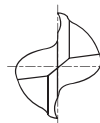


## HSSCo8 & HSS, 2 FLUTE LONG LENGTH

► Longer flute length than E2030 type and allows deeper cutting.



P.1281, 1287, 1291

Unit : Inch

| EDP No.         |          | Mill Diameter | Shank Diameter | Length of Cut | Overall Length |
|-----------------|----------|---------------|----------------|---------------|----------------|
| 8% COBALT (M42) | HSS (M2) |               |                |               |                |
| 02297           | 02047    | 1/4           | 3/8            | 1-1/4         | 3-1/8          |
| 02301           | 02051    | 5/16          | 3/8            | 1-3/8         | 3-1/8          |
| 02305           | 02055    | 3/8           | 3/8            | 1-1/2         | 3-1/4          |
| 02321           | 02071    | 1/2           | 1/2            | 2             | 4              |
| 02337           | 02087    | 5/8           | 5/8            | 2             | 4-1/8          |
| 02359           | 02109    | 3/4           | 3/4            | 2-1/4         | 4-1/2          |
| 02394           | 02144    | 7/8           | 7/8            | 2-1/2         | 4-3/4          |
| 02426           | 02176    | 1             | 1              | 3             | 5-1/2          |
| 02435           | 02185    | 1-1/8         | 1              | 3             | 5-1/2          |
| 02443           | 02193    | 1-1/4         | 1              | 3             | 5-1/2          |
| 02445           | 02195    | 1-1/4         | 1-1/4          | 3             | 5-1/2          |
| 02461           | 02211    | 1-1/2         | 1-1/4          | 3             | 5-1/2          |
| 02469           | 02219    | 1-3/4         | 1-1/4          | 3             | 5-1/2          |
| 02477           | 02227    | 2             | 1-1/4          | 3             | 5-1/2          |
| * 02482         | * 02232  | 2             | 2              | 3             | 6-3/4          |

■ The TiN coated, TiCN coated or TiAlN coated is available on your request.

\* Combination Shank

■ Coating Codes for Cobalt

Uncoated EDP NO. + CN(TiN), CC(TiCN), CF(TiAlN F), CE(TiAlN E), CH(Hardslick)

■ Coating Codes for HSS

Uncoated EDP NO. + HN(TiN), HC(TiCN), HF(TiAlN F), HE(TiAlN E), HH(Hardslick)

► Coated Price Shown in Price List. Call for Availability.

| Mill Dia.<br>Tolerance (inch) |             |
|-------------------------------|-------------|
| 0~+.0010                      | ** 0~+.0015 |

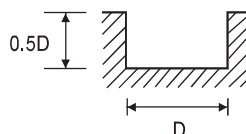
\*\* The shank of end mills is the same diameter as the cutting portion.

© : Excellent ○ : Good

| P             |              |                    |                 |          | H                    | M                | K         | N      |          |          |         |      | S        |                        |
|---------------|--------------|--------------------|-----------------|----------|----------------------|------------------|-----------|--------|----------|----------|---------|------|----------|------------------------|
| Carbon Steels | Alloy Steels | Prehardened Steels | Hardened Steels |          | High Hardened Steels | Stainless Steels | Cast Iron | Copper | Graphite | Aluminum | Acrylic | CFRP | Titanium | High Temperature Alloy |
| ~HRc20        | HRc20~30     | HRc30~40           | HRc40~45        | HRc45~55 | HRc55~70             |                  |           |        |          |          |         |      |          |                        |
| ◎             | ◎            | ○                  |                 |          |                      |                  |           | ○      |          | ○        |         |      |          |                        |

