



**Precision Solid Carbide
High Performance Drills**



High Performance Drills for Highest Production Demands

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Explanation of Pictograms

Number of Flutes



2 Flutes

Cutting Length



3 x Diameter



5 x Diameter



7 x Diameter



8 x Diameter



12 x Diameter



15 x Diameter



20 x Diameter



25 x Diameter



30 x Diameter



40 x Diameter

Shank



Cylindrical Shank acc. DIN



Clamping Fixture Weldon



Clamping Fixture Whistle Notch



Cylindrical Shank



Shank HA with IC



Shank HB with IC



Shank HE with IC



Shrink Fit

Helix Angle



30° Right Hand Helix



15° Right Hand Helix



0° Helix

Point Angle



130°



135°



137°



140°

Application



Web Thinning



Coolant



Mist Coolant External



Flood Coolant



No Coolant



High Performance Cutting



Hybrid Surface Finishing

Coatings































TiAlN Based Coating, 1.5 um thickness, Blue/Black Color



TiAlN Based Coating, 4 um thickness, Blue/Black Color



TiAlN Based Coating, 4 um thickness, Blue-Color

| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Drill Description | Twist Drill | | | | HAM Superdrill | | | | | | HAM Nirodrill | | | |
| DIN | 338 | 338 | HAM | HAM | 6537 K | 6537 K | 6537 | 6537 | HAM | HAM | HAM | HAM | 6537 | HAM |
| Drill Length | | | — | — | 3 x D | 3 x D | 5 x D | 5 x D | 8 x D | 12 x D | 3 x D | 3 x D | 5 x D | 8 x D |
| Part Number | 30-1120 | 30-1121 | 30-1160 | 30-1301 | 30-1621 | 30-1741 | 30-1701 | 30-1781 | 30-1821 | 30-1861 | 30-1891 | 30-1881 | 30-1901 | 30-1941 |
| HAM Type | 310 | 310 | 313 | — | 280 | 285 | 283 | 286 | 292 | 293 | — | — | 270 | 271 |
| Page Number | 8 | 8 | 10 | 11 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 30 | 32 | 34 |
| Material | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide |
| Flutes | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Coating | TA | TA | — | TA | TA-C | TA-C | TA-C | TA-C | TA-C | TA-C | TA-CN | TA-CN | TA-CN | TA-CN |
| Ø in mm | 1.0 - 16.0 | 1.0 - 16.0 | 0.5 - 3.0 | 0.1 - 3.0 | 2.8 - 20.0 | 3.0 - 22.0 | 3.0 - 16.0 | 3.0 - 20.0 | 3.0 - 20.0 | 3.0 - 12.0 | 2.8 - 16.0 | 2.8 - 16.0 | 3.0 - 16.0 | 3.0 - 16.0 |
| Ø in inch | .04 - .63 | .04 - .63 | .02 - .12 | .004 - .12 | .11 - .79 | .11 - .87 | .11 - .63 | .11 - .79 | .11 - .79 | .11 - .47 | .11 - .63 | .11 - .63 | .11 - .63 | .11 - .63 |
| Internal Coolant | No | No | No | No | No | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Direction of Cut | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right |
| Flute Style | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral |
| Point Angle |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Material Group | | | | | | | | | | | | | | |
| Aluminum | ○ | ○ | ● | | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| Aluminum > 9% Si | ○ | ○ | ● | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Steel < 23 HRC | ○ | ● | ○ | ● | ● | ● | ● | ● | ● | ● | | | | |
| Steel < 38 HRC | ○ | ● | ○ | ● | ● | ● | ● | ● | ● | ● | | | | |
| Steel < 48 HRC | ○ | ○ | | ● | ● | ● | ● | ● | ● | ● | | | | |
| Steel < 55 HRC | | | | ○ | ● | ● | ● | ● | ● | ● | | | | |
| Steel < 60 HRC | | | | | | | | | | | | | | |
| Steel < 66 HRC | | | | | | | | | | | | | | |
| SST < 23 HRC | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| SST > 23 HRC | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| SST > 40 HRC | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| Cast Iron | ○ | ● | ○ | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ○ |
| Nodular, Ductile Iron | ○ | ● | | ○ | ● | ● | ● | ● | ● | ● | | | | |
| Iconel Super Alloys | | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Titanium | | | ○ | ● | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| Copper, Non-Ferrous | ● | ○ | ● | | | | | | | | ● | ● | ● | ● |
| Graphite, Composites | | | ○ | | | | | | | | ○ | ○ | ○ | ○ |

● very suitable ○ limited suitable

| HAM Multidrill | | | | HAM Deep Hole Drills | | | | | | |
|----------------|------------|------------|------------|----------------------|-----------|-----------|-----------|-----------|------------|------------|
| HAM | HAM | HAM | HAM | HAM | HAM | HAM | HAM | HAM | HAM | HAM |
| 3 x D | 5 x D | 7 x D | 12 x D | 5 x D | 8 x D | 12 x D | 15 x D | 20 x D | 15 x D | 20 x D |
| 30-1961 | 30-2001 | 30-2041 | 30-2081 | 30-2181 | 30-2221 | 30-2261 | 30-2301 | 30-2341 | 30-2381 | 30-2421 |
| 297 | 298 | 299 | 294 | — | — | — | — | — | — | — |
| 38 | 39 | 40 | 41 | 44 | 45 | 46 | 47 | 48 | 50 | 52 |
| Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| TA | TA | TA | TA | TA | TA | TA | TA | TA-C | TA-C | TA-C |
| 4.0 - 20.0 | 6.8 - 20.0 | 4.0 - 20.0 | 4.0 - 16.0 | 1.0 - 3.0 | 1.0 - 3.0 | 1.0 - 3.0 | 1.0 - 3.0 | 1.0 - 3.0 | 3.0 - 14.0 | 3.0 - 14.0 |
| .16 - .79 | .27 - .79 | .16 - .79 | .16 - .63 | .04 - .12 | .04 - .12 | .04 - .12 | .04 - .12 | .04 - .12 | .12 - .55 | .12 - .55 |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Right | Right | Right | Right | Right | Right | Right | Right | Right | Right | Right |
| Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral |
| | | | | | | | | | | |
| | | | | | | | | | | |
| ● | ● | ● | ● | | | | | | | |
| ● | ● | ● | ● | | | | | | | |
| | | | | ● | ● | ● | ● | ● | ● | ● |
| | | | | ● | ● | ● | ● | ● | ● | ● |
| | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | ● | ● | ● | ● | ● | ● | ● |
| | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ○ | ○ | ○ | ○ | ● | ● | ● | ● | ● | ● | ● |
| | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ● | ● | ● | ● | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

● very suitable ○ limited suitable

| | | | | | | | | |
|-----------------------|-----------------------------|------------|-----------|------------|------------|------------|------------|-----------|
| | | | | | | | | |
| Drill Description | HAM Deep Hole Drills | | | | | | | |
| DIN | HAM | HAM | HAM | HAM | HAM | HAM | HAM | HAM |
| Drill Length | 25 x D | 30 x D | 40 x D | 15 x D | 20 x D | 25 x D | 30 x D | 40 x D |
| Part Number | 30-2461 | 30-2501 | 30-2541 | 30-2580 | 30-2620 | 30-2660 | 30-2700 | 30-2740 |
| HAM Type | — | — | — | — | — | — | — | — |
| Page Number | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 |
| Material | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide | Carbide |
| Flutes | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Coating | TA-C | TA-C | TA-C | — | — | — | — | — |
| Ø in mm | 3.0 - 12.0 | 3.0 - 12.0 | 3.0 - 9.2 | 2.0 - 14.0 | 2.0 - 14.0 | 2.0 - 13.5 | 2.0 - 12.0 | 2.0 - 8.8 |
| Ø in inch | .12 - .47 | .12 - .47 | .12 - .36 | .08 - .55 | .08 - .55 | .08 - .53 | .08 - .47 | .08 - .35 |
| Internal Coolant | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Direction of Cut | Right | Right | Right | Right | Right | Right | Right | Right |
| Flute Style | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral | Spiral |
| Point Angle | | | | | | | | |
| | | | | | | | | |
| Material Group | | | | | | | | |
| Aluminum | | | | ● | ● | ● | ● | ● |
| Aluminum > 9% Si | | | | ● | ● | ● | ● | ● |
| Steel < 23 HRC | ● | ● | ● | | | | | |
| Steel < 38 HRC | ● | ● | ● | | | | | |
| Steel < 48 HRC | ○ | ○ | ○ | | | | | |
| Steel < 55 HRC | | | | | | | | |
| Steel < 60 HRC | | | | | | | | |
| Steel < 66 HRC | | | | | | | | |
| SST < 23 HRC | ● | ● | ● | | | | | |
| SST > 23 HRC | ○ | ○ | ○ | | | | | |
| SST > 40 HRC | ○ | ○ | ○ | | | | | |
| Cast Iron | ● | ● | ● | | | | | |
| Nodular, Ductile Iron | ● | ● | ● | | | | | |
| Inconel Super Alloys | ○ | ○ | ○ | | | | | |
| Titanium | ○ | ○ | ○ | | | | | |
| Copper, Non-Ferrous | | | | ● | ● | ● | ● | ● |
| Graphite, Composites | | | | | | | | |
| UNI | | | | | | | | |

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Spiral Drills

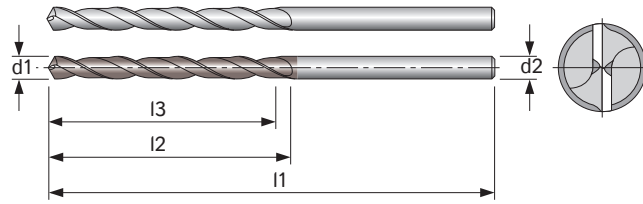
HAM 30 - 1120/1121

Solid Carbide Spiral Drill

Jobbers Drill

Z 2  DIN 338
 Typ N  HA
 TA

- Engineering data**
- 4-facet ground
 - web thinning DIN 1412 form A
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1120 | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | | | ● | | ○ | ● | ○ | ○ |
| 30-1121 | ○ | ○ | ● | ● | ○ | | | | ○ | ○ | ● | ● | | | ○ | | ○ | ● | ○ | ○ |

● very suitable ○ suitable

| 30-1120 30-1121 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1120 30-1121 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 1.00 | | 0.0394 | 0.41 | 0.47 | 1.34 | 10.50 | 12.00 | 34.00 | 1.00 | 4.00 | | 0.1575 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 4.00 |
| 1.10 | | 0.0433 | 0.49 | 0.55 | 1.42 | 12.50 | 14.00 | 36.00 | 1.10 | 4.03 | #21 | 0.1590 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 4.03 |
| 1.20 | | 0.0472 | 0.55 | 0.63 | 1.50 | 14.00 | 16.00 | 38.00 | 1.20 | 4.10 | | 0.1614 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 4.10 |
| 1.30 | | 0.0512 | 0.55 | 0.63 | 1.50 | 14.00 | 16.00 | 38.00 | 1.30 | 4.20 | | 0.1654 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 4.20 |
| 1.40 | | 0.0551 | 0.63 | 0.71 | 1.57 | 16.00 | 18.00 | 40.00 | 1.40 | 4.25 | | 0.1673 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 4.25 |
| 1.50 | | 0.0591 | 0.63 | 0.71 | 1.57 | 16.00 | 18.00 | 40.00 | 1.50 | 4.30 | 11/64 | 0.1693 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.30 |
| 1.60 | | 0.0630 | 0.69 | 0.79 | 1.69 | 17.50 | 20.00 | 43.00 | 1.60 | 4.37 | | 0.1718 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.37 |
| 1.70 | | 0.0669 | 0.69 | 0.79 | 1.69 | 17.50 | 20.00 | 43.00 | 1.70 | 4.40 | | 0.1732 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.40 |
| 1.80 | | 0.0709 | 0.77 | 0.87 | 1.81 | 19.50 | 22.00 | 46.00 | 1.80 | 4.50 | | 0.1772 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.50 |
| 1.90 | | 0.0748 | 0.77 | 0.87 | 1.81 | 19.50 | 22.00 | 46.00 | 1.90 | 4.60 | | 0.1811 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.60 |
| 1.98 | 5/64 | 0.0781 | 0.83 | 0.94 | 1.93 | 21.00 | 24.00 | 49.00 | 1.98 | 4.70 | 3/16 | 0.1850 | 1.61 | 1.85 | 3.15 | 41.00 | 47.00 | 80.00 | 4.70 |
| 2.00 | | 0.0787 | 0.83 | 0.94 | 1.93 | 21.00 | 24.00 | 49.00 | 2.00 | 4.76 | | 0.1875 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 4.76 |
| 2.08 | | 0.0820 | 0.83 | 0.94 | 1.93 | 21.00 | 24.00 | 49.00 | 2.08 | 4.80 | | 0.1890 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 4.80 |
| 2.10 | | 0.0827 | 0.83 | 0.94 | 1.93 | 21.00 | 24.00 | 49.00 | 2.10 | 4.90 | | 0.1929 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 4.90 |
| 2.20 | | 0.0866 | 0.94 | 1.06 | 2.09 | 24.00 | 27.00 | 53.00 | 2.20 | 5.00 | | 0.1969 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 5.00 |
| 2.25 | | 0.0885 | 0.94 | 1.06 | 2.09 | 24.00 | 27.00 | 53.00 | 2.25 | 5.10 | 13/64 | 0.2008 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 5.10 |
| 2.30 | | 0.0906 | 0.94 | 1.06 | 2.09 | 24.00 | 27.00 | 53.00 | 2.30 | 5.16 | | 0.2031 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 5.16 |
| 2.35 | | 0.0925 | 0.94 | 1.06 | 2.09 | 24.00 | 27.00 | 53.00 | 2.35 | 5.20 | | 0.2047 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 5.20 |
| 2.40 | | 0.0945 | 1.02 | 1.18 | 2.24 | 26.00 | 30.00 | 57.00 | 2.40 | 5.30 | | 0.2087 | 1.77 | 2.05 | 3.39 | 45.00 | 52.00 | 86.00 | 5.30 |
| 2.50 | | 0.0984 | 1.02 | 1.18 | 2.24 | 26.00 | 30.00 | 57.00 | 2.50 | 5.40 | | 0.2126 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.40 |
| 2.60 | | 0.1024 | 1.02 | 1.18 | 2.24 | 26.00 | 30.00 | 57.00 | 2.60 | 5.50 | 7/32 | 0.2165 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.50 |
| 2.70 | | 0.1063 | 1.14 | 1.30 | 2.40 | 29.00 | 33.00 | 61.00 | 2.70 | 5.55 | | 0.2187 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.55 |
| 2.78 | 7/64 | 0.1095 | 1.14 | 1.30 | 2.40 | 29.00 | 33.00 | 61.00 | 2.78 | 5.60 | | 0.2205 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.60 |
| 2.80 | | 0.1102 | 1.14 | 1.30 | 2.40 | 29.00 | 33.00 | 61.00 | 2.80 | 5.70 | | 0.2244 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.70 |
| 2.90 | | 0.1142 | 1.14 | 1.30 | 2.40 | 29.00 | 33.00 | 61.00 | 2.90 | 5.80 | | 0.2283 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.80 |
| 3.00 | | 0.1181 | 1.14 | 1.30 | 2.40 | 29.00 | 33.00 | 61.00 | 3.00 | 5.90 | 15/64 | 0.2323 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.90 |
| 3.10 | | 0.1220 | 1.26 | 1.42 | 2.56 | 32.00 | 36.00 | 65.00 | 3.10 | 5.95 | | 0.2343 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 5.95 |
| 3.17 | 1/8 | 0.1250 | 1.26 | 1.42 | 2.56 | 32.00 | 36.00 | 65.00 | 3.17 | 6.00 | | 0.2362 | 1.93 | 2.24 | 3.66 | 49.00 | 57.00 | 93.00 | 6.00 |
| 3.20 | | 0.1260 | 1.26 | 1.42 | 2.56 | 32.00 | 36.00 | 65.00 | 3.20 | 6.10 | | 0.2402 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.10 |
| 3.25 | | 0.1279 | 1.26 | 1.42 | 2.56 | 32.00 | 36.00 | 65.00 | 3.25 | 6.20 | | 0.2441 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.20 |
| 3.30 | | 0.1299 | 1.26 | 1.42 | 2.56 | 32.00 | 36.00 | 65.00 | 3.30 | 6.30 | 1/4 | 0.2480 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.30 |
| 3.40 | | 0.1339 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.40 | 6.35 | | 0.2500 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.35 |
| 3.50 | | 0.1378 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.50 | 6.40 | | 0.2520 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.40 |
| 3.57 | 9/64 | 0.1406 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.57 | 6.50 | F | 0.2559 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.50 |
| 3.60 | | 0.1417 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.60 | 6.53 | | 0.2570 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.53 |
| 3.70 | | 0.1457 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.70 | 6.60 | | 0.2598 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.60 |
| 3.75 | | 0.1476 | 1.34 | 1.54 | 2.76 | 34.00 | 39.00 | 70.00 | 3.75 | 6.70 | 17/64 | 0.2638 | 2.17 | 2.48 | 3.98 | 55.00 | 63.00 | 101.00 | 6.70 |
| 3.80 | | 0.1496 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 3.80 | 6.75 | | 0.2656 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 6.75 |
| 3.90 | | 0.1535 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 3.90 | 6.80 | | 0.2677 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 6.80 |
| 3.97 | 5/32 | 0.1562 | 1.46 | 1.69 | 2.95 | 37.00 | 43.00 | 75.00 | 3.97 | 6.90 | | 0.2717 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 6.90 |

For cutting data, see page 72.

