11 | 31 | M4×0.5  |             |
| BT 40-CKB2-85  |             | 85  | 79  | 19 | 11 | 31 | M4×0.5  |             |
| BT 40-CKB2-85  |             | 85  | 49  | 24 | 14 | 31 | M5×0.5  |             |
| BT 40-CKB2-115 |             | 115 | 79  | 24 | 14 | 31 | M5×0.5  |             |
| BT 40-CKB2-145 | B           | 145 | 105 | 24 | 14 | 31 | M5×0.5  | 图<br>Figure |
| BT 40-CKB3-95  |             | 95  | 68  | 31 | 18 | 31 | M6×0.75 |             |
| BT 40-CKB3-125 |             | 125 | 80  | 31 | 18 | 37 | M6×0.75 |             |
| BT 40-CKB3-155 |             | 155 | 85  | 31 | 18 | 37 | M6×0.75 |             |
| BT 40-CKB3-185 |             | 185 | 115 | 31 | 18 | 37 | M6×0.75 |             |
| BT 40-CKB4-95  |             | 95  | 68  | 39 | 22 | 39 | M8×0.75 |             |
| BT 40-CKB4-125 |             | 125 | 98  | 39 | 22 | 39 | M8×0.75 |             |
| BT 40-CKB4-155 |             | 155 | 128 | 39 | 22 | 46 | M8×0.75 |             |
| BT 40-CKB4-185 |             | 185 | 120 | 39 | 22 | 46 | M8×0.75 |             |
| BT 40-CKB5-95  | A           | 95  | 68  | 49 | 28 | 49 | M10×1   | 图<br>Figure |
| BT 40-CKB5-125 |             | 125 | 98  | 49 | 28 | 49 | M10×1   |             |
| BT 40-CKB5-155 |             | 155 | 128 | 49 | 28 | 49 | M10×1   |             |
| BT 40-CKB5-185 |             | 185 | 155 | 49 | 28 | 49 | M10×1   |             |
| BT 40-CKB5-215 |             | 215 | 180 | 49 | 28 | 49 | M10×1   |             |
| BT 40-CKB6-70  |             | 70  | 43  | 63 | 36 | 63 | M12×1   |             |
| BT 40-CKB6-95  |             | 95  | 68  | 63 | 36 | 63 | M12×1   |             |
| BT 40-CKB6-125 |             | 125 | 98  | 63 | 36 | 63 | M12×1   |             |
| BT 40-CKB6-155 |             | 155 | 128 | 63 | 36 | 63 | M12×1   |             |
| BT 40-CKB6-185 |             | 185 | 158 | 63 | 36 | 63 | M12×1   |             |
| BT 40-CKB6-215 |             | 215 | 188 | 63 | 36 | 63 | M12×1   |             |

◎ BT50 MAS 403 BT ISO50

| 型号<br>Model    | 图<br>Figure | L   | L2  | D  | d  | D1 | G       | 图<br>Figure |
|----------------|-------------|-----|-----|----|----|----|---------|-------------|
| BT 50-CKB1-125 | A           | 125 | 67  | 19 | 11 | 27 | M4×0.5  | 图<br>Figure |
| BT 50-CKB1-165 | B           | 165 | 75  | 19 | 11 | 27 | M4×0.5  |             |
| BT 50-CKB2-125 | A           | 125 | 67  | 24 | 14 | 31 | M5×0.5  |             |
| BT 50-CKB2-165 | B           | 165 | 75  | 24 | 14 | 35 | M5×0.5  |             |
| BT 50-CKB3-125 | A           | 125 | 75  | 31 | 18 | 36 | M6×0.75 |             |
| BT 50-CKB3-165 | B           | 165 | 90  | 31 | 18 | 36 | M6×0.75 |             |
| BT 50-CKB3-205 |             | 205 | 130 | 31 | 18 | 36 | M6×0.75 |             |
| BT 50-CKB4-125 | A           | 125 | 82  | 39 | 22 | 45 | M8×0.75 |             |
| BT 50-CKB4-165 | B           | 165 | 95  | 39 | 22 | 45 | M8×0.75 |             |
| BT 50-CKB4-205 |             | 205 | 110 | 39 | 22 | 45 | M8×0.75 |             |
| BT 50-CKB4-245 | B           | 245 | 150 | 39 | 22 | 45 | M8×0.75 | 图<br>Figure |
| BT 50-CKB5-125 | A           | 125 | 82  | 49 | 28 | 49 | M10×1   |             |
| BT 50-CKB5-165 | B           | 165 | 95  | 49 | 28 | 58 | M10×1   |             |
| BT 50-CKB5-205 |             | 205 | 110 | 49 | 28 | 58 | M10×1   |             |
| BT 50-CKB5-245 | B           | 245 | 150 | 49 | 28 | 58 | M10×1   |             |
| BT 50-CKB6-125 | A           | 125 | 87  | 63 | 36 | 73 | M12×1   |             |
| BT 50-CKB6-165 | B           | 165 | 127 | 63 | 36 | 73 | M12×1   |             |
| BT 50-CKB6-205 |             | 205 | 165 | 63 | 36 | 73 | M12×1   |             |
| BT 50-CKB6-245 | B           | 245 | 150 | 63 | 38 | 73 | M12×1   |             |
| BT 50-CKB6-285 |             | 285 | 185 | 63 | 36 | 73 | M12×1   |             |

# БТА



## каталог продукции

инструмент для глубокого сверления

孔加工刀具 | 可转位钻头 Hole machining tool | indexable drill

可转位深孔钻钻体型号表示规则

Rules for representing the model of the drill body of a deep hole drill that can be rotated

SK 800 . 20 05 D34.92 E 4

① ② ③ ④ ⑤ ⑥ ⑦

| ① 刀具类型<br>Tool type |                                      |
|---------------------|--------------------------------------|
| SK                  | 可转位深孔钻<br>Adjustable deep hole drill |

| Series main code<br>② 系列注码 |                         |
|----------------------------|-------------------------|
| 800                        | 800 系列刀片 series blades  |
| 424                        | 424 系列刀片 series blades  |
| 601                        | TPMT 系列刀片 series blades |
| 700                        | WCNM 系列刀片 series blades |

| ③ 通道类型<br>Channel type |                                         |
|------------------------|-----------------------------------------|
| 20                     | 单管钻接口<br>Single pipe drilling interface |

| ④ 钻杆 Drill rod |                                                 |
|----------------|-------------------------------------------------|
| 05             | 连接钻杆规格<br>Specification of connecting drill rod |

| Processing aperture<br>⑤ 加工孔径 |                       |
|-------------------------------|-----------------------|
| D34.92                        | Aperture<br>孔径 Φ34.92 |

| ⑥ 接口类型<br>Interface type |                     |
|--------------------------|---------------------|
| E                        | 外螺纹 External thread |
| I                        | 内螺纹 Internal thread |

| Number of threads<br>⑦ 螺纹条数 |                          |
|-----------------------------|--------------------------|
| 1                           | 单头螺纹 Single thread       |
| 2                           | 双头螺纹 Double Start Thread |
| 4                           | 四头螺纹 Four head thread    |

可转位深孔钻产品一览表

List of products for deep hole drilling with transposition capability

| 类别<br>Category                                         | 系列<br>Series | 产品外形<br>Product appearance                                                            | 应用<br>Application                                                                                                                     | 特点<br>Characteristic                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------|--------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 可转位<br>深孔刀具<br>Adjustable<br>deep hole<br>cutting tool | SK800        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 25~65mm<br>Processing range 25-65mm<br>最大钻深 100-D<br>Maximum drilling depth of 100·D   | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>高生产率首选, 单孔成本最低, 性能一致性好<br>Preferred for high productivity, lowest cost per hole, and good performance consistency<br>标准库存产品 (也可非标定制)<br>Standard inventory product (also available for non-standard customization) |
|                                                        | SK424        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 63~280mm<br>Processing range 63-280mm<br>最大钻深 100-D<br>Maximum drilling depth of 100·D | 内冷却式可转位刀片 (刀片式)<br>Internal cooling type rotatable blade (blade type)<br>4 种刀片系列即可满足整个直径范围<br>Four types of blades can cover the entire diameter range                                                                                                                                          |
|                                                        | SK601        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~350mm<br>Processing range 50-350mm<br>最大钻深 100-D<br>Maximum drilling depth of 100·D | 安装 TPMT 深孔钻削刀片<br>Install TPMT deep hole drilling blade<br>高生产效率首选<br>First choice for high production efficiency<br>第二个支撑板的刚性结构, 提高加工安全性<br>The second support plate's rigid structure improves processing safety                                                                              |
|                                                        | SK700        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~125mm<br>Processing range 50-125mm<br>最大钻深 100-D<br>Maximum drilling depth of 100·D | 安装 WCMX 钻削刀片<br>Install WCMX drilling blades<br>刀片易于选择, 单孔成本低<br>Blades are easy to select, low cost per hole<br>非标定制系列<br>Non standard customized series                                                                                                                                       |
|                                                        | SK818        |  | 通用扩孔刀具<br>Universal reamer<br>加工范围 25~300mm<br>Processing range 25-300mm                                                              | BTA 机夹式可转位刀片<br>BTA machine clamp type rotatable blade<br>使用 GD800 系列钻头周边刀片, 带修光刃, 切削角度合理<br>Use GD800 series drill bit peripheral blades with polished edges, reasonable cutting angle                                                                                                         |

孔加工刀具 | 可转位钻头 Hole machining tool | indexable drill

SK800

深孔钻削刀片 Deep hole drilling blade

全新的硬质合金基体成分  
• 硬度高、耐磨性出色、韧性可靠  
• High hardness, excellent wear resistance, and reliable toughness

两种槽型设计  
• 通用槽型 (G 槽), 适合高切削速度和进给  
• 定制槽型 (L 槽), 适合加工不锈钢和低碳钢

全新的涂层工艺  
• 加工钢件、不锈钢通用  
• New coating process  
• Processing steel parts, stainless steel universal

散热槽设计  
• 良好的散热性能  
• Design of heat dissipation groove  
• Good heat dissipation performance

SK800

钻体 Drill body

独特的排屑口设计及抛光技术  
• 排屑顺畅  
• Unique chip discharge port design and polishing technology  
• Smooth chip removal

高品质合金钢材质  
• 刀具刚性及耐磨损性优越  
• High quality alloy steel material  
• Superior rigidity and wear resistance of cutting tools

特殊的表面改性处理  
• 耐腐蚀性好  
• Special surface modification treatment  
• Good corrosion resistance

优化的结构设计  
• 稳定性更好  
• Optimized structural design  
• Better stability



孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

SK800

深孔钻削周边刀片 Deep hole drilling peripheral blades



| 型号<br>Model      | 牌号<br>Brand | Size 尺寸 (mm) |      |      |      | 库存<br>Inventory |
|------------------|-------------|--------------|------|------|------|-----------------|
|                  |             | LE           | W1   | S    | RE   |                 |
| 800-0603 08H-P-G | WM7025      | 6.42         | 8.00 | 3.17 | 0.80 | ●               |
| 800-08T3 08H-P-G | WM7025      | 8.62         | 9.00 | 3.96 | 0.80 | ●               |
| 800-09T3 08H-P-G | WM7025      | 9.63         | 9.00 | 3.96 | 0.80 | ●               |
| 800-11T3 08H-P-G | WM7025      | 12.7         | 9.00 | 3.96 | 0.80 | ●               |
| 800-0603 08H-P-L | WM7025      | 6.42         | 8.00 | 3.17 | 0.80 | ●               |
| 800-08T3 08H-P-L | WM7025      | 8.62         | 9.00 | 3.96 | 0.80 | ●               |
| 800-09T3 08H-P-L | WM7025      | 9.63         | 9.00 | 3.96 | 0.80 | ●               |
| 800-11T3 08H-P-L | WM7025      | 12.7         | 9.00 | 3.96 | 0.80 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

SK800

深孔钻削中间刀片 Deep hole drilling middle blade



| 型号<br>Model      | 牌号<br>Brand | Size 尺寸 (mm) |       |      |     | 库存<br>Inventory |
|------------------|-------------|--------------|-------|------|-----|-----------------|
|                  |             | LE           | W1    | S    | RE  |                 |
| 800-0503 08M-I-G | WM7025      | 5.56         | 5.56  | 3.17 | 0.8 | ●               |
| 800-06T3 08M-I-G | WM7025      | 6.35         | 6.35  | 3.96 | 0.8 | ●               |
| 800-08T3 08M-I-G | WM7025      | 7.94         | 7.94  | 3.96 | 0.8 | ●               |
| 800-12T3 08M-I-G | WM7025      | 9.87         | 12.70 | 3.96 | 0.8 | ●               |
| 800-0503 08M-I-L | WM7025      | 5.56         | 5.56  | 3.17 | 0.8 | ●               |
| 800-06T3 08M-I-L | WM7025      | 6.35         | 6.35  | 3.96 | 0.8 | ●               |
| 800-08T3 08M-I-L | WM7025      | 7.94         | 7.94  | 3.96 | 0.8 | ●               |
| 800-12T3 08M-I-L | WM7025      | 9.87         | 12.70 | 3.96 | 0.8 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

SK800

深孔钻削中心刀片 Deep hole drilling center blade



| 型号<br>Model      | 牌号<br>Brand | Size 尺寸 (mm) |      |      |      | 库存<br>Inventory |
|------------------|-------------|--------------|------|------|------|-----------------|
|                  |             | LE           | W1   | S    | RE   |                 |
| 800-0503 08M-C-G | WM7025      | 5.56         | 8    | 3.18 | 0.80 | ●               |
| 800-06T3 08M-C-G | WM7025      | 6.35         | 9.87 | 3.97 | 0.80 | ●               |
| 800-08T3 08M-C-G | WM7025      | 7.94         | 9.87 | 3.97 | 0.80 | ●               |
| 800-10T3 08M-C-G | WM7025      | 9.53         | 9.87 | 3.97 | 0.80 | ●               |
| 800-12T3 08M-C-G | WM7025      | 12.70        | 9.87 | 3.97 | 0.80 | ●               |
| 800-0503 08M-C-L | WM7025      | 5.56         | 8    | 3.18 | 0.80 | ○               |
| 800-06T3 08M-C-L | WM7025      | 6.35         | 9.87 | 3.97 | 0.80 | ○               |
| 800-08T3 08M-C-L | WM7025      | 7.94         | 9.87 | 3.97 | 0.80 | ○               |
| 800-10T3 08M-C-L | WM7025      | 9.53         | 9.87 | 3.97 | 0.80 | ○               |
| 800-12T3 08M-C-L | WM7025      | 12.70        | 9.87 | 3.97 | 0.80 | ○               |

- 标准库存 ○ 需预定

SK800

深孔钻削导向键 Deep hole drilling guide key



| 型号<br>Model | 牌号<br>Brand | Size 尺寸 (mm) |    |     |  | 库存<br>Inventory |
|-------------|-------------|--------------|----|-----|--|-----------------|
|             |             | INSL         | W1 | S   |  |                 |
| 800-06A     | WPM601      | 18           | 6  | 3.0 |  | ●               |
| 800-07A     | WPM601      | 20           | 7  | 3.5 |  | ●               |
| 800-08A     | WPM601      | 25           | 8  | 4.5 |  | ●               |
| 800-10A     | WPM601      | 30           | 10 | 4.5 |  | ●               |
| 800-12A     | WPM601      | 35           | 12 | 5.5 |  | ●               |

- 标准库存 ○ 需预定

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK800

深孔钻体 Deep hole drilling body



| Deep hole range |      | Drill rod range |      | order No |     |
|-----------------|------|-----------------|------|----------|-----|
| 直径范围            | 钻杆范围 | 订货号             | D1   | D2       | L   |
| 25.00-26.40     | 03   | 800.20-03Dxx.xx | 17.5 | 19.5     | 65  |
| 26.41-28.70     | 04   | 800.20-04Dxx.xx | 19   | 21       | 65  |
| 28.71-31.00     | 05   | 800.20-05Dxx.xx | 21   | 23.5     | 72  |
| 31.01-33.30     | 06   | 800.20-06Dxx.xx | 23   | 25.5     | 78  |
| 33.31-36.20     | 07   | 800.20-07Dxx.xx | 25.5 | 28       | 78  |
| 36.21-39.60     | 08   | 800.20-08Dxx.xx | 27   | 30       | 85  |
| 39.61-43.00     | 09   | 800.20-09Dxx.xx | 30   | 33       | 94  |
| 43.01-47.00     | 10   | 800.20-10Dxx.xx | 33   | 36       | 94  |
| 47.01-51.70     | 11   | 800.20-11Dxx.xx | 36   | 39       | 104 |
| 51.71-56.20     | 12   | 800.20-12Dxx.xx | 39.5 | 43       | 118 |
| 56.21-65.00     | 13   | 800.20-13Dxx.xx | 43.5 | 47       | 118 |

钻杆规格详见配置表  
Drill rod specifications are detailed in the configuration table

# SK800

刀片和导向键配置表 Blade and guide key configuration table

| Diameter Range |                  | Center blade | Diameter Range   |             | Middle blade     | Diameter Range |         | Surrounding blades | Diameter Range |  | guide key |
|----------------|------------------|--------------|------------------|-------------|------------------|----------------|---------|--------------------|----------------|--|-----------|
| 直径范围           | 中心刀片             | 直径范围         | 中间刀片             | 直径范围        | 周边刀片             | 直径范围           | 导向键     |                    |                |  |           |
| 25.00~28.70    | 800-0503 08M-C-G | 25.00~31.00  | 800-0503 08M-I-G | 25.00~31.00 | 800-0803 08H-P-G | 25.00~31.00    | 800-06A |                    |                |  |           |
| 28.70~33.99    | 800-0603 08M-C-G | 31.01~34.99  | 800-0603 08M-I-G | 31.01~38.99 | 800-0803 08H-P-G | 31.01~39.60    | 800-07A |                    |                |  |           |
| 34.00~43.00    | 800-0803 08M-C-G | 35.00~54.99  | 800-0803 08M-I-G | 39.00~49.99 | 800-0903 08H-P-G | 39.61~47.00    | 800-08A |                    |                |  |           |
| 43.01~47.00    | 800-1003 08M-C-G | 55.00~65.00  | 800-1203 08M-I-G | 50.00~65.00 | 800-1103 08H-P-G | 47.01~54.99    | 800-10A |                    |                |  |           |
| 47.01~49.99    | 800-1203 08M-C-G |              |                  |             |                  | 55.00~65.00    | 800-12A |                    |                |  |           |
| 50.00~57.99    | 800-1003 08M-C-G |              |                  |             |                  |                |         |                    |                |  |           |
| 58.00~65.00    | 800-1203 08M-C-G |              |                  |             |                  |                |         |                    |                |  |           |

# B

## SK424 可转位深孔钻头 SK424 Indexable deep hole drill



孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

可转位深孔钻钻体型号表示规则

Rules for representing the model of the drill body of a deep hole drill that can be rotated

SK424.2013D69.95E4

- ①②③④⑤⑥⑦

| 类别<br>Category            | ①刀具类型<br>Tool type                   |    |
|---------------------------|--------------------------------------|----|
|                           | 可转位深孔钻<br>Adjustable deep hole drill | SK |
| Series main code<br>②系列主码 |                                      |    |
| 800                       | 800 系列刀片 series blades               |    |
| 424                       | 424 系列刀片 series blades               |    |
| 601                       | TPMT 系列刀片 series blades              |    |
| 700                       | WCMTX 系列刀片 series blades             |    |

| ③通道类型<br>Channel type        |                                                 |
|------------------------------|-------------------------------------------------|
| 20                           | 单管钻接口<br>Single pipe drilling interface         |
| ④钻杆 Drill rod                |                                                 |
| 13                           | 连接钻杆规格<br>Specification of connecting drill rod |
| ⑤加工孔径<br>Processing aperture |                                                 |
| D69.95                       | 孔径φ69.95<br>Aperture hole diameter φ69.95       |

| ⑥接口类型<br>Interface type     |                          |
|-----------------------------|--------------------------|
| E                           | 外螺纹 External thread      |
| I                           | 内螺纹 Internal thread      |
| Number of threads<br>⑦ 螺纹牙数 |                          |
| 1                           | 单头螺纹 Single thread       |
| 2                           | 双头螺纹 Double Start Thread |
| 4                           | 四头螺纹 Four head thread    |

可转位深孔钻制产品一览表

List of products for deep hole drilling with transposition capability

| 类别<br>Category                                         | 系列<br>Series | 产品外形<br>Product appearance                                                            | 应用<br>Application                                                                                       | 特点<br>Characteristic                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------|--------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 可转位<br>深孔刀具<br>Adjustable<br>deep hole<br>cutting tool | SK800        |  | 通用深孔钻制<br>加工范围 25-65mm<br>Processing range 25-65mm<br>最大钻深 100=D<br>Maximum drilling depth of 100 * D   | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>高生产率 单孔成本最低 性能一致性好<br>Preferred for high productivity, lowest cost per hole, and good performance consistency<br>标准库存产品 (也可非标定制)<br>Standard inventory products (also available for non-standard customization) |
|                                                        | SK424        |  | 通用深孔钻制<br>加工范围 63-280mm<br>Processing range 63-280mm<br>最大钻深 100=D<br>Maximum drilling depth of 100 * D | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>可调整周边刀座<br>Adjustable peripheral knife holder<br>4 种刀片夹持即可涵盖整个直径范围<br>4 types of blade clamping can cover the entire diameter range                                                                             |
|                                                        | SK601        |  | 通用深孔钻制<br>加工范围 50-350mm<br>Processing range 50-350mm<br>最大钻深 100=D<br>Maximum drilling depth of 100 * D | 安装 TPMT 可转位刀片<br>Install TPMT rotatable blades<br>高生产率优选<br>First choice for high production efficiency<br>带三个支撑板的刚性结构, 提高加工安全性<br>A rigid structure with three support plates to improve processing safety                                                                                  |
|                                                        | SK700        |  | 通用深孔钻制<br>加工范围 50-125<br>Processing range 50-125mm                                                      | 安装 WCMTX 钻削刀片<br>Install WCMTX drilling blades<br>刀片易于选择, 单孔成本低<br>Easy to choose blades, low cost per hole<br>非标定制系列<br>Non standard customized series                                                                                                                                      |
|                                                        | SK818        |  | 通用扩孔刀具<br>加工范围 25-300mm<br>Processing range 25-300mm                                                    | BTA 机夹式可转位刀片<br>BTA machine clamp type rotatable blade<br>使用 GB800 系列钻头周边刀片, 带修光刃,<br>可加工带修光刃的周边刀片<br>Use GB800 series peripheral blades with polished edges, can process peripheral blades with polished edges<br>合理的切削角度<br>Reasonable cutting angle                                       |

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

SK424

深孔钻削刀片 Deep hole drilling blade

优化切削刃  
• 更好的切削处理及稳定性  
Optimize cutting edge  
• Better cutting treatment and stability

两种槽型设计  
• 通用槽型 (22 槽), 适合高切削速度和进给  
• 定制槽型 (23 槽), 适合加工不锈钢和低碳钢

中间中心刀片共用  
• 刀具管理使用更方便

局部大刃宽, 小前角设计  
• 增加中心区域的抗崩性

Two types of groove designs  
- Universal groove type (22 grooves), suitable for high cutting speeds and feed rates  
- Customized groove type (23 grooves), suitable for processing stainless steel and low carbon steel

两种槽型设计  
• 通用槽型 (22 槽), 适合高切削速度和进给  
• 定制槽型 (23 槽), 适合加工不锈钢和低碳钢

局部大刃宽, 小前角设计  
• 增加中心区域的抗崩性

Shared middle center blade  
• Convenient tool management and use

Partial large blade width, small front angle design  
• Enhance the collapse resistance of the central area

SK424

钻体 Drill body

改进的冷却液通道设计  
Improved coolant channel design

六种刀座, 四种可转位刀片  
• 覆盖了全部直径范围

最新的刀片和导向键技术  
• 保持了刀具寿命不变的情况下, 提高了性能

Six types of tool holders, four types of rotatable blades  
• Covering the entire diameter range

The latest blade and guide key technology  
• Keeping the tool life unchanged, improve improved performance

扩展了可调整范围  
• φ63.50-280.00mm  
Expanded the adjustable range  
• φ63.50-280.00mm

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK424

深孔钻削中心、中间刀片 Deep hole drilling center, middle blade



| 型号<br>Model       | 牌号<br>Brand | Size 尺寸 (mm) |      |     |  | 库存<br>Inventory |
|-------------------|-------------|--------------|------|-----|--|-----------------|
|                   |             | L            | S    | RE  |  |                 |
| TPMT 16 T3 12R-22 | WM7025      | 16.50        | 3.97 | 1.2 |  | ●               |
| TPMT 16 T3 12R-23 | WM7025      | 16.50        | 3.97 | 1.2 |  | ●               |
| TPMT 22 06 12R-22 | WM7025      | 22.00        | 6.35 | 1.2 |  | ●               |
| TPMT 22 06 12R-23 | WM7025      | 22.00        | 6.35 | 1.2 |  | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

# SK424

深孔钻削周边刀片 Deep hole drilling peripheral blades



| 型号<br>Model       | 牌号<br>Brand | Size 尺寸 (mm) |       |      |      | 库存<br>Inventory |
|-------------------|-------------|--------------|-------|------|------|-----------------|
|                   |             | LE           | W1    | S    | RE   |                 |
| R424.9-13T3 08-22 | WM7025      | 14.3         | 10.00 | 3.96 | 0.80 | ●               |
| R424.9-13T3 08-23 | WM7025      | 14.3         | 10.00 | 3.96 | 0.80 | ●               |
| R424.9-1806 08-22 | WM7025      | 19.4         | 11.50 | 6.35 | 0.80 | ●               |
| R424.9-1806 08-23 | WM7025      | 19.4         | 11.50 | 6.35 | 0.80 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK424

深孔钻削导向键 Deep hole drilling guide key



| 型号<br>Model | 牌号<br>Brand | Size 尺寸 (mm) |    |     | 库存<br>Inventory |
|-------------|-------------|--------------|----|-----|-----------------|
|             |             | INSL         | W1 | S   |                 |
| 800-14D065  | WPM601      | 35           | 14 | 7.0 | ●               |
| 800-16D075  | WPM601      | 35           | 14 | 7.0 | ●               |
| 800-18D085  | WPM601      | 35           | 14 | 7.0 | ●               |
| 800-20D100  | WPM601      | 50           | 20 | 8.5 | ●               |
| 800-22D110  | WPM601      | 50           | 20 | 8.5 | ●               |
| 800-24D120  | WPM601      | 50           | 20 | 8.5 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required



孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK424

深孔钻体 Deep hole drilling body



| Diameter Range |      | Drill rod range | Order No |         | Positioning diameter D1 |  | Positioning diameter D2 |  |
|----------------|------|-----------------|----------|---------|-------------------------|--|-------------------------|--|
| 直径范围           | 钻杆范围 | 订货号             | 定位直径 D1  | 定位直径 D2 | L                       |  |                         |  |
| 63.50-65.00    | 13   | 424.20-13Dxx.xx | 43.5     | 47      | 152                     |  |                         |  |
| 63.50-65.00    | 14   | 424.20-14Dxx.xx | 47       | 52      | 152                     |  |                         |  |
| 65.01-66.99    | 14   | 424.20-14Dxx.xx | 47       | 52      | 152                     |  |                         |  |
| 67.00-72.99    | 15   | 424.20-15Dxx.xx | 53       | 58      | 152                     |  |                         |  |
| 73.00-79.99    | 16   | 424.20-16Dxx.xx | 58       | 63      | 159                     |  |                         |  |
| 80.00-86.99    | 17   | 424.20-17Dxx.xx | 64       | 70      | 185                     |  |                         |  |
| 87.00-99.99    | 18   | 424.20-18Dxx.xx | 71       | 77      | 185                     |  |                         |  |
| 100.00-111.99  | 19   | 424.20-19Dxx.xx | 83       | 89      | 186                     |  |                         |  |
| 112.00-123.99  | 20   | 424.20-20Dxx.xx | 95       | 101     | 203                     |  |                         |  |
| 124.00-135.99  | 21   | 424.20-21Dxx.xx | 107      | 113     | 203                     |  |                         |  |
| 136.00-147.99  | 22   | 424.20-22Dxx.xx | 119      | 125     | 203                     |  |                         |  |
| 148.00-159.99  | 23   | 424.20-23Dxx.xx | 131      | 137     | 225                     |  |                         |  |
| 160.00-171.99  | 24   | 424.20-24Dxx.xx | 143      | 149     | 225                     |  |                         |  |
| 172.00-183.99  | 25   | 424.20-25Dxx.xx | 155      | 181     | 245                     |  |                         |  |

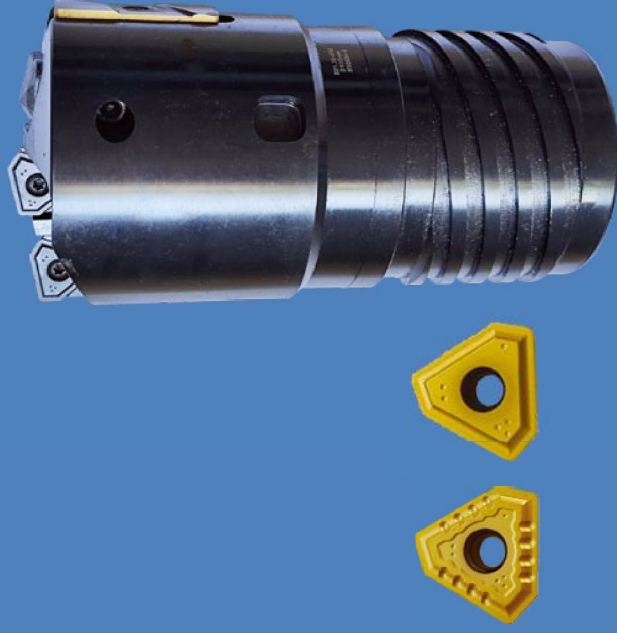
钻杆规格详见配置表  
Drill rod specifications are detailed in the configuration table

# SK424

刀座和刀片配置表 Knife holder and blade configuration table

| Center knife holder | Center blade   | Middle knife holder | Middle blade   | Surrounding knife holder | Surrounding blades |
|---------------------|----------------|---------------------|----------------|--------------------------|--------------------|
| 中心刀座                | 中心刀片           | 中间刀座                | 中间刀片           | 周边刀座                     | 周边刀片               |
| L424.20-16          | TPMT16T312R-22 | L424.21-16          | TPMT16T312R-22 | R424.28-16               | R424.9-13T308-22   |
| L424.20-22          | TPMT220612R-22 | L424.21-22          | TPMT220612R-22 | R424.28-22               | R424.9-180608-22   |

## SK601 可转位深孔钻头 SK601 Indexable deep hole drill



孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

可转位深孔钻钻体型号表示规则

Rules for representing the model of the drill body of a deep hole drill that can be rotated

SK 601 . 20 13 D69.95 E 4

① ② ③ ④ ⑤ ⑥ ⑦

| SK | ①刀具类型<br>Tool type                   | ②系列主码<br>Series main code                                                                                      |
|----|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
|    | 可转位深孔钻<br>Adjustable deep hole drill | 800 系列刀片 series blades<br>424 系列刀片 series blades<br>601 TPMT 系列刀片 series blades<br>700 WCMX 系列刀片 series blades |

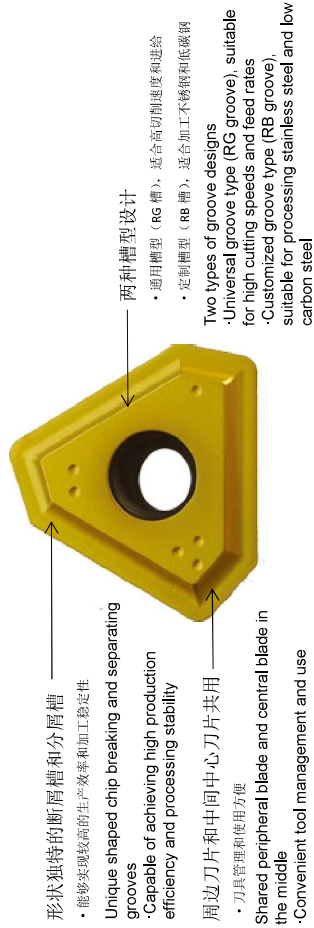
| ③通道类型<br>Channel type        |                                                 |
|------------------------------|-------------------------------------------------|
| 20                           | 单管钻接口<br>Single pipe drilling interface         |
| ④杆杆 Drill rod                |                                                 |
| 13                           | 连接杆杆规格<br>Specification of connecting drill rod |
| ⑤加工孔径<br>Processing aperture |                                                 |
| D69.95                       | 孔径 Ø69.95                                       |

| ⑥接口类型<br>Interface type    |                          |
|----------------------------|--------------------------|
| E                          | 外螺纹 External thread      |
| I                          | 内螺纹 Internal thread      |
| ⑦螺纹条数<br>Number of threads |                          |
| 1                          | 单头螺纹 Single thread       |
| 2                          | 双头螺纹 Double Start Thread |
| 4                          | 四头螺纹 Four head thread    |

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

SK601

深孔钻削刀片 Deep hole drilling blade



SK601

钻体 Drill body

可转位深孔钻削产品一览表

List of products for deep hole drilling with transposition capability

| 类别<br>Category                                         | 系列<br>Series | 产品外形<br>Product appearance | 应用<br>Application                                                                                                                     | 特点<br>Characteristic                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------|--------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 可转位<br>深孔刀具<br>Adjustable<br>deep hole<br>cutting tool | SK800        |                            | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 25~65mm<br>Processing range 25~65mm<br>最大钻深 100+D<br>Maximum drilling depth of 100+D   | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>高生产率, 单孔成本最低, 性能一致性好<br>Preferred for high productivity, lowest cost per hole, and good performance consistency<br>标准库存产品 (也可非标定制)<br>Standard inventory products (also available for non-standard customization) |
|                                                        | SK424        |                            | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 63~280mm<br>Processing range 63~280mm<br>最大钻深 100+D<br>Maximum drilling depth of 100+D | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>可调整周边刀座<br>Adjustable peripheral knife holder<br>4 种刀片类型即可涵盖整个直径范围<br>Four types of blades can cover the entire diameter range                                                                                    |
|                                                        | SK601        |                            | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~350mm<br>Processing range 50~350mm<br>最大钻深 100+D<br>Maximum drilling depth of 100+D | 安装 WCMX 深孔切削刀片<br>Install WCMX deep hole cutting blades<br>高生产率, 单孔成本最低<br>Preferred for high productivity, lowest cost per hole<br>带三个支撑板的刚性结构, 提高加工安全性<br>Rigid structure with three support plates to improve processing safety                                                             |
|                                                        | SK700        |                            | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~125<br>Processing range 50~125mm                                                    | 安装 WCMX 钻削刀片<br>Install WCMX drilling blades<br>刀片易于选择, 单孔成本低<br>Easy to choose blades, low cost per hole<br>非标定制系列<br>Non standard customized series                                                                                                                                          |
|                                                        | SK818        |                            | 通用扩孔刀具<br>Universal drilling tool<br>加工范围 25~300mm<br>Processing range 25~300mm                                                       | BTA 机夹式可转位刀片<br>BTA machine clamp type rotatable blade<br>使用 GD800 系列钻头周边刀片, 带修光刃<br>Use GD800 series drill bit peripheral blades with polished edges, chamfered cutting angle                                                                                                                 |



孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK601

深孔钻削刀片 Deep hole drilling blade



| 型号<br>Model | 牌号<br>Brand | Size 尺寸 (mm) |      |      | 库存<br>Inventory |
|-------------|-------------|--------------|------|------|-----------------|
|             |             | D            | S    | RE   |                 |
| TPMX1403-RG | WM7708      | 8.45         | 3.50 | 0.80 | ●               |
| TPMX1704-RG | WM7708      | 10.30        | 4.00 | 0.80 | ●               |
| TPMX2405-RG | WM7708      | 14.20        | 5.00 | 1.20 | ●               |
| TPMX2807-RG | WM7708      | 17.00        | 7.50 | 1.60 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

# SK601

深孔钻削刀片 Deep hole drilling blade



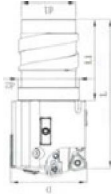
| 型号<br>Model | 牌号<br>Brand | Size 尺寸 (mm) |      |      | 库存<br>Inventory |
|-------------|-------------|--------------|------|------|-----------------|
|             |             | D            | S    | RE   |                 |
| TPMX1403-RB | WM7708      | 8.45         | 3.50 | 0.80 | ●               |
| TPMX1704-RB | WM7708      | 10.30        | 4.00 | 0.80 | ●               |
| TPMX2405-RB | WM7708      | 14.20        | 5.00 | 1.20 | ●               |
| TPMX2807-RB | WM7708      | 17.00        | 7.50 | 1.60 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK601

深孔钻体 Deep hole drilling body



| Order No<br>订货号 | Drill diameter<br>钻头直径 |     |      |    |  |
|-----------------|------------------------|-----|------|----|--|
|                 | L                      | L1  | d1   | d2 |  |
| 601-XXX.XXSE4   | 85                     | 37  | 27   | 30 |  |
| 601-XXX.XXSE4   | 85                     | 37  | 30   | 33 |  |
| 601-XXX.XXSE4   | 95                     | 37  | 33   | 36 |  |
| 601-XXX.XXSE4   | 95                     | 37  | 36   | 39 |  |
| 601-XXX.XXSE4   | 100                    | 41  | 39.5 | 43 |  |
| 601-XXX.XXSE4   | 110                    | 41  | 43.5 | 47 |  |
| 601-XXX.XXSE4   | 110                    | 77  | 47   | 52 |  |
| 601-XXX.XXSE4   | 150                    | 77  | 47   | 52 |  |
| 601-XXX.XXSE4   | 150                    | 77  | 53   | 58 |  |
| 601-XXX.XXSE4   | 150                    | 77  | 58   | 63 |  |
| 601-XXX.XXSE4   | 180                    | 100 | 64   | 70 |  |
| 601-XXX.XXSE4   | 180                    | 100 | 71   | 77 |  |
| 601-XXX.XXSE4   | 180                    | 100 | 83   | 89 |  |

孔加工刀具 | 可转位钻头 Hole machining tool |indexable drill

# SK601

刀片配置表 Blade configuration table

| 刀片组合<br>Blade combination |               | Diameter 直径 (mm) |               |               |               |               |               |
|---------------------------|---------------|------------------|---------------|---------------|---------------|---------------|---------------|
|                           |               | 38.00-39.60      | 39.61-43.00   | 43.01-47.00   | 47.01-51.70   | 51.71-56.20   | 56.21-60.60   |
| 刀片<br>Blade               | 内侧 inner side | NPMT0803DD       | NPMT0803DD    | NPMT0803DD    | TPMT140308-ED | TPMT140308-ED | TPMT140308-ED |
|                           | 中心 center     | NPMT0803DD       | NPMT0803DD    | TPMT140308-ED | TPMT140308-ED | TPMT140308-ED | TPMT1704DD    |
|                           | 外侧 outer side | NPMT0803DD       | TPMT140308-ED | TPMT140308-ED | TPMT140308-ED | TPMT1704DD    | TPMT1704DD    |

| 刀片组合<br>Blade combination |               | Diameter 直径 (mm) |             |             |             |             |               |
|---------------------------|---------------|------------------|-------------|-------------|-------------|-------------|---------------|
|                           |               | 60.61-65.00      | 65.01-66.99 | 67.00-72.99 | 73.00-79.99 | 80.00-86.99 | 87.00-99.99   |
| 刀片<br>Blade               | 内侧 inner side | TPMT1704DD       | TPMT1704DD  | TPMT1704DD  | TPMT2405DD  | TPMT2405DD  | TPMT280716-ED |
|                           | 中心 center     | TPMT1704DD       | TPMT1704DD  | TPMT1704DD  | TPMT2405DD  | TPMT2405DD  | TPMT280716-ED |
|                           | 外侧 outer side | TPMT1704DD       | TPMT1704DD  | TPMT2405DD  | TPMT1704DD  | TPMT2405DD  | TPMT280716-ED |

# D

SK700 可转位深孔钻头  
SK700 Indexable deep hole drill

孔加工刀具 | 可转位钻头Hole machining tool | indexable drill

可转位深孔钻钻体型号表示规则

Rules for representing the model of the drill body of a deep hole drill that can be rotated

SK700.2013D69.95E4

①②③④⑤⑥⑦

| ①刀具类型<br>Tool type |                                      |
|--------------------|--------------------------------------|
| SK                 | 可转位深孔钻<br>Adjustable deep hole drill |

| ③通孔类型<br>Channel type |                                         |
|-----------------------|-----------------------------------------|
| 20                    | 单管钻接口<br>Single pipe drilling interface |

| ⑥接口类型<br>Interface type |                        |
|-------------------------|------------------------|
| E                       | 外螺纹<br>External thread |
| I                       | 内螺纹<br>Internal thread |

| Series main code<br>②系列主码 |                         |
|---------------------------|-------------------------|
| 800                       | 800 系列刀片 series blades  |
| 424                       | 424 系列刀片 series blades  |
| 601                       | TPMT 系列刀片 series blades |
| 700                       | WCMT 系列刀片 series blades |

| ④杆杆Drill rod |                                                |
|--------------|------------------------------------------------|
| 13           | 连接杆规格<br>Specification of connecting drill rod |

| Processing aperture<br>⑤加工孔位 |                      |
|------------------------------|----------------------|
| D69.95                       | Aperture<br>孔径φ69.95 |

| Number of threads<br>⑦ 螺纹条数 |                         |
|-----------------------------|-------------------------|
| 1                           | 单头螺纹Single thread       |
| 2                           | 双头螺纹Double Start Thread |
| 4                           | 四头螺纹Four head thread    |

可转位深孔钻削产品一览表

List of products for deep hole drilling with transposition capability

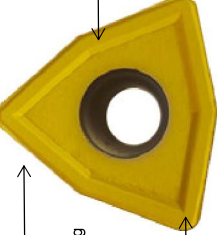
| 类别<br>Category                                 | 系列<br>Series | 产品外形<br>Product appearance                                                            | 应用<br>Application                                                                                                                    | 特点<br>Characteristic                                                                                                                                                                                                                                                                                                |
|------------------------------------------------|--------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 可转位<br>Adjustable<br>deep hole<br>cutting tool | SK800        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 25~65mm<br>加工精度 0.01~0.02mm<br>最大钻深 100~150mm<br>Maximum drilling depth of 100~150mm  | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>高生产率首选, 单孔成本最低, 性能一致性好<br>High production efficiency preferred, single hole cost is the lowest, performance consistency is guaranteed<br>标准库存产品 (也可非标准定制)<br>Standard inventory products (also available for customized customization) |
|                                                | SK424        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 63~280mm<br>加工精度 0.02~0.03mm<br>最大钻深 100~150mm<br>Maximum drilling depth of 100~150mm | BTA 机夹式可转位刀片 (刀片式)<br>BTA machine clamp type rotatable blade (blade type)<br>可调整周边刃<br>Adjustable peripheral knife holder<br>4 种刀片类型即可涵盖整个直径范围<br>Four types of blades can cover the entire diameter range                                                                                                          |
|                                                | SK601        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~350mm<br>加工精度 0.02~0.03mm<br>最大钻深 100~150mm<br>Maximum drilling depth of 100~150mm | 安装 TPMT 深孔钻削刀片<br>Install TPMT deep hole drilling blade<br>高生产率首选<br>High production efficiency preferred<br>第三个支撑板的刚性结构, 提高加工安全性<br>The third support plate's rigid structure improves processing safety                                                                                                           |
|                                                | SK700        |  | 通用深孔钻削<br>Universal deep hole drilling<br>加工范围 50~125mm<br>加工精度 0.02~0.03mm<br>最大钻深 100~150mm<br>Maximum drilling depth of 100~150mm | 安装 WCMT 钻削刀片<br>Install WCMT drilling blades<br>刀片旁边设计有冷却液孔, 降低切削成本<br>Cooling liquid holes are designed on the side of the blade to reduce cutting cost<br>非标准定制系列<br>Non standard customized series                                                                                                               |
|                                                | SK818        |  | 通用扩孔刀具<br>Universal drilling tool<br>加工范围 25~300mm<br>加工精度 0.02~0.03mm                                                               | BTA 机夹式可转位刀片<br>BTA machine clamp type rotatable blade<br>使用 GD800 系列钻头周边刀片, 带修光刃,<br>切削角度合理<br>Use GD800 series drill bit peripheral blades with polished edges, reasonable cutting angle                                                                                                                          |

Hole machining tool | indexable drill 孔加工刀具 | 可转位钻头

SK700

深孔钻削刀片 Deep hole drilling blade

形状独特的断屑槽和分屑槽  
• 能够实现较高的生产效率和加工稳定性  
Unique shaped chip breaking and separating grooves  
• Capable of achieving high production efficiency and processing stability



四种槽型设计  
• 通用槽型 (RG 槽), 适合高切削速度和进给  
• 定制槽型 (RB 槽), 适合加工不锈钢和低碳钢  
• 其余两种为定制槽型

周边刀片和中间中心刀片共用  
• 刀具管理使用方便  
Shared peripheral blade and central blade in the middle  
• Convenient tool management and use

Four types of groove designs  
• Universal groove type (RG groove), suitable for high cutting speeds and feed rates  
• Customized groove type (RB groove), suitable for processing stainless steel and low carbon steel  
• The other two are customized groove types

SK700

深孔钻体 Deep hole drilling body



| 钻头直径<br>Drill diameter | 总长<br>Total length | 外刀锋<br>External knife holder | 中心刀锋<br>Center knife holder | 中间刀锋<br>Middle knife holder |
|------------------------|--------------------|------------------------------|-----------------------------|-----------------------------|
| φ50 - φ60              | 110                | 23501-0575/1                 | 23501-0575/2                | 23501-0575/2                |
| φ61 - φ65              | 115                | 23301-W0Z                    | 23301-0575/2                | 23501-0575/2                |
| φ66 - φ70              | 115                | 23301-W0Z                    | 23501-W0Z                   | 23501-W0Z                   |
| φ71 - φ75              | 150                | 23501-W0Z                    | 23501-W0Z                   | 23501-W0Z                   |
| φ76 - φ80              | 150                | 23501-W0Z                    | 23501-W0Z                   | 23501-W0Z                   |
| φ81 - φ85              | 160                | 23501-W0Z                    | 23501-W0Z                   | 23501-W0Z                   |
| φ86 - φ90              | 190                | 23501-W0Z                    | 23501-094/1                 | 23501-094/1                 |
| φ91 - φ100             | 190                | 23501-W0Z                    | 23501-0575/2                | 23501-0575/2                |
| φ101 - φ110            | 195                | 23501-W0Z                    | 23501-W0Z                   | 23501-0575/2                |
| φ111 - φ125            | 220                | 23501-W0Z                    | 23501-W0Z                   | 23501-W0Z                   |



孔加工刀具 | 可转位钻头 Hole machining tool | dexable drill

# SK700

附件 Attachment

| 刀座 Cutterbed | 刀片 Blade   | 螺钉 Screw      | 旋具 Rotary tool |
|--------------|------------|---------------|----------------|
| 23501-0575/1 | WCMX050208 | FP01-04(M3.5) | OW01-04(T10)   |
| 23501-0575/2 |            |               |                |
| 23501-094/1  | WCMX06T308 | FP01-03(M3.0) | OW01-03(T09)   |
| 23501-WDZ    | WCMX080412 | FP01-05(M4.0) | OW01-05(T15)   |
| 23501-NDZ    |            |               |                |

# SK700

深孔钻削刀片 Deep hole drilling blade



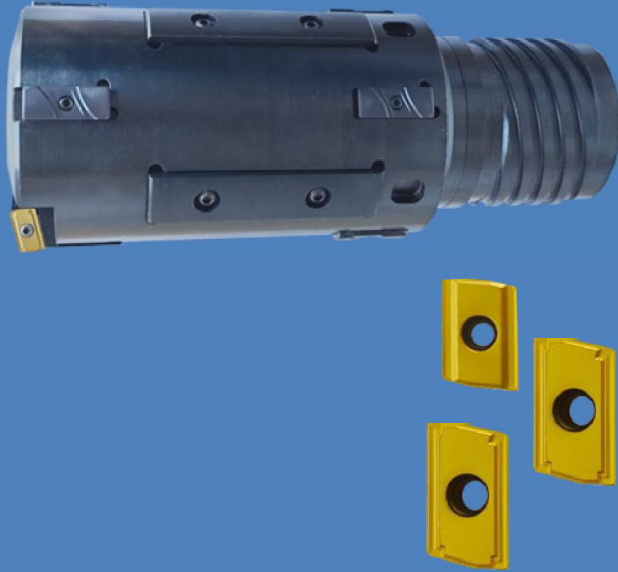
| 型号<br>Model | 牌号<br>Brand | Size 尺寸 (mm) |      |     | 库存<br>Inventory |
|-------------|-------------|--------------|------|-----|-----------------|
|             |             | D            | S    | RE  |                 |
| WCMX050208  | WM7231      | 7.94         | 3.18 | 0.8 | ●               |
| WCMX06T308  | WM7231      | 9.52         | 3.97 | 0.8 | ●               |
| WCMX080412  | WM7231      | 12.70        | 4.76 | 0.8 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

E

## SK818 可转位深孔扩孔钻

SK818 Adjustable deep hole drilling rig





孔加工刀具 | 可转位扩孔钻头 Hole machining tool | Adjustable drilling bit for hole expansion

# SK818

深孔扩孔刀片 Deep hole drilling blade



| 型号<br>Model       | 牌号<br>Brand | Size 尺寸 (mm) |       |      |      | 库存<br>Inventory |
|-------------------|-------------|--------------|-------|------|------|-----------------|
|                   |             | LE           | W1    | S    | RE   |                 |
| R424.9-13T3 08-22 | WM7025      | 14.3         | 10.00 | 3.96 | 0.80 | ●               |
| R424.9-13T3 08-23 | WM7025      | 14.3         | 10.00 | 3.96 | 0.80 | ●               |
| R424.9-1806 08-22 | WM7025      | 19.4         | 11.50 | 6.35 | 0.80 | ●               |
| R424.9-1806 08-23 | WM7025      | 19.4         | 11.50 | 6.35 | 0.80 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

# SK818

深孔扩孔刀片 Deep hole drilling blade

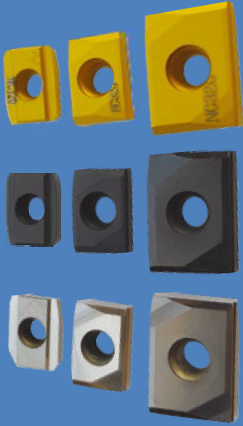


| 型号<br>Model      | 牌号<br>Brand | Size 尺寸 (mm) |      |      |      | 库存<br>Inventory |
|------------------|-------------|--------------|------|------|------|-----------------|
|                  |             | LE           | W1   | S    | RE   |                 |
| 800-0603 08H-P-G | WM7025      | 6.42         | 8.00 | 3.17 | 0.80 | ●               |
| 800-08T3 08H-P-G | WM7025      | 8.62         | 9.00 | 3.96 | 0.80 | ●               |
| 800-09T3 08H-P-G | WM7025      | 9.63         | 9.00 | 3.96 | 0.80 | ●               |
| 800-11T3 08H-P-G | WM7025      | 12.7         | 9.00 | 3.96 | 0.80 | ●               |

- 标准库存 ○ 需预定
- Standard Inventory
- Reservation required

## GG430 刮削滚光刀具

GG430 Scraping and rolling tool



孔加工刀具 | 刮削滚光刀具 Hole machining tool | scraping and rolling tool

## GG430

### 刮削滚光刀具 Scraping and rolling tool

- 本刀具是专业加工缸筒内孔的刀具，尤其是对冷拔管的内孔加工，效率高，精度高，是普通研磨加工的十倍以上，1-3分钟可加工一米，刀具采用往复加工工艺，前进给时切削内孔余量，后退时滚压，表面粗糙度可达到 Ra0.02-0.2，表面硬度可提高一倍，增加了油缸使用寿命。
- This tool is a professional tool for machining cylinder inner holes, especially for machining inner holes of cold drawn pipes. It has fast efficiency and high precision, and is a common grinding tool more than ten times the work time, it can process one meter in 1-3 minutes. The tool adopts reciprocating machining technology, cutting the inner hole allowance when advancing and rolling when retreating. The surface roughness can reach Ra0.02-0.2, and the surface hardness can be doubled, increasing the service life of the oil cylinder.



#### 特点

- 刮削和滚光工序分别进行有助于保持较低的功率要求和进给力；
- 进给量和速度可针对刮削滚光工序分别进行优化；
- 是提高刀具寿命和加工安全性的最佳方案。

#### Characteristic

- Scraping and rolling processes are carried out respectively to help maintain lower power requirements and feed forces;
- The feed rate and speed can be optimized separately for the scraping and rolling process;
- It is the best solution to improve tool life and machining safety.