**HSSCo8 & HSS, 2 FLUTE FINISH - SLOTTING**

| MATERIAL | P                                            |      |                                              |      |                                              |      |                                              |      | N                           |      |
|----------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|-----------------------------|------|
|          | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | ALUMINUM<br>ALUMINUM ALLOYS |      |
| HARDNESS |                                              |      | ~HRC20                                       |      | HRC20~HRC30                                  |      | HRC30~HRC40                                  |      |                             |      |
| STRENGTH | ~ 500N/mm <sup>2</sup>                       |      | 500~800N/mm <sup>2</sup>                     |      | 800~1000N/mm <sup>2</sup>                    |      | 1000~1300N/mm <sup>2</sup>                   |      |                             |      |
| DIAMETER | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                         | FEED |
| 1/8      | 3500                                         | 2.2  | 3200                                         | 1.8  | 2500                                         | 1.6  | 1600                                         | 0.8  | 11000                       | 9.8  |
| 1/4      | 1800                                         | 3.5  | 1600                                         | 3.1  | 1200                                         | 2.4  | 800                                          | 1.6  | 5600                        | 12.2 |
| 3/8      | 1100                                         | 4.0  | 900                                          | 3.5  | 800                                          | 3.1  | 450                                          | 1.8  | 3100                        | 15.8 |
| 1/2      | 900                                          | 4.3  | 800                                          | 4.0  | 630                                          | 3.1  | 400                                          | 2.0  | 2500                        | 15.0 |
| 5/8      | 700                                          | 4.3  | 560                                          | 3.5  | 450                                          | 2.8  | 280                                          | 1.8  | 2000                        | 13.8 |
| 3/4      | 630                                          | 4.0  | 500                                          | 3.5  | 400                                          | 2.8  | 250                                          | 1.8  | 1800                        | 13.8 |
| 7/8      | 500                                          | 4.0  | 450                                          | 3.5  | 350                                          | 2.8  | 220                                          | 1.8  | 1400                        | 11.8 |
| 1        | 450                                          | 3.5  | 400                                          | 3.1  | 310                                          | 2.4  | 180                                          | 1.4  | 1200                        | 11.0 |
| 1-1/8    | 400                                          | 3.1  | 350                                          | 2.8  | 280                                          | 2.2  | 160                                          | 1.2  | 1100                        | 10.5 |
| 1-3/8    | 310                                          | 2.4  | 250                                          | 2.0  | 200                                          | 1.6  | 120                                          | 1.0  | 900                         | 8.7  |
| 1-1/2    | 310                                          | 2.4  | 250                                          | 2.0  | 200                                          | 1.6  | 120                                          | 1.0  | 900                         | 8.7  |
| 1-3/4    | 280                                          | 2.4  | 220                                          | 2.0  | 180                                          | 1.6  | 110                                          | 1.0  | 800                         | 7.8  |
| 2        | 250                                          | 2.0  | 190                                          | 1.8  | 110                                          | 1.0  | 80                                           | 0.8  | 630                         | 6.3  |

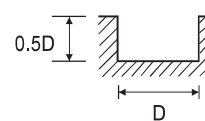
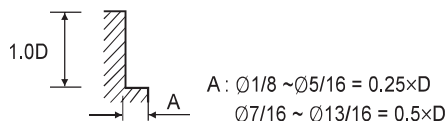


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.  
FEED = inch/min.

**HSS, 2 FLUTE, 42° HELIX FINISH for ALUMINUM**

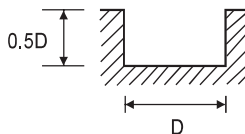
| MATERIAL | K                                               |      | N                             |      |
|----------|-------------------------------------------------|------|-------------------------------|------|
|          | NON-ALLOYED STEELS<br>ALLOY STEELS<br>CAST IRON |      | ALUMINUM<br>NONFERROUS METALS |      |
| DIAMETER | RPM                                             | FEED | RPM                           | FEED |
| 1/8      | 8000                                            | 29.0 | 8000                          | 22.5 |
| 3/16     | 7400                                            | 32.5 | 7400                          | 25.0 |
| 1/4      | 6800                                            | 37.0 | 6800                          | 28.5 |
| 5/16     | 5200                                            | 55.0 | 5200                          | 43.5 |
| 7/16     | 5000                                            | 47.0 | 5000                          | 47.0 |
| 1/2      | 4500                                            | 61.0 | 4500                          | 47.0 |
| 9/16     | 3500                                            | 63.0 | 3500                          | 49.0 |
| 5/8      | 3500                                            | 63.0 | 3500                          | 49.0 |
| 3/4      | 2300                                            | 67.0 | 2300                          | 51.0 |
| 13/16    | 2000                                            | 67.0 | 2000                          | 51.0 |



RPM = rev./min.  
FEED = inch/min.