Ordering example: 30-1120-0470

| 30-1120 30-1121 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1120 30-1120 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|---------------------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 7.00 | | 0.2756 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.00 | 9.50 | | 0.3740 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.50 |
| 7.10 | | 0.2795 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.10 | 9.52 | 3/8 | 0.3750 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.52 |
| 7.14 | 9/32 | 0.2812 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.14 | 9.60 | | 0.3779 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.60 |
| 7.20 | | 0.2835 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.20 | 9.92 | 25/64 | 0.3906 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.92 |
| 7.30 | | 0.2874 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.30 | 10.00 | | 0.3937 | 2.91 | 3.43 | 5.24 | 74.00 | 87.00 | 133.00 | 10.00 |
| 7.40 | | 0.2913 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.40 | 10.32 | 13/32 | 0.4062 | 2.91 | 3.43 | 5.24 | 74.00 | 87.00 | 133.00 | 10.32 |
| 7.50 | | 0.2953 | 2.36 | 2.72 | 4.29 | 60.00 | 69.00 | 109.00 | 7.50 | 10.50 | | 0.4134 | 2.91 | 3.43 | 5.24 | 74.00 | 87.00 | 133.00 | 10.50 |
| 7.54 | 19/64 | 0.2968 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.54 | 10.72 | 27/64 | 0.4219 | 2.91 | 3.43 | 5.24 | 74.00 | 87.00 | 133.00 | 10.72 |
| 7.60 | | 0.2992 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.60 | 11.00 | | 0.4331 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.00 |
| 7.70 | | 0.3031 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.70 | 11.11 | 7/16 | 0.4375 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.11 |
| 7.80 | | 0.3071 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.80 | 11.50 | | 0.4528 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.50 |
| 7.90 | | 0.3110 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.90 | 11.51 | 29/64 | 0.4531 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.51 |
| 7.94 | 5/16 | 0.3125 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 7.94 | 11.84 | | 0.0466 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.84 |
| 8.00 | | 0.3150 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.00 | 11.91 | 15/32 | 0.4687 | 3.15 | 3.70 | 5.59 | 80.00 | 94.00 | 142.00 | 11.91 |
| 8.10 | | 0.3189 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.10 | 12.00 | | 0.4724 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 12.00 |
| 8.20 | | 0.3228 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.20 | 12.30 | 33/64 | 0.4844 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 12.30 |
| 8.30 | | 0.3268 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.30 | 12.50 | | 0.4920 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 12.50 |
| 8.33 | 21/64 | 0.3281 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.33 | 12.70 | 1/2 | 0.5000 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 12.70 |
| 8.40 | | 0.3307 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.40 | 13.00 | | 0.5118 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 13.00 |
| 8.50 | | 0.3346 | 2.52 | 2.95 | 4.61 | 64.00 | 75.00 | 117.00 | 8.50 | 13.09 | 33/64 | 0.5156 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 13.09 |
| 8.60 | | 0.3386 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.60 | 13.50 | | 0.5314 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 13.50 |
| 8.70 | | 0.3425 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.70 | 13.65 | | 0.5374 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 13.65 |
| 8.73 | 11/32 | 0.3437 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.73 | 13.86 | 35/64 | 0.5460 | 3.35 | 3.98 | 5.94 | 85.00 | 101.00 | 151.00 | 13.86 |
| 8.80 | | 0.3465 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.80 | 14.00 | | 0.5512 | 3.58 | 4.25 | 6.30 | 91.00 | 108.00 | 160.00 | 14.00 |
| 8.85 | S | 0.3484 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.85 | 14.29 | 9/16 | 0.5625 | 3.58 | 4.25 | 6.30 | 91.00 | 108.00 | 160.00 | 14.29 |
| 8.90 | | 0.3504 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 8.90 | 14.68 | 37/64 | 0.5781 | 3.58 | 4.25 | 6.30 | 91.00 | 108.00 | 160.00 | 14.68 |
| 9.00 | | 0.3543 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.00 | 15.88 | 5/8 | 0.6250 | 3.58 | 4.25 | 6.30 | 91.00 | 108.00 | 160.00 | 15.88 |
| 9.13 | 23/64 | 0.3593 | 2.72 | 3.19 | 4.92 | 69.00 | 81.00 | 125.00 | 9.13 | 16.00 | | 0.6299 | 3.94 | 4.72 | 100.00 | 108.00 | 160.00 | 16.00 | |

For cutting data, see page 72.

Ordering example: 30-1120-0470

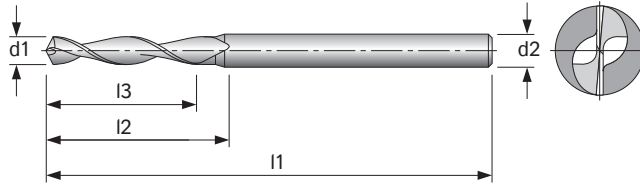
HAM 30 - 1160/1161

Solid Carbide Spiral Drill

Z 2
30° Right
SHRINK FIT
130°
HA

Engineering data

- 4-facet ground
- web thinning DIN 1412 form A
- AMS geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1160 | ● | ● | ○ | ○ | | | | | ○ | ○ | ○ | | | ○ | ● | ○ | ○ | ● | ○ | ○ |
| 30-1161 | ● | ● | ○ | ○ | | | | | ○ | ○ | ○ | | | ○ | ● | ○ | ○ | ● | ○ | ○ |

● very suitable ○ suitable

| 30-1160 30-1161 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1160 30-1161 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.50 | | 0.0196 | 0.20 | 0.24 | 1.50 | 5.00 | 6.00 | 38.00 | 3 | 1.60 | | 0.0630 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.55 | | 0.0216 | 0.20 | 0.24 | 1.50 | 5.00 | 6.00 | 38.00 | 3 | 1.65 | | 0.0650 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.60 | | 0.0236 | 0.20 | 0.24 | 1.50 | 5.00 | 6.00 | 38.00 | 3 | 1.70 | | 0.0669 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.65 | | 0.0256 | 0.24 | 0.28 | 1.50 | 6.00 | 7.00 | 38.00 | 3 | 1.80 | | 0.0709 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.70 | | 0.0276 | 0.24 | 0.28 | 1.50 | 6.00 | 7.00 | 38.00 | 3 | 1.85 | | 0.0728 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.75 | | 0.0295 | 0.31 | 0.39 | 1.50 | 8.00 | 10.00 | 38.00 | 3 | 1.90 | | 0.0748 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.80 | | 0.0315 | 0.31 | 0.39 | 1.50 | 8.00 | 10.00 | 38.00 | 3 | 1.98 | 5/64 | 0.0781 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 |
| 0.85 | | 0.0335 | 0.31 | 0.39 | 1.50 | 8.00 | 10.00 | 38.00 | 3 | 2.00 | | 0.0787 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 0.90 | | 0.0354 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.05 | | 0.0807 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 0.95 | | 0.0374 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.10 | | 0.0827 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.00 | | 0.0394 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.20 | | 0.0866 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.05 | | 0.0413 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.30 | | 0.0906 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.10 | | 0.0433 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.40 | | 0.0945 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.15 | | 0.0453 | 0.39 | 0.47 | 1.50 | 10.00 | 12.00 | 38.00 | 3 | 2.50 | | 0.0984 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.20 | | 0.0472 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | 2.60 | | 0.1024 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.25 | | 0.0492 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | 2.70 | | 0.1063 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.30 | | 0.0512 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | 2.80 | | 0.1102 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.40 | | 0.0551 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | 2.90 | | 0.1142 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.45 | | 0.0571 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | 3.00 | | 0.1181 | 0.55 | 0.65 | 1.50 | 14.00 | 16.50 | 38.00 | 3 |
| 1.50 | | 0.0591 | 0.47 | 0.59 | 1.50 | 12.00 | 15.00 | 38.00 | 3 | | | | | | | | | | |

For cutting data, see page 74.

Ordering example: 30-1160-0150

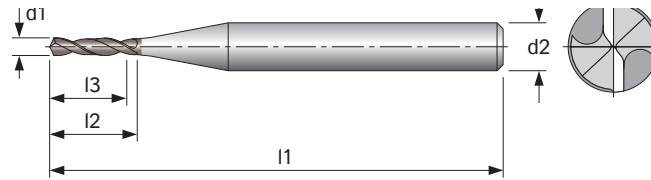
HAM 30 - 1301

Solid Carbide Spiral Drill

Z 2 30° Right
 140° SHRINK FIT
 HPC TA
 HA

Engineering data

- 4-facet ground
- Ø 0.1 mm - 0.15 mm no web thinning
- Ø 0.2 mm - 0.45 mm web thinning
DIN 1412 form A
- from Ø 0.5 mm web thinning
DIN 1412 form C
- web thickness reinforced
- shank reinforced
- 30° RH helix



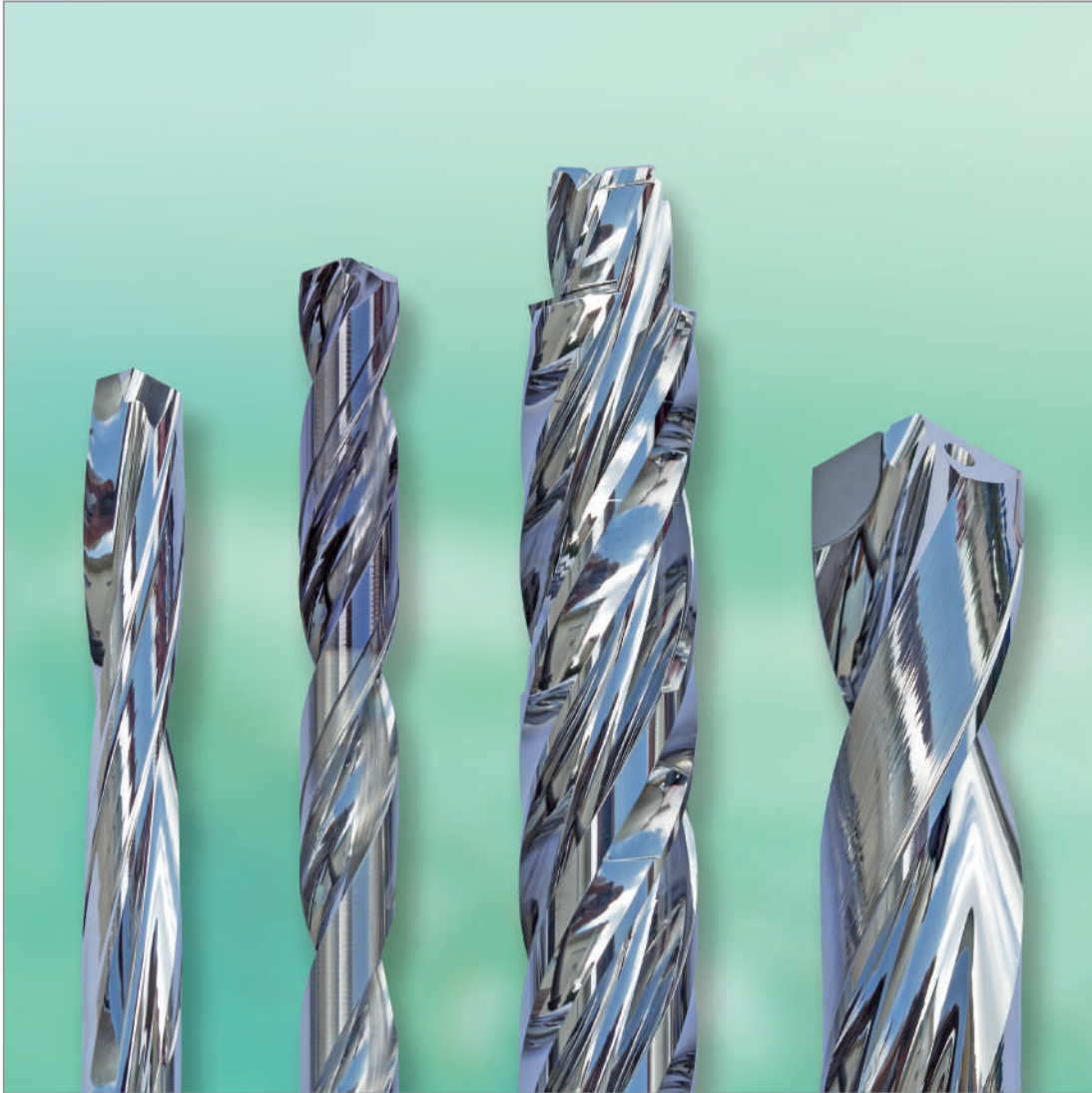
| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| 30-1301 | | | ● | ● | ● | ○ | | | ● | ○ | ● | ○ | | ● | | | ● | ● | | |

● very suitable ○ suitable

| 30-1301 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1301 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.10 | | 0.0039 | 0.02 | 0.06 | 1.50 | 0.50 | 1.50 | 38.00 | 3 | 1.65 | | 0.0650 | 0.32 | 0.46 | 1.50 | 8.25 | 11.75 | 38.00 | 3 |
| 0.15 | | 0.0059 | 0.03 | 0.07 | 1.50 | 0.75 | 1.80 | 38.00 | 3 | 1.70 | | 0.0669 | 0.33 | 0.47 | 1.50 | 8.50 | 12.00 | 38.00 | 3 |
| 0.20 | | 0.0079 | 0.04 | 0.09 | 1.50 | 1.00 | 2.40 | 38.00 | 3 | 1.75 | | 0.0689 | 0.34 | 0.48 | 1.50 | 8.75 | 12.25 | 38.00 | 3 |
| 0.25 | | 0.0098 | 0.05 | 0.11 | 1.50 | 1.25 | 2.70 | 38.00 | 3 | 1.80 | | 0.0709 | 0.35 | 0.49 | 1.50 | 9.00 | 12.50 | 38.00 | 3 |
| 0.30 | | 0.0118 | 0.06 | 0.12 | 1.50 | 1.50 | 3.00 | 38.00 | 3 | 1.85 | | 0.0728 | 0.36 | 0.50 | 1.50 | 9.25 | 12.75 | 38.00 | 3 |
| 0.35 | | 0.0138 | 0.07 | 0.13 | 1.50 | 1.75 | 3.30 | 38.00 | 3 | 1.90 | | 0.0748 | 0.37 | 0.51 | 1.50 | 9.50 | 13.00 | 38.00 | 3 |
| 0.40 | | 0.0157 | 0.08 | 0.14 | 1.50 | 2.00 | 3.60 | 38.00 | 3 | 1.95 | | 0.0768 | 0.38 | 0.53 | 1.50 | 9.75 | 13.50 | 38.00 | 3 |
| 0.45 | | 0.0177 | 0.09 | 0.15 | 1.50 | 2.25 | 3.80 | 38.00 | 3 | 1.98 | 5/64 | 0.0781 | 0.38 | 0.54 | 1.50 | 9.75 | 13.75 | 38.00 | 3 |
| 0.50 | | 0.0196 | 0.10 | 0.16 | 1.50 | 2.50 | 4.00 | 38.00 | 3 | 2.00 | | 0.0787 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 |
| 0.55 | | 0.0216 | 0.11 | 0.18 | 1.50 | 2.75 | 4.60 | 38.00 | 3 | 2.05 | | 0.0807 | 0.40 | 0.57 | 1.81 | 10.25 | 14.50 | 46.00 | 4 |
| 0.60 | | 0.0236 | 0.12 | 0.19 | 1.50 | 3.00 | 4.80 | 38.00 | 3 | 2.10 | | 0.0827 | 0.41 | 0.59 | 1.81 | 10.50 | 15.00 | 46.00 | 4 |
| 0.65 | | 0.0256 | 0.13 | 0.20 | 1.50 | 3.25 | 5.00 | 38.00 | 3 | 2.15 | | 0.0846 | 0.42 | 0.61 | 1.81 | 10.75 | 15.50 | 46.00 | 4 |
| 0.70 | | 0.0276 | 0.14 | 0.24 | 1.50 | 3.50 | 6.00 | 38.00 | 3 | 2.20 | | 0.0866 | 0.43 | 0.63 | 1.81 | 11.00 | 16.00 | 46.00 | 4 |
| 0.75 | | 0.0295 | 0.15 | 0.24 | 1.50 | 3.75 | 6.20 | 38.00 | 3 | 2.25 | | 0.0886 | 0.44 | 0.65 | 1.81 | 11.25 | 16.50 | 46.00 | 4 |
| 0.80 | | 0.0315 | 0.16 | 0.25 | 1.50 | 4.00 | 6.40 | 38.00 | 3 | 2.30 | | 0.0906 | 0.45 | 0.67 | 1.81 | 11.50 | 17.00 | 46.00 | 4 |
| 0.85 | | 0.0335 | 0.17 | 0.26 | 1.50 | 4.25 | 6.70 | 38.00 | 3 | 2.35 | | 0.0925 | 0.46 | 0.69 | 1.81 | 11.75 | 17.50 | 46.00 | 4 |
| 0.90 | | 0.0354 | 0.18 | 0.28 | 1.50 | 4.50 | 7.00 | 38.00 | 3 | 2.38 | | 0.0937 | 0.47 | 0.70 | 1.81 | 11.87 | 17.75 | 46.00 | 4 |
| 0.95 | | 0.0374 | 0.19 | 0.29 | 1.50 | 4.75 | 7.25 | 38.00 | 3 | 2.40 | | 0.0945 | 0.47 | 0.71 | 1.81 | 12.00 | 18.00 | 46.00 | 4 |
| 1.00 | | 0.0394 | 0.20 | 0.30 | 1.50 | 5.00 | 7.50 | 38.00 | 3 | 2.45 | | 0.0965 | 0.48 | 0.73 | 1.81 | 12.25 | 18.50 | 46.00 | 4 |
| 1.05 | | 0.0413 | 0.21 | 0.31 | 1.50 | 5.25 | 7.75 | 38.00 | 3 | 2.50 | | 0.0984 | 0.49 | 0.75 | 1.81 | 12.50 | 19.00 | 46.00 | 4 |
| 1.10 | | 0.0433 | 0.22 | 0.31 | 1.50 | 5.50 | 8.00 | 38.00 | 3 | 2.55 | | 0.1004 | 0.50 | 0.77 | 1.97 | 12.75 | 19.50 | 50.00 | 4 |
| 1.15 | | 0.0453 | 0.23 | 0.32 | 1.50 | 5.75 | 8.25 | 38.00 | 3 | 2.60 | | 0.1024 | 0.51 | 0.79 | 1.97 | 13.00 | 20.00 | 50.00 | 4 |
| 1.20 | | 0.0472 | 0.24 | 0.33 | 1.50 | 6.00 | 8.50 | 38.00 | 3 | 2.65 | | 0.1043 | 0.52 | 0.81 | 1.97 | 13.25 | 20.50 | 50.00 | 4 |
| 1.25 | | 0.0492 | 0.25 | 0.34 | 1.50 | 6.25 | 8.75 | 38.00 | 3 | 2.70 | | 0.1063 | 0.53 | 0.83 | 1.97 | 13.50 | 21.00 | 50.00 | 4 |
| 1.30 | | 0.0512 | 0.26 | 0.35 | 1.50 | 6.50 | 9.00 | 38.00 | 3 | 2.75 | | 0.1083 | 0.54 | 0.85 | 1.97 | 13.75 | 21.50 | 50.00 | 4 |
| 1.35 | | 0.0531 | 0.27 | 0.37 | 1.50 | 6.75 | 9.50 | 38.00 | 3 | 2.78 | 7/64 | 0.1094 | 0.55 | 0.86 | 1.97 | 13.88 | 21.75 | 50.00 | 4 |
| 1.40 | | 0.0551 | 0.28 | 0.39 | 1.50 | 7.00 | 10.00 | 38.00 | 3 | 2.80 | | 0.1102 | 0.55 | 0.87 | 1.97 | 14.00 | 22.00 | 50.00 | 4 |
| 1.45 | | 0.0571 | 0.29 | 0.41 | 1.50 | 7.25 | 10.50 | 38.00 | 3 | 2.85 | | 0.1122 | 0.56 | 0.89 | 1.97 | 14.25 | 22.50 | 50.00 | 4 |
| 1.50 | | 0.0591 | 0.30 | 0.43 | 1.50 | 7.50 | 11.00 | 38.00 | 3 | 2.90 | | 0.1142 | 0.57 | 0.91 | 1.97 | 14.50 | 23.00 | 50.00 | 4 |
| 1.55 | | 0.0610 | 0.31 | 0.44 | 1.50 | 7.75 | 11.25 | 38.00 | 3 | 2.95 | | 0.1161 | 0.58 | 0.93 | 1.97 | 14.75 | 23.50 | 50.00 | 4 |
| 1.60 | | 0.0630 | 0.31 | 0.45 | 1.50 | 8.00 | 11.50 | 38.00 | 3 | 3.00 | | 0.1181 | 0.59 | 0.94 | 1.97 | 15.00 | 24.00 | 50.00 | 4 |

For cutting data, see page 75.