## SK 钻杆配置表

### SK Drill rod configuration table

孔加工刀具 | 钻杆    Hole machining tool | drill rod

# SK 钻杆 SK drill rod

配置表 configuration table

| Drill range   | Drill rod model | Drill pipe diameter | Drill pipe bore |
|---------------|-----------------|---------------------|-----------------|
| 钻头范围          | 钻杆型号            | 钻杆直径                | 钻杆内孔            |
| 25.00-26.40   | 03              | 22                  | 14.0            |
| 26.41-28.70   | 04              | 24                  | 15.5            |
| 28.71-31.00   | 05              | 26                  | 17.0            |
| 31.01-33.30   | 06              | 28                  | 18.5            |
| 33.31-36.20   | 07              | 30                  | 20.0            |
| 36.21-39.60   | 08              | 33                  | 23.0            |
| 39.61-43.00   | 09              | 36                  | 25.5            |
| 43.01-47.00   | 10              | 39                  | 28.0            |
| 47.01-51.70   | 11              | 43                  | 31.0            |
| 51.71-56.20   | 12              | 47                  | 35.0            |
| 56.21-65.00   | 13              | 51                  | 39.0            |
| 63.50-65.00   | 13              | 51                  | 39.0            |
| 63.50-65.00   | 14              | 56                  | 43.0            |
| 65.01-66.99   | 14              | 56                  | 43.0            |
| 67.00-72.99   | 15              | 62                  | 48.0            |
| 73.00-79.99   | 16              | 68                  | 53.0            |
| 80.00-86.99   | 17              | 75                  | 59.0            |
| 87.00-99.99   | 18              | 82                  | 66.0            |
| 100.00-111.99 | 19              | 94                  | 78.0            |
| 112.00-123.99 | 20              | 106                 | 90.0            |
| 124.00-135.99 | 21              | 118                 | 92.0            |
| 136.00-147.99 | 22              | 130                 | 104.0           |
| 148.00-159.99 | 23              | 142                 |                 |
| 160.00-171.99 | 24              | 154                 |                 |
| 172.00-183.99 | 25              | 166                 |                 |

- 下单时请说明全长
- Please specify the total length when placing an order
- 钻杆选用优质合金钢制作
- The drill rod is made of high-quality alloy steel

## SK 切削参数及应用指南

SK Cutting Parameters and Application Guidelines

# SK 深孔钻头 SK deep-hole

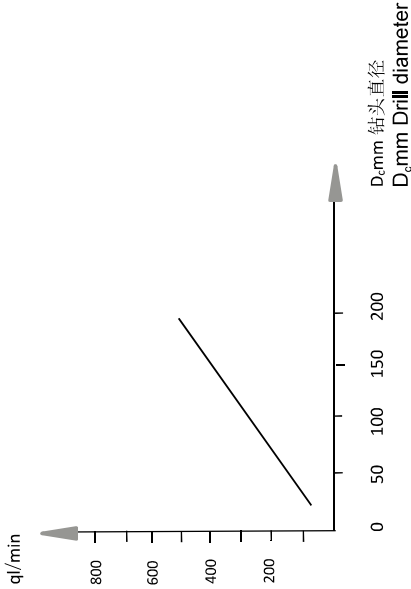
推荐切削参数 Recommended cutting parameters

| 材料<br>Material                   | 硬度 HRC<br>Hardness | 切削速度 VC<br>Cutting Speed (m/min) | 进给 f (mm/rev) | 12-25     | 25-43     | 43.1-65   | 65-85     | >85       |
|----------------------------------|--------------------|----------------------------------|---------------|-----------|-----------|-----------|-----------|-----------|
| 碳钢<br>Carbon steel               | 125                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 190                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 250                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 220                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
| 低合金钢<br>Low carbon alloy steel   | 300                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 200                | 50-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 275                | 50-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 300                | 50-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
| 高合金钢<br>High-carbon alloy steel  | 350                | 50-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 200                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 325                | 50-120                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.30 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 200                | 40-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
| 不锈钢<br>Stainless steel           | 240                | 40-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 180                | 40-110                           | 0.05-0.15     | 0.08-0.25 | 0.12-0.35 | 0.15-0.25 | 0.18-0.3  | 0.18-0.3  |
|                                  | 130                | 60-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
|                                  | 230                | 60-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
| 可锻铸铁<br>Malleable iron           | 160                | 60-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
|                                  | 250                | 60-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
|                                  | 180                | 50-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
|                                  | 260                | 50-110                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.15-0.2  | 0.18-0.23 | 0.18-0.23 |
| 球墨铸铁<br>Nodular cast iron        | 60                 | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 100                | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.35 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 75                 | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 90                 | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
| 铸造铝合金<br>Casting Aluminum alloys | 130                | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 110                | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 90                 | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 100                | 60-130                           | 0.05-0.15     | 0.08-0.2  | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
| 铜合金<br>Copper alloy              | 200                | 20-65                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.1-0.3   | 0.1-0.3   | 0.1-0.3   |
|                                  | 280                | 20-65                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.15-0.25 | 0.1-0.3   | 0.1-0.3   |
|                                  | 250                | 20-65                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.15-0.25 | 0.1-0.3   | 0.1-0.3   |
|                                  | 350                | 20-65                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.15-0.25 | 0.1-0.3   | 0.1-0.3   |
| 钴基合金<br>Cobalt-base alloys       | 320                | 20-65                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.15-0.25 | 0.1-0.3   | 0.1-0.3   |
|                                  | 300                | 20-60                            | 0.05-0.15     | 0.08-0.18 | 0.12-0.28 | 0.15-0.25 | 0.1-0.3   | 0.1-0.3   |
|                                  |                    |                                  |               |           |           |           |           | 0.1-0.3   |
|                                  |                    |                                  |               |           |           |           |           | 0.1-0.3   |

# 推荐冷却流量

Recommended cooling flow rate

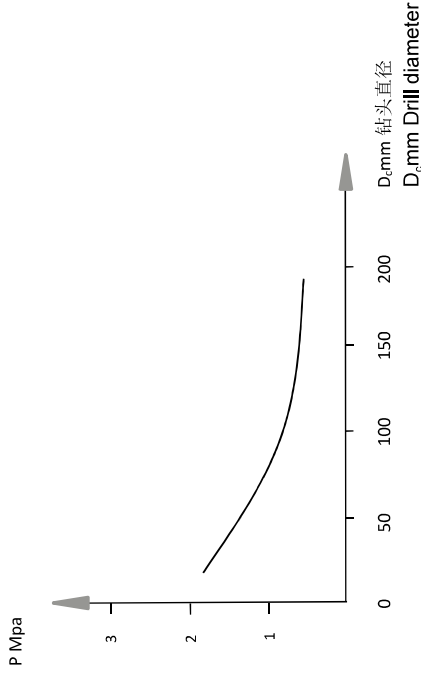
切削液流量 Cutting fluid flow rate



# 推荐冷却压力

Recommended cooling pressure

切削液压力 Cutting fluid pressure



- 切削参数仅供参考、根据实际加工条件调整
- Cutting parameters are for reference only and can be adjusted according to actual machining conditions



# 应用指南

## Application guide

| 序号<br>Number | 问题<br>problem                      | 原因<br>Reason                                                                            | 改进措施<br>Improvement measures                                               |
|--------------|------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1            | 断屑太小<br>The chips are too small    | 错误的切削参数<br>Wrong cutting parameters                                                     | 调整速度和进给<br>Adjust speed and feed rate                                      |
|              |                                    | 断屑槽型错误，椭圆角过小或过深<br>Wrong chip groove type, elliptical angle too small or too deep       | 改变断屑槽型<br>Change the chip groove type                                      |
|              |                                    | 工件材料不稳定<br>Unstable workpiece material                                                  | 调整至合适的速度和进给<br>Adjust to the appropriate speed and feed rate               |
| 2            | 断屑太大<br>The chips are too large    | 初始切削不良（工件未定心）<br>Initial cutting failure (workpiece not centered)                       | 工件定心<br>Workpiece centering                                                |
|              |                                    | 错误的切削参数<br>Wrong cutting parameters                                                     | 调整速度和进给<br>Adjust speed and feed rate                                      |
|              |                                    | 断屑槽型错误，椭圆角过小或过浅<br>Wrong chip groove type, elliptical angle too small or too shallow    | 改变断屑槽型<br>Change the chip groove type                                      |
| 3            | 断屑不稳定<br>Unstable chip breakage    | 工件材料不稳定<br>Unstable workpiece material                                                  | 调整速度和进给，改变断屑槽型<br>Adjust speed and feed, change chip groove shape          |
|              |                                    | 错误的进给装置<br>Wrong feeding device                                                         | 咨询设备厂商或销售工程师<br>Consulting with equipment manufacturers or sales engineers |
|              |                                    | 冷却不充分导致排屑堵塞<br>Insufficient cooling leads to chip blockage                              | 增大冷却<br>Increase cooling                                                   |
| 4            | 纤维状断屑<br>Fibrous debris            | 工件和刀具刚性不够引起震动<br>Insufficient rigidity of workpieces and cutting tools causes vibration | 咨询设备厂商或销售工程师<br>Consulting with equipment manufacturers or sales engineers |
|              |                                    | 工件材质不稳定 The material of the workpiece is unstable                                       | 调整速度和进给，改变断屑槽型<br>Adjust speed and feed, change chip groove shape          |
|              |                                    | 错误的进给装置<br>Wrong feeding device                                                         | 咨询设备厂商<br>Consulting equipment manufacturers                               |
| 5            | 硬质合金崩刃<br>Hard alloy chipping edge | 冷却液污染<br>Coolant contamination                                                          | 清洁冷却液<br>Clean the coolant                                                 |
|              |                                    | 刀具过钝<br>The tool is too blunt                                                           | 更换刀片<br>Replace the blade                                                  |
|              |                                    | 冷却不充分<br>Insufficient cooling                                                           | 检查流量和压力<br>Check flow and pressure                                         |
| 6            | 刀具寿命缩短<br>Shortened tool life      | 进给或速度选择不合适<br>Inappropriate feed or speed selection                                     | 检查冷却液<br>Check the coolant                                                 |
|              |                                    | 不适合的硬质合金牌号或涂层<br>Unsuitable hard alloy grades or coatings                               | 调整速度和进给<br>Adjust speed and feed rate                                      |
|              |                                    | 错误的冷却液<br>Wrong coolant                                                                 | 针对材质重选合适的牌号<br>Select the appropriate grade for the material               |
| 7            | 表面粗糙度差<br>Poor surface roughness   | 偏心<br>partial                                                                           | 必要时更换<br>Replace if necessary                                              |
|              |                                    | 断屑槽过大或低于中心线 The chip groove is too large or below the centerline                        | 检查并调整<br>Check and adjust                                                  |
|              |                                    | 错误的刀具或导向键尺寸 Wrong tool or guide key size                                                | 选用正确的断屑槽<br>Choose the correct chip breaker groove                         |
| 8            | 偏心<br>Partial                      | 工件和断屑头间有偏心<br>There is eccentricity between the workpiece and the drill bit             | 修正偏心<br>Correction of eccentricity                                         |
|              |                                    | 强烈震动<br>Strong vibration                                                                | 联系设备厂家或销售工程师<br>Contact the equipment manufacturer or sales engineer       |
|              |                                    | 错误的刀具参数<br>Wrong tool parameters                                                        | 使用正确的刀具参数<br>Use the correct tool parameters                               |
| 9            | 螺旋孔<br>Spiralling                  | 机床及工件对中偏差过大<br>The alignment deviation of the machine tool and workpiece is too large   | 重新调整<br>Readjust                                                           |
|              |                                    | 断屑槽过宽，直线度超差<br>The drill rod is too long and the straightness exceeds the tolerance     | 调整校正<br>Adjust the alignment                                               |
|              |                                    | 刀片及导向键磨损<br>Blade and guide key wear                                                    | 更换新刀具或配件<br>Replace with new tools or accessories                          |
| 10           | 切削震动大<br>Large cutting vibration   | 工件材料<br>Workpiece material                                                              | 选择合适的刀具和切削参数<br>Choose appropriate cutting tools and cutting parameters    |
|              |                                    | 外刀片刀夹崩刃<br>External blade holder with broken blade                                      | 更换<br>replace                                                              |
|              |                                    | 导向键磨损或支撑不住<br>The guiding key is worn or unsupported                                    | 更换调整<br>Replace and adjust                                                 |
|              | 切削震动大<br>Large cutting vibration   | 机床及工件对中偏差过大<br>The alignment deviation of the machine tool and workpiece is too large   | 重新调整<br>Readjust                                                           |
|              |                                    | 切削刃过钝<br>The cutting edge is too dull                                                   | 重新选择刀片<br>Select blade again                                               |
|              |                                    | 机床刚性和进给力不足<br>Insufficient rigidity and feed power of the machine tool                  | 调整机床或减小钻孔直径<br>Adjust the machine tool or reduce the drilling diameter     |

## 钻套设计

### Drill sleeve design

- 钻套在钻头钻入工件的初始阶段，起导向作用，为提高刀具寿命和孔的质量，钻套的直径应与钻头的名义直径相同但靠近上公差，可选择淬硬钢或硬质合金制作。
- 如果钻套直径过大，切削力使钻头导向键压紧，从而将产生过小的孔径。
- 如果导向键旋入内孔边缘，钻头被压向相反的一侧，边缘刀片便会切出过大的孔径。
- The drill sleeve plays a guiding role in the initial stage of drilling the workpiece with the drill bit. To improve the tool life and hole quality, the diameter of the drill sleeve should be the same as the nominal diameter of the drill bit but close to the upper tolerance. It can be made of quenched steel or hard alloy.
- If the diameter of the drill sleeve is too large, the cutting force will press the drill bit guide key, resulting in a smaller aperture.
- If the guiding key is rotated into the edge of the inner hole, the drill bit will be pressed on the opposite side, and the edge blade will cut out an excessively large aperture.

## 钻套的设计是决定钻孔质量的重要因素

### The design of drill casing is an important factor in determining the quality of drilling

- 过大的间隙将减少钻头和刀片的寿命。
- 尺寸精度影响孔表面质量和直线度。
- 硬质合金钻套寿命至少是钢材的十倍以上。
- 在某些场合，旋转式的钻套用于减少磨损。
- 钻套内孔尺寸大于钻头 0.015~0.02mm时应更换新的钻套。
- Excessive clearance will reduce the lifespan of the drill bit and blade.
- The dimensional accuracy affects the surface quality and straightness of the hole.
- The lifespan of hard alloy drill sleeves is at least ten times longer than that of steel.
- In certain situations, rotating drill sleeves are used to reduce wear and tear.
- When the inner hole size of the drill sleeve is greater than 0.015-0.02mm of the drill bit, a new drill sleeve should be replaced.

## 断屑

### Chip breaking

- 在钻削加工中，最重要的一点是能否获得满意的断屑——钻头切削刃的排屑方法。过长和过大的切屑将使得切屑堵塞排屑管。一个适当的切屑应当是长宽相当，同时，除非必需，也不应该过分断屑，因为断屑将消耗能量并产生大量的热量，从而将使得切削刃的磨损加剧。切屑的长度是其宽度的 3~4 倍属可接受范围，这样的切屑能够无阻碍地通过排屑管钻管。工件材料、断屑槽型、切削速度、进给量及切削液的选择都会影响到切屑的形成。
- The most important point in drilling is whether satisfactory chip breaking can be obtained - the chip removal method of the drill bit cutting edge. Excessively long and large chips will cause them to block the chip discharge pipe. A suitable chip should be of equal length and width. At the same time, unless necessary, excessive chip breakage should not be avoided, as chip breakage will consume energy and generate a large amount of heat, thereby exacerbating the wear of the cutting edge. The length of the chips is 3-4 times their width, which is an acceptable range, and such chips can pass through the chip discharge pipe without obstruction. The material of the workpiece, the type of chip breaker, cutting speed, feed rate, and the choice of cutting fluid all affect the formation of chips.

孔加工刀具 | 应用指南 Hole machining tool | Application guide

## 更换刀片 Replace the blade

- 仔细清理刀夹，清除刀夹中的微小杂质。
- 确保刀片安装牢固且完全定位。
- Carefully clean the tool holder and remove any small impurities from it.
- Ensure that the blade is securely installed and fully positioned.

## 更换导向键 Replace the directional key

- 每个导向键都有两个角可用。
- 导条诞生时经过精密处理并带有倒锥，因此当导向键第一个角磨损超过导向键宽度的 70% 时，请翻转导向键并使用第二个角。
- 导向键经修磨后可直接使用。
- Each directional key has two corners available.
- During the production of the guide bar seat, it undergoes precision processing and is equipped with an inverted cone. Therefore, when the wear of the first corner of the guide key exceeds 70% of the width of the guide key, please flip the directional key and use the second corner.
- The directional keys can be used directly after being polished.

## 特殊的防护措施 Special protective measures

- 使用正确的扳手以安装和拆除刀杆上的刀头。
- 使用管钳或其他不配套的工具会对钻头螺纹和刀杆螺纹造成永久性的破坏。
- Use the correct wrench to install and remove the cutting head on the tool holder.
- The use of pliers or other incompatible tools can cause permanent damage to the drill bit threads and shank threads.

## 注意：Be careful:

- 尽管锁紧螺钉有防滑摩擦处理，仍建议在安装时使用防滑摩擦润滑剂，以防止发生“锁扣”现象。
- 请检查所有的螺钉都已完全锁紧，以防在钻削过程中产生的震动使其松脱。
- Although the locking screw has anti slip and anti friction treatment, it is still recommended to use anti slip and anti friction lubricant during installation to prevent "locking" from occurring Phenomenon.
- Please check that all screws are fully locked to prevent them from loosening due to vibrations generated during drilling.

## 切削液的选择 Selection of cutting fluid

- **切削油：**建议作为首选的原因如下：
  - 更长的刀具寿命。区别可能非常明显，并且自然地取决于选择的切削油和乳化液。但是，使用切削油通常可将刀具寿命延长 30%。
  - 更均匀的断屑和更大的断屑范围。
- **乳化液：**建议作为次要选择。
  - 如果在机床生产线上或配备中央系统的机床组上执行钻削，则使用无添加剂的乳化液即可。
  - 在加工中心上执行钻削，其中大部分都是执行高速加工、二次加工，可选择乳化液。
- Cutting oil. It is recommended as the preferred choice for the following reasons:
  - Longer tool life. The difference may be very obvious and naturally depends on the choice of cutting oil and emulsion. However, using cutting Oil cutting can usually extend the tool life by 30%.
  - More uniform chip breakage and larger chip breakage range.
- Emulsion. Recommended as a secondary option.
  - If drilling is performed on a machine tool production line or a machine tool group equipped with a central system, an additive free emulsion can be used.
  - Drilling is performed on machining centers, most of which involve high-speed machining and secondary machining, and emulsion can be chosen.

Y-SK810 深孔钻专用油  
Y-SK810 Deep hole drill oil

# Y-SK810 深孔钻专用油 Y-SK810 Deep hole drill oil

## 产品性能 Product Performance

- HS-810型深孔钻专用油是优质基础油加入 EP 极压添加剂调制而成，该产品是一种棕黄色油状金属加工润滑油剂，具有良好的润滑和抗极压性能。可以有效延长刀具的使用寿命，并阻止积屑瘤的形成。
- 粘度低、排屑顺畅、冷却性好。
- 良好的加工光洁度和精度。
- Y-SK810 deep hole drilling special oil is made by blending high-quality base oil with EP extreme pressure additive. This product is a brownish yellow oily metal additive
- Industrial lubricants have good lubrication and extreme pressure resistance properties. It can effectively extend the service life of cutting tools and prevent the formation of chip lumps.
- Low viscosity, smooth chip removal, and good cooling performance.
- Good processing smoothness and precision.

## 用途 purpose

- 本产品主要用于金属在高负荷、低转速条件下的切削加工，如镗孔、钻孔、高精度枪钻的润滑等。
- This product is mainly used for cutting metal under high load and low speed conditions, such as boring, drilling, and lubrication of high-precision gun drills.

## 注意事项 precautions

1. 本产品不可与其它金属加工用油混合使用。
2. 本产品如用于有色金属或合金加工时，需及时清洗擦干以防造成锈蚀。
3. 密封保存：防止日晒及混入水分和杂质。
1. This product cannot be mixed with other metal processing oils.
2. If this product is used for processing non-ferrous metals or alloys, it should be cleaned and dried in a timely manner to prevent rusting.
3. Sealed storage; prevent exposure to sunlight and mixing with moisture and impurities.

## 质量指标: (执行 GBZ64/4-2015)

Quality indicators: (in accordance with GBZ64/4-2015)

| 项目 project                           |                              | 指标 index           | 试验方法 test method |
|--------------------------------------|------------------------------|--------------------|------------------|
| 运动粘度 40C                             | Kinematic viscosity 40C      | Mm <sup>2</sup> /s | GB/T265          |
| 恩式粘度 EC                              | En viscosity EC              | 3. 0~3. 6          | GB/T263          |
| 安定性试验 (-20C)<br>Stability test(-20C) |                              | 合格                 | 注 pour           |
| 腐蚀钢片 50C                             | Corrosion steel sheet 50C    | 合格 qualified       | GB/T5096         |
| 水溶性酸或碱                               | water-soluble acid or alkali | 无                  | GB/T259          |
| 机械杂质 %                               | Mechanical impurities%       | 0. 03              | GB/T511          |
| 水分 moisture content                  |                              | 无 not have         | SH/T0604         |
| 闪点 (开口) C                            | Flash point (opening) C      | 180                | GB/T267          |
| 凝点                                   | Freezing point               | -20                | GB/T510-1988     |

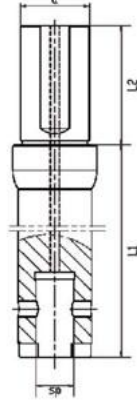
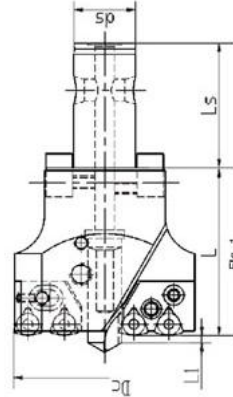
# Y-SK810 深孔钻专用油 Y-SK810 Deep hole drill oil

## 使用说明 instructions

- Y-SK810型深孔钻专用油是根据北方气候条件专门为深孔机床研制的配方，夏季可以正常使用，即使在零下 15-20° 的冬季严寒季节，该油依然可正常循环使用，不会因外界温度过低而无法使用。
- 切削油中的添加剂会有有效的保护刀具，在刀具表面形成一层油膜保护层，油膜可以起到润滑和冷却的作用，延长刀具的使用时间。
- 切削油为方便运输和存放，实行铁桶包装。
- 切削油运动粘度为 11--22，控制在此标准内，有利于机床的冷却循环，使铁屑可以顺畅的排出，不会产生挤屑。
- YSK810 deep hole drilling special oil is a formula specially developed for deep hole machine tools based on the northern climate conditions. It can be used normally in summer. Even in the extremely cold winter season of minus 15-20 ° C, this oil can still be recycled normally and will not be affected by low external temperatures Law usage.
- The additives in cutting oil can effectively protect the tool, forming an oil film protective layer on the surface of the tool, which can provide lubrication. The cooling effect prolongs the use time of the cutting tool.
- For the convenience of transportation and storage, cutting oil is packaged in iron drums.
- The viscosity of cutting oil is 11-22, controlled within this standard, which is beneficial for the cooling cycle of the machine tool and allows for smooth discharge of iron chips. Out, there will be no squeezing debris.

## U-drill

★YLMD 帶定心大直徑快速鑽 YLMD MAXDRILL



| 型号<br>specification/item | 尺寸 Size |    |    | 内刃宽(毫米) |     |    | 外刃宽(毫米) |    |    | 适用刀片<br>Insert | 螺钉<br>Screw | 扳手<br>Wrench | 定刃丝 钨丝<br>型号 钨条 | 中心钻<br>Pilot Drill | 中心钻 规格 |
|--------------------------|---------|----|----|---------|-----|----|---------|----|----|----------------|-------------|--------------|-----------------|--------------------|--------|
|                          | Dc      | Is | Is | 1.1     | 钨条  | 梅花 | 钨条      | 调节 |    |                |             |              |                 |                    |        |
| YLMD-045050-C16          | 45-50   | 16 | 40 | 55      | 1.6 | M4 | M5      | M5 | M3 | Wc..030204     | M2.5*6      | FMB922 M4    | M8              | M5                 | M5     |
| YLMD-050055-C16          | 50-55   | 16 | 40 | 55      | 1.6 | M4 | M5      | M5 | M3 |                |             |              |                 |                    |        |
| YLMD-050560-C16          | 55-60   | 16 | 40 | 55      | 1.6 | M4 | M5      | M5 | M3 |                |             |              |                 |                    |        |
| YLMD-060065-C22          | 60-65   | 22 | 45 | 60      | 1.8 | M4 | M5      | M5 | M3 |                |             |              |                 |                    |        |
| YLMD-065070-C22          | 65-70   | 22 | 45 | 60      | 1.8 | M4 | M5      | M5 | M3 | Wc..050308     | M3*8        | FMB922 M4    | M8              | M5                 | M5     |
| YLMD-070075-C22          | 70-75   | 22 | 45 | 60      | 1.8 | M4 | M5      | M5 | M3 |                |             |              |                 |                    |        |
| YLMD-075080-C28          | 75-80   | 28 | 50 | 65      | 2.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-080085-C28          | 80-85   | 28 | 50 | 65      | 2.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-085090-C28          | 85-90   | 28 | 50 | 65      | 2.2 | M5 | M6      | M6 | M3 | Wc..061308     | M3.5*8      | FMB922 M4    | M10             | M6                 | M6     |
| YLMD-090095-C28          | 90-95   | 28 | 50 | 65      | 2.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-095100-C28          | 95-100  | 28 | 50 | 65      | 2.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-100105-C36          | 100-105 | 36 | 55 | 75      | 2.4 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-105110-C36          | 105-110 | 36 | 55 | 75      | 2.4 | M5 | M6      | M6 | M3 | T8             |             | FMB927 M5    | M12             | M8                 | M8     |
| YLMD-110115-C36          | 110-115 | 36 | 55 | 75      | 2.4 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-115120-C40          | 115-120 | 36 | 55 | 75      | 2.4 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-120125-C40          | 120-125 | 36 | 55 | 75      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-125130-C40          | 125-130 | 36 | 55 | 75      | 3.2 | M5 | M6      | M6 | M3 | Wc..061308     | M3.5*8      | FMB932 M6    | M12             | M8                 | M8     |
| YLMD-130135-C40          | 130-135 | 36 | 55 | 75      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-135140-C40          | 135-140 | 36 | 55 | 75      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-140150-C50          | 140-150 | 50 | 80 | 80      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-150160-C50          | 150-160 | 50 | 80 | 80      | 3.2 | M5 | M6      | M6 | M3 | Wc..080408     | M3.5*8      | FMB940 M6    | M12             | M8                 | M8     |
| YLMD-160170-C50          | 160-170 | 50 | 80 | 80      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-170180-C50          | 170-180 | 50 | 80 | 80      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |
| YLMD-180190-C50          | 180-190 | 50 | 80 | 80      | 3.2 | M5 | M6      | M6 | M3 |                |             |              |                 |                    |        |

## U 钻系列

## U-drill

## ★ YLMD 刀柄 &amp; 中心钻 YMD HOLDER &amp; PLOTDRILL

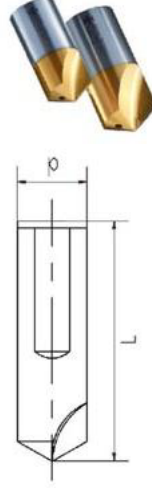


| specification/item | 型号 | 数据 Data |    |     |    |
|--------------------|----|---------|----|-----|----|
|                    |    | D       | L2 | L1  | ds |
| C40-D32-125        |    | 40      | 70 | 125 | 22 |
| C40-D32-165        |    | 40      | 70 | 165 | 22 |
| C40-D32-205        |    | 40      | 70 | 205 | 22 |
| C40-D38-125        |    | 40      | 70 | 125 | 28 |
| C40-D38-165        |    | 40      | 70 | 165 | 28 |
| C40-D38-205        |    | 40      | 70 | 205 | 28 |
| C40-D38-265        |    | 40      | 70 | 265 | 28 |
| C40-D38-305        |    | 40      | 70 | 305 | 28 |
| C40-D38-400        |    | 40      | 70 | 400 | 28 |
| C40-D36-125        |    | 40      | 70 | 125 | 36 |
| C40-D36-165        |    | 40      | 70 | 165 | 36 |
| C40-D36-205        |    | 40      | 70 | 205 | 36 |
| C40-D36-255        |    | 40      | 70 | 255 | 36 |
| C40-D36-305        |    | 40      | 70 | 305 | 36 |

| 型号          | 数据 |    |     |    |
|-------------|----|----|-----|----|
|             | D  | L2 | L1  | ds |
| C40-D36-305 | 40 | 70 | 305 | 36 |
| C40-D36-350 | 40 | 70 | 350 | 36 |
| C40-D36-400 | 40 | 70 | 400 | 36 |
| C40-D40-125 | 40 | 70 | 125 | 40 |
| C40-D40-165 | 40 | 70 | 165 | 40 |
| C40-D40-205 | 40 | 70 | 205 | 40 |
| C40-D40-265 | 40 | 70 | 265 | 40 |
| C40-D40-305 | 40 | 70 | 305 | 40 |
| C40-D40-400 | 40 | 70 | 400 | 40 |
| C50-D50-165 | 50 | 80 | 165 | 50 |
| C50-D50-205 | 50 | 80 | 205 | 50 |
| C50-D50-265 | 50 | 80 | 265 | 50 |
| C50-D50-305 | 50 | 80 | 305 | 50 |



- ▲ 使用时要堵住螺纹孔，防止漏水。使用内冷时，用堵头堵住出水孔。
- ▲ When using, plug the threaded holes to prevent water leakage.