## HSSCo8 & HSS, 2 FLUTE FINISH TiN-COATED - SLOTTING

| MATERIAL | P                                            |      |                                              |      |                                              |      |                                              |      | N                           |      |
|----------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|-----------------------------|------|
|          | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | ALUMINUM<br>ALUMINUM ALLOYS |      |
| HARDNESS |                                              |      | ~HRc20                                       |      | HRc20~HRc30                                  |      | HRc30~HRc40                                  |      |                             |      |
| STRENGTH | ~ 500N/mm <sup>2</sup>                       |      | 500~800N/mm <sup>2</sup>                     |      | 800~1000N/mm <sup>2</sup>                    |      | 1000~1300N/mm <sup>2</sup>                   |      |                             |      |
| DIAMETER | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                         | FEED |
| 1/8      | 4200                                         | 2.6  | 3840                                         | 2.2  | 3000                                         | 1.9  | 1920                                         | 1.0  | 13200                       | 11.8 |
| 1/4      | 2160                                         | 4.2  | 1920                                         | 3.7  | 1440                                         | 2.9  | 960                                          | 1.9  | 6720                        | 14.6 |
| 3/8      | 1320                                         | 4.8  | 1080                                         | 4.2  | 960                                          | 3.7  | 540                                          | 2.2  | 3720                        | 19.0 |
| 1/2      | 1090                                         | 5.2  | 960                                          | 4.8  | 756                                          | 3.7  | 480                                          | 2.4  | 3000                        | 18.0 |
| 5/8      | 840                                          | 5.2  | 672                                          | 4.2  | 540                                          | 3.7  | 336                                          | 2.2  | 2400                        | 16.6 |
| 3/4      | 756                                          | 4.8  | 600                                          | 4.2  | 480                                          | 3.4  | 300                                          | 2.2  | 2160                        | 16.6 |
| 7/8      | 600                                          | 4.8  | 540                                          | 4.2  | 420                                          | 3.4  | 264                                          | 2.2  | 1680                        | 14.2 |
| 1        | 540                                          | 4.2  | 480                                          | 3.7  | 372                                          | 2.9  | 260                                          | 2.2  | 1440                        | 13.2 |
| 1-1/8    | 480                                          | 3.7  | 420                                          | 3.4  | 336                                          | 2.6  | 432                                          | 1.7  | 1320                        | 12.6 |
| 1-3/8    | 372                                          | 2.9  | 300                                          | 2.4  | 240                                          | 1.9  | 144                                          | 1.2  | 1080                        | 10.4 |
| 1-1/2    | 372                                          | 2.9  | 300                                          | 2.4  | 240                                          | 1.9  | 144                                          | 1.2  | 1080                        | 10.4 |
| 1-3/4    | 336                                          | 2.9  | 264                                          | 2.4  | 216                                          | 1.9  | 132                                          | 1.2  | 960                         | 9.5  |
| 2        | 300                                          | 2.4  | 228                                          | 2.2  | 132                                          | 1.2  | 96                                           | 1.0  | 756                         | 7.6  |

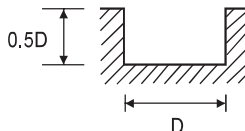


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.  
FEED = inch/min.