Order example: 30-1301-0160



Special-polishing process HSF TECHNOLOGY®
(Hyper Super Finishing)

HAM is offering a new polishing process for tools with hyper smooth surfaces using the HSF TECHNOLOGY®.

Advantages:

- Optimal chip removal
- Reduction of built-up edges
- Defined cutting edge rounding
- Homogeneous and reproducible surfaces can be reached
- Higher cutting speeds and feed rates are possible
- Reduced cutting forces
- Less heat generation on the tool and workpiece

Superdrill



HAM Superdrill – spiral fluted drills especially for the machining of steel.

HAM 30-1621 Superdrill

280 Series

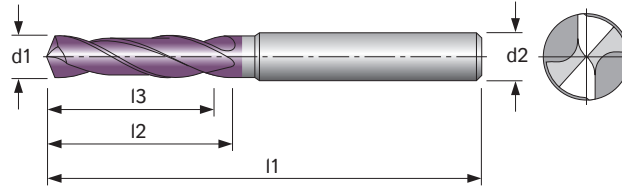
Solid Carbide Twist Drill

3 X D

Z 2 30° Right DIN 6537K
 3 x D 140° SHRINK FIT
 HSF HPC TA-C
 DIN 6535 HA DIN 6535 HB DIN 6535 HE

Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1621 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1621 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1621 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.90 | | 0.2323 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.90 | | 0.1141 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.95 | 15/64 | 0.2343 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.00 | | 0.1181 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.00 | | 0.2362 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.10 | | 0.1220 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.10 | | 0.2402 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.20 | | 0.2441 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.20 | | 0.1260 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.30 | | 0.2480 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.30 | | 0.1299 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.35 | 1/4 | 0.2500 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.40 | | 0.1339 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.40 | | 0.2520 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.50 | | 0.1378 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.50 | | 0.2559 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.53 | F | 0.2570 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.60 | | 0.1417 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.60 | | 0.2598 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.70 | | 0.1457 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.70 | | 0.2638 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.75 | | 0.1476 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.75 | 17/64 | 0.2656 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.80 | | 0.1496 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.80 | | 0.2677 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.90 | | 0.1535 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.90 | | 0.2717 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.00 | | 0.2756 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 4.00 | | 0.1575 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.10 | | 0.2795 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.10 | | 0.1614 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.20 | | 0.1654 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.20 | | 0.2835 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.30 | | 0.1693 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.30 | | 0.2874 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.40 | | 0.2913 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.40 | | 0.1732 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.50 | | 0.2953 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.50 | | 0.1772 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.60 | | 0.1811 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.60 | | 0.2992 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.65 | | 0.1830 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.70 | | 0.3031 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.70 | | 0.1850 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.80 | | 0.3071 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.90 | | 0.3110 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.80 | | 0.1890 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.90 | | 0.1929 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.00 | | 0.3150 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 5.00 | | 0.1969 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.10 | | 0.3189 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.10 | | 0.2008 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.20 | | 0.3228 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.30 | | 0.3268 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.20 | | 0.2047 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.33 | 19/64 | 0.3281 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.30 | | 0.2087 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.40 | | 0.3307 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.40 | | 0.2126 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.50 | | 0.3346 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.50 | | 0.2165 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.60 | | 0.3386 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.70 | | 0.3425 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.60 | | 0.2205 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.73 | 11/32 | 0.3437 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.70 | | 0.2244 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.80 | | 0.3465 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.80 | | 0.2283 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.85 | S | 0.3480 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
 For cutting data, see page 76.

Order example: HA-Shank 30-1621-0750
 HB-Shank 30-1621-0750-HB
 HE-Shank 30-1621-0750-HE

| 30-1621 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1621 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.10 | 33/64 | 0.5156 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.00 | | 0.3543 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.20 | | 0.5197 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.10 | | 0.3583 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.30 | | 0.5236 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.40 | | 0.5276 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.20 | | 0.3622 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.49 | 17/32 | 0.5312 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.30 | | 0.3661 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.50 | | 0.5315 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.35 | U | 0.3681 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.60 | | 0.5354 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.40 | | 0.3701 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.65 | | 0.5374 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.50 | | 0.3740 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.70 | | 0.5394 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.80 | | 0.5433 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.60 | | 0.3780 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.89 | 35/64 | 0.5468 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.70 | | 0.3819 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.90 | | 0.5472 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.80 | | 0.3858 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.00 | | 0.5512 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.90 | | 0.3898 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.10 | | 0.5551 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.20 | | 0.5591 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.00 | | 0.3937 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.29 | 19/16 | 0.5625 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.00 | | 0.3976 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.30 | | 0.5630 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.20 | | 0.4016 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.40 | | 0.5669 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.30 | | 0.4055 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.50 | | 0.5709 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.60 | | 0.5748 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.40 | | 0.4094 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.68 | 35/64 | 0.5781 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.50 | | 0.4134 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.70 | | 0.5787 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.60 | | 0.4173 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.80 | | 0.5827 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.70 | | 0.4213 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.90 | | 0.5866 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.00 | | 0.5906 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.80 | | 0.4252 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.08 | 19/32 | 0.5937 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.90 | | 0.4291 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.10 | | 0.5945 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.00 | | 0.4331 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.20 | | 0.5984 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.10 | | 0.4370 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.30 | | 0.6024 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.40 | | 0.6063 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.20 | | 0.4409 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.48 | 39/64 | 0.6093 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.30 | | 0.4449 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.50 | | 0.6102 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.40 | | 0.4488 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.60 | | 0.6142 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.50 | | 0.4528 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.70 | | 0.6181 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.80 | | 0.6220 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.60 | | 0.4567 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.88 | 5/8 | 0.6250 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.70 | | 0.4606 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.90 | | 0.6260 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.80 | | 0.4646 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.00 | | 0.6299 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.84 | | 0.4660 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.90 | | 0.4685 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.50 | | 0.6496 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.00 | | 0.4724 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.00 | | 0.6693 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.10 | | 0.4764 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 17.46 | 11/16 | 0.6875 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.20 | | 0.4803 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 17.50 | | 0.6890 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.00 | | 0.7087 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.40 | | 0.4882 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.26 | 23/32 | 0.7187 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.50 | | 0.4921 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.50 | | 0.7283 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.60 | | 0.4961 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.00 | | 0.7480 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.05 | 3/4 | 0.7500 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.80 | | 0.5039 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.45 | 49/64 | 0.7656 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.90 | | 0.5079 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.50 | | 0.7677 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 13.00 | | 0.5118 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 20.00 | | 0.7874 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 76.

Order example: HA-Shank 30-1621-0750
HB-Shank 30-1621-0750-HB
HE-Shank 30-1621-0750-HE

HAM 30-1741 Superdrill

285 Series

Solid Carbide Twist Drill

3 X D

Z 2

30° Right

3 x D

140°

SHRINK FIT

HSF

HPC

TA-C

DIN 6535 HA

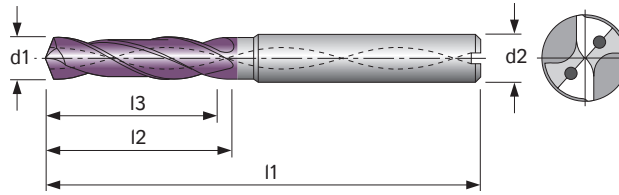
DIN 6535 HB

DIN 6535 HE

DIN 6537K

Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1741 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1741 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1741 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.90 | | 0.2323 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.90 | | 0.1141 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.95 | 15/64 | 0.2343 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.00 | | 0.1181 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.00 | | 0.2362 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.10 | | 0.1220 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.10 | | 0.2402 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.20 | | 0.2441 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.20 | | 0.1260 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.30 | | 0.2480 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.30 | | 0.1299 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.35 | 1/4 | 0.2500 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.40 | | 0.1339 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.40 | | 0.2520 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.50 | | 0.1378 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.50 | | 0.2559 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.53 | F | 0.2570 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.60 | | 0.1417 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.60 | | 0.2598 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.70 | | 0.1457 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.70 | | 0.2638 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.75 | | 0.1476 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.75 | 17/64 | 0.2656 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.80 | | 0.1496 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.80 | | 0.2677 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.90 | | 0.1535 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.90 | | 0.2717 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.00 | | 0.2756 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 4.00 | | 0.1575 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.10 | | 0.2795 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.10 | | 0.1614 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.20 | | 0.1654 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.20 | | 0.2835 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.30 | | 0.1693 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.30 | | 0.2874 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.40 | | 0.2913 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.40 | | 0.1732 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.50 | | 0.2953 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.50 | | 0.1772 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.60 | | 0.1811 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.60 | | 0.2992 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.65 | | 0.1830 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.70 | | 0.3031 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.70 | | 0.1850 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.80 | | 0.3071 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 0.79 | 0.94 | 2.60 | 20.00 | 24.00 | 66.00 | 6 | 7.90 | | 0.3110 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.80 | | 0.1890 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.90 | | 0.1929 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.00 | | 0.3150 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 5.00 | | 0.1969 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.10 | | 0.3189 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.10 | | 0.2008 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.20 | | 0.3228 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.30 | | 0.3268 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.20 | | 0.2047 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.33 | 21/64 | 0.3281 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.30 | | 0.2087 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.40 | | 0.3307 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.40 | | 0.2126 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.50 | | 0.3346 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.50 | | 0.2165 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.60 | | 0.3386 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.70 | | 0.3425 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.60 | | 0.2205 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.73 | 11/32 | 0.3437 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.70 | | 0.2244 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.80 | | 0.3465 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.80 | | 0.2283 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.85 | S | 0.3480 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

Order example: HA-Shank 30-1741-0750
HB-Shank 30-1741-0750-HB
HE-Shank 30-1741-0750-HE

| 30-1741 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1741 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.10 | 33/64 | 0.5156 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.00 | | 0.3543 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.20 | | 0.5197 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.10 | | 0.3583 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.30 | | 0.5236 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.40 | | 0.5276 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.20 | | 0.3622 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.49 | 17/32 | 0.5312 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.30 | | 0.3661 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.50 | | 0.5315 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.35 | U | 0.3681 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.60 | | 0.5354 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.40 | | 0.3701 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.65 | | 0.5374 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.50 | | 0.3740 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.70 | | 0.5394 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.80 | | 0.5433 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.60 | | 0.3780 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.89 | 35/64 | 0.5468 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.70 | | 0.3819 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.90 | | 0.5472 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.80 | | 0.3858 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.00 | | 0.5512 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.90 | | 0.3898 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.10 | | 0.5551 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.20 | | 0.5591 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.00 | | 0.3937 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.29 | 9/16 | 0.5625 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.10 | | 0.3976 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.30 | | 0.5630 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.20 | | 0.4016 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.40 | | 0.5669 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.30 | | 0.4055 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.50 | | 0.5709 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.60 | | 0.5748 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.40 | | 0.4094 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.68 | 37/64 | 0.5781 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.50 | | 0.4134 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.70 | | 0.5787 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.60 | | 0.4173 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.80 | | 0.5827 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.70 | | 0.4213 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.90 | | 0.5866 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.00 | | 0.5906 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.80 | | 0.4252 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.08 | 19/32 | 0.5937 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.90 | | 0.4291 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.10 | | 0.5945 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.00 | | 0.4331 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.20 | | 0.5984 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.10 | | 0.4370 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.30 | | 0.6024 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.40 | | 0.6063 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.20 | | 0.4409 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.48 | 39/64 | 0.6093 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.30 | | 0.4449 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.50 | | 0.6102 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.40 | | 0.4488 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.60 | | 0.6142 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.50 | | 0.4528 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.70 | | 0.6181 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.80 | | 0.6220 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.60 | | 0.4567 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.88 | 5/8 | 0.6250 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.70 | | 0.4606 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.90 | | 0.6260 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.80 | | 0.4646 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.00 | | 0.6299 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.84 | | 0.4660 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.90 | | 0.4685 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.50 | | 0.6496 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.00 | | 0.4724 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.00 | | 0.6693 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.10 | | 0.4764 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 17.46 | 11/16 | 0.6875 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.20 | | 0.4803 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 17.50 | | 0.6890 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.00 | | 0.7087 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.40 | | 0.4882 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.26 | 23/32 | 0.7187 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.50 | | 0.4921 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.50 | | 0.7283 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.60 | | 0.4961 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.00 | | 0.7480 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.05 | 3/4 | 0.7500 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.80 | | 0.5039 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.45 | 49/64 | 0.7656 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.90 | | 0.5079 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.50 | | 0.7677 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 13.00 | | 0.5118 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 20.00 | | 0.7874 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

Order example: HA-Shank 30-1741-1020
HB-Shank 30-1741-1020-HB
HE-Shank 30-1741-1020-HE

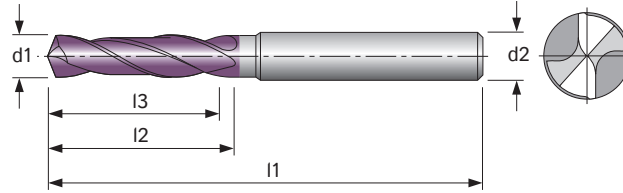
HAM 30-1701 Superdrill

283 Series

Solid Carbide Twist Drill

5 X D

- Engineering Data**
- special point ground
 - special chip flute geometry
 - web thickness reinforced
 - 30° RH helix



| | | |
|-------------|-------------|-------------|
| Z 2 | 30° Right | DIN 6537 |
| 5 x D | 140° | SHRINK FIT |
| HSF | HPC | TA-C |
| DIN 6535 HA | DIN 6535 HB | DIN 6535 HE |

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1701 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1701 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1701 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 4 | 5.90 | | 0.2323 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.90 | | 0.1141 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 4 | 5.95 | 15/64 | 0.2343 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.00 | | 0.1181 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.00 | | 0.2362 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.10 | | 0.1220 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.10 | | 0.2402 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.20 | | 0.2441 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.20 | | 0.1260 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.30 | | 0.2480 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.30 | | 0.1299 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.35 | 1/4 | 0.2500 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.40 | | 0.1339 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.40 | | 0.2520 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.50 | | 0.1378 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.50 | | 0.2559 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.53 | F | 0.2570 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.60 | | 0.1417 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.60 | | 0.2598 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.70 | | 0.1457 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.70 | | 0.2638 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.75 | | 0.1476 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.75 | 17/64 | 0.2656 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.80 | | 0.1496 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.80 | | 0.2677 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.90 | | 0.1535 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.90 | | 0.2717 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.00 | | 0.2756 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.00 | | 0.1575 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.10 | | 0.2795 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.10 | | 0.1614 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.20 | | 0.1654 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.20 | | 0.2835 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.30 | | 0.1693 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.30 | | 0.2874 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.40 | | 0.2913 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.40 | | 0.1732 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.50 | | 0.2953 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.50 | | 0.1772 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.60 | | 0.1811 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.60 | | 0.2992 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.65 | | 0.1830 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.70 | | 0.3031 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.70 | | 0.1850 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.80 | | 0.3071 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.90 | | 0.3110 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.80 | | 0.1890 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.90 | | 0.1929 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.00 | | 0.3150 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 5.00 | | 0.1969 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.10 | | 0.3189 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.10 | | 0.2008 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.20 | | 0.3228 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.30 | | 0.3268 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.20 | | 0.2047 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.33 | 21/64 | 0.3281 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.30 | | 0.2087 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.40 | | 0.3307 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.40 | | 0.2126 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.50 | | 0.3346 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.50 | | 0.2165 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.60 | | 0.3386 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.70 | | 0.3425 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.60 | | 0.2205 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.73 | 11/32 | 0.3437 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.70 | | 0.2244 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.80 | | 0.3465 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.80 | | 0.2283 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.85 | S | 0.3480 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 76.

Order example: HA-Shank 30-1701-0800
HB-Shank 30-1701-0800-HB
HE-Shank 30-1701-0800-HE

| 30-1701 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1701 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.10 | 33/64 | 0.5156 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.00 | | 0.3543 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.20 | | 0.5197 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.10 | | 0.3583 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.30 | | 0.5236 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.40 | | 0.5276 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.20 | | 0.3622 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.49 | 17/32 | 0.5312 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.30 | | 0.3661 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.50 | | 0.5315 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.35 | U | 0.3681 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.60 | | 0.5354 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.40 | | 0.3701 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.65 | | 0.5374 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.50 | | 0.3740 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.70 | | 0.5394 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.80 | | 0.5433 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.60 | | 0.3780 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.89 | 35/64 | 0.5468 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.70 | | 0.3819 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.90 | | 0.5472 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.80 | | 0.3858 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.00 | | 0.5512 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.90 | | 0.3898 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.10 | | 0.5551 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.20 | | 0.5591 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.00 | | 0.3937 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.29 | 9/16 | 0.5625 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.10 | | 0.3976 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.30 | | 0.5630 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.20 | | 0.4016 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.40 | | 0.5669 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.30 | | 0.4055 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.50 | | 0.5709 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.60 | | 0.5748 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.40 | | 0.4094 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.68 | 37/64 | 0.5781 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.50 | | 0.4134 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.70 | | 0.5787 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.60 | | 0.4173 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.80 | | 0.5827 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.70 | | 0.4213 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.90 | | 0.5866 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.00 | | 0.5906 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.80 | | 0.4252 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.08 | 19/32 | 0.5937 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.90 | | 0.4291 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.10 | | 0.5945 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.00 | | 0.4331 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.20 | | 0.5984 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.10 | | 0.4370 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.30 | | 0.6024 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.40 | | 0.6063 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.20 | | 0.4409 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.48 | 39/64 | 0.6093 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.30 | | 0.4449 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.50 | | 0.6102 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.40 | | 0.4488 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.60 | | 0.6142 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.50 | | 0.4528 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.70 | | 0.6181 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.80 | | 0.6220 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.60 | | 0.4567 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.88 | 5/8 | 0.6250 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.70 | | 0.4606 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.90 | | 0.6260 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.80 | | 0.4646 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.00 | | 0.6299 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.84 | | 0.4660 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.90 | | 0.4685 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.50 | | 0.6496 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.00 | | 0.4724 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 17.00 | | 0.6693 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.10 | | 0.4764 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 17.46 | 11/16 | 0.6875 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.20 | | 0.4803 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 17.50 | | 0.6890 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.00 | | 0.7087 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.40 | | 0.4882 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.26 | 23/32 | 0.7187 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.50 | | 0.4921 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.50 | | 0.7283 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.60 | | 0.4961 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.00 | | 0.7480 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.05 | 3/4 | 0.7500 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.80 | | 0.5039 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.45 | 49/64 | 0.7656 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.90 | | 0.5079 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.50 | | 0.7677 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 13.00 | | 0.5118 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 20.00 | | 0.7874 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 76.