## ★中心钻 PLOTDRILL

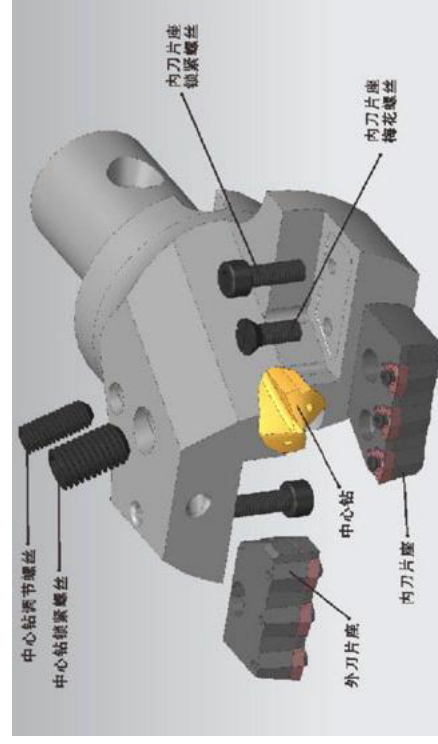
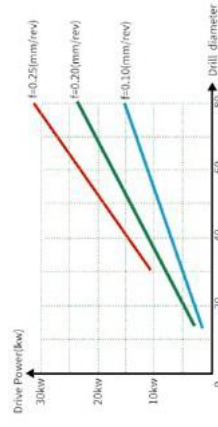
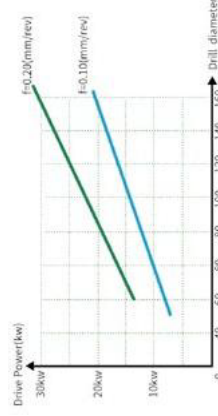
| 型号<br>specification/item | 数据 Data |    |
|--------------------------|---------|----|
|                          | D       | L  |
| YLD-0620                 | 06      | 20 |
| YLD-0630                 | 06      | 30 |
| YLD-0835                 | 08      | 35 |
| YLD-1035                 | 10      | 35 |
| YLD-1238                 | 12      | 38 |
| YLD-1645                 | 16      | 45 |
| YLD-2045                 | 20      | 45 |
| YLD-2556                 | 25      | 56 |

### ★U型钻头的孔公差

### The hole tolerance of U Drill

| Dia     | 2XD        | 3XD         | 4XD         |
|---------|------------|-------------|-------------|
| 13-21.5 | -0.1~+0.15 | -0.1~+0.15  | -0.15~+0.2  |
| 22-50   | -0.1~+0.15 | -0.12~+0.2  | -0.15~+0.25 |
| 50-80   | -0.15~+0.2 | -0.15~+0.25 | -0.15~+0.3  |

## ★电源要求 Power Requirements





## ★孔加工的计算式 Indexable Insert Drill Cutting Condition

## 转速 (N)

$$N = \frac{V_c}{\pi \times D} \times 1000 (\text{m/min})$$

\*用1000去除，将mm换算成m



$V_c$  (m/min): 切削速度  $D$  (mm): 钻头直径  
 $\pi$  (3.14): 圆周率  $N$ : 主轴转速  
 (例) 切削速度  $V_c=130\text{m/min}$  钻头直径  $\phi 25$   
 求转速 (N)  
 (答) 将  $\pi=3.14$ ,  $D=25$ ,  $V_c=130$  代入公式,  

$$N = \frac{130}{3.14 \times 25} \times 1000 = 1656 \text{ r/min}$$
  
 据此, 得出转速为 1656 r/min。

## 主轴进给量 (W)

$$W = f \cdot n (\text{mm/min})$$



$W$  (mm/min): 主进给 (Z进) 进给速度  
 $f$  (mm/rev): 每转进给量  
 $n$  (min<sup>-1</sup>): 主轴转速  
 (例) 每转进给量为 0.2 mm/rev  
 转速为 1350 min<sup>-1</sup> 求主进给速度  
 (答) 代入公式  

$$W = f \cdot n = 0.2 \times 1350 = 270 \text{ mm/min}$$
  
 由此得出主进给速度为 270 mm/min

## 孔加工时间 (Tc)

$$T_c = \frac{L_d \cdot \frac{1}{f}}{n}$$



$T_c$  (min): 加工时间  
 $L_d$  (mm): 钻孔深  
 $f$  (mm/rev): 每转进给量  
 $n$ : 转速  
 (例) 在 SCM440 上加工  $\phi 15$ , 深 30 mm 的孔。切削速度为  
 50 m/min, 每转进给量为 0.15 mm/rev, 求加工时间  
 (答) 主进给  $f = \frac{50 \times 1000}{15 \times 3.14} = 1061.57 \text{ mm}^3/\text{min}$   

$$T_c = \frac{30 \times 1}{1061.57 \times 0.15} = 0.188$$
  
 $= 0.188 \times 60 = 11.3$  秒可顺利完工

## ● Cutting speed (Vc)

$$V_c = \frac{D_c \times \pi \times n}{1000}$$

◆ Example  
 Spindle speed is 1600 rev/min. Drill diameter is 20 mm, thus cutting speed is:

$$V_c = \frac{D_c \times \pi \times n}{1000} = \frac{20 \times 3.14 \times 1600}{1000} = 100 (\text{m/min})$$

## ● Machining time

$$T_c = \frac{L_d \times i}{n \times f}$$

◆ Example  
 Drilling a hole with a diameter of 20 mm and a depth of 40 mm, cutting speed is 100 m/min and feed rate per revolution is 0.1 mm/rev. Calculate the drilling time.

$$n = \frac{V_c \times 1000}{D_c \times \pi} = \frac{100 \times 1000}{20 \times 3.14} = 1600 (\text{rev/min})$$

$$T_c = \frac{L_d \times i}{n \times f} = \frac{40 \times 1}{1600 \times 0.1} = 0.25 (\text{min})$$

## ● Metal removal rate

$$Q = \frac{W \times \pi \times D_c^2}{4 \times 1000}$$

◆ Example  
 Drill diameter is 20 mm, feed speed is 160 mm/rev, thus metal removal rate is:

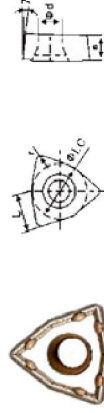
$$Q = \frac{W \times \pi \times D_c^2}{4 \times 1000} = \frac{160 \times 3.14 \times 20^2}{4 \times 1000} = 50.24 (\text{cm}^3/\text{min})$$

## ★ U 钻 适配刀片 Indexable Insert

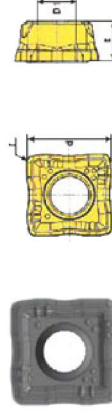


## ★ U 钻 适配刀片推荐表 Indexable Insert Recommend

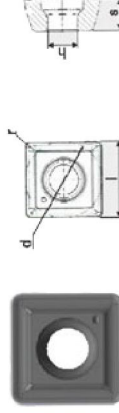
WC 系列刀片选型 /WC insert



SO 系列刀片选型 /SO insert



SPMG



| 型号<br>Model   | 牌号<br>Brand | 规格<br>Specification | 基本尺寸 Dimension (mm) | 钻头<br>Drill bit |
|---------------|-------------|---------------------|---------------------|-----------------|
| WCMX030208 FN | GVA9105     | 3.8                 | L C s d r           | 15-20.5         |
| WCMX040208 FN | GVA9105     | 4.3                 | 6.35                | 21-25.5         |
| WCMX050308 FN | GVA9105     | 5.4                 | 7.94                | 26-30.5         |
| WCMX061308 FN | GVA9105     | 6.5                 | 9.525               | 31-41           |
| WCMX080412 FN | GVA9105     | 6.7                 | 12.7                | 42-57           |

| 型号<br>Model    | 牌号<br>Brand | 规格<br>Specification | 基本尺寸 Dimension (mm) | 钻头<br>Drill bit |
|----------------|-------------|---------------------|---------------------|-----------------|
| SOMT 040204 DP | GVA9105     | 04                  | d 4.4 2.38 0.40     | 2.00            |
| SOMT 050204 DP | GVA9105     | 05                  | 4.9 2.38 0.40       | 2.25            |
| SOMT 060204 DP | GVA9105     | 06                  | 5.7 2.38 0.40       | 2.60            |
| SOMT 070306 DP | GVA9105     | 07                  | 6.8 2.80 0.60       | 2.80            |
| SOMT 081306 DP | GVA9105     | 08                  | 7.9 3.97 0.60       | 2.85            |
| SOMT 091308 DP | GVA9105     | 09                  | 9.2 3.97 0.80       | 3.80            |
| SOMT 111308 DP | GVA9105     | 11                  | 11 3.97 0.80        | 3.80            |
| SOMT 130408 DP | GVA9105     | 13                  | 12.8 4.40 0.80      | 4.40            |
| SOMT 150510 DP | GVA9105     | 15                  | 15 4.80 1.00        | 5.40            |

| 型号<br>Model    | 牌号<br>Brand | 规格<br>Specification | 基本尺寸 Dimension (mm) | 钻头<br>Drill bit |
|----------------|-------------|---------------------|---------------------|-----------------|
| SPGT 030104 DG | GVA9105     | 3.52                | d 1.49 0.4 1.85     | 3.5-9.5         |
| SPGT 041102 DG | GVA9105     | 4.0                 | 1.67 0.2 2.00       | 10-12.5         |
| SPGT 050204 DG | GVA9105     | 5                   | 2.38 0.4 2.3        | 13-16           |
| SPGT 060204 DG | GVA9105     | 6                   | 2.38 0.4 2.3        | 16-22           |
| SPGT 071308 DG | GVA9105     | 7.94                | 3.97 0.8 2.85       | 23-28           |
| SPGT 090408 DG | GVA9105     | 9.8                 | 4.9 0.8 4.05        | 30-36           |
| SPGT 110408 DG | GVA9105     | 11.5                | 4.8 0.8 4.45        | 37-48           |
| SPGT 140512 DG | GVA9105     | 14.3                | 5.2 1.2 5.83        | 44-50           |

U 钻系列

U 钻系列

U-drill

★ SO 型浅孔钻 / 出水钻 / U 钻 2D

SO Indexable Insert Drills (U Drills)2D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $L \geq \phi D \times \phi C$

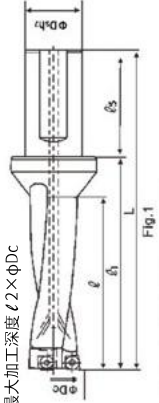


Fig.1

Holder diameter 2D:  $\phi 13.0 \sim 50.0\text{mm}$

| 刃径<br>φDc | 型号<br>Model       | 库存<br>Store | L  | φ | φ | 适用刀片<br>Applicable<br>Insert |
|-----------|-------------------|-------------|----|---|---|------------------------------|
| 13        | C20-2D13-29SD05   | ● 88 29 44  |    |   |   |                              |
| 13.5      | 2D13.5-30SD05     | ○ 89 30 45  |    |   |   |                              |
| 14        | 2D14-31SD05       | ● 90 31 46  |    |   |   |                              |
| 14.5      | 2D14.5-32SD05     | ● 91 32 47  |    |   |   |                              |
| 15        | 2D15-33SD05       | ● 92 33 48  |    |   |   |                              |
| 15.5      | 2D15.5-34SD05     | ● 93 34 49  |    |   |   |                              |
| 16        | 2D16-35SD05       | ● 94 35 50  |    |   |   |                              |
| 16.5      | 2D16.5-36SD06     | ● 95 36 51  |    |   |   |                              |
| 17        | 2D17-37SD06       | ● 96 37 52  |    |   |   |                              |
| 17.5      | C25-2D17.5-38SD06 | ● 109 38 53 |    |   |   |                              |
| 18        | 2D18-39SD06       | ● 110 39 54 |    |   |   |                              |
| 18.5      | 2D18.5-40SD08     | ● 111 40 55 |    |   |   |                              |
| 19        | 2D19-41SD08       | ● 112 41 56 |    |   |   |                              |
| 19.5      | 2D19.5-42SD07     | ● 113 42 57 |    |   |   |                              |
| 20        | 2D20-43SD07       | ● 114 43 58 |    |   |   |                              |
| 20.5      | 2D20.5-44SD07     | ● 115 44 59 |    |   |   |                              |
| 21        | 2D21-45SD07       | ● 116 45 60 |    |   |   |                              |
| 21.5      | 2D21.5-46SD07     | ● 117 46 61 |    |   |   |                              |
| 22        | 2D22-47SD07       | ● 118 47 62 |    |   |   |                              |
| 22.5      | 2D22.5-48SD08     | ● 119 48 63 |    |   |   |                              |
| 23        | 2D23-49SD08       | ● 123 49 67 |    |   |   |                              |
| 23.5      | 2D23.5-50SD08     | ● 124 50 68 |    |   |   |                              |
| 24        | 2D24-51SD08       | ● 125 51 69 |    |   |   |                              |
| 24.5      | 2D24.5-52SD08     | ● 126 52 70 |    |   |   |                              |
| 25        | 2D25-53SD08       | ● 127 53 71 |    |   |   |                              |
| 25.5      | C32-2D25.5-54SD08 | ● 134 54 74 |    |   |   |                              |
| 26        | 2D26-55SD08       | ● 135 55 75 |    |   |   |                              |
| 26.5      | 2D26.5-56SD09     | ● 136 56 76 |    |   |   |                              |
| 27        | 2D27-57SD09       | ● 137 57 77 |    |   |   |                              |
| 27.5      | 2D27.5-58SD09     | ● 138 58 78 |    |   |   |                              |
| 28        | 2D28-59SD09       | ● 139 59 79 |    |   |   |                              |
| 28.5      | 2D28.5-60SD09     | ● 140 60 80 |    |   |   |                              |
| 29        | C32-2D29-61SD09   | ● 143 62 83 | 60 |   |   |                              |
| 29.5      | 2D29-62SD09       | ● 144 63 84 |    |   |   |                              |
| 30        | 2D30-64SD09       | ● 148 64 88 |    |   |   |                              |
| 30.5      | 2D30.5-65SD09     | ● 149 65 89 |    |   |   |                              |
| 31        | 2D31-66SD09       | ● 150 66 90 |    |   |   |                              |
| 31.5      | 2D31.5-67SD09     | ● 151 67 91 |    |   |   |                              |
| 32        | 2D32-68SD11       | ● 152 68 92 |    |   |   |                              |
| 32.5      | 2D32.5-69SD11     | ● 153 69 93 |    |   |   |                              |

● Mark: Standard stock item, no mark:  
made to order item

●表示库存 ○表示库存预定制

★ SO 型浅孔钻 / 出水钻 / U 钻 3D

SO Indexable Insert Drills (U Drills)3D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $L \geq \phi D \times \phi C$

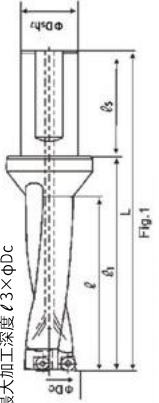


Fig.1

Holder diameter 3D:  $\phi 13.0 \sim 50.0\text{mm}$

| 刃径<br>φDc | 型号<br>Model       | 库存<br>Store   | L  | φ | φ | 适用刀片<br>Applicable<br>Insert |
|-----------|-------------------|---------------|----|---|---|------------------------------|
| 13        | C20-3D13-42SD05   | ○ 101 42 57   |    |   |   |                              |
| 13.5      | 3D13.5-44SD05     | ○ 103 44 59   |    |   |   |                              |
| 14        | 3D14-45SD05       | ● 104 45 60   |    |   |   |                              |
| 14.5      | 3D14.5-47SD05     | ● 106 47 62   |    |   |   |                              |
| 15        | 3D15-48SD05       | ● 107 48 63   |    |   |   |                              |
| 15.5      | 3D15.5-50SD05     | ● 109 50 65   |    |   |   |                              |
| 16        | 3D16-51SD05       | ● 110 51 66   |    |   |   |                              |
| 16.5      | 3D16.5-53SD06     | ● 112 53 68   |    |   |   |                              |
| 17        | 3D17-54SD06       | ● 113 54 69   |    |   |   |                              |
| 17.5      | C25-3D17.5-56SD06 | ● 127 56 71   |    |   |   |                              |
| 18        | 3D18-59SD06       | ● 128 57 72   |    |   |   |                              |
| 18.5      | 3D18.5-59SD08     | ● 130 59 74   |    |   |   |                              |
| 19        | 3D19-60SD08       | ● 131 60 75   |    |   |   |                              |
| 19.5      | 3D19.5-62SD07     | ● 133 62 77   |    |   |   |                              |
| 20        | 3D20-63SD07       | ● 134 63 78   |    |   |   |                              |
| 20.5      | 3D20.5-65SD07     | ● 136 65 80   |    |   |   |                              |
| 21        | 3D21-66SD07       | ● 137 66 81   |    |   |   |                              |
| 21.5      | 3D21.5-68SD07     | ● 139 68 83   |    |   |   |                              |
| 22        | 3D22-69SD07       | ● 140 69 84   |    |   |   |                              |
| 22.5      | 3D22.5-71SD08     | ● 142 71 86   |    |   |   |                              |
| 23        | 3D23-72SD08       | ● 146 72 90   |    |   |   |                              |
| 23.5      | 3D23.5-74SD08     | ● 148 74 92   |    |   |   |                              |
| 24        | 3D24-75SD08       | ● 149 75 93   |    |   |   |                              |
| 24.5      | 3D24.5-77SD08     | ● 151 77 95   |    |   |   |                              |
| 25        | 3D25-78SD08       | ● 152 78 96   |    |   |   |                              |
| 25.5      | C32-3D25.5-80SD08 | ● 160 80 100  |    |   |   |                              |
| 26        | 3D26-81SD08       | ● 161 81 101  |    |   |   |                              |
| 26.5      | 3D26.5-83SD09     | ● 163 83 103  |    |   |   |                              |
| 27        | 3D27-84SD09       | ● 164 84 104  |    |   |   |                              |
| 27.5      | 3D27.5-86SD09     | ● 166 86 106  |    |   |   |                              |
| 28        | 3D28-87SD09       | ● 167 87 107  |    |   |   |                              |
| 28.5      | 3D28.5-89SD09     | ● 169 89 109  |    |   |   |                              |
| 29        | 3D29-91SD09       | ● 172 91 112  | 60 |   |   |                              |
| 29.5      | C32-3D29.5-93SD09 | ● 174 93 114  |    |   |   |                              |
| 30        | 3D30-94SD09       | ● 178 94 118  |    |   |   |                              |
| 30.5      | 3D30.5-96SD09     | ● 180 96 120  |    |   |   |                              |
| 31        | 3D31-97SD09       | ● 181 97 121  |    |   |   |                              |
| 31.5      | 3D31.5-99SD09     | ● 183 99 123  |    |   |   |                              |
| 32        | 3D32-100SD11      | ● 184 100 124 |    |   |   |                              |
| 32.5      | 3D32.5-102SD11    | ● 186 102 126 |    |   |   |                              |

● Mark: Standard stock item, no mark:  
made to order item

●表示库存 ○表示库存预定制

SO 钻头记号

Part number structure of SO type holder

C20 - 2D 14 - 31 S0MT05

接口尺寸 Shank Diameter  
钻头长度 Drill Length  
钻头尺寸 Diameter  
长度 Length  
刀片型号 Inserts type

附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill                |
|---------------|--------------|-----------------------------------------|
| M2×5          | T06          | C20-2D13-28S0MT05-C20-2D16-35S0MT05     |
| M2.2×5        | T07          | C20-2D16.5-36S0MT06-C25-2D22-47S0MT07   |
| M2.5×7        | T08          | C25-2D22.5-48S0MT08-C32-2D26-55S0MT08   |
| M3.5×8.5      | T15          | C32-2D26.5-56S0MT09-C32-2D36.5-77S0MT11 |
| M4×10         | T15          | C2-2D37-79S0MT13-C40-2D43-91S0MT13      |
| M5×11         | T20          | C40-2D44-83S0MT15-C40-2D50-105S0MT15    |

● Mark: Standard stock item, no mark:  
made to order item

●表示库存 ○表示库存预定制

SO 钻头记号

Part number structure of SO type holder

C20 - 3D 14 - 45 S0MT05

接口尺寸 Shank Diameter  
钻头长度 Drill Length  
钻头尺寸 Diameter  
长度 Length  
刀片型号 Inserts type

附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill                 |
|---------------|--------------|------------------------------------------|
| M2×5          | T06          | C20-3D13-42S0MT05-C20-3D16.5-51S0MT05    |
| M2.2×5        | T07          | C20-3D16.5-53S0MT06-C25-3D22-49S0MT07    |
| M2.5×7        | T08          | C25-3D22.5-57S0MT08-C32-3D26-81S0MT08    |
| M3.5×8.5      | T15          | C32-3D28.5-58S0MT09-C32-3D36.5-114S0MT11 |
| M4×10         | T15          | C32-3D37-165S0MT13-C40-3D43-134S0MT13    |
| M5×11         | T20          | C40-3D44-137S0MT15-C40-3D50-155S0MT15    |

● Mark: Standard stock item, no mark:  
made to order item

●表示库存 ○表示库存预定制



## ★ SO 型浅孔钻 / 出水钻 / U 钻 4D

## SO Indexable Insert Drills (U Drills)4D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $l \times \phi Dc$

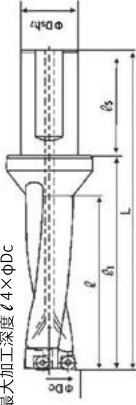


Fig.1

Holder diameter 4D:  $\phi 14.0\text{--}50.0\text{mm}$ 

| 刃径<br>$\phi Dc$ | 型号<br>Model         | 库存<br>Store | L   | $\ell$ | $\ell_c$ | 适用刀片<br>Applicable<br>Insert |
|-----------------|---------------------|-------------|-----|--------|----------|------------------------------|
| 14              | C20-4D14-45SOMT05   | ●           | 118 | 59     | 74       | SOMT050204                   |
| 14.5            | 4D14.5-45SOMT05     | ●           | 120 | 61     | 76       |                              |
| 15              | 4D15-45SOMT05       | ●           | 122 | 63     | 78       |                              |
| 15.5            | 4D15.5-45SOMT05     | ●           | 124 | 65     | 80       |                              |
| 16              | 4D16-45SOMT05       | ●           | 126 | 67     | 82       | SOMT11T308                   |
| 16.5            | 4D16.5-45SOMT05     | ●           | 128 | 69     | 84       |                              |
| 17              | 4D17-45SOMT06       | ●           | 130 | 71     | 86       |                              |
| 17.5            | C2-4D17.5-75SOMT06  | ●           | 134 | 73     | 88       |                              |
| 18              | 4D18-45SOMT06       | ●           | 146 | 75     | 90       | SOMT060204                   |
| 18.5            | 4D18.5-75SOMT08     | ●           | 148 | 77     | 92       |                              |
| 19              | 4D19-75SOMT08       | ●           | 150 | 79     | 94       |                              |
| 19.5            | 4D19.5-45SOMT07     | ●           | 152 | 81     | 96       |                              |
| 20              | 4D20-45SOMT07       | ●           | 154 | 83     | 98       | SOMT070306                   |
| 20.5            | 4D20.5-45SOMT07     | ●           | 156 | 85     | 100      |                              |
| 21              | 4D21-45SOMT07       | ●           | 158 | 87     | 102      |                              |
| 21.5            | 4D21.5-45SOMT07     | ●           | 160 | 89     | 104      |                              |
| 22              | 4D22-45SOMT08       | ●           | 162 | 91     | 106      | SOMT08T306                   |
| 22.5            | 4D22.5-93SOMT08     | ●           | 164 | 93     | 108      |                              |
| 23              | 4D23-93SOMT08       | ●           | 169 | 95     | 113      |                              |
| 23.5            | 4D23.5-45SOMT08     | ●           | 171 | 97     | 115      |                              |
| 24              | 4D24-93SOMT08       | ●           | 173 | 99     | 117      | SOMT09T308                   |
| 24.5            | 4D24.5-101SOMT08    | ●           | 175 | 101    | 119      |                              |
| 25              | 4D25-103SOMT08      | ●           | 177 | 103    | 121      |                              |
| 25.5            | C3-4D25.5-105SOMT08 | ●           | 185 | 105    | 125      |                              |
| 26              | 4D26-107SOMT108     | ●           | 187 | 107    | 127      | SOMT09T308                   |
| 26.5            | 4D26.5-109SOMT09    | ●           | 189 | 109    | 129      |                              |
| 27              | 4D27-111SOMT09      | ●           | 191 | 111    | 131      |                              |
| 27.5            | 4D27.5-113SOMT09    | ●           | 193 | 113    | 133      |                              |
| 28              | 4D28-115SOMT09      | ●           | 195 | 115    | 135      | SOMT11T308                   |
| 28.5            | 4D28.5-117SOMT09    | ●           | 197 | 117    | 137      |                              |
| 29              | 4D29-120SOMT09      | ●           | 201 | 120    | 141      |                              |
| 29.5            | C2-4D29.5-125SOMT09 | ●           | 203 | 122    | 143      |                              |
| 30              | 4D30-124SOMT09      | ●           | 208 | 124    | 148      | SOMT11T308                   |
| 30.5            | 4D30.5-126SOMT09    | ●           | 210 | 126    | 150      |                              |
| 31              | 4D31-128SOMT09      | ●           | 212 | 128    | 152      |                              |
| 31.5            | 4D31.5-130SOMT11    | ●           | 214 | 130    | 154      |                              |
| 32              | 4D32-132SOMT11      | ●           | 216 | 132    | 156      | SOMT11T308                   |
| 32.5            | 4D32.5-134SOMT11    | ●           | 218 | 134    | 158      |                              |