## HSSCo8 & HSS, 3 FLUTE FINISH TiN-COATED - SLOTTING

| MATERIAL | P                                            |      |                                              |      |                                              |      |                                              |      | N                           |      |
|----------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|-----------------------------|------|
|          | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | ALUMINUM<br>ALUMINUM ALLOYS |      |
| HARDNESS |                                              |      | ~HRc20                                       |      | HRc20~HRc30                                  |      | HRc30~HRc40                                  |      |                             |      |
| STRENGTH | ~ 500N/mm <sup>2</sup>                       |      | 500~800N/mm <sup>2</sup>                     |      | 800~1000N/mm <sup>2</sup>                    |      | 1000~1300N/mm <sup>2</sup>                   |      |                             |      |
| DIAMETER | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                         | FEED |
| 3/32     | 6720                                         | 2.8  | 5400                                         | 2.2  | 4800                                         | 2.2  | 2640                                         | 1.0  | 14400                       | 11.3 |
| 1/5      | 4200                                         | 3.7  | 3840                                         | 3.1  | 3000                                         | 2.9  | 1920                                         | 1.4  | 13200                       | 18.0 |
| 1/4      | 2160                                         | 6.4  | 1920                                         | 5.6  | 1440                                         | 4.2  | 960                                          | 2.9  | 6720                        | 21.7 |
| 3/8      | 1320                                         | 7.2  | 1080                                         | 6.4  | 960                                          | 5.6  | 540                                          | 3.1  | 3720                        | 28.3 |
| 1/2      | 1080                                         | 7.8  | 960                                          | 7.2  | 756                                          | 5.6  | 480                                          | 3.6  | 3000                        | 26.9 |
| 5/8      | 840                                          | 7.8  | 672                                          | 6.4  | 540                                          | 4.9  | 336                                          | 3.1  | 2400                        | 25.1 |
| 11/16    | 756                                          | 7.2  | 600                                          | 6.4  | 480                                          | 4.9  | 300                                          | 3.1  | 2160                        | 25.1 |
| 7/8      | 600                                          | 7.2  | 540                                          | 6.4  | 420                                          | 4.9  | 264                                          | 3.1  | 1680                        | 21.2 |
| 1        | 540                                          | 6.4  | 480                                          | 5.6  | 372                                          | 4.2  | 216                                          | 2.4  | 1440                        | 19.8 |
| 1-1/8    | 430                                          | 5.6  | 420                                          | 4.9  | 336                                          | 3.7  | 192                                          | 2.2  | 1320                        | 19.0 |
| 1-3/16   | 420                                          | 4.9  | 372                                          | 4.2  | 300                                          | 3.6  | 192                                          | 2.2  | 1320                        | 19.0 |

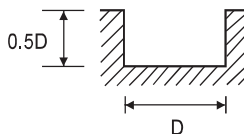


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.  
FEED = inch/min.

**HSSCo8 & HSS, 2 FLUTE FINISH TiCN-COATED - SLOTTING**

| MATERIAL | P                                            |      |                                              |      |                                              |      |                                              |      | N                           |      |
|----------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|-----------------------------|------|
|          | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | ALUMINUM<br>ALUMINUM ALLOYS |      |
| HARDNESS |                                              |      | ~HRc20                                       |      | HRc20~HRc30                                  |      | HRc30~HRc40                                  |      |                             |      |
| STRENGTH | ~ 500N/mm <sup>2</sup>                       |      | 500~800N/mm <sup>2</sup>                     |      | 800~1000N/mm <sup>2</sup>                    |      | 1000~1300N/mm <sup>2</sup>                   |      |                             |      |
| DIAMETER | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                         | FEED |
| 1/8      | 4550                                         | 2.9  | 3840                                         | 2.3  | 3250                                         | 2.1  | 2048                                         | 1.0  | 14300                       | 12.7 |
| 1/4      | 2340                                         | 4.6  | 2080                                         | 4.0  | 1560                                         | 3.1  | 1040                                         | 3.2  | 7280                        | 15.9 |
| 3/8      | 1430                                         | 5.2  | 1170                                         | 4.6  | 1040                                         | 4.0  | 585                                          | 3.2  | 4030                        | 20.5 |
| 1/2      | 1170                                         | 5.6  | 1040                                         | 5.2  | 819                                          | 4.0  | 520                                          | 2.8  | 3250                        | 19.5 |
| 5/8      | 910                                          | 5.6  | 728                                          | 4.6  | 585                                          | 3.6  | 364                                          | 2.3  | 2600                        | 17.9 |
| 3/4      | 819                                          | 5.2  | 650                                          | 4.6  | 520                                          | 3.6  | 325                                          | 2.3  | 2340                        | 17.9 |
| 7/8      | 650                                          | 5.2  | 585                                          | 4.6  | 455                                          | 3.6  | 286                                          | 2.3  | 1820                        | 15.3 |
| 1        | 585                                          | 4.6  | 520                                          | 4.0  | 403                                          | 3.1  | 234                                          | 1.8  | 1560                        | 14.3 |
| 1-1/8    | 520                                          | 4.0  | 455                                          | 3.6  | 364                                          | 2.9  | 208                                          | 1.6  | 1430                        | 13.7 |
| 1-3/8    | 403                                          | 3.1  | 325                                          | 2.6  | 260                                          | 2.1  | 156                                          | 1.3  | 1170                        | 11.3 |
| 1-1/2    | 403                                          | 3.1  | 325                                          | 2.6  | 260                                          | 2.1  | 156                                          | 1.3  | 1170                        | 11.3 |
| 1-3/4    | 364                                          | 3.1  | 286                                          | 2.6  | 234                                          | 2.1  | 143                                          | 1.3  | 1040                        | 10.3 |
| 2        | 325                                          | 2.6  | 228                                          | 2.3  | 143                                          | 1.3  | 104                                          | 1.0  | 819                         | 8.2  |