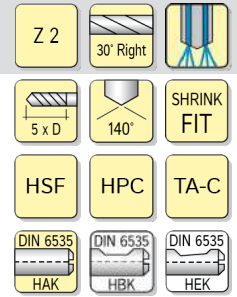
Order example: HA-Shank 30-1701-1020
HB-Shank 30-1701-1020-HB
HE-Shank 30-1701-1020-HE

HAM 30-1781 Superdrill

286 Series

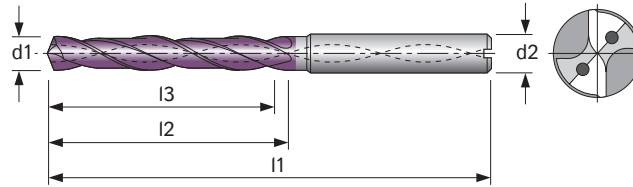
Solid Carbide Twist Drill

5 X D



Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1781 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1781 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1781 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 4 | 5.90 | | 0.2323 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.90 | | 0.1141 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 4 | 5.95 | 15/64 | 0.2343 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.00 | | 0.1181 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.00 | | 0.2362 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.10 | | 0.1220 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.10 | | 0.2402 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.20 | | 0.2441 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.20 | | 0.1260 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.30 | | 0.2480 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.30 | | 0.1299 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.35 | 1/4 | 0.2500 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.40 | | 0.1339 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.40 | | 0.2520 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.50 | | 0.1378 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.50 | | 0.2559 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.53 | F | 0.2570 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.60 | | 0.1417 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.60 | | 0.2598 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.70 | | 0.1457 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.70 | | 0.2638 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.75 | | 0.1476 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.75 | 17/64 | 0.2656 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.80 | | 0.1496 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.80 | | 0.2677 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.90 | | 0.1535 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.90 | | 0.2717 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.00 | | 0.2756 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.00 | | 0.1575 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.10 | | 0.2795 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.10 | | 0.1614 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.20 | | 0.1654 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.20 | | 0.2835 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.30 | | 0.1693 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.30 | | 0.2874 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.40 | | 0.2913 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.40 | | 0.1732 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.50 | | 0.2953 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.50 | | 0.1772 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.60 | | 0.1811 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.60 | | 0.2992 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.65 | | 0.1830 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.70 | | 0.3031 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.70 | | 0.1850 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.80 | | 0.3071 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.90 | | 0.3110 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.80 | | 0.1890 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.90 | | 0.1929 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.00 | | 0.3150 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 5.00 | | 0.1969 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.10 | | 0.3189 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.10 | | 0.2008 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.20 | | 0.3228 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.30 | | 0.3268 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.20 | | 0.2047 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.33 | 21/64 | 0.3281 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.30 | | 0.2087 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.40 | | 0.3307 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.40 | | 0.2126 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.50 | | 0.3346 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.50 | | 0.2165 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.60 | | 0.3386 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.70 | | 0.3425 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.60 | | 0.2205 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.73 | 11/32 | 0.3437 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.70 | | 0.2244 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.80 | | 0.3465 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.80 | | 0.2283 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.85 | S | 0.3480 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

Order example: HA-Shank 30-1781-0800
HB-Shank 30-1781-0800-HB
HE-Shank 30-1781-0800-HE

| 30-1781 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1781 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.10 | 33/64 | 0.5156 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.00 | | 0.3543 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.20 | | 0.5197 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.10 | | 0.3583 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.30 | | 0.5236 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.40 | | 0.5276 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.20 | | 0.3622 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.49 | 17/32 | 0.5312 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.30 | | 0.3661 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.50 | | 0.5315 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.35 | U | 0.3681 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.60 | | 0.5354 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.40 | | 0.3701 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.65 | | 0.5374 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.50 | | 0.3740 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.70 | | 0.5394 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.80 | | 0.5433 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.60 | | 0.3780 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.89 | 35/64 | 0.5468 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.70 | | 0.3819 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.90 | | 0.5472 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.80 | | 0.3858 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.00 | | 0.5512 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.90 | | 0.3898 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.10 | | 0.5551 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.20 | | 0.5591 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.00 | | 0.3937 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.29 | 9/16 | 0.5625 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.10 | | 0.3976 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.30 | | 0.5630 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.20 | | 0.4016 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.40 | | 0.5669 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.30 | | 0.4055 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.50 | | 0.5709 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.60 | | 0.5748 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.40 | | 0.4094 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.68 | 37/64 | 0.5781 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.50 | | 0.4134 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.70 | | 0.5787 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.60 | | 0.4173 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.80 | | 0.5827 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.70 | | 0.4213 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.90 | | 0.5866 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.00 | | 0.5906 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.80 | | 0.4252 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.08 | 19/32 | 0.5937 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.90 | | 0.4291 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.10 | | 0.5945 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.00 | | 0.4331 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.20 | | 0.5984 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.10 | | 0.4370 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.30 | | 0.6024 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.40 | | 0.6063 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.20 | | 0.4409 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.48 | 39/64 | 0.6093 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.30 | | 0.4449 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.50 | | 0.6102 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.40 | | 0.4488 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.60 | | 0.6142 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.50 | | 0.4528 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.70 | | 0.6181 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.80 | | 0.6220 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.60 | | 0.4567 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.88 | 5/8 | 0.6250 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.70 | | 0.4606 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.90 | | 0.6260 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.80 | | 0.4646 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.00 | | 0.6299 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.84 | | 0.4660 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.90 | | 0.4685 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.50 | | 0.6496 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.00 | | 0.4724 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 17.00 | | 0.6693 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.10 | | 0.4764 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 17.46 | 11/16 | 0.6875 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.20 | | 0.4803 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 17.50 | | 0.6890 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.00 | | 0.7087 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 12.40 | | 0.4882 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.26 | 23/32 | 0.7187 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.50 | | 0.4921 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 18.50 | | 0.7283 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.60 | | 0.4961 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.00 | | 0.7480 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.05 | 3/4 | 0.7500 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.80 | | 0.5039 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.45 | 49/64 | 0.7656 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.90 | | 0.5079 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.50 | | 0.7677 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 13.00 | | 0.5118 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 20.00 | | 0.7874 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

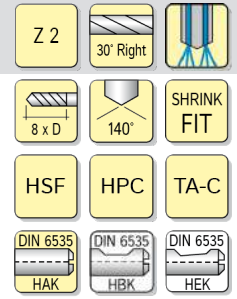
Order example: HA-Shank 30-1781-1020
HB-Shank 30-1781-1020-HB
HE-Shank 30-1781-1020-HE

HAM 30-1821 Superdrill

292 Series

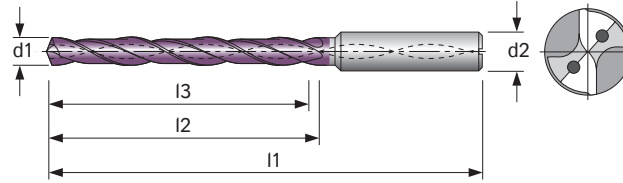
Solid Carbide Twist Drill

8 X D



Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| 30-1821 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1821 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 4 |
| 2.90 | | 0.1141 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 4 |
| 3.00 | | 0.1181 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.10 | | 0.1220 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.17 | 1/8 | 0.1250 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.20 | | 0.1260 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.30 | | 0.1299 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.40 | | 0.1339 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.50 | | 0.1378 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.57 | 9/64 | 0.1406 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.60 | | 0.1417 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.70 | | 0.1457 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 |
| 3.75 | | 0.1476 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 3.80 | | 0.1496 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 3.90 | | 0.1535 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 3.97 | 5/32 | 0.1562 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.00 | | 0.1575 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.10 | | 0.1614 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.20 | | 0.1654 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.30 | | 0.1693 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.37 | 11/64 | 0.1718 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.40 | | 0.1732 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.50 | | 0.1772 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.60 | | 0.1811 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.65 | | 0.1830 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.70 | | 0.1850 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 |
| 4.76 | 3/16 | 0.1875 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 4.80 | | 0.1890 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 4.90 | | 0.1929 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.00 | | 0.1969 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.10 | | 0.2008 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.16 | 13/64 | 0.2031 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.20 | | 0.2047 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.30 | | 0.2087 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.40 | | 0.2126 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.50 | | 0.2165 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.55 | 7/32 | 0.2187 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.60 | | 0.2205 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.70 | | 0.2244 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.80 | | 0.2283 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |

| 30-1821 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | |
| 5.90 | | 0.2323 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 5.95 | 15/64 | 0.2343 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 6.00 | | 0.2362 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 6.10 | | 0.2402 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.20 | | 0.2441 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.30 | | 0.2480 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.35 | 1/4 | 0.2500 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.40 | | 0.2520 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.50 | | 0.2559 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.53 | F | 0.2570 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.60 | | 0.2598 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.70 | | 0.2638 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.75 | 17/64 | 0.2656 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.80 | | 0.2677 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 6.90 | | 0.2717 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.00 | | 0.2756 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.10 | | 0.2795 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.14 | 9/32 | 0.2812 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.20 | | 0.2835 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.30 | | 0.2874 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.40 | | 0.2913 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.50 | | 0.2953 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.54 | 19/64 | 0.2968 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.60 | | 0.2992 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.70 | | 0.3031 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.80 | | 0.3071 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.90 | | 0.3110 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 7.94 | 5/16 | 0.3125 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 8.00 | | 0.3150 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 8.10 | | 0.3189 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.20 | | 0.3228 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.30 | | 0.3268 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.33 | 21/64 | 0.3281 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.40 | | 0.3307 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.50 | | 0.3346 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.60 | | 0.3386 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.70 | | 0.3425 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.73 | 11/32 | 0.3437 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.80 | | 0.3465 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 8.85 | S | 0.3480 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

Order example: HA-Shank 30-1821-0300
HB-Shank 30-1821-0300-HB
HE-Shank 30-1821-0300-HE

| 30-1821 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1821 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.10 | 33/64 | 0.5156 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.00 | | 0.3543 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.20 | | 0.5197 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.10 | | 0.3583 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.30 | | 0.5236 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.40 | | 0.5276 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.20 | | 0.3622 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.49 | 17/32 | 0.5312 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.30 | | 0.3661 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.50 | | 0.5315 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.35 | U | 0.3681 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.60 | | 0.5354 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.40 | | 0.3701 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.65 | | 0.5374 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.50 | | 0.3740 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.70 | | 0.5394 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.80 | | 0.5433 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.60 | | 0.3780 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.89 | 35/64 | 0.5468 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.70 | | 0.3819 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.90 | | 0.5472 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.80 | | 0.3858 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.00 | | 0.5512 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.90 | | 0.3898 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.10 | | 0.5551 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.20 | | 0.5591 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.00 | | 0.3937 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.29 | 9/16 | 0.5625 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.10 | | 0.3976 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.30 | | 0.5630 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.20 | | 0.4016 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.40 | | 0.5669 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.30 | | 0.4055 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.50 | | 0.5709 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.60 | | 0.5748 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.40 | | 0.4094 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.68 | 37/64 | 0.5781 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.50 | | 0.4134 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.70 | | 0.5787 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.60 | | 0.4173 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.80 | | 0.5827 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.70 | | 0.4213 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.90 | | 0.5866 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.00 | | 0.5906 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.80 | | 0.4252 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.08 | 19/32 | 0.5937 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.90 | | 0.4291 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.10 | | 0.5945 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.00 | | 0.4331 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.20 | | 0.5984 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.10 | | 0.4370 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.30 | | 0.6024 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.40 | | 0.6063 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.20 | | 0.4409 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.48 | 39/64 | 0.6093 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.30 | | 0.4449 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.50 | | 0.6102 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.40 | | 0.4488 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.60 | | 0.6142 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.50 | | 0.4528 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.70 | | 0.6181 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.80 | | 0.6220 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.60 | | 0.4567 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.88 | 5/8 | 0.6250 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.70 | | 0.4606 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.90 | | 0.6260 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.80 | | 0.4646 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.00 | | 0.6299 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.84 | | 0.4660 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.27 | 41/64 | 0.6406 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.90 | | 0.4685 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.50 | | 0.6496 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.67 | 21/32 | 0.6562 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 12.00 | | 0.4724 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 17.00 | | 0.6693 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 12.10 | | 0.4764 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 17.46 | 11/16 | 0.6875 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 12.20 | | 0.4803 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 17.50 | | 0.6890 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 18.00 | | 0.7087 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 12.40 | | 0.4882 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 18.26 | 23/32 | 0.7187 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.50 | | 0.4921 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 18.50 | | 0.7283 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.60 | | 0.4961 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.00 | | 0.7480 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.05 | 3/4 | 0.7500 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.80 | | 0.5039 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.45 | 49/64 | 0.7656 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.90 | | 0.5079 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.50 | | 0.7677 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 13.00 | | 0.5118 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 20.00 | | 0.7874 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 77.

Order example: HA-Shank 30-1821-1020
HB-Shank 30-1821-1020-HB
HE-Shank 30-1821-1020-HE

HAM 30-1861 Superdrill

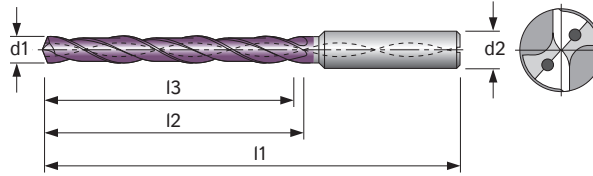
Solid Carbide Twist Drill

12 X D

293 Series

Engineering Data

- 4 guide chamfer
- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix
- tip-coated



Z 2
 30° Right
 12 x D
 140°
 SHRINK FIT
 HSF
 HPC
 TA-C
 DIN 6535 HAK
 DIN 6535 HBK
 DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1861 | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-1861 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1861 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 4 | 6.00 | | 0.2362 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 |
| 2.90 | | 0.1141 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 4 | 6.10 | | 0.2402 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.00 | | 0.1181 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.20 | | 0.2441 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.10 | | 0.1220 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.30 | | 0.2480 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.35 | 1/4 | 0.2500 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.20 | | 0.1260 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.40 | | 0.2520 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.30 | | 0.1299 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.50 | | 0.2559 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.40 | | 0.1339 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.60 | | 0.2598 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.50 | | 0.1378 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.70 | | 0.2638 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.75 | 17/64 | 0.2656 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.60 | | 0.1417 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.80 | | 0.2677 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.70 | | 0.1457 | 1.89 | 2.13 | 3.62 | 48.00 | 54.00 | 92.00 | 6 | 6.90 | | 0.2717 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.80 | | 0.1496 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.00 | | 0.2756 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.90 | | 0.1535 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.10 | | 0.2795 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.14 | 9/32 | 0.2812 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.00 | | 0.1575 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.20 | | 0.2835 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.10 | | 0.1614 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.30 | | 0.2874 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.20 | | 0.1654 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.40 | | 0.2913 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.30 | | 0.1693 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.50 | | 0.2953 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.54 | 19/64 | 0.2968 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.40 | | 0.1732 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.60 | | 0.2992 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.50 | | 0.1772 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.70 | | 0.3031 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.60 | | 0.1811 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.80 | | 0.3071 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.70 | | 0.1850 | 2.28 | 2.52 | 4.02 | 58.00 | 64.00 | 102.00 | 6 | 7.90 | | 0.3110 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 7.94 | 5/16 | 0.3125 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.80 | | 0.1890 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.00 | | 0.3150 | 3.70 | 4.25 | 5.75 | 94.00 | 108.00 | 146.00 | 8 |
| 4.90 | | 0.1929 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.10 | | 0.3189 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.00 | | 0.1969 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.20 | | 0.3228 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.10 | | 0.2008 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.30 | | 0.3268 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.33 | 21/64 | 0.3281 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.20 | | 0.2047 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.40 | | 0.3307 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.30 | | 0.2087 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.50 | | 0.3346 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.40 | | 0.2126 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.60 | | 0.3386 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.50 | | 0.2165 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.70 | | 0.3425 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.73 | 11/32 | 0.3437 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.60 | | 0.2205 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.80 | | 0.3465 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.70 | | 0.2244 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 8.90 | | 0.3504 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.80 | | 0.2283 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 9.00 | | 0.3543 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.90 | | 0.2323 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 9.10 | | 0.3583 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 2.76 | 3.07 | 4.57 | 70.00 | 78.00 | 116.00 | 6 | 9.13 | 23/64 | 0.3593 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 |

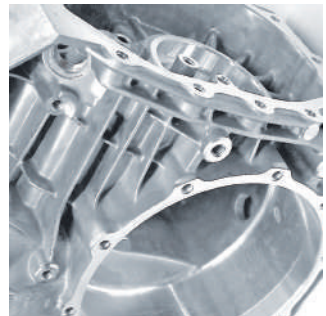
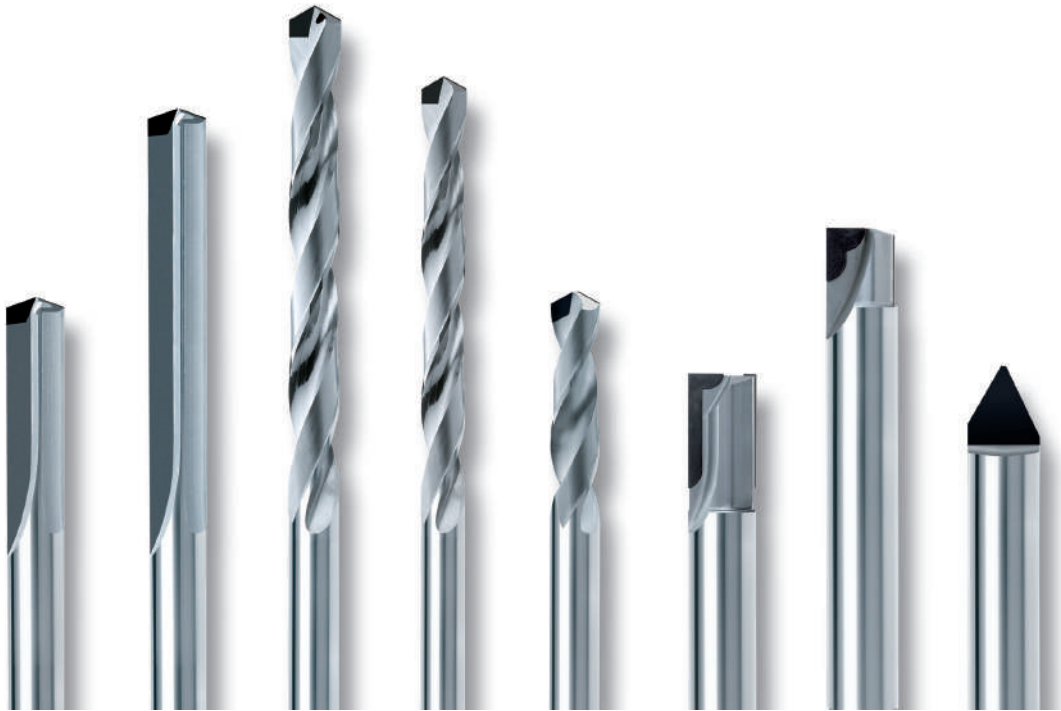
On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 78.