● Mark: Standard stock item, no mark:  
made to order item

◎ ●表示库存 ○表示库存预定义品

## ★ SO 型浅孔钻 / 出水钻 / U 钻 5D

## SO Indexable Insert Drills (U Drills)5D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $l \times \phi Dc$

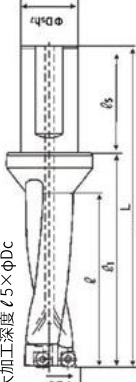


Fig.1

Holder diameter 5D:  $\phi 16.0\text{--}50.0\text{mm}$ 

| 刃径<br>$\phi Dc$ | 型号<br>Model         | 库存<br>Store | L   | $\ell$ | $\ell_c$ | 适用刀片<br>Applicable<br>Insert |
|-----------------|---------------------|-------------|-----|--------|----------|------------------------------|
| 16              | C20-5D16-43SOMT05   | ●           | 142 | 83     | 98       | SOMT050204                   |
| 16.5            | 5D16.5-46SOMT06     | ○           | 145 | 86     | 101      |                              |
| 17              | 5D17-48SOMT06       | ●           | 147 | 88     | 103      |                              |
| 17.5            | C2-5D17.5-49SOMT06  | ○           | 162 | 91     | 106      |                              |
| 18              | 5D18-43SOMT06       | ●           | 164 | 93     | 108      | SOMT060204                   |
| 18.5            | 5D18.5-46SOMT06     | ○           | 167 | 96     | 111      |                              |
| 19              | 5D19-48SOMT06       | ●           | 169 | 98     | 113      |                              |
| 19.5            | 5D19.5-101SOMT07    | ○           | 172 | 101    | 116      |                              |
| 20              | 5D20-103SOMT07      | ○           | 174 | 103    | 118      | SOMT070306                   |
| 20.5            | 5D20.5-108SOMT07    | ○           | 177 | 106    | 121      |                              |
| 21              | 5D21-108SOMT07      | ○           | 179 | 108    | 123      |                              |
| 21.5            | 5D21.5-111SOMT07    | ○           | 182 | 111    | 126      |                              |
| 22              | 5D22-113SOMT07      | ○           | 184 | 113    | 128      | SOMT08T306                   |
| 22.5            | 5D22.5-116SOMT08    | ○           | 187 | 116    | 131      |                              |
| 23              | 5D23-118SOMT08      | ●           | 192 | 118    | 136      |                              |
| 23.5            | 5D23.5-121SOMT08    | ○           | 195 | 121    | 139      |                              |
| 24              | 5D24-123SOMT08      | ○           | 197 | 123    | 141      | SOMT09T308                   |
| 24.5            | 5D24.5-126SOMT08    | ○           | 200 | 126    | 144      |                              |
| 25              | 5D25-128SOMT08      | ○           | 202 | 128    | 146      |                              |
| 25.5            | C3-5D25.5-133SOMT08 | ○           | 213 | 130    | 153      |                              |
| 26              | 5D26-133SOMT08      | ●           | 216 | 133    | 156      | SOMT10T308                   |
| 26.5            | 5D26.5-136SOMT09    | ○           | 219 | 136    | 159      |                              |
| 27              | 5D27-138SOMT09      | ○           | 220 | 138    | 160      |                              |
| 27.5            | 5D27.5-141SOMT09    | ○           | 221 | 141    | 161      |                              |
| 28              | 5D28-143SOMT09      | ●           | 223 | 143    | 163      | SOMT11T308                   |
| 28.5            | 5D28.5-146SOMT09    | ○           | 226 | 146    | 166      |                              |
| 29              | C3-5D29-148SOMT09   | ○           | 230 | 148    | 170      |                              |
| 29.5            | C3-5D29.5-151SOMT09 | ○           | 233 | 151    | 173      |                              |
| 30              | 5D30-154SOMT09      | ○           | 238 | 154    | 178      | SOMT11T308                   |
| 30.5            | 5D30.5-157SOMT09    | ○           | 241 | 157    | 181      |                              |
| 31              | 5D31-159SOMT09      | ○           | 243 | 159    | 183      |                              |
| 31.5            | 5D31.5-162SOMT11    | ○           | 245 | 162    | 185      |                              |
| 32              | 5D32-164SOMT11      | ○           | 248 | 164    | 188      | SOMT11T308                   |
| 32.5            | 5D32.5-167SOMT11    | ○           | 251 | 167    | 191      |                              |
| 33              | 5D33-169SOMT11      | ●           | 253 | 169    | 193      |                              |
| 33.5            | C3-5D33.5-172SOMT11 | ○           | 255 | 172    | 195      |                              |
| 34              | 5D34-174SOMT11      | ○           | 258 | 174    | 198      | SOMT11T308                   |
| 34.5            | 5D34.5-177SOMT11    | ○           | 261 | 177    | 201      |                              |
| 35              | 5D35-179SOMT11      | ●           | 263 | 179    | 203      |                              |

● Mark: Standard stock item, no mark:  
made to order item

◎ ●表示库存 ○表示库存预定义品



## SO 钻头记号

Part number structure of SO type holder

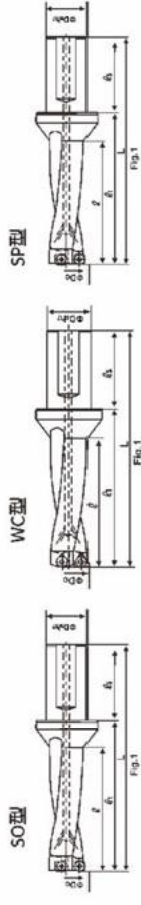
C20 - 5D 16 - 88 S0MT05



## ◎附件 Spare Parts

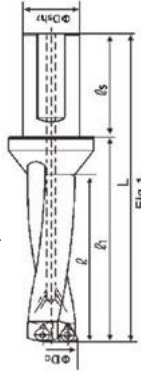
| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill                 |
|---------------|--------------|------------------------------------------|
| M2×5          | T06          | C20-5D18-83SOMT05-C20-5D16-83SOMT05      |
| M2.2×5        | T07          | C20-5D16.5-88SOMT06-C25-5D22-118SOMT07   |
| M2.5×7        | T08          | C25-5D22.5-116SOMT08-C39-5D26-133SOMT08  |
| M3.5×8.5      | T15          | C32-5D26.5-136SOMT09-C39-5D86.5-187SOMT1 |
| M4×10         | T15          | C32-5D37-105SOMT13-C40-5D43-220SOMT13    |
| M5×11         | T20          | C40-5D44-225SOMT15-C40-5D50-255SOMT15    |

★非標 / 小數點方案配套專用 U 鑽 -0.2/0.3/0.4/0.7/0.8/0.9  
=Customised Solution-0.2/0.3/0.4/0.7/0.8/0.9



★ WC 型浅孔钻 / 出水钻 / U 钻 2D  
WC Indexable Insert Drills (U Drill)2D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $\ell \geq 2 \times \phi Dc$



Holder diameter 2D:  $\phi 15.0\text{--}50.0\text{mm}$

| 刃径<br>φDc | 规格<br>φDc | 型号<br>Model     | 库存<br>Store | L  | ℓ  | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-----------------|-------------|----|----|----------------|------------------------------|
| 15        | 15.5      | C20-2D15-33WC03 | ● 92        | 33 | 48 | 0.2            | WC.030208                    |
| 16        | 16.5      | C20-2D16-33WC03 | ● 93        | 34 | 49 | 0.2            |                              |
| 17        | 17.5      | C20-2D17-33WC03 | ● 94        | 35 | 50 | 0.2            |                              |
| 18        | 18.5      | C20-2D18-33WC03 | ● 95        | 36 | 51 | 0.2            |                              |
| 19        | 19.5      | C20-2D19-33WC03 | ● 96        | 37 | 52 | 0.2            |                              |
| 20        | 20.5      | C20-2D20-33WC03 | ● 97        | 38 | 53 | 0.2            |                              |
| 21        | 21.5      | C20-2D21-33WC03 | ● 98        | 39 | 54 | 0.2            |                              |
| 22        | 22.5      | C20-2D22-33WC03 | ● 99        | 40 | 55 | 0.2            |                              |
| 23        | 23.5      | C20-2D23-33WC03 | ● 100       | 41 | 56 | 0.2            |                              |
| 24        | 24.5      | C20-2D24-33WC03 | ● 101       | 42 | 57 | 0.2            |                              |
| 25        | 25.5      | C20-2D25-33WC03 | ● 102       | 43 | 58 | 0.2            |                              |
| 26        | 26.5      | C20-2D26-33WC03 | ● 103       | 44 | 59 | 0.2            |                              |
| 27        | 27.5      | C20-2D27-33WC03 | ● 104       | 45 | 60 | 0.2            |                              |
| 28        | 28.5      | C20-2D28-33WC03 | ● 105       | 46 | 61 | 0.2            |                              |
| 29        | 29.5      | C20-2D29-33WC03 | ● 106       | 47 | 62 | 0.2            |                              |
| 30        | 30.5      | C20-2D30-33WC03 | ● 107       | 48 | 63 | 0.2            |                              |
| 31        | 31.5      | C20-2D31-33WC03 | ● 108       | 49 | 64 | 0.2            |                              |
| 32        | 32.5      | C20-2D32-33WC03 | ● 109       | 50 | 65 | 0.2            |                              |
| 33        | 33.5      | C20-2D33-33WC03 | ● 110       | 51 | 66 | 0.2            |                              |
| 34        | 34.5      | C20-2D34-33WC03 | ● 111       | 52 | 67 | 0.2            |                              |
| 35        | 35.5      | C20-2D35-33WC03 | ● 112       | 53 | 68 | 0.2            |                              |
| 36        | 36.5      | C20-2D36-33WC03 | ● 113       | 54 | 69 | 0.2            |                              |
| 37        | 37.5      | C20-2D37-33WC03 | ● 114       | 55 | 70 | 0.2            |                              |
| 38        | 38.5      | C20-2D38-33WC03 | ● 115       | 56 | 71 | 0.2            |                              |
| 39        | 39.5      | C20-2D39-33WC03 | ● 116       | 57 | 72 | 0.2            |                              |

| 刃径<br>φDc | 规格<br>φDc | 型号<br>Model     | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-----------------|-------------|-----|-----|----------------|------------------------------|
| 39.5      | 40        | 2D39-5-84WC06   | ● 174       | 84  | 114 | 1.1            | WC.06T308                    |
| 41        | 42        | C40-2D41-87WC06 | ○ 185       | 85  | 115 | 1.1            |                              |
| 43        | 44        | 2D41-87WC06     | ○ 187       | 87  | 117 | 1.1            |                              |
| 45        | 46        | 2D42-89WC08     | ○ 189       | 89  | 119 | 1.1            |                              |
| 47        | 48        | 2D43-91WC08     | ○ 191       | 91  | 121 | 1.1            |                              |
| 49        | 50        | 2D43-93WC08     | ○ 193       | 93  | 123 | 1.1            |                              |
| 51        | 52        | 2D43-93WC08     | ○ 193       | 93  | 123 | 1.1            |                              |
| 53        | 54        | 2D45-95WC06     | ● 195       | 95  | 125 | 1.1            |                              |
| 55        | 56        | 2D45-97WC06     | ○ 197       | 97  | 127 | 1.1            |                              |
| 57        | 58        | 2D47-99WC08     | ● 199       | 99  | 129 | 1.1            |                              |
| 59        | 60        | 2D48-01WC08     | ○ 201       | 101 | 131 | 1.1            |                              |
| 61        | 62        | 2D49-03WC08     | ○ 203       | 103 | 133 | 1.1            |                              |
| 63        | 64        | 2D49-05WC08     | ● 205       | 105 | 135 | 1.1            |                              |
| 65        | 66        | 2D51-107WC06    | ○ 207       | 107 | 137 | 1.1            |                              |
| 67        | 68        | 2D52-09WC08     | ○ 209       | 109 | 139 | 1.1            |                              |
| 69        | 70        | 2D53-11WC08     | ○ 211       | 111 | 141 | 1.1            |                              |
| 71        | 72        | 2D54-13WC08     | ○ 213       | 113 | 143 | 1.1            |                              |
| 73        | 74        | 2D55-15WC08     | ● 215       | 115 | 145 | 1.1            |                              |
| 75        | 76        | 2D56-20WC08     | ○ 222       | 120 | 152 | 1.1            |                              |
| 77        | 78        | 2D57-122WC08    | ○ 224       | 122 | 154 | 1.1            |                              |
| 79        | 80        | 2D58-124WC08    | ○ 226       | 124 | 156 | 1.1            |                              |
| 81        | 82        | 2D59-126WC08    | ○ 228       | 126 | 158 | 1.1            |                              |
| 83        | 84        | 2D60-128WC08    | ○ 230       | 128 | 160 | 1.1            |                              |
| 85        | 86        | 2D61-150WC06    | ● 232       | 130 | 162 | 1.1            |                              |
| 87        | 88        | 2D62-132WC06    | ○ 234       | 132 | 164 | 1.1            |                              |
| 89        | 90        | 2D63-134WC06    | ● 236       | 134 | 166 | 1.1            |                              |
| 91        | 92        | 2D64-136WC06    | ○ 238       | 136 | 168 | 1.1            |                              |
| 93        | 94        | 2D65-138WC06    | ● 240       | 138 | 170 | 1.1            |                              |
| 95        | 96        | 2D66-140WC06    | ○ 242       | 140 | 172 | 1.1            |                              |
| 97        | 98        | 2D67-142WC06    | ● 244       | 142 | 174 | 1.1            |                              |
| 99        | 100       | 2D68-144WC06    | ○ 246       | 144 | 176 | 1.1            |                              |
| 101       | 102       | 2D69-146WC06    | ● 248       | 146 | 178 | 1.1            |                              |
| 103       | 104       | 2D70-148WC06    | ○ 250       | 148 | 180 | 1.1            |                              |
|           |           |                 |             |     |     |                | WC.080412                    |
|           |           |                 |             |     |     |                | WC.06T308                    |

## U 钻系列

## U-drill

## ★WC 型浅孔钻 / 出水钻 / U 钻 3D

## WC Indexable Insert Drills (U Drill)3D

加工公差标准  $-0.05 \sim +0.15$   
Range of machining tolerance:  $-0.05 \sim +0.15$   
最大加工深度  $\phi 3 \times \phi Dc$

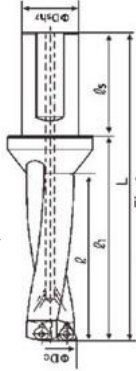


Fig. 1

Holder diameter 3D:  $\phi 15.0 \sim 60.0 \text{ mm}$

| 刀片<br>Code | 外径<br>QDc | 柄径<br>φDs | 型号<br>Model        | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|------------|-----------|-----------|--------------------|-------------|-----|-----|----------------|------------------------------|
| 15         |           |           | C20-3D15-48WC03    | ●           | 107 | 48  | 63             | 0.2                          |
| 15.5       |           |           | 3D15.5-50WC03      | ●           | 109 | 50  | 65             | 0.2                          |
| 16         | 20        |           | 3D16-51WC03        | ●           | 110 | 51  | 66             | 0.2                          |
| 16.5       |           |           | 3D16.5-53WC03      | ●           | 112 | 53  | 68             | 0.2                          |
| 17         |           |           | 3D17-54WC03        | ●           | 113 | 54  | 69             | 0.2                          |
| 17.5       |           |           | C25-3D17.5-56WC08  | ●           | 127 | 56  | 71             | 0.3                          |
| 18         |           |           | 3D18-57WC03        | ●           | 128 | 57  | 72             | 0.3                          |
| 18.5       |           |           | 3D18.5-59WC03      | ●           | 130 | 59  | 74             | 0.3                          |
| 19         |           |           | 3D19-60WC03        | ●           | 131 | 60  | 75             | 0.3                          |
| 19.5       |           |           | 3D19.5-62WC03      | ●           | 133 | 62  | 77             | 0.3                          |
| 20         |           |           | 3D20-63WC03        | ●           | 134 | 63  | 78             | 0.3                          |
| 20.5       |           |           | 3D20.5-65WC03      | ●           | 136 | 65  | 80             | 0.4                          |
| 21         | 25        |           | 3D21-66WC04        | ●           | 137 | 66  | 81             | 0.4                          |
| 21.5       |           |           | 3D21.5-68WC04      | ●           | 139 | 68  | 83             | 0.4                          |
| 22         |           |           | 3D22-69WC04        | ●           | 140 | 69  | 84             | 0.4                          |
| 22.5       |           |           | 3D22.5-71WC04      | ●           | 142 | 71  | 86             | 0.4                          |
| 23         |           |           | 3D23-72WC04        | ●           | 146 | 72  | 90             | 0.4                          |
| 23.5       |           |           | 3D23.5-74WC04      | ●           | 148 | 74  | 92             | 0.4                          |
| 24         |           |           | 3D24-75WC04        | ●           | 149 | 75  | 93             | 0.4                          |
| 24.5       |           |           | 3D24.5-77WC04      | ●           | 151 | 77  | 95             | 0.4                          |
| 25         |           |           | 3D25-78WC05        | ●           | 152 | 78  | 96             | 0.4                          |
| 25.5       |           |           | C32-3D25.5-80WC05  | ●           | 160 | 80  | 100            | 0.6                          |
| 26         |           |           | 3D26-81WC05        | ●           | 161 | 81  | 101            | 0.6                          |
| 26.5       |           |           | 3D26.5-83WC05      | ●           | 163 | 83  | 103            | 0.7                          |
| 27         | 32        |           | 3D27-84WC05        | ●           | 164 | 84  | 104            | 0.7                          |
| 27.5       |           |           | 3D27.5-86WC05      | ●           | 166 | 86  | 106            | 0.7                          |
| 28         |           |           | 3D28-87WC05        | ●           | 167 | 87  | 107            | 0.7                          |
| 28.5       |           |           | 3D28.5-89WC05      | ●           | 169 | 89  | 109            | 0.7                          |
| 29         |           |           | C32-3D29-91WC05    | ●           | 172 | 91  | 112            | 0.7                          |
| 29.5       |           |           | 3D29.5-93WC05      | ●           | 174 | 93  | 114            | 0.7                          |
| 30         |           |           | 3D30-94WC05        | ●           | 178 | 94  | 116            | 0.7                          |
| 30.5       |           |           | 3D30.5-96WC05      | ●           | 180 | 96  | 120            | 0.8                          |
| 31         | 37        |           | 3D31-97WC06        | ●           | 181 | 97  | 121            | 0.8                          |
| 31.5       |           |           | 3D31.5-99WC06      | ●           | 183 | 99  | 123            | 0.9                          |
| 32         |           |           | 3D32-100WC06       | ●           | 184 | 100 | 124            | 0.9                          |
| 32.5       |           |           | 3D32.5-102WC06     | ●           | 186 | 102 | 126            | 0.9                          |
| 33         |           |           | 3D33-103WC06       | ●           | 187 | 103 | 127            | 0.9                          |
| 33.5       |           |           | C32-3D33.5-105WC06 | ●           | 189 | 105 | 129            | 0.9                          |
| 34         |           |           | 3D34-106WC06       | ●           | 190 | 106 | 130            | 0.9                          |
| 34.5       |           |           | 3D34.5-108WC06     | ●           | 192 | 108 | 132            | 1.0                          |
| 35         |           |           | 3D35-109WC06       | ●           | 193 | 109 | 133            | 1.0                          |
| 35.5       |           |           | 3D35.5-111WC06     | ○           | 195 | 111 | 135            | 1.0                          |
| 36         |           |           | 3D36-112WC06       | ●           | 196 | 112 | 136            | 1.0                          |
| 36.5       |           |           | 3D36.5-114WC06     | ●           | 198 | 114 | 138            | 1.1                          |
| 37         |           |           | 3D37-116WC06       | ●           | 200 | 116 | 146            | 1.1                          |
| 37.5       |           |           | 3D37.5-119WC06     | ○           | 203 | 118 | 148            | 1.1                          |
| 38         |           |           | C32-3D38-119WC06   | ●           | 209 | 119 | 149            | 1.1                          |
| 38.5       |           |           | 3D38.5-121WC06     | ○           | 212 | 121 | 151            | 1.2                          |
| 39         |           |           | 3D39-122WC06       | ●           | 212 | 122 | 151            | 1.2                          |

● Mark: Standard stock item, no mark; made to order item

◎◎表示库存 ○表示库存预定品

## U 钻系列

## U-drill

## ★WC型浅孔钻 / 出水钻 / U钻 4D

## WC Indexable Insert Drills (U Drill)4D

加工公差标准  $-0.05 \sim +0.15$   
Range of machining tolerance:  $-0.05 \sim +0.15$   
最大加工深度  $4 \times \phi D$

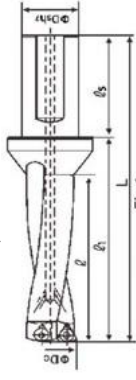


Fig. 1

Holder diameter 4D:  $\phi 15.0 \sim 60.0 \text{ mm}$

| 刀径<br>φDC | 柄径<br>φHS | 型号<br>Model        | 库存<br>Store | L   | ℓ   | ℓ <sub>c</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|--------------------|-------------|-----|-----|----------------|------------------------------|
| 15        |           | C20-4D15-63WC03    | ●           | 122 | 63  | 78             | 0.2                          |
| 15.5      |           | 4D15.5-63WC03      | ●           | 126 | 65  | 80             | 0.2                          |
| 16        | 20        | 4D16-67WC03        | ●           | 126 | 67  | 82             | 0.2                          |
| 16.5      |           | 4D16.5-69WC03      | ●           | 128 | 69  | 84             | 0.2                          |
| 17        |           | 4D17-71WC03        | ●           | 130 | 71  | 86             | 0.2                          |
| 17.5      |           | C25-4D17.5-73WC08  | ●           | 144 | 73  | 88             | 0.3                          |
| 18        |           | 4D18-75WC03        | ●           | 146 | 75  | 90             | 0.3                          |
| 18.5      |           | 4D18.5-77WC03      | ●           | 148 | 77  | 92             | 0.3                          |
| 19        |           | 4D19-79WC03        | ●           | 150 | 79  | 94             | 0.3                          |
| 19.5      |           | 4D19.5-81WC03      | ●           | 152 | 81  | 96             | 0.4                          |
| 20        |           | 4D20-83WC03        | ●           | 154 | 83  | 98             | 0.4                          |
| 20.5      |           | 4D20.5-85WC03      | ●           | 156 | 85  | 100            | 0.4                          |
| 21        | 25        | 4D21-87WC04        | ●           | 158 | 87  | 102            | 0.4                          |
| 21.5      |           | 4D21.5-89WC04      | ●           | 160 | 89  | 104            | 0.4                          |
| 22        |           | 4D22-91WC04        | ●           | 162 | 91  | 106            | 0.4                          |
| 22.5      |           | 4D22.5-93WC04      | ●           | 164 | 93  | 108            | 0.4                          |
| 23        |           | 4D23-95WC04        | ●           | 169 | 95  | 113            | 0.5                          |
| 23.5      |           | 4D23.5-97WC04      | ●           | 171 | 97  | 115            | 0.5                          |
| 24        |           | 4D24-99WC04        | ●           | 173 | 99  | 117            | 0.5                          |
| 24.5      |           | 4D24.5-101WC04     | ●           | 175 | 101 | 119            | 0.7                          |
| 25        |           | 4D25-103WC05       | ●           | 177 | 103 | 121            | 0.7                          |
| 25.5      |           | C32-4D25.5-105WC05 | ●           | 185 | 105 | 125            | 0.7                          |
| 26        |           | 4D26-107WC05       | ●           | 187 | 107 | 127            | 0.7                          |
| 26.5      |           | 4D26.5-109WC05     | ●           | 189 | 109 | 129            | 0.7                          |
| 27        |           | 4D27-111WC05       | ●           | 191 | 111 | 131            | 0.7                          |
| 27.5      | 32        | 4D27.5-113WC05     | ●           | 193 | 113 | 133            | 0.7                          |
| 28        |           | 4D28-115WC05       | ●           | 195 | 115 | 135            | 0.8                          |
| 28.5      |           | 4D28.5-117WC05     | ●           | 197 | 117 | 137            | 0.8                          |
| 29        |           | C34-4D29-120WC05   | ●           | 201 | 120 | 141            | 0.8                          |
| 29.5      |           | 4D29.5-122WC05     | ●           | 203 | 123 | 143            | 0.8                          |
| 30        |           | 4D30-124WC05       | ●           | 208 | 124 | 148            | 0.8                          |
| 30.5      |           | 4D30.5-126WC05     | ●           | 210 | 126 | 150            | 0.8                          |
| 31        | 32        | 4D31-128WC05       | ●           | 212 | 128 | 152            | 0.8                          |
| 31.5      |           | 4D31.5-130WC06     | ●           | 214 | 130 | 154            | 0.8                          |
| 32        |           | 4D32-132WC06       | ●           | 216 | 132 | 156            | 0.8                          |
| 32.5      |           | 4D32.5-134WC06     | ●           | 218 | 134 | 158            | 0.8                          |
| 33        |           | 4D33-136WC06       | ●           | 220 | 136 | 160            | 0.8                          |
| 33.5      |           | C24-4D33.5-138WC06 | ●           | 222 | 138 | 162            | 0.8                          |
| 34        |           | 4D34-140WC06       | ●           | 224 | 140 | 164            | 0.8                          |
| 34.5      |           | 4D34.5-142WC06     | ●           | 226 | 142 | 166            | 0.8                          |
| 35        |           | 4D35-144WC06       | ●           | 228 | 144 | 168            | 0.8                          |
| 35.5      |           | 4D35.5-146WC06     | ○           | 230 | 146 | 170            | 0.8                          |
| 36        |           | 4D36-148WC06       | ●           | 232 | 148 | 172            | 0.8                          |
| 36.5      |           | 4D36.5-150WC06     | ○           | 236 | 150 | 174            | 0.9                          |
| 37        |           | 4D37-153WC06       | ●           | 243 | 153 | 183            | 0.9                          |
| 37.5      |           | 4D37.5-155WC06     | ○           | 245 | 155 | 185            | 0.9                          |
| 38        |           | C32-4D38-157WC06   | ●           | 247 | 157 | 187            | 0.9                          |
| 38.5      |           | 4D38.5-159WC06     | ○           | 249 | 159 | 189            | 0.9                          |
| 39        |           | 4D39-161WC06       | ●           | 251 | 161 | 191            | 1.0                          |

● Mark: Standard stock item, no mark:made to order item

◎表示库存 ●表示库存 ○表示库存 预定品

## ◎附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench                                                                          |                                                                                       | 适用刀杆<br>Applicable Drill            |
|---------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|
|               |  |  |                                     |
| M2.5×6        | T8                                                                                    |                                                                                       | C20-D15-48WC03-C25-D20-5-65WC03     |
| M2.5×6        | T8                                                                                    |                                                                                       | C25-D21-166WC04-C25-D24-5-77WC04    |
| M3×7          | T8                                                                                    |                                                                                       | C29-3025-78WC05-C32-D30-5-96WC05    |
| M3×8.5        | T15                                                                                   |                                                                                       | C32-D3081-97WC08-C40-D3041-218WC08  |
| M4×10         | T15                                                                                   |                                                                                       | C40-D3042-131WC08-C40-D3060-188WC08 |
| M3.5×8.5      | T15                                                                                   |                                                                                       | C40-D3061-191WC06-C40-D3070-218WC06 |

## ◎附件 Spare Parts

| 平头螺钉<br>Screw                                                                       |     | 扳手<br>Wrench                                                                        | 适用刀杆<br>Applicable Drill |
|-------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|--------------------------|
|  |     |  |                          |
| M2.5×6                                                                              | T8  | C20-4D1.5-63WC03-C25-4D20.5-85WC03                                                  |                          |
| M2.5×6                                                                              | T8  | C25-4D21-87WC04-C25-4D24.5-101WC04                                                  |                          |
| M3×7                                                                                | T8  | C25-4D25-108WC05-C32-4D30.5-128WC05                                                 |                          |
| M3.5×8.5                                                                            | T15 | C32-4D31-128WC06-C40-4D41-168WC06                                                   |                          |
| M4×10                                                                               | T15 | C40-4D42-129WC08-C40-4D60-248WC08                                                   |                          |
| M3.5×8.5                                                                            | T15 | C40-4D61-252WC06-C40-4D70-288WC06                                                   |                          |



★ WC 型浅孔钻 / 出水钻 / U 钻 5D  
WC Indexable Insert Drills (U Drill)5D

加工公差标准 0~ + 0.25  
Range of machining tolerance: 0~ + 0.25  
最大加工深度  $l \geq 5 \times \phi Dc$