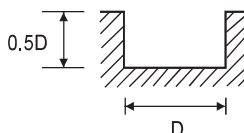


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.  
FEED = inch/min.

**HSSCo8, 3 FLUTE FINISH TiCN-COATED - SLOTTING**

| MATERIAL | P                                            |      |                                              |      |                                              |      |                                              |      | N                           |      |
|----------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|------|-----------------------------|------|
|          | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | CARBON STEELS<br>ALLOY STEELS<br>TOOL STEELS |      | ALUMINUM<br>ALUMINUM ALLOYS |      |
| HARDNESS |                                              |      | ~HRc20                                       |      | HRc20~HRc30                                  |      | HRc30~HRc40                                  |      |                             |      |
| STRENGTH | ~ 500N/mm <sup>2</sup>                       |      | 500~800N/mm <sup>2</sup>                     |      | 800~1000N/mm <sup>2</sup>                    |      | 1000~1300N/mm <sup>2</sup>                   |      |                             |      |
| DIAMETER | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                                          | FEED | RPM                         | FEED |
| 3/32     | 7280                                         | 3.1  | 5850                                         | 2.3  | 5200                                         | 2.3  | 2860                                         | 1.0  | 15600                       | 12.2 |
| 1/8      | 4550                                         | 4.0  | 2340                                         | 3.4  | 3250                                         | 3.1  | 2080                                         | 1.6  | 14300                       | 19.5 |
| 1/4      | 2340                                         | 6.9  | 2080                                         | 6.1  | 1560                                         | 4.6  | 1040                                         | 3.1  | 7280                        | 23.5 |
| 3/8      | 1430                                         | 7.8  | 1170                                         | 6.9  | 1040                                         | 6.1  | 585                                          | 3.4  | 4030                        | 30.7 |
| 1/2      | 1170                                         | 8.5  | 1040                                         | 7.8  | 819                                          | 6.1  | 520                                          | 3.8  | 3250                        | 29.1 |
| 9/16     | 1040                                         | 8.5  | 910                                          | 6.9  | 728                                          | 6.1  | 455                                          | 3.8  | 2860                        | 27.2 |
| 5/8      | 910                                          | 8.5  | 728                                          | 6.9  | 585                                          | 5.3  | 364                                          | 3.4  | 2600                        | 27.2 |
| 7/8      | 650                                          | 7.8  | 585                                          | 6.9  | 455                                          | 5.3  | 286                                          | 3.4  | 1820                        | 23.0 |
| 1        | 585                                          | 6.9  | 520                                          | 6.1  | 403                                          | 4.6  | 234                                          | 2.6  | 1560                        | 21.5 |
| 1-1/8    | 520                                          | 6.9  | 455                                          | 5.3  | 364                                          | 4.3  | 208                                          | 2.3  | 1430                        | 20.5 |



※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.  
FEED = inch/min.