Order example: HA-Shank 30-1861-0300
HB-Shank 30-1861-0300-HB
HE-Shank 30-1861-0300-HE

| 30-1861 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1861 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 9.20 | | 0.3622 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.40 | | 0.5276 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.30 | | 0.3661 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.49 | 17/32 | 0.5312 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.40 | | 0.3701 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.50 | | 0.5315 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.50 | | 0.3740 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.60 | | 0.5354 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.70 | | 0.5394 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.60 | | 0.3780 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.80 | | 0.5433 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.70 | | 0.3819 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.89 | 35/64 | 0.5468 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.80 | | 0.3858 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 13.90 | | 0.5472 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.90 | | 0.3898 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 14.00 | | 0.5512 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 |
| 9.92 | 25/64 | 0.3906 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 14.10 | | 0.5551 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.00 | | 0.3937 | 4.33 | 4.72 | 6.38 | 110.00 | 120.00 | 162.00 | 10 | 14.20 | | 0.5591 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.10 | | 0.3976 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.29 | 9/16 | 0.5625 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.20 | | 0.4016 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.30 | | 0.5630 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.30 | | 0.4055 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.40 | | 0.5669 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.50 | | 0.5709 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.40 | | 0.4094 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.60 | | 0.5748 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.50 | | 0.4134 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.68 | 37/64 | 0.5781 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.60 | | 0.4173 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.70 | | 0.5787 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.70 | | 0.4213 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.80 | | 0.5827 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 14.90 | | 0.5866 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.80 | | 0.4252 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.00 | | 0.5906 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 10.90 | | 0.4291 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.08 | 19/32 | 0.5937 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.00 | | 0.4331 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.10 | | 0.5945 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.10 | | 0.4370 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.20 | | 0.5984 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.30 | | 0.6024 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.20 | | 0.4409 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.40 | | 0.6063 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.30 | | 0.4449 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.48 | 39/64 | 0.6093 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.40 | | 0.4488 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.50 | | 0.6102 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.50 | | 0.4528 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.60 | | 0.6142 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.70 | | 0.6181 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.60 | | 0.4567 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.80 | | 0.6220 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.70 | | 0.4606 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.88 | 5/8 | 0.6250 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.80 | | 0.4646 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 15.90 | | 0.6260 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.90 | | 0.4685 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 16.00 | | 0.6299 | 7.40 | 8.19 | 10.24 | 188.00 | 208.00 | 260.00 | 16 |
| 11.91 | 15/32 | 0.4687 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 16.27 | 41/64 | 0.6406 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.00 | | 0.4724 | 5.59 | 6.14 | 8.03 | 142.00 | 156.00 | 204.00 | 12 | 16.50 | | 0.6496 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.10 | | 0.4764 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 16.67 | 21/32 | 0.6562 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.20 | | 0.4803 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 17.00 | | 0.6693 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 17.46 | 11/16 | 0.6875 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.40 | | 0.4882 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 17.50 | | 0.6890 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.50 | | 0.4921 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 18.00 | | 0.7087 | 8.35 | 9.21 | 11.22 | 212.00 | 234.00 | 285.00 | 18 |
| 12.60 | | 0.4961 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 18.26 | 23/32 | 0.7187 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 18.50 | | 0.7283 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 12.80 | | 0.5039 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 19.00 | | 0.7480 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 12.90 | | 0.5079 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 19.05 | 3/4 | 0.7500 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 13.00 | | 0.5118 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 19.45 | 49/64 | 0.7656 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 13.10 | 33/64 | 0.5156 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 19.50 | | 0.7677 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 13.20 | | 0.5197 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | 20.00 | | 0.7874 | 9.17 | 10.12 | 12.20 | 233.00 | 257.00 | 310.00 | 20 |
| 13.30 | | 0.5236 | 6.38 | 7.17 | 9.06 | 162.00 | 182.00 | 230.00 | 14 | | | | | | | | | | |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 78.

Order example: HA-Shank 30-1861-1020
HB-Shank 30-1861-1020-HB
HE-Shank 30-1861-1020-HE



You benefit from our long-standing know-how in the development and manufacturing of customer-specific PCD Tools. Furthermore, we offer you a comprehensive re-sharpening service and the maintenance of PCD tools

Advantages:

- *High cutting speeds*
- *High tool life*
- *High surface quality*

Nirodrills



HAM Nirodrill – particularly suitable for machining of stainless steel materials.

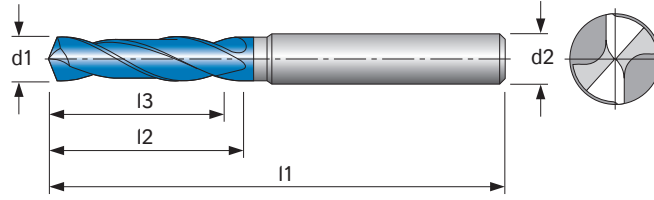
HAM 30-1891 Nirodrill

Solid Carbide Twist Drill

3 X D

Z 2 30° Right DIN 6537K
 3 x D 140° SHRINK FIT
 HSF HPC TA-CN
 DIN 6535 HA DIN 6535 HB DIN 6535 HE

- Engineering Data**
- special chip flute geometry
 - special point ground for machining of stainless steel
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Stain ST > 40 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1891 | ● | ● | | | | | | | ● | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| 30-1891 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1891 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.00 | | 0.0787 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.00 | | 0.1969 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.20 | | 0.0866 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.10 | | 0.2008 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.30 | | 0.0906 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.16 | 13/64 | 0.2031 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.38 | 3/32 | 0.0937 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.20 | | 0.2047 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.40 | | 0.0945 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.30 | | 0.2087 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.50 | | 0.0984 | 0.39 | 0.55 | 1.81 | 10.00 | 14.00 | 46.00 | 4 | 5.40 | | 0.2126 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.55 | | 0.1004 | 0.55 | 0.79 | 1.97 | 14.00 | 20.00 | 50.00 | 4 | 5.50 | | 0.2165 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.70 | | 0.1063 | 0.55 | 0.79 | 1.97 | 14.00 | 20.00 | 50.00 | 4 | 5.55 | 7/32 | 0.2187 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.78 | 7/64 | 0.1094 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 5.60 | | 0.2205 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.80 | | 0.1102 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 5.70 | | 0.2244 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.90 | | 0.1141 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 5.80 | | 0.2283 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.00 | | 0.1181 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 5.90 | | 0.2323 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.10 | | 0.1220 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 5.95 | 15/64 | 0.2343 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.17 | 1/8 | 0.1250 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.00 | | 0.2362 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.20 | | 0.1260 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.10 | | 0.2402 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.25 | | 0.1280 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.20 | | 0.2441 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.30 | | 0.1299 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.30 | | 0.2480 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.40 | | 0.1339 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.35 | 1/4 | 0.2500 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.50 | | 0.1378 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.40 | | 0.2520 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.50 | | 0.2559 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.60 | | 0.1417 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.60 | | 0.2598 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.65 | | 0.1437 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.70 | | 0.2638 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.70 | | 0.1457 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.75 | 17/64 | 0.2656 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.80 | | 0.1496 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.80 | | 0.2677 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.90 | | 0.1535 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.90 | | 0.2717 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.00 | | 0.2756 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 4.00 | | 0.1575 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.10 | | 0.2795 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.10 | | 0.1614 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.20 | | 0.1654 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.20 | | 0.2835 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.30 | | 0.1693 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.30 | | 0.2874 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.40 | | 0.2913 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.40 | | 0.1732 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.50 | | 0.2953 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.50 | | 0.1772 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.57 | | 0.1799 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.60 | | 0.2992 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.60 | | 0.1811 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.70 | | 0.3031 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.65 | | 0.1831 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.80 | | 0.3071 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.70 | | 0.1850 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.90 | | 0.3110 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.80 | | 0.1890 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.00 | | 0.3150 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.90 | | 0.1929 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.10 | | 0.3189 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
 For cutting data, see page 79.

Order example: HA-Shank 30-1891-0800
 HB-Shank 30-1891-0800-HB
 HE-Shank 30-1891-0800-HE

| 30-1891 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1891 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.20 | | 0.3228 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 12.70 | 1/2 | 0.5000 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.30 | | 0.3268 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 12.75 | | 0.5020 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.33 | 21/64 | 0.3281 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 12.80 | | 0.5039 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.40 | | 0.3307 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 12.90 | | 0.5079 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.50 | | 0.3346 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.00 | | 0.5118 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.60 | | 0.3386 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.10 | 33/64 | 0.5156 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.70 | | 0.3425 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.20 | | 0.5197 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.73 | 11/32 | 0.3437 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.30 | | 0.5236 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.80 | | 0.3465 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.40 | | 0.5276 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 8.90 | | 0.3504 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.49 | 17/32 | 0.5312 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.00 | | 0.3543 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.50 | | 0.5315 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.10 | | 0.3583 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.60 | | 0.5354 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.70 | | 0.5394 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.20 | | 0.3622 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.80 | | 0.5433 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.30 | | 0.3661 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.89 | 35/64 | 0.5468 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.40 | | 0.3701 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.90 | | 0.5472 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.50 | | 0.3740 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.00 | | 0.5512 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.10 | | 0.5551 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.55 | | 0.3760 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.20 | | 0.5591 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.60 | | 0.3780 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.25 | | 0.5610 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.70 | | 0.3819 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.29 | 9/16 | 0.5625 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.80 | | 0.3858 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.30 | | 0.5630 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.90 | | 0.3898 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.40 | | 0.5669 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.50 | | 0.5709 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.00 | | 0.3937 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.60 | | 0.5748 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.10 | | 0.3976 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.68 | 37/64 | 0.5781 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.20 | | 0.4016 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.70 | | 0.5787 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.30 | | 0.4055 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.80 | | 0.5827 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.90 | | 0.5866 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.40 | | 0.4094 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.00 | | 0.5906 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.50 | | 0.4134 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.08 | 19/32 | 0.5937 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.60 | | 0.4173 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.10 | | 0.5945 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.70 | | 0.4213 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.20 | | 0.5984 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.30 | | 0.6024 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.80 | | 0.4252 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.40 | | 0.6063 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.90 | | 0.4291 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.48 | 39/64 | 0.6093 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.00 | | 0.4331 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.50 | | 0.6102 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.10 | | 0.4370 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.60 | | 0.6142 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.70 | | 0.6181 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.20 | | 0.4409 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.80 | | 0.6220 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.30 | | 0.4449 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.88 | 5/8 | 0.6250 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.40 | | 0.4488 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.90 | | 0.6260 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.50 | | 0.4528 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.00 | | 0.6299 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.60 | | 0.4567 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.50 | | 0.6496 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.70 | | 0.4606 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.80 | | 0.4646 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.00 | | 0.6693 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.90 | | 0.4685 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.46 | 11/16 | 0.6875 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.50 | | 0.6890 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.00 | | 0.4724 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 18.00 | | 0.7087 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.10 | | 0.4764 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.26 | 23/32 | 0.7187 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.20 | | 0.4803 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 18.50 | | 0.7283 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.25 | | 0.4823 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.00 | | 0.7480 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.30 | 31/64 | 0.4843 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.05 | 3/4 | 0.7500 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.40 | | 0.4882 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.45 | 49/64 | 0.7656 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.50 | | 0.4921 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 19.50 | | 0.7677 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.60 | | 0.4961 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 | 20.00 | | 0.7874 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |

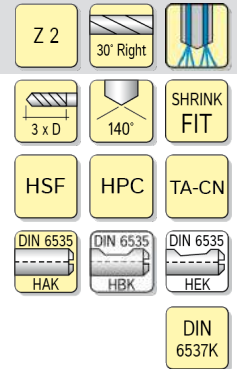
On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 79.

Order example: HA-Shank 30-1891-0800
HB-Shank 30-1891-0800-HB
HE-Shank 30-1891-0800-HE

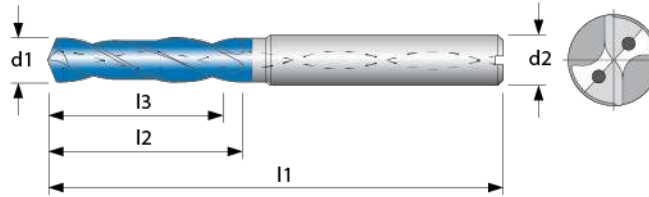
HAM 30-1881 Nirodrill

Solid Carbide Spiral Drill

3 X D



- Engineering Data**
- special chip flute geometry
 - special point ground for machining of stainless steel
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Stain ST > 40 Rockwell | Cast Iron | Modular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1881 | ● | ● | | | | | | | ● | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| 30-1881 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1881 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.80 | | 0.1102 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.90 | | 0.2323 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 2.90 | | 0.1141 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 4 | 5.95 | 15/64 | 0.2343 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.00 | | 0.1181 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.00 | | 0.2362 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 |
| 3.10 | | 0.1220 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.10 | | 0.2402 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.20 | | 0.2441 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.20 | | 0.1260 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.30 | | 0.2480 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.30 | | 0.1299 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.35 | 1/4 | 0.2500 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.40 | | 0.1339 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.40 | | 0.2520 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.50 | | 0.1378 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.50 | | 0.2559 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.53 | F | 0.2570 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.60 | | 0.1417 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.60 | | 0.2598 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.70 | | 0.1457 | 0.55 | 0.79 | 2.44 | 14.00 | 20.00 | 62.00 | 6 | 6.70 | | 0.2638 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.75 | | 0.1476 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.75 | 17/64 | 0.2657 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.80 | | 0.1496 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.80 | | 0.2677 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.90 | | 0.1535 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 6.90 | | 0.2717 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.00 | | 0.2756 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 |
| 4.00 | | 0.1575 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.10 | | 0.2795 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.10 | | 0.1614 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.20 | | 0.1654 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.20 | | 0.2835 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.30 | | 0.1693 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.30 | | 0.2874 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.40 | | 0.2913 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.40 | | 0.1732 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.50 | | 0.2953 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.50 | | 0.1772 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.60 | | 0.1811 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.60 | | 0.2992 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.65 | | 0.1830 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.70 | | 0.3031 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.70 | | 0.1850 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 7.80 | | 0.3071 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.90 | | 0.3110 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.80 | | 0.1890 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 4.90 | | 0.1929 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.00 | | 0.3150 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 |
| 5.00 | | 0.1969 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.10 | | 0.3189 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.10 | | 0.2008 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.20 | | 0.3228 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.30 | | 0.3268 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.20 | | 0.2047 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.33 | 21/64 | 0.3280 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.30 | | 0.2087 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.40 | | 0.3307 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.40 | | 0.2126 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.50 | | 0.3346 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.50 | | 0.2165 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.60 | | 0.3386 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.55 | 7/32 | 0.2187 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.70 | | 0.3425 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.60 | | 0.2205 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.73 | 11/32 | 0.3437 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.70 | | 0.2244 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.80 | | 0.3465 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |
| 5.80 | | 0.2283 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 8.85 | S | 0.3480 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

Order example: HA-Shank 30-1881-0750
HB-Shank 30-1881-0750-HB
HE-Shank 30-1881-0750-HE

| 30-1881 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1881 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.90 | | 0.3504 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.10 | 33/64 | 0.5156 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.00 | | 0.3543 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.20 | | 0.5197 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.10 | | 0.3583 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.30 | | 0.5236 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.40 | | 0.5276 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.20 | | 0.3622 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.49 | 17/32 | 0.5312 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.30 | | 0.3661 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.50 | | 0.5315 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.35 | U | 0.3681 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.60 | | 0.5354 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.40 | | 0.3701 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.65 | | 0.5374 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.50 | | 0.3740 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.70 | | 0.5394 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 |
| 9.52 | 3/8 | 0.3750 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.80 | | 0.5433 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 9.60 | | 0.3780 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.89 | 35/64 | 0.5468 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 14 |
| 9.70 | | 0.3819 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 13.90 | | 0.5472 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 14 |
| 9.80 | | 0.3858 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.00 | | 0.5512 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 14 |
| 9.90 | | 0.3898 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.10 | | 0.5551 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.20 | | 0.5591 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.00 | | 0.3937 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 14.29 | 9/16 | 0.5625 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.10 | | 0.3976 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.30 | | 0.5630 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.20 | | 0.4016 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.40 | | 0.5669 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.30 | | 0.4055 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.50 | | 0.5709 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.60 | | 0.5748 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.40 | | 0.4094 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.68 | 37/64 | 0.5781 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.50 | | 0.4134 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.70 | | 0.5787 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.60 | | 0.4173 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.80 | | 0.5827 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.70 | | 0.4213 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 14.90 | | 0.5866 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.72 | 27/64 | 0.4220 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.00 | | 0.5906 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.80 | | 0.4252 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.08 | 19/32 | 0.5937 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 10.90 | | 0.4291 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.10 | | 0.5945 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.00 | | 0.4331 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.20 | | 0.5984 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.10 | | 0.4370 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.30 | | 0.6024 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.40 | | 0.6063 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.20 | | 0.4409 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.48 | 39/64 | 0.6093 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.30 | | 0.4449 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.50 | | 0.6102 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 11.40 | | 0.4488 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.60 | | 0.6142 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.50 | | 0.4528 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.70 | | 0.6181 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.51 | 29/64 | 0.4531 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.80 | | 0.6220 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.60 | | 0.4567 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.88 | 5/8 | 0.6250 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.70 | | 0.4606 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 15.90 | | 0.6260 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.80 | | 0.4646 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.00 | | 0.6299 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 16 |
| 11.84 | | 0.4660 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 18 |
| 11.90 | | 0.4685 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.50 | | 0.6496 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 18 |
| 12.00 | | 0.4724 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 17.00 | | 0.6693 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 18 |
| 12.10 | | 0.4764 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 17.46 | 11/16 | 0.6875 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 18 |
| 12.20 | | 0.4803 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 17.50 | | 0.6890 | 2.17 | 4.13 | 6.50 | 75.00 | 105.00 | 165.00 | 18 |
| 12.30 | 31/64 | 0.4843 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 18.00 | | 0.7087 | 2.17 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 12.40 | | 0.4882 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 18.26 | 23/32 | 0.7187 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.50 | | 0.4921 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 18.50 | | 0.7283 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.60 | | 0.4961 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 19.00 | | 0.7480 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.70 | 1/2 | 0.5000 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 19.05 | 3/4 | 0.7500 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.80 | | 0.5039 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 19.45 | 49/64 | 0.7656 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 12.90 | | 0.5079 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 19.50 | | 0.7677 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 13.00 | | 0.5118 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 14 | 20.00 | | 0.7874 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