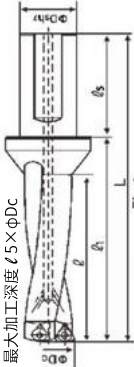


Fig.1

| 刃径<br>φDc | 槽径<br>φDs | 型号<br>Model        | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|--------------------|-------------|-----|-----|----------------|------------------------------|
| 16        | 16        | C20-5D16-83WC03    | ● 142       | 83  | 98  |                |                              |
| 16.5      | 20        | 5D16-546WC03       | ○ 145       | 86  | 101 | 44             |                              |
| 17        | 17        | 5D17-48WC03        | ○ 147       | 88  | 103 |                |                              |
| 17.5      | 17.5      | C25-5D17-59WC03    | ○ 162       | 91  | 106 |                | WCMX030208                   |
| 18        | 18        | 5D18-43WC03        | ○ 164       | 93  | 108 |                |                              |
| 18.5      | 18.5      | 5D18.5-69WC02      | ○ 167       | 96  | 111 |                |                              |
| 19        | 19        | 5D19-48WC03        | ○ 169       | 98  | 113 |                |                              |
| 19.5      | 19.5      | 5D19.5-101WC03     | ○ 172       | 101 | 116 |                |                              |
| 20        | 20        | 5D20-103WC03       | ○ 174       | 103 | 118 |                |                              |
| 20.5      | 20.5      | 5D20.5-106WC03     | ○ 177       | 106 | 121 |                |                              |
| 21        | 21        | 5D21-108WC04       | ○ 179       | 108 | 123 | 56             |                              |
| 21.5      | 21.5      | 5D21.5-111WC04     | ○ 182       | 111 | 126 |                |                              |
| 22        | 22        | 5D22-136WC04       | ○ 184       | 113 | 128 |                |                              |
| 22.5      | 22.5      | 5D22.5-169WC04     | ○ 187       | 116 | 131 |                |                              |
| 23        | 23        | 5D23-118WC04       | ○ 192       | 118 | 136 |                |                              |
| 23.5      | 23.5      | 5D23.5-121WC04     | ○ 195       | 121 | 139 |                |                              |
| 24        | 24        | 5D24-123WC04       | ○ 197       | 123 | 141 |                |                              |
| 24.5      | 24.5      | 5D24.5-126WC04     | ○ 201       | 126 | 144 |                |                              |
| 25        | 25        | 5D25-128WC05       | ○ 202       | 128 | 146 |                |                              |
| 25.5      | 25.5      | C32-4D25.5-131WC05 | ○ 213       | 131 | 153 |                |                              |
| 26        | 26        | 5D26-133WC05       | ○ 216       | 133 | 156 |                |                              |
| 26.5      | 26.5      | 5D26.5-136WC05     | ○ 217       | 136 | 157 |                |                              |
| 27        | 27        | 5D27-138WC05       | ○ 218       | 138 | 159 |                |                              |
| 27.5      | 27.5      | 5D27.5-141WC05     | ○ 221       | 141 | 161 |                |                              |
| 28        | 28        | 5D28-143WC05       | ○ 223       | 143 | 163 |                |                              |
| 28.5      | 28.5      | 5D28.5-146WC05     | ○ 226       | 146 | 166 |                |                              |
| 29        | 29        | C32-6D29-149WC05   | ○ 230       | 149 | 170 |                |                              |
| 29.5      | 29.5      | 5D29.5-151WC05     | ○ 233       | 151 | 173 |                |                              |
| 30        | 30        | 5D30-154WC05       | ○ 238       | 154 | 178 |                |                              |
| 30.5      | 30.5      | 5D30.5-157WC05     | ○ 241       | 157 | 181 |                |                              |
| 31        | 31        | 5D31-159WC06       | ○ 243       | 159 | 183 |                |                              |
| 31.5      | 31.5      | 5D31.5-162WC06     | ○ 245       | 162 | 185 |                |                              |
| 32        | 32        | 5D32-164WC06       | ○ 248       | 164 | 188 |                |                              |
| 32.5      | 32.5      | 5D32.5-167WC06     | ○ 251       | 167 | 191 | 60             |                              |
| 33        | 33        | 5D33-169WC06       | ○ 253       | 169 | 193 |                |                              |
| 33.5      | 33.5      | C32-4D33.5-170WC06 | ○ 255       | 170 | 195 |                |                              |
| 34        | 34        | 5D34-174WC06       | ○ 258       | 174 | 198 |                |                              |
| 34.5      | 34.5      | 5D34.5-177WC06     | ○ 261       | 177 | 201 |                |                              |
| 35        | 35        | 5D35-179WC06       | ○ 263       | 179 | 203 |                |                              |
| 35.5      | 35.5      | 5D35.5-182WC06     | ○ 265       | 182 | 205 |                |                              |
| 36        | 36        | 5D36-184WC06       | ○ 268       | 184 | 208 |                |                              |
| 36.5      | 36.5      | 5D36.5-187WC06     | ○ 271       | 187 | 211 |                |                              |
| 37        | 37        | 5D37-190WC06       | ○ 280       | 190 | 220 |                |                              |
| 37.5      | 37.5      | 5D37.5-193WC06     | ○ 283       | 193 | 223 |                |                              |
| 38        | 38        | 5D38-195WC06       | ○ 285       | 195 | 225 |                |                              |
| 38.5      | 38.5      | 5D38.5-198WC06     | ○ 288       | 198 | 228 |                |                              |
| 39        | 39        | 5D39-200WC06       | ○ 290       | 200 | 230 |                |                              |
| 39.5      | 39.5      | 5D39.5-203WC06     | ○ 293       | 203 | 233 |                |                              |
| 40        | 40        | C40-5D40-205WC06   | ○ 305       | 205 | 235 |                |                              |
| 41        | 41        | 5D41-210WC06       | ○ 310       | 210 | 240 | 70             |                              |
| 42        | 42        | 5D42-215WC08       | ○ 315       | 215 | 245 |                | WCMX080412                   |
| 43        | 43        | 5D43-220WC08       | ○ 320       | 220 | 250 |                |                              |
| 44        | 44        | 5D44-225WC08       | ○ 325       | 225 | 255 |                |                              |

● Mark: Standard stock item, no mark:made to order item  
●表示库存 ○表示库存预定品

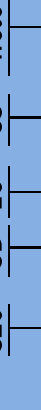


| 刃径<br>φDc | 槽径<br>φDs | 型号<br>Model      | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|------------------|-------------|-----|-----|----------------|------------------------------|
| 45        | 45        | C40-5D45-230WC08 | ● 330       | 230 | 260 |                |                              |
| 46        | 46        | 5D46-235WC08     | ○ 335       | 235 | 265 |                |                              |
| 47        | 47        | 5D47-240WC08     | ○ 340       | 240 | 270 |                |                              |
| 48        | 48        | 5D48-245WC08     | ○ 345       | 245 | 275 |                |                              |
| 49        | 49        | 5D49-250WC08     | ○ 350       | 250 | 280 |                |                              |
| 50        | 50        | 5D50-255WC08     | ○ 355       | 255 | 285 |                |                              |
| 51        | 51        | 5D51-260WC08     | ○ 360       | 260 | 290 |                |                              |
| 52        | 52        | 5D52-265WC08     | ○ 365       | 265 | 295 | 70             | WCMX080412                   |
| 53        | 53        | C40-5D53-270WC08 | ○ 370       | 270 | 300 |                |                              |
| 54        | 54        | 5D54-275WC08     | ○ 375       | 275 | 305 |                |                              |
| 55        | 55        | 5D55-280WC08     | ○ 380       | 280 | 310 |                |                              |
| 56        | 56        | 5D56-285WC08     | ○ 385       | 285 | 315 |                |                              |
| 57        | 57        | 5D57-295WC08     | ○ 390       | 295 | 320 |                |                              |
| 58        | 58        | 5D58-300WC08     | ○ 395       | 300 | 325 |                |                              |
| 59        | 59        | 5D59-305WC08     | ○ 400       | 305 | 330 |                |                              |
| 60        | 60        | 5D60-310WC08     | ○ 405       | 310 | 335 |                |                              |

WC 钻头记号

Part number structure of WC type holder

C20 - 5D 16 - 83 WC03



接口尺寸  
Shank Diameter

倍径  
Drill Length

钻头尺寸  
Diameter

长度  
Length

刀片型号  
Inserts type

●附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill            |
|---------------|--------------|-------------------------------------|
| M2.5×6        | T8           | C20-5D16-83WC05-C25-5D20.5-106WC03  |
| M2.5×6        | T8           | C25-5D21-108WC04-C25-5D24.5-126WC04 |
| M3×7          | T8           | C25-5D25-128WC05-C25-5D30.5-157WC05 |
| M3.5×8.5      | T15          | C32-5D31-159WC05-C40-5D41-210WC06   |
| M4×10         | T15          | C40-5D42-215WC08-C40-5D50-310WC08   |
| M3.5×8.5      | T15          | C40-4D61-252WC06-C40-4D70-288WC06   |

● Mark: Standard stock item, no mark:made to order item  
●表示库存 ○表示库存预定品

★ SP 型浅孔钻 / 出水钻 / U 钻 2D  
SP Indexable Insert Drills (U Drill)2D

加工公差标准 -0.05~ + 0.15  
Range of machining tolerance: -0.05~ + 0.15  
最大加工深度  $l \geq 2 \times \phi Dc$   
最大加工深度  $l \geq 2 \times \phi Dc$

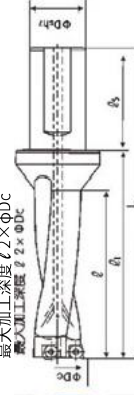


Fig.1  
Holder diameter 2D: φ13.0-60.0mm

| 刃径<br>φDc | 槽径<br>φDs | 型号<br>Model       | 库存<br>Store | L  | ℓ  | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-------------------|-------------|----|----|----------------|------------------------------|
| 13        | 13        | C20-2D13-29SP05   | ○ 88        | 29 | 44 |                | 0.2                          |
| 13.5      | 13.5      | 2D13.5-29SP05     | ○ 89        | 30 | 45 |                | 0.2                          |
| 14        | 14        | 2D14-31SP05       | ○ 90        | 31 | 46 | 44             | 0.2                          |
| 14.5      | 14.5      | 2D14.5-32SP05     | ○ 91        | 32 | 47 |                | SP.050204                    |
| 15        | 15        | 2D15-33SP05       | ○ 92        | 33 | 48 |                | 0.2                          |
| 15.5      | 15.5      | 2D15.5-34SP05     | ○ 93        | 34 | 49 |                | 0.2                          |
| 16        | 16        | 2D16-35SP06       | ○ 94        | 35 | 50 |                | 0.2                          |
| 16.5      | 16.5      | 2D16.5-36SP06     | ○ 95        | 36 | 51 |                | 0.2                          |
| 17        | 17        | 2D17-37SP06       | ○ 96        | 37 | 52 |                | 0.2                          |
| 17.5      | 17.5      | C25-2D17.5-38SP06 | ○ 99        | 38 | 53 |                | 0.3                          |
| 18        | 18        | 2D18-39SP06       | ○ 110       | 39 | 54 |                | 0.3                          |
| 18.5      | 18.5      | 2D18.5-40SP06     | ○ 111       | 40 | 55 |                | 0.3                          |
| 19        | 19        | 2D19-41SP06       | ○ 112       | 41 | 56 |                | SP.060204                    |
| 19.5      | 19.5      | 2D19.5-42SP06     | ○ 113       | 42 | 57 |                | 0.3                          |
| 20        | 20        | 2D20-43SP06       | ○ 114       | 43 | 58 |                | 0.3                          |
| 20.5      | 20.5      | 2D20.5-44SP06     | ○ 115       | 44 | 59 | 56             | 0.3                          |
| 21        | 21        | 2D21-45SP06       | ○ 116       | 45 | 60 |                | 0.3                          |
| 21.5      | 21.5      | 2D21.5-46SP06     | ○ 117       | 46 | 61 |                | 0.3                          |
| 22        | 22        | 2D22-47SP07       | ○ 118       | 47 | 62 |                | 0.4                          |
| 22.5      | 22.5      | 2D22.5-48SP07     | ○ 119       | 48 | 63 |                | 0.4                          |
| 23        | 23        | 2D23-49SP07       | ○ 123       | 49 | 67 |                | 0.4                          |
| 23.5      | 23.5      | 2D23.5-50SP07     | ○ 124       | 50 | 68 |                | 0.4                          |
| 24        | 24        | 2D24-51SP07       | ○ 125       | 51 | 69 |                | 0.4                          |
| 24.5      | 24.5      | 2D24.5-52SP07     | ○ 126       | 52 | 70 |                | 0.4                          |
| 25        | 25        | 2D25-53SP07       | ○ 127       | 53 | 71 |                | SP.071308                    |
| 25.5      | 25.5      | C32-2D25.5-54SP07 | ○ 134       | 54 | 74 |                | 0.6                          |
| 26        | 26        | 2D26-55SP07       | ○ 135       | 55 | 75 |                | 0.6                          |
| 26.5      | 26.5      | 2D26.5-56SP07     | ○ 136       | 56 | 76 |                | 0.6                          |
| 27        | 27        | 2D27-57SP07       | ○ 137       | 57 | 77 |                | 0.6                          |
| 27.5      | 27.5      | 2D27.5-58SP07     | ○ 138       | 58 | 78 |                | 0.6                          |
| 28        | 28        | 2D28-59SP09       | ○ 139       | 59 | 79 |                | 0.6                          |
| 28.5      | 28.5      | 2D28.5-60SP09     | ○ 140       | 60 | 80 |                | 0.6                          |
| 29        | 29        | C32-2D29-62SP09   | ○ 143       | 62 | 83 |                | 0.7                          |
| 29.5      | 29.5      | 2D29.5-63SP08     | ○ 144       | 63 | 84 |                | 0.7                          |
| 30        | 30        | 2D30-64SP09       | ○ 148       | 64 | 88 | 60             | 0.7                          |
| 30.5      | 30.5      | 2D30.5-65SP09     | ○ 149       | 65 | 89 |                | SP.090408                    |
| 31        | 31        | 2D31-66SP09       | ○ 150       | 66 | 90 |                | 0.7                          |
| 31.5      | 31.5      | 2D31.5-67SP09     | ○ 151       | 67 | 91 |                | 0.7                          |
| 32        | 32        | 2D32-68SP09       | ○ 152       | 68 | 92 |                | 0.8                          |
| 32.5      | 32.5      | 2D32.5-69SP09     | ○ 153       | 69 | 93 |                | 0.8                          |
| 33        | 33        | 2D33-70SP09       | ○ 154       | 70 | 94 |                | 0.8                          |
| 33.5      | 33.5      | 2D33.5-71SP09     | ○ 155       | 71 | 95 |                | 0.8                          |
| 34        | 34        | 2D34-72SP11       | ○ 156       | 72 | 96 |                | 0.8                          |
| 34.5      | 34.5      | 2D34.5-73SP11     | ○ 157       | 73 | 97 |                | 0.8                          |

●表示库存 ○表示库存预定品

● Mark: Standard stock item, no mark:made to order item

●附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill            |
|---------------|--------------|-------------------------------------|
| M2.5×7        | T8           | C25-2D17.5-38SP06-C25-2D21.5-46SP06 |
| M2.5×8        | T15          | C32-2D24-72SP11-C40-2D50-106SP14    |
| M4×10         | T20          | C40-2D42-89SP14-C40-2D50-106SP14    |
| M3.5×8        | T15          | C40-2D51-107SP09-C40-2D60-128SP09   |

★ SP 型浅孔钻 / 出水钻 / U 钻 3D

SP Indexable Insert Drills (U Drill)3D

加工公差标准 0~ + 0.20  
Range of machining tolerance: 0~ + 0.20  
最大加工深度  $L3 \times \phi Dc$   
最大加工深度  $L2 \times \phi Dc$

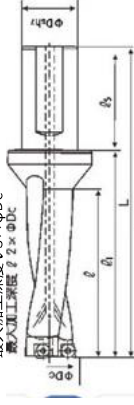


Fig.1

Holder diameter3D:  $\phi 13.0-60.0mm$

| 刃径<br>φDc | 型号<br>Model       | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 通用刀片<br>Applicable<br>Insert |
|-----------|-------------------|-------------|-----|-----|----------------|------------------------------|
| 13        | C20-3D13-42SP05   | ○           | 101 | 42  | 57             |                              |
| 13.5      | 3013-5-44SP05     | ○           | 103 | 44  | 59             |                              |
| 14        | 3014-4-65P05      | ○           | 104 | 45  | 60             |                              |
| 14.5      | 3014-5-47SP05     | ○           | 106 | 47  | 62             | SP.050204                    |
| 15        | 3015-4-85P05      | ○           | 107 | 48  | 63             |                              |
| 15.5      | 3015-5-60SP05     | ●           | 109 | 50  | 65             |                              |
| 16        | 3016-5-51SP06     | ●           | 110 | 51  | 66             |                              |
| 16.5      | 3016-5-53SP06     | ●           | 112 | 53  | 68             |                              |
| 17        | 3017-5-45P06      | ●           | 113 | 54  | 69             |                              |
| 17.5      | C28-3D17-5-65P06  | ●           | 127 | 56  | 71             |                              |
| 18        | 3018-4-75SP06     | ●           | 128 | 57  | 72             |                              |
| 18.5      | 3018-5-59SP06     | ●           | 130 | 59  | 74             | SP.060204                    |
| 19        | 3019-6-05P06      | ●           | 131 | 60  | 75             |                              |
| 19.5      | 3019-5-40SP06     | ●           | 133 | 62  | 77             |                              |
| 20        | 3020-6-05P06      | ●           | 134 | 63  | 78             |                              |
| 20.5      | 3020-5-65SP06     | ●           | 136 | 65  | 80             |                              |
| 21        | 3021-4-65P06      | ●           | 137 | 66  | 81             |                              |
| 21.5      | 3021-5-68SP06     | ●           | 139 | 68  | 83             |                              |
| 22        | 3022-6-05P07      | ●           | 140 | 69  | 84             |                              |
| 22.5      | 3022-5-71SP07     | ●           | 142 | 71  | 86             |                              |
| 23        | 3023-7-25P07      | ●           | 146 | 72  | 90             |                              |
| 23.5      | 3023-5-74SP07     | ●           | 148 | 74  | 92             |                              |
| 24        | 3024-7-45P07      | ●           | 149 | 75  | 93             |                              |
| 24.5      | 3024-5-77SP07     | ●           | 151 | 77  | 95             |                              |
| 25        | 3025-7-85P07      | ●           | 152 | 78  | 96             |                              |
| 25.5      | C32-3D25-5-80SP07 | ●           | 160 | 80  | 100            | SP.077308                    |
| 26        | 3026-6-81SP07     | ●           | 161 | 81  | 101            |                              |
| 26.5      | 3026-5-83SP07     | ●           | 163 | 83  | 103            |                              |
| 27        | 3027-8-43SP07     | ●           | 164 | 84  | 104            |                              |
| 27.5      | 3027-5-86SP07     | ●           | 166 | 86  | 106            |                              |
| 28        | 3028-8-75P09      | ●           | 167 | 87  | 107            |                              |
| 28.5      | 3028-5-89SP09     | ●           | 169 | 89  | 109            |                              |
| 29        | C32-3D29-91SP09   | ●           | 172 | 91  | 112            |                              |
| 29.5      | 3029-5-93SP09     | ●           | 174 | 93  | 114            |                              |
| 30        | 3030-9-24SP09     | ●           | 178 | 94  | 118            |                              |
| 30.5      | 3030-5-96SP09     | ●           | 180 | 96  | 120            |                              |
| 31        | 3031-5-99SP09     | ●           | 181 | 97  | 121            |                              |
| 31.5      | 3031-5-99SP09     | ●           | 183 | 99  | 123            |                              |
| 32        | 3032-1-100SP09    | ●           | 184 | 100 | 124            |                              |
| 32.5      | 3032-5-102SP08    | ●           | 186 | 102 | 126            |                              |
| 33        | 3033-1-103P09     | ●           | 187 | 103 | 127            |                              |
| 33.5      | 3033-5-105SP05    | ●           | 189 | 105 | 129            |                              |
| 34        | 3034-1-106SP11    | ●           | 190 | 106 | 130            |                              |
| 34.5      | 3034-5-108SP11    | ●           | 192 | 108 | 132            | SP.110408                    |

◎附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill            |
|---------------|--------------|-------------------------------------|
| M2x4          | 16           | C20-3D13-42SP06-C20-3D14.5-47SP05   |
| M2x5          | T6           | C20-3D15-48SP05                     |
| M2.2×5        | T7           | C20-3D15.5-50SP06-C20-3D17-54SP06   |
| M2.2×5        | T7           | C25-3D17-5-56SP06-C25-3D21-5-68SP06 |
| M3.5×7        | T8           | C25-3D22-49SP07-C32-3D27-5-8        |
| M3.5×8.5      | T15          | C32-3D28-87SP09-C32-3D33.5-105SP09  |
| M4×10         | T15          | C32-3D34-106SP11-C40-3D41-128SP11   |
| M5×11         | T20          | C40-3D42-131SP14-C40-3D50-155SP12   |
| M3.5×8        | T15          | C40-3D51-158SP09-C40-3D60-188SP09   |

◎●表示库存 ○表示库存预定义

● Mark: Standard stock item, no mark: made to order item

★ SP 型浅孔钻 / 出水钻 / U 钻 4D

SP Indexable Insert Drills (U Drill)4D

加工公差标准 0~ + 0.25  
Range of machining tolerance: 0~ + 0.25  
最大加工深度  $L4 \times \phi Dc$

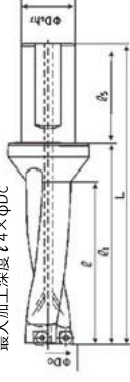


Fig.1

Holder diameter4D:  $\phi 13.0-60.0mm$

| 刃径<br>φDc | 型号<br>Model        | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 通用刀片<br>Applicable<br>Insert |
|-----------|--------------------|-------------|-----|-----|----------------|------------------------------|
| 13        | C20-4D13-55SP05    | ○           | 114 | 55  | 70             |                              |
| 13.5      | 4D13-5-57SP05      | ○           | 116 | 57  | 72             |                              |
| 14        | 4D14-5-59SP05      | ○           | 118 | 59  | 74             | SPMG060204                   |
| 14.5      | 4D14-5-61SP05      | ○           | 120 | 61  | 76             |                              |
| 15        | 4D15-6-63SP05      | ○           | 122 | 63  | 78             |                              |
| 15.5      | 4D15-5-65SP05      | ●           | 124 | 65  | 80             |                              |
| 16        | 4D16-6-67SP06      | ●           | 126 | 67  | 82             |                              |
| 16.5      | 4D16-5-69SP06      | ●           | 128 | 69  | 84             |                              |
| 17        | 4D17-7-71SP06      | ●           | 130 | 71  | 86             |                              |
| 17.5      | C28-4D17-5-73SP06  | ●           | 144 | 73  | 88             |                              |
| 18        | 4D18-7-75SP06      | ●           | 146 | 75  | 90             |                              |
| 18.5      | 4D18-5-77SP06      | ●           | 148 | 77  | 92             |                              |
| 19        | 4D19-7-79SP06      | ●           | 150 | 79  | 94             |                              |
| 19.5      | 4D19-5-81SP06      | ●           | 152 | 81  | 96             |                              |
| 20        | 4D20-8-83SP06      | ●           | 154 | 83  | 98             |                              |
| 20.5      | 4D20-5-85SP06      | ●           | 156 | 85  | 100            |                              |
| 21        | 4D21-8-87SP07      | ●           | 158 | 87  | 102            |                              |
| 21.5      | 4D21-5-89SP06      | ●           | 160 | 89  | 104            |                              |
| 22        | 4D22-9-91SP07      | ●           | 162 | 91  | 106            |                              |
| 22.5      | 4D22-5-93SP07      | ●           | 164 | 93  | 108            |                              |
| 23        | 4D23-9-95SP07      | ●           | 166 | 95  | 110            |                              |
| 23.5      | 4D23-5-97SP07      | ●           | 171 | 97  | 115            |                              |
| 24        | 4D24-9-99SP07      | ●           | 173 | 99  | 117            |                              |
| 24.5      | 4D24-5-101SP07     | ●           | 175 | 101 | 119            |                              |
| 25        | 4D25-1-103SP07     | ●           | 177 | 103 | 121            |                              |
| 25.5      | C32-4D25-5-105SP07 | ●           | 185 | 105 | 125            | SPMG077308                   |
| 26        | 4D26-1-107SP07     | ●           | 187 | 107 | 127            |                              |
| 26.5      | 4D26-5-109SP07     | ●           | 189 | 109 | 129            |                              |
| 27        | 4D27-1-111SP07     | ●           | 191 | 111 | 131            |                              |
| 27.5      | 4D27-5-113SP07     | ●           | 193 | 113 | 133            |                              |
| 28        | 4D28-1-115SP09     | ●           | 195 | 115 | 135            |                              |
| 28.5      | 4D28-5-117SP09     | ●           | 197 | 117 | 137            |                              |
| 29        | C32-4D29-9-119SP09 | ●           | 201 | 120 | 141            |                              |
| 29.5      | 4D29-5-121SP09     | ●           | 203 | 123 | 143            |                              |
| 30        | 4D30-1-123SP09     | ●           | 208 | 124 | 148            |                              |
| 30.5      | 4D30-5-125SP09     | ●           | 210 | 126 | 150            |                              |
| 31        | 4D31-1-128SP09     | ●           | 212 | 128 | 152            |                              |
| 31.5      | 4D31-5-130SP09     | ●           | 214 | 130 | 154            |                              |
| 32        | 4D32-1-132SP09     | ●           | 216 | 132 | 156            |                              |
| 32.5      | 4D32-5-134SP09     | ●           | 218 | 134 | 158            |                              |
| 33        | 4D33-1-136SP09     | ●           | 220 | 136 | 160            |                              |
| 33.5      | 4D33-5-138SP09     | ●           | 222 | 138 | 162            |                              |
| 34        | 4D34-1-140SP11     | ●           | 224 | 140 | 164            |                              |
| 34.5      | 4D34-5-142SP11     | ●           | 226 | 142 | 166            |                              |

◎附件 Spare Parts

| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill            |
|---------------|--------------|-------------------------------------|
| M2×5          | T6           | C20-4D13-55SP05-C20-4D14.5-61SP05   |
| M2.2×5        | T7           | C20-4D15.5-65SP06-C20-4D17-71SP06   |
| M2.2×5        | T7           | C25-4D17-7-73SP06-C25-4D21-5-89SP06 |
| M2.5×7        | T8           | C25-4D22-91SP07-C32-4D27-5-113SP07  |
| M3.5×8.5      | T15          | C32-4D28-115SP09-C32-4D33.5-138SP09 |
| M4×10         | T15          | C32-4D34-140SP11-C40-4D41-169SP11   |
| M5×11         | T20          | C40-4D42-173SP14-C40-4D50-205SP14   |
| M3.5×8.5      | T15          | C40-4D51-209SP09-C40-4D60-248SP09   |