Order example: HA-Shank 30-1881-0750
HB-Shank 30-1881-0750-HB
HE-Shank 30-1881-0750-HE

HAM 30-1901 Nirodrill

270 Series

Solid Carbide Twist Drill

5 X D

Z 2

30° Right

SHRINK FIT

5 x D

140°

HSF

HPC

TA-CN

DIN 6535 HAK

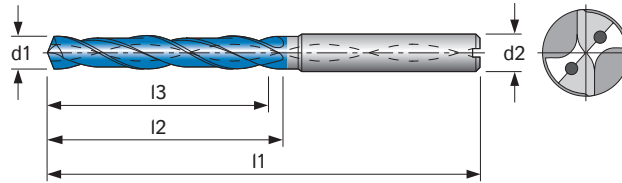
DIN 6535 HBK

DIN 6535 HEK

DIN 6537

Engineering Data

- special chip flute geometry
- special point ground for machining of stainless steel
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1901 | ● | ○ | | | | | | | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| 30-1901 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1901 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.00 | | 0.0787 | 0.39 | 0.55 | 2.17 | 10.00 | 14.00 | 55.00 | 4 | 5.16 | 13/64 | 0.2031 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.20 | | 0.0866 | 0.43 | 0.56 | 2.17 | 11.00 | 14.30 | 55.00 | 4 | 5.20 | | 0.2047 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.30 | | 0.0906 | 0.45 | 0.59 | 2.17 | 11.50 | 15.00 | 55.00 | 4 | 5.30 | | 0.2087 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.38 | 3/32 | 0.0937 | 0.46 | 0.61 | 2.17 | 11.80 | 15.50 | 55.00 | 4 | 5.40 | | 0.2126 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.40 | | 0.0945 | 0.47 | 0.61 | 2.17 | 12.00 | 15.60 | 55.00 | 4 | 5.50 | | 0.2165 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.50 | | 0.0984 | 0.49 | 0.64 | 2.17 | 12.50 | 16.30 | 55.00 | 4 | 5.55 | 7/32 | 0.2187 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.55 | | 0.1004 | 0.50 | 0.65 | 2.17 | 12.80 | 16.60 | 55.00 | 4 | 5.60 | | 0.2205 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.70 | | 0.1063 | 0.53 | 0.69 | 2.17 | 13.50 | 17.60 | 55.00 | 4 | 5.70 | | 0.2244 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.78 | 7/64 | 0.1094 | 0.55 | 0.71 | 2.17 | 13.90 | 18.00 | 55.00 | 4 | 5.80 | | 0.2283 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.80 | | 0.1102 | 0.55 | 0.72 | 2.17 | 14.00 | 18.20 | 55.00 | 4 | 5.90 | | 0.2323 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 2.90 | | 0.1141 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 4 | 5.95 | 15/64 | 0.2343 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.00 | | 0.1181 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.00 | | 0.2362 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 |
| 3.10 | | 0.1220 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.10 | | 0.2402 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.20 | | 0.2441 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.20 | | 0.1260 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.30 | | 0.2480 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.30 | | 0.1299 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.35 | 1/4 | 0.2500 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.40 | | 0.1339 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.40 | | 0.2520 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.50 | | 0.1378 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.50 | | 0.2559 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.53 | F | 0.2570 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.60 | | 0.1718 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.60 | | 0.2598 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.70 | | 0.1457 | 0.91 | 1.10 | 2.60 | 23.00 | 28.00 | 66.00 | 6 | 6.70 | | 0.2638 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.75 | | 0.1476 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.75 | 17/64 | 0.2656 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.80 | | 0.1496 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.80 | | 0.2677 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.90 | | 0.1535 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 6.90 | | 0.2717 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.00 | | 0.2756 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.00 | | 0.1575 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.10 | | 0.2795 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.10 | | 0.1614 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.14 | 9/32 | 0.2812 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.20 | | 0.1654 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.20 | | 0.2835 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.30 | | 0.1693 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.30 | | 0.2874 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.40 | | 0.2913 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.40 | | 0.1732 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.50 | | 0.2953 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.50 | | 0.1772 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.54 | 19/64 | 0.2968 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.60 | | 0.1811 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.60 | | 0.2992 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.65 | | 0.1830 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.70 | | 0.3031 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.70 | | 0.1850 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 7.80 | | 0.3071 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.90 | | 0.3110 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.80 | | 0.1890 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 7.94 | 5/16 | 0.3125 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 4.90 | | 0.1929 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.00 | | 0.3150 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 |
| 5.00 | | 0.1969 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.10 | | 0.3189 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |
| 5.10 | | 0.2008 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 8.20 | | 0.3228 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

Order example: HA-Shank 30-1901-0790
HB-Shank 30-1901-0790-HB
HE-Shank 30-1901-0790-HE

| 30-1901 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1901 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.30 | | 0.3268 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 12.70 | | 0.5000 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.33 | 21/64 | 0.3281 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 12.80 | 1/2 | 0.5039 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.40 | | 0.3307 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 12.90 | | 0.5079 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.50 | | 0.3346 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.00 | | 0.5118 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.60 | | 0.3386 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.10 | 33/64 | 0.5156 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.70 | | 0.3425 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.20 | | 0.5197 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.73 | 11/32 | 0.3437 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.30 | | 0.5236 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.80 | | 0.3465 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.40 | | 0.5276 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.85 | S | 0.3480 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.49 | 17/32 | 0.5312 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 8.90 | | 0.3504 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.50 | | 0.5315 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.00 | | 0.3543 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.60 | | 0.5354 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.10 | | 0.3583 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.65 | | 0.5374 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.70 | | 0.5394 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.20 | | 0.3622 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.80 | | 0.5433 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.30 | | 0.3661 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.89 | 35/64 | 0.5468 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.35 | U | 0.3681 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 13.90 | | 0.5472 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.40 | | 0.3701 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.00 | | 0.5512 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 9.50 | | 0.3740 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.10 | | 0.5551 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.20 | | 0.5591 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.60 | | 0.3780 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.29 | 9/16 | 0.5625 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.70 | | 0.3819 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.30 | | 0.5630 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.80 | | 0.3858 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.40 | | 0.5669 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.90 | | 0.3898 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.50 | | 0.5709 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.60 | | 0.5748 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.00 | | 0.3937 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 14.68 | 37/64 | 0.5781 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.10 | | 0.3976 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.70 | | 0.5787 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.20 | | 0.4016 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.80 | | 0.5827 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.30 | | 0.4055 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 14.90 | | 0.5866 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.00 | | 0.5906 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.40 | | 0.4094 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.08 | 19/32 | 0.5937 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.50 | | 0.4134 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.10 | | 0.5945 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.60 | | 0.4173 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.20 | | 0.5984 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.70 | | 0.4213 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.30 | | 0.6024 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.40 | | 0.6063 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.80 | | 0.4252 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.48 | 39/64 | 0.6093 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 10.90 | | 0.4291 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.50 | | 0.6102 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.00 | | 0.4331 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.60 | | 0.6142 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.10 | | 0.4370 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.70 | | 0.6181 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.80 | | 0.6220 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.20 | | 0.4409 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.88 | 5/8 | 0.6250 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.30 | | 0.4449 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 15.90 | | 0.6260 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.40 | | 0.4488 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.00 | | 0.6299 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 11.50 | | 0.4528 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.27 | 41/64 | 0.6406 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.51 | 29/64 | 0.4531 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.50 | | 0.6496 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.60 | | 0.4567 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 16.67 | 21/32 | 0.6562 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.70 | | 0.4606 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 17.00 | | 0.6693 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.80 | | 0.4646 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 17.46 | 11/16 | 0.6875 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.84 | | 0.4660 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 17.50 | | 0.6890 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.90 | | 0.4685 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 18.00 | | 0.7087 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 18.26 | 23/32 | 0.7187 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.00 | | 0.4724 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 18.50 | | 0.7283 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.10 | | 0.4764 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.00 | | 0.7480 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.20 | | 0.4803 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.05 | 3/4 | 0.7500 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.30 | 31/64 | 0.4843 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.45 | 49/64 | 0.7656 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.40 | | 0.4882 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 19.50 | | 0.7677 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.50 | | 0.4921 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | 20.00 | | 0.7874 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 12.60 | | 0.4961 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 | | | | | | | | | | |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

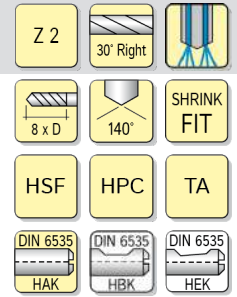
Order example: HA-Shank 30-1901-0790
HB-Shank 30-1901-0790-HB
HE-Shank 30-1901-0790-HE

HAM 30-1941 Nirodrill

271 Series

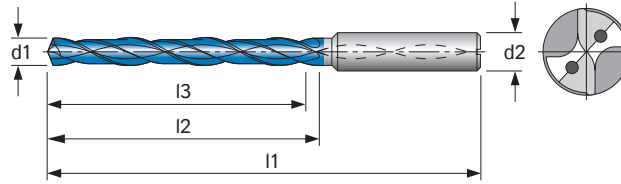
Solid Carbide Twist Drill

8 X D



Engineering Data

- special chip flute geometry
- special point ground for machining of stainless steel
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1941 | ● | ○ | | | | | | | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| 30-1941 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1941 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 2.00 | | 0.0787 | 0.39 | 0.55 | 2.17 | 10.00 | 14.00 | 55.00 | 4 | 5.16 | 13/64 | 0.2031 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.20 | | 0.0866 | 0.43 | 0.56 | 2.17 | 11.00 | 14.30 | 55.00 | 4 | 5.20 | | 0.2047 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.30 | | 0.0906 | 0.45 | 0.59 | 2.17 | 11.50 | 15.00 | 55.00 | 4 | 5.30 | | 0.2087 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.38 | 3/32 | 0.0937 | 0.46 | 0.61 | 2.17 | 11.80 | 15.50 | 55.00 | 4 | 5.40 | | 0.2126 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.40 | | 0.0945 | 0.47 | 0.61 | 2.17 | 12.00 | 15.60 | 55.00 | 4 | 5.50 | | 0.2165 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.50 | | 0.0984 | 0.49 | 0.64 | 2.17 | 12.50 | 16.30 | 55.00 | 4 | 5.55 | 7/32 | 0.2187 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.55 | | 0.1004 | 0.50 | 0.65 | 2.17 | 12.80 | 16.60 | 55.00 | 4 | 5.60 | | 0.2205 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.70 | | 0.1063 | 0.53 | 0.69 | 2.17 | 13.50 | 17.60 | 55.00 | 4 | 5.70 | | 0.2244 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.78 | 7/64 | 0.1094 | 0.55 | 0.71 | 2.17 | 13.90 | 18.00 | 55.00 | 4 | 5.80 | | 0.2283 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.80 | | 0.1102 | 0.55 | 0.72 | 2.17 | 14.00 | 18.20 | 55.00 | 4 | 5.90 | | 0.2323 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 2.90 | | 0.1141 | 0.57 | 0.74 | 2.17 | 14.50 | 18.90 | 55.00 | 4 | 5.95 | 15/64 | 0.2343 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 3.00 | | 0.1181 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.00 | | 0.2362 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 |
| 3.10 | | 0.1220 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.10 | | 0.2402 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.17 | 1/8 | 0.1250 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.20 | | 0.2441 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.20 | | 0.1260 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.30 | | 0.2480 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.30 | | 0.1299 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.35 | 1/4 | 0.2500 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.40 | | 0.1339 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.40 | | 0.2520 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.50 | | 0.1378 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.50 | | 0.2559 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.53 | F | 0.2570 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.60 | | 0.1417 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.60 | | 0.2598 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.70 | | 0.1457 | 1.14 | 1.34 | 2.83 | 29.00 | 34.00 | 72.00 | 6 | 6.70 | | 0.2638 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.75 | | 0.1476 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 6.75 | 17/64 | 0.2656 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.80 | | 0.1496 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 6.80 | | 0.2677 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.90 | | 0.1535 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 6.90 | | 0.2717 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 3.97 | 5/32 | 0.1562 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.00 | | 0.2756 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.00 | | 0.1575 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.10 | | 0.2795 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.10 | | 0.1614 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.14 | 9/32 | 0.2812 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.20 | | 0.1654 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.20 | | 0.2835 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.30 | | 0.1693 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.30 | | 0.2874 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.37 | 11/64 | 0.1718 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.40 | | 0.2913 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.40 | | 0.1732 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.50 | | 0.2953 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.50 | | 0.1772 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.54 | 19/64 | 0.2968 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.60 | | 0.1811 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.60 | | 0.2992 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.65 | | 0.1830 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.70 | | 0.3031 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.70 | | 0.1850 | 1.42 | 1.69 | 3.19 | 36.00 | 43.00 | 81.00 | 6 | 7.80 | | 0.3071 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.76 | 3/16 | 0.1875 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 | 7.90 | | 0.3110 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.80 | | 0.1890 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 | 7.94 | 5/16 | 0.3125 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 4.90 | | 0.1929 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 | 8.00 | | 0.3150 | 2.52 | 2.99 | 4.49 | 64.00 | 76.00 | 114.00 | 8 |
| 5.00 | | 0.1969 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 | 8.10 | | 0.3189 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |
| 5.10 | | 0.2008 | 1.89 | 2.24 | 3.74 | 48.00 | 57.00 | 95.00 | 6 | 8.20 | | 0.3228 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

Order example: HA-Shank 30-1941-0770
HB-Shank 30-1941-0770-HB
HE-Shank 30-1941-0770-HE

| 30-1941 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1941 Ø d1 (m7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 8.30 | | 0.3268 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 12.70 | 1/2 | 0.5000 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.33 | 21/64 | 0.3281 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 12.80 | | 0.5039 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.40 | | 0.3307 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 12.90 | | 0.5079 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.50 | | 0.3346 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.00 | | 0.5118 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.60 | | 0.3386 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.10 | 35/64 | 0.5156 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.70 | | 0.3425 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.20 | | 0.5197 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.73 | 11/32 | 0.3437 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.30 | | 0.5236 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.80 | | 0.3465 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.40 | | 0.5276 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.85 | S | 0.3480 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.49 | 17/32 | 0.5312 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 8.90 | | 0.3504 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.50 | | 0.5315 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.00 | | 0.3543 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.60 | | 0.5354 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.10 | | 0.3583 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.65 | | 0.5374 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.13 | 23/64 | 0.3593 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.70 | | 0.5394 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.20 | | 0.3622 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.80 | | 0.5433 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.30 | | 0.3661 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.89 | 35/64 | 0.5468 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.35 | U | 0.3681 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 13.90 | | 0.5472 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.40 | | 0.3701 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.00 | | 0.5512 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 |
| 9.50 | | 0.3740 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.10 | | 0.5551 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.20 | | 0.5591 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.60 | | 0.3780 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.29 | 9/16 | 0.5625 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.70 | | 0.3819 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.30 | | 0.5630 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.80 | | 0.3858 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.40 | | 0.5669 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.90 | | 0.3898 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.50 | | 0.5709 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 9.92 | 25/64 | 0.3906 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.60 | | 0.5748 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.00 | | 0.3937 | 3.15 | 3.74 | 5.59 | 80.00 | 95.00 | 142.00 | 10 | 14.68 | 37/64 | 0.5781 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.10 | | 0.3976 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.70 | | 0.5787 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.20 | | 0.4016 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.80 | | 0.5827 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.30 | | 0.4055 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 14.90 | | 0.5866 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.32 | 13/32 | 0.4062 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.00 | | 0.5906 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.40 | | 0.4094 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.08 | 19/32 | 0.5937 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.50 | | 0.4134 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.10 | | 0.5945 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.60 | | 0.4173 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.20 | | 0.5984 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.70 | | 0.4213 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.30 | | 0.6024 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.72 | 27/64 | 0.4219 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.40 | | 0.6063 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.80 | | 0.4252 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.48 | 39/64 | 0.6093 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 10.90 | | 0.4291 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.50 | | 0.6102 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.00 | | 0.4331 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.60 | | 0.6142 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.10 | | 0.4370 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.70 | | 0.6181 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.11 | 7/16 | 0.4375 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.80 | | 0.6220 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.20 | | 0.4409 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.88 | 5/8 | 0.6250 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.30 | | 0.4449 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 15.90 | | 0.6260 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.40 | | 0.4488 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.00 | | 0.6299 | 5.04 | 5.98 | 7.99 | 128.00 | 152.00 | 203.00 | 16 |
| 11.50 | | 0.4528 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.27 | 41/64 | 0.6406 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.51 | 29/64 | 0.4531 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.50 | | 0.6496 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.60 | | 0.4567 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 16.67 | 21/32 | 0.6562 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.70 | | 0.4606 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 17.00 | | 0.6693 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.80 | | 0.4646 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 17.46 | 11/16 | 0.6875 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.84 | | 0.4660 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 17.50 | | 0.6890 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.90 | | 0.4685 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 18.00 | | 0.7087 | 5.67 | 6.73 | 8.74 | 144.00 | 171.00 | 222.00 | 18 |
| 11.91 | 15/32 | 0.4687 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 18.26 | 17/32 | 0.7187 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.00 | | 0.4724 | 3.78 | 4.49 | 6.38 | 96.00 | 114.00 | 162.00 | 12 | 18.50 | | 0.7283 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.10 | | 0.4764 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.00 | | 0.7480 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.20 | | 0.4803 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.05 | 3/4 | 0.7500 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.30 | 31/64 | 0.4843 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.45 | 49/64 | 0.7656 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.40 | | 0.4882 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 19.50 | | 0.7677 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.50 | | 0.4921 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | 20.00 | | 0.7874 | 6.30 | 7.48 | 9.57 | 160.00 | 190.00 | 243.00 | 20 |
| 12.60 | | 0.4961 | 4.41 | 5.16 | 7.01 | 112.00 | 131.00 | 178.00 | 14 | | | | | | | | | | |

On request shank form DIN 6535HB or HE available without extra charge.
For cutting data, see page 80.

Order example: HA-Shank 30-1941-0770
HB-Shank 30-1941-0770-HB
HE-Shank 30-1941-0770-HE



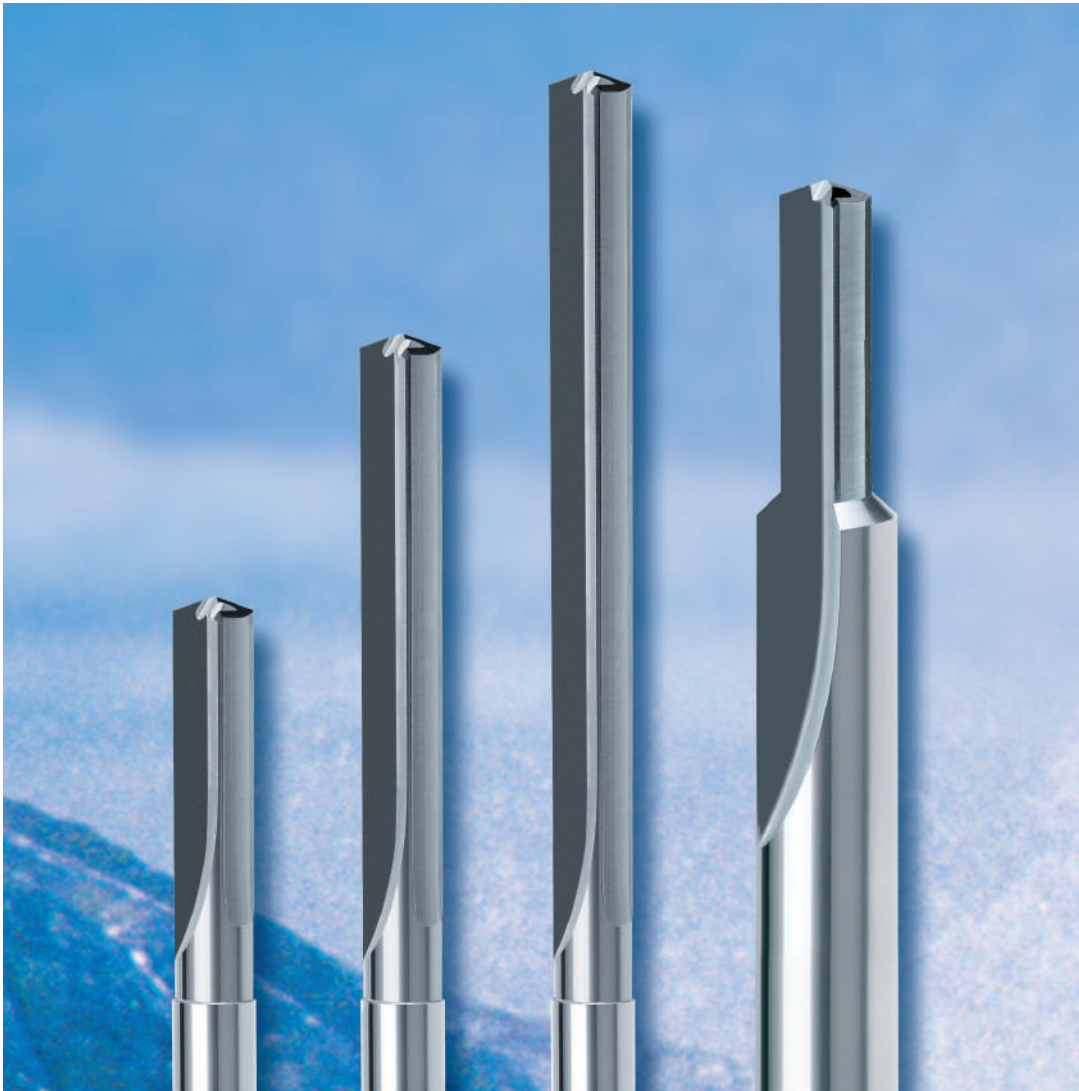
HAM Milling tools according to drawings made from solid carbide, cermet, diamond and CBN



HAM Reaming-and-fine-boring-tools made from solid carbide, cermet, diamond and CBN.

Cermet - Diamond-CBN

Multidrills



HAM Multidrills – particularly suitable for machining of aluminum.

HAM 30-1960/1961 Multidrill

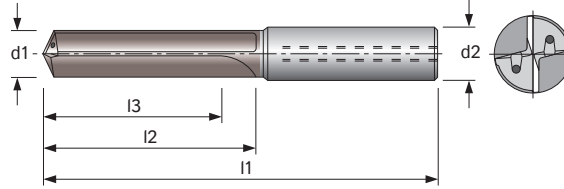
Solid Carbide Drill

3 X D

297 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-1960 Uncoated
- 30-1961 Coated



Z 2
 0° Helix
 3 x D
 140°
 SHRINK FIT
 HPC
 TA
 DIN 6535 HAK
 DIN 6535 HBK
 DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1960 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-1961 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-1960 30-1961 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-1960 30-1961 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 4.00 | | 0.1575 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 10.80 | | 0.4252 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 |
| 4.20 | | 0.1654 | 0.67 | 0.94 | 2.60 | 17.00 | 24.00 | 66.00 | 6 | 11.00 | | 0.4331 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 |
| 4.76 | | 0.1875 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 11.11 | 7/16 | 0.4375 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 |
| 5.00 | | 0.1969 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 11.50 | | 0.4528 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 |
| 5.50 | | 0.2165 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 12.00 | | 0.4724 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 |
| 6.00 | | 0.2362 | 0.79 | 1.10 | 2.60 | 20.00 | 28.00 | 66.00 | 6 | 12.50 | | 0.4921 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 6.35 | 1/4 | 0.2500 | 0.79 | 1.10 | 3.11 | 20.00 | 28.00 | 79.00 | 8 | 12.70 | 1/2 | 0.5000 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 6.50 | | 0.2559 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 | 13.00 | | 0.5118 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 6.80 | | 0.2677 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 | 13.50 | 17/32 | 0.5315 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 7.00 | | 0.2756 | 0.94 | 1.34 | 3.11 | 24.00 | 34.00 | 79.00 | 8 | 14.00 | | 0.5512 | 1.69 | 2.36 | 4.21 | 43.00 | 60.00 | 107.00 | 14 |
| 7.50 | | 0.2953 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 | 14.29 | 9/16 | 0.5625 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 7.94 | 5/16 | 0.3125 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 | 14.50 | | 0.5709 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 8.00 | | 0.3150 | 1.14 | 1.61 | 3.11 | 29.00 | 41.00 | 79.00 | 8 | 15.00 | | 0.5906 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 8.50 | | 0.3346 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 15.88 | 5/8 | 0.6250 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.00 | | 0.3543 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 16.00 | | 0.6299 | 1.77 | 2.56 | 4.53 | 45.00 | 65.00 | 115.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 17.00 | | 0.6693 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 10.00 | | 0.3937 | 1.38 | 1.85 | 3.50 | 35.00 | 47.00 | 89.00 | 10 | 18.00 | | 0.7087 | 2.01 | 2.87 | 4.84 | 51.00 | 73.00 | 123.00 | 18 |
| 10.20 | | 0.4016 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 19.05 | 3/4 | 0.7500 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |
| 10.50 | | 0.4134 | 1.57 | 2.17 | 4.02 | 40.00 | 55.00 | 102.00 | 12 | 20.00 | | 0.7874 | 2.17 | 3.11 | 5.16 | 55.00 | 79.00 | 131.00 | 20 |

Multidrills are also available with ZRN for Aluminum upon request.
For cutting data, see page 85.

Order example: 30-1961-1020

HAM 30-2000/2001 Multidrill

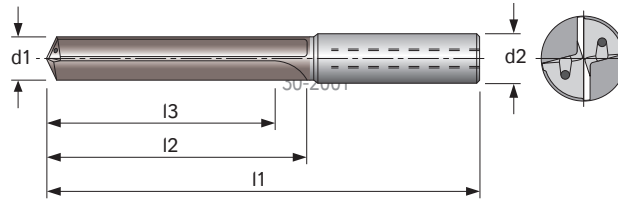
Solid Carbide Drill

5 X D

298 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2000 Uncoated
- 30-2001 Coated



Z 2

0° Helix

5 x D

140°

SHRINK FIT

HPC

TA

DIN 6535
HAK

DIN 6535
HBK

DIN 6535
HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2000 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2001 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2000 30-2001 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2000 30-2001 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 4.00 | | 0.1575 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 10.80 | | 0.4252 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 |
| 4.20 | | 0.1654 | 1.14 | 1.42 | 2.91 | 29.00 | 36.00 | 74.00 | 6 | 11.00 | | 0.4331 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 |
| 4.76 | 3/16 | 0.1875 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 11.11 | 7/16 | 0.4375 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 |
| 5.00 | | 0.1969 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 11.50 | | 0.4528 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 |
| 5.50 | | 0.2165 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 12.00 | | 0.4724 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 |
| 6.00 | | 0.2362 | 1.38 | 1.73 | 3.23 | 35.00 | 44.00 | 82.00 | 6 | 12.50 | | 0.4921 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 6.35 | 1/4 | 0.2500 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 12.70 | 1/2 | 0.5000 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 6.50 | | 0.2559 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 13.00 | | 0.5118 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 6.80 | | 0.2677 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 13.50 | 17/32 | 0.5315 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 7.00 | | 0.2756 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 14.00 | | 0.5512 | 2.36 | 3.03 | 4.88 | 60.00 | 77.00 | 124.00 | 14 |
| 7.50 | | 0.2953 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 14.29 | 9/16 | 0.5625 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 7.94 | 5/16 | 0.3125 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 14.50 | | 0.5709 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 8.00 | | 0.3150 | 1.69 | 2.09 | 3.58 | 43.00 | 53.00 | 91.00 | 8 | 15.00 | | 0.5906 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 8.50 | | 0.3346 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 15.88 | 5/8 | 0.6250 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.00 | | 0.3543 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 16.00 | | 0.6299 | 2.48 | 3.27 | 5.24 | 63.00 | 83.00 | 133.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 17.00 | | 0.6693 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 10.00 | | 0.3937 | 1.93 | 2.40 | 4.06 | 49.00 | 61.00 | 103.00 | 10 | 18.00 | | 0.7087 | 2.80 | 3.66 | 5.63 | 71.00 | 93.00 | 143.00 | 18 |
| 10.20 | | 0.4016 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 19.05 | 3/4 | 0.7500 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |
| 10.50 | | 0.4134 | 2.20 | 2.80 | 4.65 | 56.00 | 71.00 | 118.00 | 12 | 20.00 | | 0.7874 | 3.03 | 3.98 | 6.02 | 77.00 | 101.00 | 153.00 | 20 |

Multidrills are also available with ZRN for Aluminum upon request.
For cutting data, see page 86.

Order example: 30-2001-1020

HAM 30-2040/2041 Multidrill

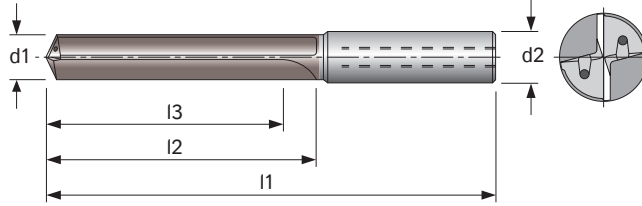
Solid Carbide Drill

7 X D

299 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2040 Uncoated
- 30-2041 Coated



Z 2
 0° Helix
 7 x D
 140°
 SHRINK FIT
 HPC
 TA
 DIN 6535 HAK
 DIN 6535 HBK
 DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2040 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2041 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2040 30-2041 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2040 30-2041 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 4.00 | | 0.1575 | 1.10 | 1.46 | 3.07 | 28.00 | 37.00 | 78.00 | 6 | 10.80 | | 0.4252 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 |
| 4.20 | | 0.1654 | 1.10 | 1.46 | 3.07 | 28.00 | 37.00 | 78.00 | 6 | 11.00 | | 0.4331 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 |
| 4.76 | 3/16 | 0.1875 | 1.38 | 1.93 | 3.46 | 35.00 | 49.00 | 88.00 | 6 | 11.11 | 7/16 | 0.4375 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 |
| 5.00 | | 0.1969 | 1.38 | 1.93 | 3.46 | 35.00 | 49.00 | 88.00 | 6 | 11.50 | | 0.4528 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 |
| 5.50 | | 0.2165 | 1.38 | 1.93 | 3.46 | 35.00 | 49.00 | 88.00 | 6 | 12.00 | | 0.4724 | 3.31 | 3.86 | 5.71 | 84.00 | 98.00 | 145.00 | 12 |
| 6.00 | | 0.2362 | 1.38 | 1.93 | 3.46 | 35.00 | 49.00 | 88.00 | 6 | 12.50 | | 0.4921 | 3.86 | 4.49 | 6.34 | 98.00 | 114.00 | 161.00 | 14 |
| 6.35 | 1/4 | 0.2500 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 12.70 | 1/2 | 0.5000 | 3.86 | 4.49 | 6.34 | 98.00 | 114.00 | 161.00 | 14 |
| 6.50 | | 0.2559 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 13.00 | | 0.5118 | 3.86 | 4.49 | 6.34 | 98.00 | 114.00 | 161.00 | 14 |
| 6.80 | | 0.2677 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 13.50 | 17/32 | 0.5315 | 3.86 | 4.49 | 6.34 | 98.00 | 114.00 | 161.00 | 14 |
| 7.00 | | 0.2756 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 14.00 | | 0.5512 | 3.86 | 4.49 | 6.34 | 98.00 | 114.00 | 161.00 | 14 |
| 7.50 | | 0.2953 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 14.29 | 9/16 | 0.5625 | 4.41 | 5.16 | 7.13 | 112.00 | 131.00 | 181.00 | 16 |
| 7.94 | 5/16 | 0.3125 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 14.50 | | 0.5709 | 4.41 | 5.16 | 7.13 | 112.00 | 131.00 | 181.00 | 16 |
| 8.00 | | 0.3150 | 1.89 | 2.60 | 4.09 | 48.00 | 66.00 | 104.00 | 8 | 15.00 | | 0.5906 | 4.41 | 5.16 | 7.13 | 112.00 | 131.00 | 181.00 | 16 |
| 8.50 | | 0.3346 | 2.76 | 3.86 | 5.51 | 70.00 | 98.00 | 140.00 | 10 | 15.88 | 5/8 | 0.6250 | 4.41 | 5.16 | 7.13 | 112.00 | 131.00 | 181.00 | 16 |
| 9.00 | | 0.3543 | 2.76 | 3.86 | 5.51 | 70.00 | 98.00 | 140.00 | 10 | 16.00 | | 0.6299 | 4.41 | 5.16 | 7.13 | 112.00 | 131.00 | 181.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 2.76 | 3.86 | 5.51 | 70.00 | 98.00 | 140.00 | 10 | 17.00 | | 0.6693 | 4.96 | 5.79 | 7.76 | 126.00 | 147.00 | 197.00 | 18 |
| 10.00 | | 0.3937 | 2.76 | 3.86 | 5.51 | 70.00 | 98.00 | 140.00 | 10 | 18.00 | | 0.7087 | 4.96 | 5.79 | 7.76 | 126.00 | 147.00 | 197.00 | 18 |
| 10.20 | | 0.4016 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 | 19.05 | 3/4 | 0.7500 | 5.51 | 6.46 | 8.50 | 140.00 | 164.00 | 216.00 | 20 |
| 10.50 | | 0.4134 | 2.91 | 3.86 | 5.71 | 74.00 | 98.00 | 145.00 | 12 | 20.00 | | 0.7874 | 5.51 | 6.46 | 8.50 | 140.00 | 164.00 | 216.00 | 20 |

Multidrills are also available with ZRN for Aluminum upon request. For cutting data, see page 87.

Order example: 30-2041-1020

HAM 30-2080/2081 Multidrill

Solid Carbide Drill

12 X D

294 Series

Z 2

0° Helix

12 x D

140°

SHRINK FIT

HPC

TA

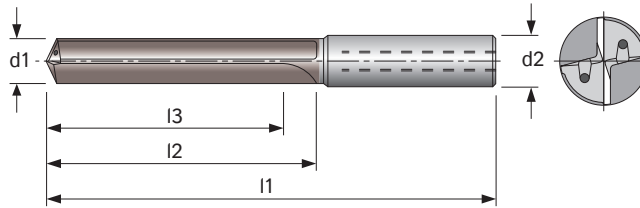
DIN 6535 HAK

DIN 6535 HBK

DIN 6535 HEK

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2080 Uncoated
- 30-2081 Coated



| Material | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2080 | ● | ● | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2081 | ● | ● | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2080 30-2081 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2080 30-2081 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|---------------------------------|------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|---------------------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 4.00 | | 0.1575 | 2.28 | 3.03 | 4.76 | 58.00 | 77.00 | 121.00 | 6 | 10.20 | | 0.4016 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 4.20 | | 0.1654 | 2.28 | 3.03 | 4.76 | 58.00 | 77.00 | 121.00 | 6 | 10.50 | | 0.4134 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 4.76 | 3/16 | 0.1875 | 2.76 | 3.23 | 4.76 | 70.00 | 82.00 | 121.00 | 6 | 10.80 | | 0.4252 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 5.00 | | 0.1969 | 2.76 | 3.23 | 4.76 | 70.00 | 82.00 | 121.00 | 6 | 11.00 | | 0.4331 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 5.50 | | 0.2165 | 2.76 | 3.23 | 4.76 | 70.00 | 82.00 | 121.00 | 6 | 11.11 | 7/16 | 0.4375 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 6.00 | | 0.2362 | 2.76 | 3.23 | 4.76 | 70.00 | 82.00 | 121.00 | 6 | 11.50 | | 0.4528 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 6.35 | 1/4 | 0.2500 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 12.00 | | 0.4724 | 5.59 | 6.26 | 8.23 | 142.00 | 159.00 | 209.00 | 12 |
| 6.50 | | 0.2559 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 12.50 | | 0.4921 | 6.54 | 7.20 | 9.17 | 166.00 | 183.00 | 233.00 | 14 |
| 6.80 | | 0.2677 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 12.70 | 1/2 | 0.5000 | 6.54 | 7.20 | 9.17 | 166.00 | 183.00 | 233.00 | 14 |
| 7.00 | | 0.2756 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 13.00 | | 0.5118 | 6.54 | 7.20 | 9.17 | 166.00 | 183.00 | 233.00 | 14 |
| 7.50 | | 0.2953 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 13.50 | 17/32 | 0.5315 | 6.54 | 7.20 | 9.17 | 166.00 | 183.00 | 233.00 | 14 |
| 7.94 | 5/16 | 0.3125 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 14.00 | | 0.5512 | 6.54 | 7.20 | 9.17 | 166.00 | 183.00 | 233.00 | 14 |
| 8.00 | | 0.3150 | 3.70 | 4.17 | 5.75 | 94.00 | 106.00 | 146.00 | 8 | 14.29 | 9/16 | 0.5625 | 7.56 | 8.15 | 10.24 | 192.00 | 207.00 | 260.00 | 16 |
| 8.50 | | 0.3346 | 4.33 | 5.12 | 6.89 | 110.00 | 130.00 | 175.00 | 10 | 14.50 | | 0.5709 | 7.56 | 8.15 | 10.24 | 192.00 | 207.00 | 260.00 | 16 |
| 9.00 | | 0.3543 | 4.33 | 5.12 | 6.89 | 110.00 | 130.00 | 175.00 | 10 | 15.00 | | 0.5906 | 7.56 | 8.15 | 10.24 | 192.00 | 207.00 | 260.00 | 16 |
| 9.52 | 3/8 | 0.3750 | 4.33 | 5.12 | 6.89 | 110.00 | 130.00 | 175.00 | 10 | 15.88 | 5/8 | 0.6250 | 7.56 | 8.15 | 10.24 | 192.00 | 207.00 | 260.00 | 16 |
| 10.00 | | 0.3937 | 4.33 | 5.12 | 6.89 | 110.00 | 130.00 | 175.00 | 10 | 16.00 | | 0.6299 | 7.56 | 8.15 | 10.24 | 192.00 | 207.00 | 260.00 | 16 |

Multidrills are also available with ZRN for Aluminum upon request.
For cutting data, see page 88.