◎●表示库存 ○表示库存预定义

● Mark: Standard stock item, no mark: made to order item



## U 钻系列

## U 钻系列

★ SP 型浅孔钻 / 出水钻 / U 钻 5D  
SP Indexable Insert Drills (U

加工公差标准 0~+0.25  
Range of machining tolerance: 0~+0.25  
最大加工深度 15×ΦDc

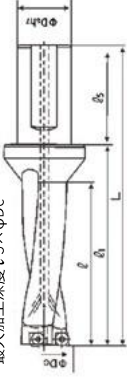


Fig. 1

Holder diameter5D:  $\phi 13.0 \sim 60.0 \text{ mm}$

| 刃径<br>ΦDC | 规格<br>ΦCS | 型号<br>Model        | 库存<br>Store | L   | ε   | ε <sub>c</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|--------------------|-------------|-----|-----|----------------|------------------------------|
| 14.5      | 14.5      | 20-S014.5-76SP05   | ●           | 135 | 78  | 91             | SPMG050204                   |
| 15        | 15        | 5014.5-78SP05      | ●           | 137 | 76  | 93             |                              |
| 16        | 16        | 5016-83SP06        | ●           | 142 | 83  | 98             |                              |
| 16.5      | 16.5      | 5016.5-86SP06      | ●           | 145 | 86  | 101            |                              |
| 17        | 17        | 5017-88SP06        | ●           | 147 | 88  | 103            | SPMG060204                   |
| 17.5      | 17.5      | C25-S017.5-91SP06  | ●           | 162 | 91  | 106            |                              |
| 18        | 18        | 5018-93SP06        | ●           | 164 | 93  | 108            |                              |
| 18.5      | 18.5      | 5018.5-96SP06      | ●           | 167 | 96  | 111            |                              |
| 19        | 19        | 5019-98SP06        | ●           | 169 | 98  | 113            |                              |
| 19.5      | 19.5      | 5019.5-101SP06     | ●           | 172 | 101 | 116            |                              |
| 20        | 20        | 5020-103SP06       | ●           | 174 | 103 | 118            |                              |
| 20.5      | 20.5      | 5020.5-106SP06     | ●           | 177 | 106 | 121            |                              |
| 21        | 21        | 5021-108SP06       | ●           | 179 | 108 | 123            |                              |
| 21.5      | 21.5      | 5021.5-111SP06     | ●           | 182 | 111 | 126            |                              |
| 22        | 22        | 5022-113SP07       | ●           | 184 | 113 | 128            |                              |
| 22.5      | 22.5      | 5022.5-116SP07     | ●           | 187 | 116 | 131            |                              |
| 23        | 23        | 5023-118SP07       | ●           | 189 | 118 | 133            | SPMG07T308                   |
| 23.5      | 23.5      | 5023.5-121SP07     | ●           | 192 | 121 | 136            |                              |
| 24        | 24        | 5024-123SP07       | ●           | 195 | 123 | 138            |                              |
| 24.5      | 24.5      | 5024.5-126SP07     | ●           | 197 | 126 | 141            |                              |
| 25        | 25        | 5025-128SP07       | ●           | 200 | 128 | 144            |                              |
| 25.5      | 25.5      | 5025.5-130SP07     | ●           | 202 | 130 | 146            |                              |
| 26        | 26        | 5026-133SP07       | ●           | 216 | 133 | 156            |                              |
| 26.5      | 26.5      | 5026.5-136SP07     | ●           | 218 | 136 | 158            |                              |
| 27        | 27        | 5027-138SP07       | ●           | 218 | 138 | 158            |                              |
| 27.5      | 27.5      | 5027.5-141SP07     | ●           | 221 | 141 | 161            |                              |
| 28        | 28        | 5028-143SP09       | ●           | 223 | 143 | 163            |                              |
| 28.5      | 28.5      | 5028.5-146SP09     | ●           | 226 | 146 | 166            |                              |
| 29        | 29        | C32-5029-149SP09   | ●           | 230 | 149 | 170            | SPMG090408                   |
| 29.5      | 29.5      | 5029.5-151SP09     | ●           | 233 | 151 | 173            |                              |
| 30        | 30        | 5030-154SP09       | ●           | 238 | 154 | 178            |                              |
| 30.5      | 30.5      | 5030.5-157SP09     | ●           | 241 | 157 | 181            |                              |
| 31        | 31        | 5031-159SP09       | ●           | 243 | 159 | 183            |                              |
| 31.5      | 31.5      | 5031.5-162SP09     | ●           | 245 | 162 | 185            |                              |
| 32        | 32        | 5032-164SP09       | ●           | 248 | 164 | 188            |                              |
| 32.5      | 32.5      | 5032.5-167SP09     | ●           | 251 | 167 | 191            |                              |
| 33        | 33        | 5033-169SP09       | ●           | 255 | 169 | 195            |                              |
| 33.5      | 33.5      | C32-5033.5-172SP09 | ●           | 255 | 172 | 195            |                              |
| 34        | 34        | 5034-174SP11       | ●           | 268 | 174 | 198            |                              |
| 34.5      | 34.5      | 5034.5-177SP11     | ●           | 261 | 177 | 201            |                              |
| 35        | 35        | 5035-179SP11       | ●           | 263 | 179 | 203            | SPMG110408                   |
| 35.5      | 35.5      | 5035.5-182SP11     | ●           | 265 | 182 | 205            |                              |
| 36        | 36        | 5036-184SP11       | ●           | 268 | 184 | 208            |                              |
| 36.5      | 36.5      | 5036.5-187SP11     | ●           | 271 | 187 | 211            |                              |
| 37        | 37        | 5037-189SP11       | ●           | 280 | 189 | 220            | SPMG120408                   |
| 37.5      | 37.5      | 5037.5-193SP11     | ●           | 283 | 193 | 223            |                              |
| 38        | 38        | 5038-195SP11       | ●           | 285 | 195 | 225            |                              |
| 38.5      | 38.5      | 5038.5-198SP11     | ●           | 288 | 198 | 228            |                              |

◎表示库存 ●表示库存 ○表示库存 预定品

● Mark: Standard stock item, no mark; made to order item



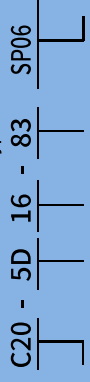
0.600000

Holder diameter5D:  $\phi 13.0 \sim 60.0 \text{ mm}$

| 刀径<br>ΦDc | 槽径<br>ΦDs | 型号                  | 库存<br>Store | L   | f   | ε   | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|---------------------|-------------|-----|-----|-----|------------------------------|
| 39.3      | 39        | 5039-2300SP11       | ○           | 290 | 200 | 230 | SPMG110408                   |
| 39.3      | 39.3      | 5039.5-2303SP11     | ○           | 293 | 203 | 233 |                              |
| 40        | 40        | 5040-23040-2005SP11 | ●           | 305 | 205 | 235 |                              |
| 40        | 40        | 5041-2110SP11       | ○           | 310 | 210 | 240 |                              |
| 42        | 42        | 5042-2115SP14       | ○           | 315 | 215 | 245 | SPMG140512                   |
| 43        | 43        | 5043-2220SP14       | ○           | 320 | 220 | 250 |                              |
| 44        | 44        | 5044-2255SP14       | ○           | 325 | 225 | 255 |                              |
| 45        | 45        | 5045-2305SP14       | ●           | 330 | 230 | 260 |                              |
| 46        | 46        | 5046-2335SP14       | ○           | 335 | 235 | 265 | SPMG140512                   |
| 47        | 47        | 5047-2405SP14       | ○           | 340 | 240 | 270 |                              |
| 48        | 48        | 5048-2455SP14       | ○           | 345 | 245 | 275 |                              |
| 49        | 49        | 5049-2505SP14       | ○           | 350 | 250 | 280 |                              |
| 50        | 50        | 5050-2555SP14       | ○           | 355 | 255 | 285 | SPMG090408                   |
| 51        | 51        | 5051-2605SP09       | ○           | 360 | 260 | 290 |                              |
| 52        | 52        | 5052-2655SP09       | ○           | 365 | 265 | 295 |                              |
| 53        | 53        | 5053-2705SP09       | ○           | 370 | 270 | 300 |                              |
| 54        | 54        | 5054-2755SP09       | ○           | 375 | 275 | 305 | SPMG090408                   |
| 55        | 55        | 5055-2805SP09       | ○           | 380 | 280 | 310 |                              |
| 56        | 56        | 5056-2855SP09       | ○           | 385 | 285 | 315 |                              |
| 57        | 57        | 5057-2905SP09       | ○           | 390 | 290 | 320 |                              |
| 58        | 58        | 5058-2955SP09       | ○           | 395 | 295 | 325 | SPMG090408                   |
| 59        | 59        | 5059-3005SP09       | ○           | 400 | 300 | 330 |                              |
| 60        | 60        | 5060-3055SP09       | ○           | 405 | 305 | 335 |                              |

## SP 钻头记号

Part number structure of SP type holder



| 刀片型号         | 长度     | 钻头尺寸     | 接口尺寸           | 倍径           | 长度     | 钻头尺寸     | 接口尺寸           | 刀片型号         |
|--------------|--------|----------|----------------|--------------|--------|----------|----------------|--------------|
| Inserts type | Length | Diameter | Shank Diameter | Drill Length | Length | Diameter | Shank Diameter | Inserts type |

## ◎附件 Spare Parts

| 平头螺钉<br>Screw                                                                         |                                                                                       | 扳手<br>Wrench                        | 适用刀杆<br>Applicable Drill |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------|--------------------------|
|  |  |                                     |                          |
| M2×5                                                                                  | T6                                                                                    | C20-5D14-5/76SP06-C20-5D15-78SP05   |                          |
| M2.2×5                                                                                | T7                                                                                    | C20-5D16-43SP06-C26-5D21.5-111SP06  |                          |
| M2.5×7                                                                                | T8                                                                                    | C25-5D22-113SP07-C32-5D27-5-141SP07 |                          |
| M3.5×8.5                                                                              | T15                                                                                   | C32-5D28-44SP09-C32-5D33-5-172SP09  |                          |
| M4×10                                                                                 | T15                                                                                   | C32-5D34-174SP11-C40-5D41-2-108SP11 |                          |
| M5×11                                                                                 | T20                                                                                   | C40-5D42-215SP14-C40-5D50-2-255SP14 |                          |
| M3.5×8.5                                                                              | T15                                                                                   | C40-5D51-260SP09-C40-5D60-3-305SP09 |                          |

◎表示库存 ●表示库存 ○表示库存 预定品

● Mark: Standard stock item, no mark; made to order item

★ WDX 型浅孔钻 / 出水钻 / U 钻 2D  
WDX Indexable Insert Drills (U Drill) 2D

加工公差标准  $-0.05 \sim +0.15$   
Range of machining tolerance:  $-0.05 \sim +0.15$   
最大加工深度  $\phi 2 \times \phi Dc$

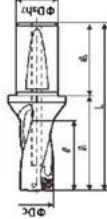
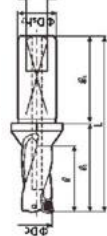


Fig. 2

Holder diameter 2D:  $\phi 13.0 \sim 68.0 \text{ mm}$

| 刀径<br>φDc | 规格<br>φDs | 型号<br>Model | 库存<br>Store | ℓ   | ℓ  | ℓ   | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-------------|-------------|-----|----|-----|------------------------------|
| 13        | 13.5      | WDX13002S20 | ●           | 88  | 29 | 44  | 0.2                          |
| 13        | 13.5      | 13502S20    | ●           | 89  | 30 | 45  | 0.2                          |
| 14        | 20        | 14002S20    | ●           | 90  | 31 | 46  | 0.2                          |
| 14.5      | 15        | 14502S20    | ○           | 91  | 32 | 47  | 0.2                          |
| 15        | 15        | 15002S20    | ●           | 92  | 33 | 48  | 0.2                          |
| 15.5      | 15.5      | WDX15502S20 | ○           | 93  | 34 | 49  | 0.2                          |
| 16        | 20        | 16002S20    | ○           | 94  | 35 | 50  | 0.2                          |
| 16.5      | 16.5      | 16502S20    | ○           | 95  | 36 | 51  | 0.2                          |
| 17        | 17        | 17002S20    | ○           | 96  | 37 | 52  | 0.2                          |
| 17.5      | 25        | WDX17502S25 | ●           | 109 | 38 | 53  | WDX1052504                   |
| 18        | 18        | 18002S25    | ●           | 110 | 39 | 54  | 0.3                          |
| 18.5      | 18.5      | WDX18502S25 | ●           | 111 | 40 | 55  | 0.3                          |
| 19        | 19        | 19002S25    | ○           | 112 | 41 | 56  | 0.3                          |
| 19.5      | 19.5      | 19502S25    | ○           | 113 | 42 | 57  | 0.3                          |
| 20        | 20        | 20002S25    | ●           | 114 | 43 | 58  | 0.3                          |
| 20.5      | 25        | 20502S25    | ●           | 115 | 44 | 59  | WDX1063006                   |
| 21        | 21        | 21002S25    | ●           | 116 | 45 | 60  | 0.3                          |
| 21.5      | 21.5      | 21602S25    | ●           | 117 | 46 | 61  | 0.3                          |
| 22        | 22        | 22002S25    | ●           | 118 | 47 | 62  | 0.3                          |
| 22.5      | 22.5      | 22502S25    | ●           | 119 | 48 | 63  | 0.4                          |
| 23        | 23        | WDX23002S25 | ●           | 123 | 49 | 67  | 0.4                          |
| 23.5      | 23.5      | 23502S25    | ○           | 124 | 50 | 68  | 0.4                          |
| 24        | 24        | 24002S25    | ●           | 125 | 51 | 69  | 0.4                          |
| 24.5      | 24.5      | 24502S25    | ●           | 126 | 52 | 70  | 0.4                          |
| 25        | 25        | 25002S25    | ●           | 127 | 53 | 71  | 0.4                          |
| 25.5      | 25.5      | WDX25502S32 | ●           | 134 | 54 | 74  | WDX1073506                   |
| 26        | 26        | 26002S32    | ○           | 135 | 55 | 75  | 0.6                          |
| 26.5      | 26.5      | 26502S32    | ●           | 136 | 56 | 76  | 0.6                          |
| 27        | 31        | 27002S32    | ○           | 137 | 57 | 77  | 0.6                          |
| 27.5      | 27.5      | 27502S32    | ●           | 138 | 58 | 78  | 0.6                          |
| 28        | 28        | 28002S32    | ●           | 139 | 59 | 79  | 0.6                          |
| 28.5      | 28.5      | 28502S32    | ●           | 140 | 60 | 80  | 0.6                          |
| 29        | 29        | WDX29002S32 | ○           | 143 | 62 | 83  | 0.7                          |
| 29.5      | 29.5      | 29502S32    | ●           | 144 | 63 | 84  | 0.7                          |
| 30        | 30        | 30002S32    | ○           | 145 | 64 | 85  | 0.7                          |
| 30.5      | 30.5      | 30502S32    | ○           | 146 | 65 | 86  | 0.7                          |
| 31        | 31        | 31002S32    | ○           | 147 | 66 | 87  | 0.7                          |
| 31.5      | 31.5      | 31502S32    | ○           | 148 | 67 | 88  | 0.7                          |
| 32        | 32        | 32002S32    | ○           | 149 | 68 | 89  | 0.7                          |
| 32.5      | 32.5      | 32502S32    | ○           | 150 | 69 | 90  | 0.7                          |
| 33        | 33        | 33002S32    | ○           | 151 | 70 | 91  | 0.7                          |
| 33.5      | 33.5      | 33502S32    | ○           | 152 | 71 | 92  | 0.7                          |
| 34        | 34        | 34002S32    | ○           | 153 | 72 | 93  | 0.7                          |
| 34.5      | 34.5      | 34502S32    | ○           | 154 | 73 | 94  | 0.7                          |
| 35        | 35        | 35002S32    | ○           | 155 | 74 | 95  | 0.7                          |
| 35.5      | 35.5      | 35502S32    | ○           | 156 | 75 | 96  | 0.7                          |
| 36        | 36        | 36002S32    | ○           | 157 | 76 | 97  | 0.7                          |
| 36.5      | 36.5      | 36502S32    | ○           | 158 | 77 | 98  | 0.7                          |
| 37        | 37        | 37002S32    | ○           | 159 | 78 | 99  | 0.7                          |
| 37.5      | 37.5      | 37502S32    | ○           | 160 | 79 | 100 | 0.7                          |
| 38        | 38        | 38002S32    | ○           | 161 | 80 | 101 | 0.7                          |
| 38.5      | 38.5      | 38502S32    | ○           | 162 | 81 | 102 | 0.7                          |
| 39        | 39        | 39002S32    | ○           | 163 | 82 | 103 | 0.7                          |
| 39.5      | 39.5      | 39502S32    | ○           | 164 | 83 | 104 | 0.7                          |
| 40        | 40        | 40002S32    | ○           | 165 | 84 | 105 | 0.7                          |
| 40.5      | 40.5      | 40502S32    | ○           | 166 | 85 | 106 | 0.7                          |

© 附件 Spare Parts

| 平头螺钉<br>Screw |  | 扳手<br>Wrench |  | 适用刀杆<br>Applicable Drill |
|---------------|-------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|--------------------------|
|               |                                                                                     |              |                                                                                     |                          |
| M1.6×3.2      | T06                                                                                 |              |                                                                                     | WDX130D2520-WDX150D2520  |
| M2×5          | T06                                                                                 |              |                                                                                     | WDX155D2520-WDX180D2525  |
| M2.2×5        | T07                                                                                 |              |                                                                                     | WDX185D2525-WDX225D2525  |
| M2.5×7        | T08                                                                                 |              |                                                                                     | WDX230D2532-WDX285D2532  |
| M3.5×8.5      | T15                                                                                 |              |                                                                                     | WDX290D2532-WDX365D2532  |
| M5×11         | T20                                                                                 |              |                                                                                     | WDX370D2532-WDX450D2540  |
| M6×15         | T25                                                                                 |              |                                                                                     | WDX460D2540-WDX680D2540  |

◎表示库存 ○表示库存预定品

● Mark: Standard stock item, no mark:made to order item

U 钻系列

U 钻系列

★ WDX 型浅孔钻 / 出水钻 / U 钻 3D

★ WDX 型浅孔钻 / 出水钻 / U 钻 4D

WDX Indexable Insert Drills (U Drill)3D

WDX Indexable Insert Drills (U Drill)4D

加工公差标准 0~ + 0.20

加工公差标准 0~ + 0.25

Range of machining tolerance: 0~ + 0.20

Range of machining tolerance: 0~ + 0.25

最大加工深度  $l \times \phi Dc$

最大加工深度  $l \times \phi Dc$

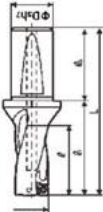
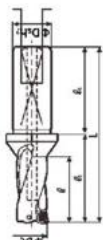


Fig.1

Fig.2

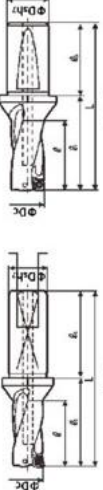


Fig.1

Fig.2

Holder diameter 3D:  $\phi 13.0 \sim 68.0\text{mm}$

Holder diameter 4D:  $\phi 13.0 \sim 63.0\text{mm}$

| 后刃<br>φDc | 规格<br>φDs | 型号<br>Model | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-------------|-------------|-----|-----|----------------|------------------------------|
| 13        |           | WDX130D3S20 | ●           | 101 | 42  | 57             |                              |
| 13.5      |           | 135D3S20    | ●           | 103 | 44  | 59             |                              |
| 14        | 20        | 140D3S20    | ○           | 104 | 45  | 60             | WDX1042004                   |
| 14.5      | 32        | 145D3S20    | ○           | 105 | 47  | 62             |                              |
| 15        |           | 150D3S20    | ○           | 107 | 48  | 63             |                              |
| 15.5      |           | 155D3S20    | ○           | 109 | 50  | 65             |                              |
| 16        | 20        | 160D3S20    | ●           | 110 | 51  | 66             |                              |
| 16.5      | 32        | 165D3S20    | ○           | 112 | 53  | 68             |                              |
| 17        |           | 170D3S20    | ●           | 113 | 54  | 69             | WDX1052504                   |
| 17.5      | 25        | WDX175D3S25 | ○           | 127 | 56  | 71             |                              |
| 18        |           | 180D3S25    | ○           | 130 | 58  | 74             |                              |
| 18.5      |           | WDX185D3S25 | ○           | 133 | 60  | 76             |                              |
| 19        |           | 190D3S25    | ○           | 131 | 60  | 75             |                              |
| 19.5      |           | 195D3S25    | ○           | 133 | 62  | 77             |                              |
| 20        | 25        | 200D3S25    | ○           | 134 | 63  | 78             |                              |
| 20.5      |           | 205D3S25    | ○           | 136 | 65  | 80             |                              |
| 21        |           | 210D3S25    | ○           | 137 | 66  | 81             |                              |
| 21.5      |           | 215D3S25    | ○           | 139 | 68  | 83             |                              |
| 22        |           | 220D3S25    | ○           | 140 | 69  | 84             |                              |
| 22.5      |           | 225D3S25    | ○           | 142 | 71  | 86             |                              |
| 23        |           | WDX230D3S25 | ○           | 146 | 72  | 90             |                              |
| 23.5      |           | 235D3S25    | ○           | 148 | 74  | 92             |                              |
| 24        | 25        | 240D3S25    | ○           | 149 | 75  | 93             |                              |
| 24.5      |           | 245D3S25    | ○           | 151 | 77  | 95             |                              |
| 25        |           | 250D3S25    | ○           | 152 | 78  | 96             |                              |
| 25.5      |           | WDX255D3S32 | ○           | 160 | 80  | 100            |                              |
| 26        |           | 260D3S32    | ○           | 161 | 81  | 101            |                              |
| 26.5      |           | 265D3S32    | ○           | 163 | 83  | 103            |                              |
| 27        | 32        | 270D3S32    | ○           | 164 | 84  | 104            |                              |
| 27.5      |           | 275D3S32    | ○           | 166 | 86  | 106            |                              |
| 28        |           | 280D3S32    | ●           | 167 | 87  | 107            |                              |
| 28.5      |           | 285D3S32    | ○           | 169 | 89  | 109            |                              |
| 29        |           | WDX290D3S32 | ○           | 172 | 91  | 112            |                              |
| 29.5      |           | 295D3S32    | ○           | 174 | 93  | 114            |                              |
| 30        |           | 300D3S32    | ○           | 178 | 94  | 118            |                              |
| 30.5      | 32        | 305D3S32    | ○           | 180 | 96  | 120            |                              |
| 31        |           | 310D3S32    | ○           | 181 | 97  | 121            | 60                           |
| 31.5      |           | 315D3S32    | ○           | 183 | 99  | 123            |                              |
| 32        |           | 320D3S32    | ○           | 184 | 100 | 124            |                              |
| 32.5      |           | 325D3S32    | ○           | 186 | 102 | 126            |                              |
| 33        |           | 330D3S32    | ○           | 189 | 103 | 127            | WDX1094008                   |
| 33.5      |           | 335D3S32    | ○           | 189 | 105 | 129            |                              |
| 34        |           | 340D3S32    | ○           | 190 | 106 | 130            |                              |
| 34.5      |           | 345D3S32    | ○           | 192 | 108 | 132            |                              |
| 35        | 32        | 350D3S32    | ○           | 193 | 109 | 133            |                              |
| 35.5      |           | 355D3S32    | ○           | 195 | 111 | 135            |                              |
| 36        |           | 360D3S32    | ○           | 195 | 112 | 136            |                              |
| 36.5      |           | WDX365D3S32 | ○           | 198 | 114 | 138            |                              |

| 后刃<br>φDc | 规格<br>φDs | 型号<br>Model | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-------------|-------------|-----|-----|----------------|------------------------------|
| 13        |           | 370D3S32    | ●           | 206 | 116 | 146            |                              |
| 13.5      |           | 375D3S32    | ○           | 208 | 118 | 148            |                              |
| 14        | 20        | 380D3S32    | ●           | 209 | 119 | 149            | WDX125012                    |
| 14.5      | 32        | 385D3S32    | ○           | 211 | 121 | 151            |                              |
| 15        |           | 390D3S32    | ●           | 212 | 122 | 152            |                              |
| 15.5      |           | 395D3S32    | ○           | 214 | 124 | 154            |                              |
| 16        |           | 400D3S32    | ○           | 214 | 124 | 154            |                              |
| 16.5      |           | 405D3S32    | ○           | 22  | 125 | 155            |                              |
| 17        | 20        | 410D3S20    | ○           | 228 | 128 | 156            |                              |
| 17.5      | 32        | 415D3S20    | ○           | 231 | 131 | 161            |                              |
| 18        |           | 420D3S20    | ○           | 234 | 134 | 164            |                              |
| 18.5      |           | 425D3S20    | ○           | 237 | 137 | 167            |                              |
| 19        |           | 430D3S20    | ○           | 240 | 140 | 170            |                              |
| 19.5      |           | 435D3S20    | ○           | 243 | 143 | 173            |                              |
| 20        |           | 440D3S20    | ○           | 248 | 146 | 176            |                              |
| 20.5      |           | 445D3S20    | ○           | 249 | 149 | 179            |                              |
| 21        |           | 450D3S20    | ○           | 252 | 152 | 182            |                              |
| 21.5      |           | 455D3S20    | ○           | 255 | 155 | 185            |                              |
| 22        |           | 460D3S20    | ○           | 258 | 158 | 188            |                              |
| 22.5      |           | 465D3S20    | ○           | 261 | 161 | 191            |                              |
| 23        |           | 470D3S20    | ○           | 264 | 164 | 194            |                              |
| 23.5      |           | 475D3S20    | ○           | 267 | 167 | 197            |                              |
| 24        | 40        | 480D3S20    | ○           | 270 | 170 | 200            |                              |
| 24.5      |           | 485D3S20    | ○           | 278 | 178 | 208            |                              |
| 25        |           | 490D3S20    | ○           | 281 | 179 | 211            |                              |
| 25.5      |           | 495D3S20    | ○           | 284 | 182 | 214            |                              |
| 26        |           | 500D3S20    | ○           | 287 | 185 | 217            |                              |
| 26.5      |           | 505D3S20    | ○           | 290 | 188 | 220            |                              |
| 27        |           | 510D3S20    | ○           | 293 | 191 | 223            |                              |
| 27.5      |           | 515D3S20    | ○           | 296 | 194 | 226            |                              |
| 28        |           | 520D3S20    | ○           | 299 | 197 | 229            |                              |
| 28.5      |           | 525D3S20    | ○           | 302 | 200 | 232            |                              |
| 29        |           | 530D3S20    | ○           | 305 | 203 | 235            |                              |
| 29.5      |           | 535D3S20    | ○           | 308 | 206 | 238            |                              |
| 30        |           | 540D3S20    | ○           | 311 | 209 | 241            |                              |
| 30.5      |           | 545D3S20    | ○           | 314 | 212 | 244            |                              |
| 31        |           | 550D3S20    | ○           | 317 | 215 | 247            |                              |
| 31.5      |           | 555D3S20    | ○           | 320 | 218 | 250            |                              |
| 32        |           | 560D3S20    | ○           | 323 | 221 | 253            |                              |
| 32.5      |           | 565D3S20    | ○           | 326 | 224 | 256            |                              |
| 33        |           | 570D3S20    | ○           | 329 | 227 | 259            |                              |
| 33.5      |           | 575D3S20    | ○           | 332 | 230 | 262            |                              |
| 34        |           | 580D3S20    | ○           | 335 | 233 | 265            |                              |
| 34.5      |           | 585D3S20    | ○           | 338 | 236 | 268            |                              |
| 35        |           | 590D3S20    | ○           | 341 | 239 | 271            |                              |
| 35.5      |           | 595D3S20    | ○           | 344 | 242 | 274            |                              |
| 36        |           | 600D3S20    | ○           | 347 | 245 | 277            |                              |
| 36.5      |           | 605D3S20    | ○           | 350 | 248 | 280            |                              |
| 37        |           | 610D3S20    | ○           | 353 | 251 | 283            |                              |
| 37.5      |           | 615D3S20    | ○           | 356 | 254 | 286            |                              |
| 38        |           | 620D3S20    | ○           | 359 | 257 | 289            |                              |
| 38.5      |           | 625D3S20    | ○           | 362 | 260 | 292            |                              |
| 39        |           | 630D3S20    | ○           | 365 | 263 | 295            |                              |
| 39.5      |           | 635D3S20    | ○           | 368 | 266 | 298            |                              |
| 40        |           | 640D3S20    | ○           | 371 | 269 | 301            |                              |
| 40.5      |           | 645D3S20    | ○           | 374 | 272 | 304            |                              |
| 41        |           | 648D3S20    | ○           | 377 | 275 | 307            |                              |
| 41.5      |           | 651D3S20    | ○           | 380 | 278 | 310            |                              |
| 42        |           | 654D3S20    | ○           | 383 | 281 | 313            |                              |
| 42.5      |           | 657D3S20    | ○           | 386 | 284 | 316            |                              |
| 43        |           | 660D3S20    | ○           | 389 | 287 | 319            |                              |
| 43.5      |           | 663D3S20    | ○           | 392 | 290 | 322            |                              |
| 44        |           | 666D3S20    | ○           | 395 | 293 | 325            |                              |
| 44.5      |           | 669D3S20    | ○           | 398 | 296 | 328            |                              |
| 45        |           | 672D3S20    | ○           | 401 | 299 | 331            |                              |
| 45.5      |           | 675D3S20    | ○           | 404 | 302 | 334            |                              |
| 46        |           | 678D3S20    | ○           | 407 | 305 | 337            |                              |
| 46.5      |           | 681D3S20    | ○           | 410 | 308 | 340            |                              |
| 47        |           | 684D3S20    | ○           | 413 | 311 | 343            |                              |
| 47.5      |           | 687D3S20    | ○           | 416 | 314 | 346            |                              |
| 48        |           | 690D3S20    | ○           | 419 | 317 | 349            |                              |
| 48.5      |           | 693D3S20    | ○           | 422 | 320 | 352            |                              |
| 49        |           | 696D3S20    | ○           | 425 | 323 | 355            |                              |
| 49.5      |           | 699D3S20    | ○           | 428 | 326 | 358            |                              |
| 50        |           | 702D3S20    | ○           | 431 | 329 | 361            |                              |
| 50.5      |           | 705D3S20    | ○           | 434 | 332 | 364            |                              |
| 51        |           | 708D3S20    | ○           | 437 | 335 | 367            |                              |
| 51.5      |           | 711D3S20    | ○           | 440 | 338 | 370            |                              |
| 52        |           | 714D3S20    | ○           | 443 | 341 | 373            |                              |
| 52.5      |           | 717D3S20    | ○           | 446 | 344 | 376            |                              |
| 53        |           | 720D3S20    | ○           | 449 | 347 | 379            |                              |
| 53.5      |           | 723D3S20    | ○           | 452 | 350 | 382            |                              |
| 54        |           | 726D3S20    | ○           | 455 | 353 | 385            |                              |
| 54.5      |           | 729D3S20    | ○           | 458 | 356 | 388            |                              |
| 55        |           | 732D3S20    | ○           | 461 | 359 | 391            |                              |
| 55.5      |           | 735D3S20    | ○           | 464 | 362 | 394            |                              |
| 56        |           | 738D3S20    | ○           | 467 | 365 | 397            |                              |
| 56.5      |           | 741D3S20    | ○           | 470 | 368 | 400            |                              |
| 57        |           | 744D3S20    | ○           | 473 | 371 | 403            |                              |
| 57.5      |           | 747D3S20    | ○           | 476 | 374 | 406            |                              |
| 58        |           | 750D3S20    | ○           | 479 | 377 | 409            |                              |
| 58.5      |           | 753D3S20    | ○           | 482 | 380 | 412            |                              |
| 59        |           | 756D3S20    | ○           | 485 | 383 | 415            |                              |
| 59.5      |           | 759D3S20    | ○           | 488 | 386 | 418            |                              |
| 60        |           | 762D3S20    | ○           | 491 | 389 | 421            |                              |
| 60.5      |           | 765D3S20    | ○           | 494 | 392 | 424            |                              |
| 61        |           | 768D3S20    | ○           | 497 | 395 | 427            |                              |
| 61.5      |           | 771D3S20    | ○           | 500 | 398 | 430            |                              |
| 62        |           | 774D3S20    | ○           | 503 | 401 | 433            |                              |
| 62.5      |           | 777D3S20    | ○           | 506 | 404 | 436            |                              |
| 63        |           | 780D3S20    | ○           | 509 | 407 | 439            |                              |
| 63.5      |           | 783D3S20    | ○           | 512 | 410 | 442            |                              |
| 64        |           | 786D3S20    | ○           | 515 | 413 | 445            |                              |
| 64.5      |           | 789D3S20    | ○           | 518 | 416 | 448            |                              |
| 65        |           | 792D3S20    | ○           | 521 | 419 | 451            |                              |
| 65.5      |           | 795D3S20    | ○           | 524 | 422 | 454            |                              |
| 66        |           | 798D3S20    | ○           | 527 | 425 | 457            |                              |
| 66.5      |           | 801D3S20    | ○           | 530 | 428 | 460            |                              |
| 67        |           | 804D3S20    | ○           | 533 | 431 | 463            |                              |
| 67.5      |           | 807D3S20    | ○           | 536 | 434 | 466            |                              |
| 68        |           | 810D3S20    | ○           | 539 | 437 | 469            |                              |

| 后刃<br>φDc | 规格<br>φDs | 型号<br>Model | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert |
|-----------|-----------|-------------|-------------|-----|-----|----------------|------------------------------|
| 13        |           | WDX130D4S20 | ○           | 114 | 55  | 70             |                              |
| 13.5      |           | 135D4S20    | ○           | 116 | 57  | 72             |                              |
| 14        | 20        | 140D4S20    | ○           | 118 | 59  | 74             | WDX1042004                   |
| 14.5      |           | 145D4S20    | ●           | 120 | 61  | 76             |                              |
| 15        |           | 150D4S20    | ○           | 122 | 63  | 78             |                              |
| 15.5      |           | 155D4S20    | ○           | 124 | 65  | 80             |                              |
| 16        | 20        | 160D4S20    | ○           | 126 | 67  | 82             | 44                           |
| 16.5      |           | 165D4S20    | ●           | 128 | 69  | 84             |                              |
| 17        |           | 170D4S20    | ○           | 130 | 71  | 86             | WDX1052504                   |
| 17.5      | 25        | WDX175D4S25 | ○           | 144 | 73  | 88             |                              |
| 18        |           | 180D4S25    | ○           | 146 | 75  | 90             |                              |
| 18.5      |           | WDX185D4S25 | ○           | 148 | 77  | 92             |                              |
| 19        |           | 190D4S25    | ●           | 150 | 79  | 94             |                              |
| 19.5      |           | 195D4S25    | ○           | 152 | 81  | 96             |                              |
| 20        | 25        | 200D4S25    | ○           | 154 | 83  | 98             |                              |
| 20.5      |           | 205D4S25    | ○           | 156 | 85  | 100            |                              |
| 21        |           | 210D4S25    | ●           | 158 | 87  | 102            |                              |
| 21.5      |           | 216D4S25    | ○           | 160 | 89  | 104            | 56                           |
| 22        |           | 220D4S25    | ○           | 162 | 91  | 106            |                              |
| 22.5      |           | 225D4S25    | ○           | 164 | 93  | 108            |                              |
| 23        |           | WDX230D4S25 | ○           | 169 | 95  | 113            |                              |
| 23.5      |           | 235D4S25    | ○           | 171 | 97  | 115            |                              |
| 24        | 25        | 240D4S25    | ○           | 173 | 99  | 117            |                              |
| 24.5      |           | 245D4S25    | ○           | 175 | 101 | 119            | WDX1063006                   |
| 25        |           | 250D4S25    | ○           | 177 | 103 | 121            |                              |
| 25.5      |           | WDX255D4S32 | ●           | 185 | 105 | 125            |                              |
| 26        | 25        | 260D4S32    | ○           | 189 | 107 | 127            | WDX1073506                   |
| 26.5      |           | 265D4S32    | ○           | 189 | 109 | 129            |                              |
| 27        | 32        | 270D4S32    | ●           | 181 | 111 | 131            |                              |
| 27.5      |           | 275D4S32    | ●           | 193 | 113 | 133            |                              |
| 28        |           | 280D4S32    | ●           | 195 | 115 | 135            |                              |
| 28.5      |           | 285D4S32    | ○           | 197 | 117 | 137            |                              |
| 29        |           | WDX290D4S32 | ●           | 201 | 120 | 141            |                              |
| 29.5      |           | 295D4S32    | ○           | 203 | 122 | 143            |                              |
| 30        |           | 300D4S32    | ○           | 208 | 124 | 146            |                              |
| 30.5      | 32        | 305D4S32    | ●           | 210 | 126 | 150            |                              |
| 31        |           | 310D4S32    | ○           | 212 | 128 | 152            | 60                           |
| 31.5      |           | 315D4S32    | ○           | 214 | 130 | 154            |                              |
| 32        |           | 320D4S32    | ○           | 216 | 132 | 156            |                              |
| 32.5      |           | 325D4S32    | ○           | 218 | 134 | 158            |                              |
| 33        |           | WDX330D4S32 | ○           | 220 | 136 | 160            | WDX1094008                   |
| 33.5      |           | 335D4S32    | ●           | 222 | 138 | 162            |                              |
| 34        |           | 340D4S32    | ●           | 224 | 140 | 164            |                              |
| 34.5      | 32        | 345D4S32    | ○           | 226 | 142 | 166            |                              |
| 35        |           | 350D4S32    | ●           | 228 | 144 | 168            |                              |
| 35.5      |           | 355D4S32    | ●           | 230 | 146 | 170            |                              |
| 36        |           | 360D4S32    | ●           | 232 | 148 | 172            |                              |
| 36.5      |           | WDX365D4S32 | ○           | 234 | 150 | 174            |                              |

★ WDX 型浅孔钻 / 出水钻 / U 钻 5D  
WDX Indexable Insert Drills (U Drill)5D

加工公差标准 0~ + 0.25  
Range of machining tolerance: 0~ + 0.25  
最大加工深度  $l \leq \phi Dc$

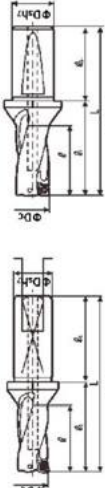


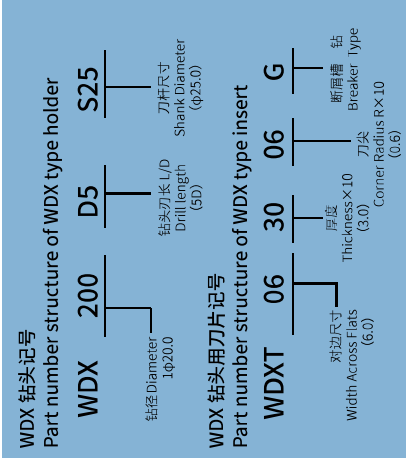
Fig.1



Fig.2

| 刃径<br>φDc | 柄径<br>φDs | 型号<br>Model | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert | Fig |
|-----------|-----------|-------------|-------------|-----|-----|----------------|------------------------------|-----|
| 18.5      |           | WDX185D525  | ○           | 167 | 96  | 117            |                              |     |
| 19        |           | 190D525     | ○           | 169 | 98  | 113            |                              |     |
| 19.5      |           | 195D525     | ○           | 172 | 101 | 116            |                              |     |
| 20        |           | 200D525     | ○           | 174 | 103 | 118            |                              |     |
| 20.5      | 25        | 205D525     | ○           | 177 | 106 | 121            | 96 WDXT063006                |     |
| 21        |           | 210D525     | ○           | 179 | 108 | 123            |                              | 1   |
| 21.5      |           | 215D525     | ○           | 182 | 111 | 126            |                              |     |
| 22        |           | 220D525     | ○           | 184 | 113 | 128            |                              |     |
| 22.5      |           | 225D525     | ○           | 187 | 116 | 131            |                              |     |
| 23        |           | WDX230D525  | ○           | 192 | 118 | 136            |                              |     |
| 23.5      |           | 235D525     | ○           | 195 | 121 | 139            |                              |     |
| 24        | 25        | 240D525     | ○           | 197 | 123 | 141            | 96 WDXT073506                |     |
| 24.5      |           | 245D525     | ○           | 200 | 126 | 144            |                              |     |
| 25        |           | 250D525     | ○           | 202 | 128 | 146            |                              |     |
| 26        |           | 260D532     | ○           | 216 | 133 | 156            |                              |     |
| 27        |           | 270D532     | ○           | 218 | 136 | 158            |                              |     |
| 28        |           | 280D3832    | ○           | 223 | 143 | 162            |                              |     |
| 29        |           | WDX290D532  | ○           | 230 | 149 | 170            |                              |     |
| 30        |           | 300D532     | ○           | 238 | 154 | 176            | 80                           |     |
| 30.5      |           | 305D532     | ○           | 241 | 157 | 181            |                              |     |
| 31        | 32        | 310D532     | ○           | 243 | 159 | 183            |                              |     |
| 31.5      |           | 315D532     | ○           | 245 | 162 | 185            |                              |     |
| 32        |           | 320D532     | ○           | 248 | 164 | 188            |                              |     |
| 32.5      |           | 325D532     | ○           | 251 | 167 | 191            |                              |     |
| 33        |           | WDX330D532  | ○           | 253 | 169 | 193            | WDXT094008                   |     |
| 33.5      |           | 335D532     | ○           | 255 | 172 | 195            |                              |     |
| 34        |           | 340D532     | ○           | 258 | 174 | 198            |                              |     |
| 34.5      |           | 345D532     | ○           | 261 | 177 | 201            |                              |     |
| 35        |           | 350D532     | ○           | 263 | 179 | 203            |                              |     |
| 35.5      |           | 355D532     | ○           | 264 | 182 | 205            |                              |     |
| 36        | 32        | 360D532     | ○           | 268 | 184 | 208            | 60                           |     |
| 36.5      |           | WDX365D532  | ○           | 271 | 187 | 211            |                              |     |
| 37        |           | 370D532     | ○           | 280 | 194 | 220            |                              |     |
| 37.5      |           | 375D532     | ○           | 283 | 197 | 223            |                              |     |
| 38        |           | 380D532     | ○           | 285 | 199 | 225            |                              |     |
| 38.5      |           | 385D532     | ○           | 288 | 198 | 228            |                              |     |
| 39        |           | 390D532     | ○           | 290 | 200 | 230            |                              |     |
| 39.5      |           | 395D532     | ○           | 293 | 203 | 233            | WDXT125012                   |     |
| 40        |           | WDX400D540  | ○           | 305 | 209 | 239            |                              |     |
| 41        |           | 410D540     | ○           | 310 | 212 | 242            | 70                           |     |
| 42        | 40        | 420D540     | ○           | 315 | 214 | 245            |                              |     |
| 43        |           | 430D540     | ○           | 320 | 218 | 250            |                              |     |
| 44        |           | 440D540     | ○           | 325 | 223 | 255            |                              |     |
| 45        |           | 450D540     | ○           | 330 | 230 | 260            |                              |     |

| 刃径<br>φDc | 柄径<br>φDs | 型号<br>Model | 库存<br>Store | L   | ℓ   | ℓ <sub>1</sub> | 适用刀片<br>Applicable<br>Insert | Fig |
|-----------|-----------|-------------|-------------|-----|-----|----------------|------------------------------|-----|
| 46        |           | WDX460D540  | ○           | 335 | 235 | 265            |                              |     |
| 47        |           | 470D540     | ○           | 340 | 240 | 270            |                              | 2   |
| 48        |           | 480D540     | ○           | 345 | 245 | 275            |                              |     |
| 49        |           | 490D540     | ○           | 350 | 250 | 280            |                              |     |
| 50        | 40        | 500D540     | ○           | 355 | 255 | 285            | 70 WDXT156012                |     |
| 51        |           | 510D540     | ○           | 360 | 260 | 290            |                              |     |
| 52        |           | 520D540     | ○           | 365 | 265 | 295            |                              |     |
| 53        |           | 530D540     | ○           | 370 | 270 | 300            |                              | 3   |
| 54        |           | 540D540     | ○           | 375 | 275 | 305            |                              |     |
| 55        |           | 550D540     | ○           | 380 | 280 | 310            |                              |     |



◎附件 Spare Parts

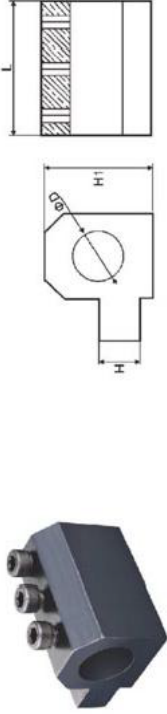
| 平头螺钉<br>Screw | 扳手<br>Wrench | 适用刀杆<br>Applicable Drill |
|---------------|--------------|--------------------------|
| M2.2×7        | T07          | WDX185D525-WDX275D525    |
| M2.5×7        | T08          | WDX230D532-WDX280D532    |
| M3.5×8.5      | T15          | WDX290D532-WDX365D532    |
| M5×11         | T20          | WDX370D532-WDX450D540    |
| M6×15         | T25          | WDX460D540-WDX50D540     |

◎推荐刀片：住友 WDXT

◎●表示库存 ○表示库存预制品

● WDX 刀片记号参见 页

★ U 钻刀座 Boring Block for U Drills



| 型号<br>Model | H  | H1 | L   | D  |
|-------------|----|----|-----|----|
| DK20-16     |    | 37 | 60  | 16 |
| DK20-20     | 20 | 47 | 65  | 20 |
| DK20-25     |    | 47 | 65  | 25 |
| DK20-32     |    | 55 | 65  | 32 |
| DK25-16     |    | 42 | 65  | 16 |
| DK25-25     | 25 | 53 | 70  | 25 |
| DK25-32     |    | 60 | 85  | 32 |
| DK25-40     |    | 65 | 90  | 40 |
| DK32-40     | 32 | 83 | 100 | 40 |
| DK32-50     |    | 83 | 100 | 50 |

刀座可搭配配件示例 Set up example



1. 刀座 + 刀套安装示例 2. 内孔刀安装示例 3. U 钻安装示例 4. 钻夹头安装示例 5. 锥柄钻头安装示例 6. 植柄钻头安装示例

U 钻配套螺纹接口  
Threaded Fittings/Connection

| 型号<br>Specification | U 钻柄径<br>Holder | 钢管外径<br>Air Pipe External diameter<br>(mm) | 螺纹外径<br>Threads External diameter | 螺距<br>Screw pitch<br>(mm) |
|---------------------|-----------------|--------------------------------------------|-----------------------------------|---------------------------|
| PC10-M10*1.5        | C20             | 10                                         | M10                               | 1.5                       |
| PC10-M12*1.75       | C25             | 10                                         | M12                               | 1.75                      |
| PC12-M16*2          | C32             | 12                                         | M16                               | 2                         |
| PC12-M20-2.5        | C40             | 12                                         | M20                               | 2.5                       |



★英制浅孔钻 / 出水钻 / U 钻 (SKD61)

Inch dimension Coolant Thru Indexable Drills (For America Market)

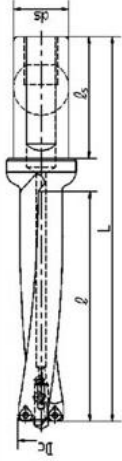


Shank Dia:1.000"to 1.500"  
Drill Dia:1.000"to 3.250"  
Drill Depths:2"to 6"

| D                                            | Shank Size  | Drill Depth 2.00" | Drill Depth 3.00" | Drill Depth 4.00" and Over |
|----------------------------------------------|-------------|-------------------|-------------------|----------------------------|
| Drill Dia.                                   | Part Number | Store             | Part Number       | Flute Len. Store           |
| 1.000-1.125 Drill Diameter-0.315 Insert I.C. |             |                   |                   |                            |
| 1"                                           | 1.000       | 1.00 AC1000-2010  | ○                 | AC1000-4010                |
| 1-1/32                                       | 1.031       | AC1031-2010       | ○                 | AC1031-4010                |
| 1-1/8                                        | 1.125       | AC1125-2010       | ○                 | AC1125-4010                |
| 1.187-1.750 Drill Diameter-0.394 Insert I.C. |             |                   |                   |                            |
| 1-3/16                                       | 1.187       | AC1187-2010       | ○                 | AC1187-4010                |
| 1-1/4                                        | 1.250       | AC1250-2010       | ○                 | AC1250-4010                |
| 1-5/16                                       | 1.312       | AC1312-2012       | ○                 | AC1312-4012                |
| 1-3/8                                        | 1.375       | AC1375-2010       | ○                 | AC1375-4010                |
| 1-7/16                                       | 1.437       | AC1437-2012       | ○                 | AC1437-4012                |
| 1-1/2                                        | 1.500       | AC1500-2012       | ○                 | AC1500-4012                |
| 1-5/8                                        | 1.625       | AC1625-2012       | ○                 | AC1625-4012                |
| 1-11/16                                      | 1.687       | AC1687-2012       | ○                 | AC1687-4012                |
| 1-3/4"                                       | 1.750       | AC1750-2010       | ○                 | AC1750-4010                |
| 1.812-2.125 Drill Diameter-0.472 Insert I.C. |             |                   |                   |                            |
| 1-7/8                                        | 1.875       | AC1875-2012       | ○                 | AC1875-4012                |
| 1-15/16                                      | 1.987       | AC1937-2012       | ○                 | AC1937-4012                |
| 2"                                           | 2.000       | AC2000-2012       | ○                 | AC2000-4012                |
| 2-1/8                                        | 2.125       | AC2125-2015       | ○                 | AC2125-4015                |
| 2.250-2.500 Drill Diameter-0.590 Insert I.C. |             |                   |                   |                            |
| 2-1/4"                                       | 2.250       | AC2250-2015       | ○                 | AC2250-4015                |
| 2-3/8"                                       | 2.375       | AC2375-2015       | ○                 | AC2375-4015                |
| 2-1/2"                                       | 2.500       | AC2500-2015       | ○                 | AC2500-4015                |
| 2.750-3.250 Drill Diameter-0.693 Insert I.C. |             |                   |                   |                            |
| 2-3/4"                                       | 2.750       | AC2750-2015       | ○                 | AC2750-4015                |
| 3"                                           | 3.000       | AC3000-2015       | ○                 | AC3000-4015                |
| 3-1/4"                                       | 3.250       | AC3250-2015       | ○                 | AC3250-4015                |

★ WCMX 带中心钻快速钻 6.5D

WCMX Turbo Drill 6.5D

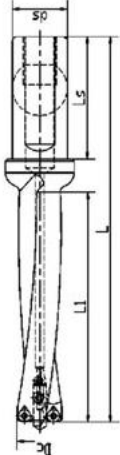


加工公差标准 -0.09~ + 0.1  
Range of machining tolerance: -0.09~ + 0.1  
最大加工深度 6.5×φDc  
Holder diameter 6.5D: φ25.0-40.0mm

| 刃径 φDc | 标径 φDs | 型号 Model                 | L   | ℓ   | 中心钻 Pilot Drill          | 适用刀片 Applicable Insert | 螺钉 Screw | 扳手 Wrench |
|--------|--------|--------------------------|-----|-----|--------------------------|------------------------|----------|-----------|
| 25     |        | YLS-D-6.5D-25-C32-WCMX03 | 249 | 163 | YLD-0630 TIN             | WCMX030204             | M2.5*6   | T8        |
| 26     |        | YLS-D-6.5D-26-C32-WCMX04 | 255 | 169 |                          |                        |          |           |
| 27     |        | YLS-D-6.5D-27-C32-WCMX04 | 262 | 176 |                          |                        |          |           |
| 28     |        | YLS-D-6.5D-28-C32-WCMX04 | 268 | 182 |                          | WCMX040204             | M2.5*6   | T8        |
| 29     |        | YLS-D-6.5D-29-C32-WCMX04 | 275 | 189 | YLD-0630 TIN             |                        |          |           |
| 30     |        | YLS-D-6.5D-30-C32-WCMX04 | 281 | 195 |                          |                        |          |           |
| 31     |        | YLS-D-6.5D-31-C40-WCMX05 | 301 | 202 |                          |                        |          |           |
| 32     |        | YLS-D-6.5D-32-C40-WCMX05 | 307 | 208 |                          |                        |          |           |
| 33     |        | YLS-D-6.5D-33-C40-WCMX05 | 314 | 215 |                          |                        |          |           |
| 34     |        | YLS-D-6.5D-34-C40-WCMX05 | 320 | 221 |                          |                        |          |           |
| 35     |        | YLS-D-6.5D-35-C40-WCMX05 | 327 | 228 |                          | WCMX050308             | M3*7     | T8        |
| 36     |        | YLS-D-6.5D-36-C40-WCMX05 | 333 | 234 |                          |                        |          |           |
| 37     |        | YLS-D-6.5D-37-C40-WCMX05 | 340 | 241 | YLS-D-6.5D-39-C40-WCMX05 |                        |          |           |
| 38     |        | YLS-D-6.5D-38-C40-WCMX05 | 346 | 247 |                          |                        |          |           |
| 39     |        | YLS-D-6.5D-39-C40-WCMX05 | 353 | 254 |                          |                        |          |           |
| 40     |        | YLS-D-6.5D-40-C40-WCMX05 | 359 | 260 |                          |                        |          |           |

★ WCMX 带中心钻快速钻 8D

WCMX Turbo Drill 8D



加工公差标准 -0.09~ + 0.1  
Range of machining tolerance: -0.09~ + 0.1  
最大加工深度 8×φDc  
Holder diameter 8D: φ25.0-40.0mm

| 刃径 φDc | 标径 φDs | 型号 Model               | L   | ℓ   | 中心钻 Pilot Drill        | 适用刀片 Applicable Insert | 螺钉 Screw | 扳手 Wrench |
|--------|--------|------------------------|-----|-----|------------------------|------------------------|----------|-----------|
| 25     |        | YLS-D-8D-25-C32-WCMX03 | 288 | 200 | YLD-0630 TIN           | WCMX030204             | M2.5*6   | T8        |
| 26     |        | YLS-D-8D-26-C32-WCMX04 | 294 | 208 |                        |                        |          |           |
| 27     |        | YLS-D-8D-27-C32-WCMX04 | 302 | 216 |                        |                        |          |           |
| 28     |        | YLS-D-8D-28-C32-WCMX04 | 310 | 224 |                        | WCMX040204             | M2.5*6   | T8        |
| 29     |        | YLS-D-8D-29-C32-WCMX04 | 318 | 232 | YLD-0630 TIN           |                        |          |           |
| 30     |        | YLS-D-8D-30-C32-WCMX04 | 326 | 240 |                        |                        |          |           |
| 31     |        | YLS-D-8D-31-C40-WCMX05 | 347 | 248 |                        |                        |          |           |
| 32     |        | YLS-D-8D-32-C40-WCMX05 | 355 | 256 |                        |                        |          |           |
| 33     |        | YLS-D-8D-33-C40-WCMX05 | 363 | 264 |                        |                        |          |           |
| 34     |        | YLS-D-8D-34-C40-WCMX05 | 371 | 272 |                        |                        |          |           |
| 35     |        | YLS-D-8D-35-C40-WCMX05 | 379 | 280 |                        | WCMX050308             | M3*7     | T8        |
| 36     |        | YLS-D-8D-36-C40-WCMX05 | 387 | 288 |                        |                        |          |           |
| 37     |        | YLS-D-8D-37-C40-WCMX05 | 395 | 296 | YLS-D-8D-39-C40-WCMX05 |                        |          |           |
| 38     |        | YLS-D-8D-38-C40-WCMX05 | 403 | 304 |                        |                        |          |           |
| 39     |        | YLS-D-8D-39-C40-WCMX05 | 411 | 312 |                        |                        |          |           |
| 40     |        | YLS-D-8D-40-C40-WCMX05 | 419 | 320 |                        |                        |          |           |