Order example: 30-2080-1020



Recommendation for Using the Deep Hole Drills 12 to 40 x Diameter

- Drilling a pilot hole with **HAM** Superdrill or **HAM** Multidrill for aluminum (tolerance m7) 1 to 1.5 x D
- Run with the deep hole drill into the pilot hole with low speed and feed rates
- Start cooling
- Increase speed and feed rate
- Machine the deep hole in one step
- Lift the drill, reduce speed and feed, stop cooling and extend the drill

Deep Hole Drill



HAM Deep Hole Drills – particularly suitable for universal workpiece materials.

HAM 30-2181

Solid Carbide Deep Hole Drill

5 X D

Z 2

30° Right

5 x D

140°

SHRINK FIT

HPC

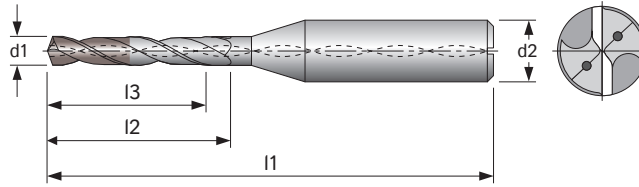
HSF

TA

HA

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2181 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2181 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2181 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.80 | | 0.0315 | 0.16 | 0.22 | 1.97 | 4.00 | 5.50 | 50.00 | 3 | 2.00 | | 0.0787 | 0.39 | 0.51 | 2.17 | 10.00 | 13.00 | 55.00 | 3 |
| 0.85 | | 0.0335 | 0.17 | 0.23 | 1.97 | 4.25 | 5.80 | 50.00 | 3 | 2.05 | | 0.0807 | 0.41 | 0.52 | 2.17 | 10.30 | 13.30 | 55.00 | 3 |
| 0.90 | | 0.0354 | 0.18 | 0.24 | 1.97 | 4.50 | 6.00 | 50.00 | 3 | 2.10 | | 0.0827 | 0.41 | 0.54 | 2.17 | 10.50 | 13.70 | 55.00 | 3 |
| 0.95 | | 0.0374 | 0.19 | 0.24 | 1.97 | 4.75 | 6.20 | 50.00 | 3 | 2.15 | | 0.0846 | 0.43 | 0.55 | 2.17 | 10.80 | 14.00 | 55.00 | 3 |
| 1.00 | | 0.0394 | 0.20 | 0.26 | 1.97 | 5.00 | 6.50 | 50.00 | 3 | 2.20 | | 0.0866 | 0.43 | 0.56 | 2.17 | 11.00 | 14.30 | 55.00 | 3 |
| 1.05 | | 0.0413 | 0.21 | 0.27 | 1.97 | 5.30 | 6.80 | 50.00 | 3 | 2.25 | | 0.0886 | 0.44 | 0.57 | 2.17 | 11.30 | 14.60 | 55.00 | 3 |
| 1.10 | | 0.0433 | 0.22 | 0.28 | 1.97 | 5.50 | 7.20 | 50.00 | 3 | 2.30 | | 0.0906 | 0.45 | 0.59 | 2.17 | 11.50 | 15.00 | 55.00 | 3 |
| 1.15 | | 0.0453 | 0.23 | 0.30 | 1.97 | 5.80 | 7.50 | 50.00 | 3 | 2.35 | | 0.0925 | 0.46 | 0.60 | 2.17 | 11.80 | 15.30 | 55.00 | 3 |
| 1.20 | | 0.0472 | 0.24 | 0.31 | 1.97 | 6.00 | 7.80 | 50.00 | 3 | 2.38 | 3/32 | 0.0937 | 0.47 | 0.61 | 2.17 | 11.90 | 15.50 | 55.00 | 3 |
| 1.25 | | 0.0492 | 0.25 | 0.32 | 1.97 | 6.30 | 8.10 | 50.00 | 3 | 2.40 | | 0.0945 | 0.47 | 0.61 | 2.17 | 12.00 | 15.60 | 55.00 | 3 |
| 1.30 | | 0.0512 | 0.26 | 0.33 | 1.97 | 6.50 | 8.50 | 50.00 | 3 | 2.45 | | 0.0965 | 0.48 | 0.63 | 2.17 | 12.30 | 15.90 | 55.00 | 3 |
| 1.35 | | 0.0531 | 0.27 | 0.35 | 1.97 | 6.80 | 8.80 | 50.00 | 3 | 2.50 | | 0.0984 | 0.49 | 0.64 | 2.17 | 12.50 | 16.30 | 55.00 | 3 |
| 1.40 | | 0.0551 | 0.28 | 0.36 | 1.97 | 7.00 | 9.10 | 50.00 | 3 | 2.55 | | 0.1004 | 0.50 | 0.65 | 2.17 | 12.80 | 16.60 | 55.00 | 3 |
| 1.45 | | 0.0571 | 0.29 | 0.37 | 1.97 | 7.30 | 9.40 | 50.00 | 3 | 2.60 | | 0.1024 | 0.51 | 0.67 | 2.17 | 13.00 | 16.90 | 55.00 | 3 |
| 1.50 | | 0.0591 | 0.30 | 0.39 | 1.97 | 7.50 | 9.80 | 50.00 | 3 | 2.65 | | 0.1043 | 0.52 | 0.68 | 2.17 | 13.30 | 17.20 | 55.00 | 3 |
| 1.55 | | 0.0610 | 0.31 | 0.40 | 1.97 | 7.80 | 10.10 | 50.00 | 3 | 2.70 | | 0.1063 | 0.53 | 0.69 | 2.17 | 13.50 | 17.60 | 55.00 | 3 |
| 1.60 | 1/16 | 0.0630 | 0.31 | 0.41 | 2.17 | 8.00 | 10.40 | 55.00 | 3 | 2.75 | | 0.1083 | 0.54 | 0.70 | 2.17 | 13.80 | 17.90 | 55.00 | 3 |
| 1.65 | | 0.0650 | 0.33 | 0.42 | 2.17 | 8.30 | 10.70 | 55.00 | 3 | 2.78 | 7/64 | 0.1094 | 0.55 | 0.71 | 2.17 | 13.90 | 18.10 | 55.00 | 3 |
| 1.70 | | 0.0669 | 0.33 | 0.44 | 2.17 | 8.50 | 11.10 | 55.00 | 3 | 2.80 | | 0.1102 | 0.55 | 0.72 | 2.17 | 14.00 | 18.20 | 55.00 | 3 |
| 1.75 | | 0.0689 | 0.35 | 0.45 | 2.17 | 8.80 | 11.40 | 55.00 | 3 | 2.85 | | 0.1122 | 0.56 | 0.73 | 2.17 | 14.30 | 18.50 | 55.00 | 3 |
| 1.80 | | 0.0709 | 0.35 | 0.46 | 2.17 | 9.00 | 11.70 | 55.00 | 3 | 2.90 | | 0.1142 | 0.57 | 0.74 | 2.17 | 14.50 | 18.90 | 55.00 | 3 |
| 1.85 | | 0.0728 | 0.37 | 0.47 | 2.17 | 9.30 | 12.00 | 55.00 | 3 | 2.95 | | 0.1161 | 0.58 | 0.76 | 2.17 | 14.80 | 19.20 | 55.00 | 3 |
| 1.90 | | 0.0748 | 0.37 | 0.49 | 2.17 | 9.50 | 12.40 | 55.00 | 3 | 3.00 | | 0.1181 | 0.59 | 0.77 | 2.17 | 15.00 | 19.50 | 55.00 | 3 |
| 1.95 | | 0.0768 | 0.39 | 0.50 | 2.17 | 9.80 | 12.70 | 55.00 | 3 | | | | | | | | | | |

HAM 30-1301 Recommended as pilot hole drill when using deep hole drill, see page 11. For cutting data, see page 81.

Order example: 30-2181-0200



Liquid Boost

From nominal diameter 0.8 mm to 1.45 mm

Advantages:

- with the same pressure up to three times higher flow rate
- higher tool life
- more efficient chip removal

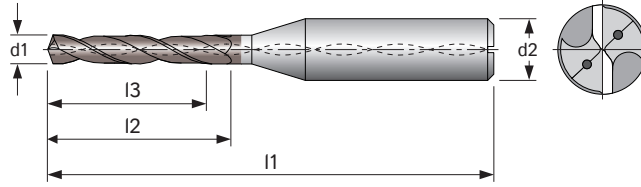
HAM 30-2221

Solid Carbide Deep Hole Drill

8 X D

Z 2
30° Right
SHRINK FIT
8 x D
140°
HSF
HPC
TA
HA

- Engineering Data**
- special 4-facet ground
 - special point grind
 - special chip flute geometry
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2221 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2221 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2221 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.80 | | 0.0315 | 0.25 | 0.31 | 1.97 | 6.40 | 8.00 | 50.00 | 3 | 2.00 | | 0.0787 | 0.63 | 0.75 | 2.36 | 16.00 | 19.00 | 60.00 | 3 |
| 0.85 | | 0.0335 | 0.27 | 0.33 | 1.97 | 6.80 | 8.50 | 50.00 | 3 | 2.05 | | 0.0807 | 0.65 | 0.77 | 2.36 | 16.40 | 19.50 | 60.00 | 3 |
| 0.90 | | 0.0354 | 0.28 | 0.35 | 1.97 | 7.20 | 9.00 | 50.00 | 3 | 2.10 | | 0.0827 | 0.66 | 0.79 | 2.36 | 16.80 | 20.00 | 60.00 | 3 |
| 0.95 | | 0.0374 | 0.30 | 0.37 | 1.97 | 7.60 | 9.50 | 50.00 | 3 | 2.15 | | 0.0846 | 0.68 | 0.80 | 2.36 | 17.20 | 20.40 | 60.00 | 3 |
| 1.00 | | 0.0394 | 0.31 | 0.37 | 1.97 | 8.00 | 9.50 | 50.00 | 3 | 2.20 | | 0.0866 | 0.69 | 0.82 | 2.36 | 17.60 | 20.90 | 60.00 | 3 |
| 1.05 | | 0.0413 | 0.33 | 0.39 | 1.97 | 8.40 | 10.00 | 50.00 | 3 | 2.25 | | 0.0886 | 0.71 | 0.84 | 2.36 | 18.00 | 21.40 | 60.00 | 3 |
| 1.10 | | 0.0433 | 0.35 | 0.41 | 1.97 | 8.80 | 10.50 | 50.00 | 3 | 2.30 | | 0.0906 | 0.72 | 0.86 | 2.36 | 18.40 | 21.90 | 60.00 | 3 |
| 1.15 | | 0.0453 | 0.36 | 0.43 | 1.97 | 9.20 | 10.90 | 50.00 | 3 | 2.35 | | 0.0925 | 0.74 | 0.88 | 2.36 | 18.80 | 22.30 | 60.00 | 3 |
| 1.20 | | 0.0472 | 0.38 | 0.45 | 1.97 | 9.60 | 11.40 | 50.00 | 3 | 2.38 | 3/32 | 0.0937 | 0.75 | 0.89 | 2.36 | 19.00 | 22.60 | 60.00 | 3 |
| 1.25 | | 0.0492 | 0.39 | 0.47 | 1.97 | 10.00 | 11.90 | 50.00 | 3 | 2.40 | | 0.0945 | 0.76 | 0.90 | 2.36 | 19.20 | 22.80 | 60.00 | 3 |
| 1.30 | | 0.0512 | 0.41 | 0.49 | 1.97 | 10.40 | 12.40 | 50.00 | 3 | 2.45 | | 0.0965 | 0.77 | 0.92 | 2.36 | 19.60 | 23.30 | 60.00 | 3 |
| 1.35 | | 0.0531 | 0.43 | 0.50 | 1.97 | 10.80 | 12.80 | 50.00 | 3 | 2.50 | | 0.0984 | 0.79 | 0.94 | 2.36 | 20.00 | 23.80 | 60.00 | 3 |
| 1.40 | | 0.0551 | 0.44 | 0.52 | 1.97 | 11.20 | 13.30 | 50.00 | 3 | 2.55 | | 0.1004 | 0.80 | 0.95 | 2.36 | 20.40 | 24.20 | 60.00 | 3 |
| 1.45 | | 0.0571 | 0.46 | 0.54 | 1.97 | 11.60 | 13.80 | 50.00 | 3 | 2.60 | | 0.1024 | 0.82 | 0.97 | 2.36 | 20.80 | 24.70 | 60.00 | 3 |
| 1.50 | | 0.0591 | 0.47 | 0.56 | 1.97 | 12.00 | 14.30 | 50.00 | 3 | 2.65 | | 0.1043 | 0.83 | 0.99 | 2.36 | 21.20 | 25.20 | 60.00 | 3 |
| 1.55 | | 0.0610 | 0.49 | 0.58 | 1.97 | 12.40 | 14.70 | 50.00 | 3 | 2.70 | | 0.1063 | 0.85 | 1.01 | 2.36 | 21.60 | 25.70 | 60.00 | 3 |
| 1.60 | 1/16 | 0.0630 | 0.50 | 0.60 | 1.97 | 12.80 | 15.20 | 50.00 | 3 | 2.75 | | 0.1083 | 0.87 | 1.03 | 2.36 | 22.00 | 26.10 | 60.00 | 3 |
| 1.65 | | 0.0650 | 0.52 | 0.62 | 2.36 | 13.20 | 15.70 | 60.00 | 3 | 2.78 | 7/64 | 0.1094 | 0.87 | 1.04 | 2.36 | 22.20 | 26.30 | 60.00 | 3 |
| 1.70 | | 0.0669 | 0.54 | 0.64 | 2.36 | 13.60 | 16.20 | 60.00 | 3 | 2.80 | | 0.1102 | 0.88 | 1.05 | 2.36 | 22.40 | 26.60 | 60.00 | 3 |
| 1.75 | | 0.0689 | 0.55 | 0.65 | 2.36 | 14.00 | 16.60 | 60.00 | 3 | 2.85 | | 0.1122 | 0.90 | 1.07 | 2.36 | 22.80 | 27.10 | 60.00 | 3 |
| 1.80 | | 0.0709 | 0.57 | 0.67 | 2.36 | 14.40 | 17.10 | 60.00 | 3 | 2.90 | | 0.1142 | 0.91 | 1.09 | 2.36 | 23.20 | 27.60 | 60.00 | 3 |
| 1.85 | | 0.0728 | 0.58 | 0.69 | 2.36 | 14.80 | 17.60 | 60.00 | 3 | 2.95 | | 0.1161 | 0.93 | 1.10 | 2.36 | 23.60 | 28.00 | 60.00 | 3 |
| 1.90 | | 0.0748 | 0.60 | 0.71 | 2.36 | 15.20 | 18.10 | 60.00 | 3 | 3.00 | | 0.1181 | 0.94 | 1.12 | 2.36 | 24.00 | 28.50 | 60.00 | 3 |
| 1.95 | | 0.0768 | 0.61 | 0.73 | 2.36 | 15.60 | 18.50 | 60.00 | 3 | | | | | | | | | | |

HAM 30-1301 Recommended as pilot hole drill when using deep hole drill, see page 11. For cutting data, see page 81.

Order example: 30-2221-0200



Liquid Boost

From nominal diameter 0.8 mm to 1.45 mm

Advantages:

- with the same pressure up to three times higher flow rate
- higher tool life
- more efficient chip removal

HAM 30-2261

Solid Carbide Deep Hole Drill

12 X D

Z 2

30° Right

12 x D

140°

SHRINK FIT

HPC

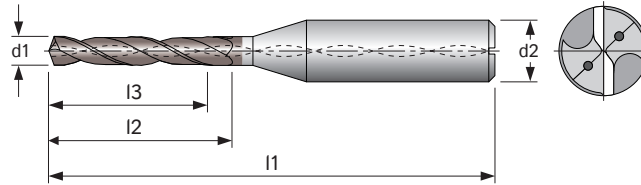
HSF

TA

HA

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



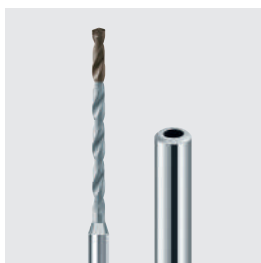
| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2261 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2261 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2261 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.80 | | 0.0315 | 0.38 | 0.44 | 2.17 | 9.60 | 11.20 | 55.00 | 3 | 2.00 | | 0.0787 | 0.94 | 1.06 | 2.56 | 24.00 | 27.00 | 65.00 | 3 |
| 0.85 | | 0.0335 | 0.40 | 0.47 | 2.17 | 10.20 | 11.90 | 55.00 | 3 | 2.05 | | 0.0807 | 0.97 | 1.09 | 2.56 | 24.60 | 27.70 | 65.00 | 3 |
| 0.90 | | 0.0354 | 0.43 | 0.50 | 2.17 | 10.80 | 12.60 | 55.00 | 3 | 2.10 | | 0.0827 | 0.99 | 1.12 | 2.56 | 25.20 | 28.40 | 65.00 | 3 |
| 0.95 | | 0.0374 | 0.45 | 0.52 | 2.17 | 11.40 | 13.30 | 55.00 | 3 | 2.15 | | 0.0846 | 1.02 | 1.14 | 2.56 | 25.80 | 29.00 | 65.00 | 3 |
| 1.00 | | 0.0394 | 0.47 | 0.53 | 2.17 | 12.00 | 13.50 | 55.00 | 3 | 2.20 | | 0.0866 | 1.04 | 1.17 | 2.56 | 26.40 | 29.70 | 65.00 | 3 |
| 1.05 | | 0.0413 | 0.50 | 0.56 | 2.17 | 12.60 | 14.20 | 55.00 | 3 | 2.25 | | 0.0886 | 1.06 | 1.20 | 2.56 | 27.00 | 30.40 | 65.00 | 3 |
| 1.10 | | 0.0433 | 0.52 | 0.59 | 2.17 | 13.20 | 14.90 | 55.00 | 3 | 2.30 | | 0.0906 | 1.09 | 1.22 | 2.56 | 27.60 | 31.10 | 65.00 | 3 |
| 1.15 | | 0.0453 | 0.54 | 0.61 | 2.17 | 13.80 | 15.50 | 55.00 | 3 | 2.35 | | 0.0925 | 1.11 | 1.25 | 2.95 | 28.20 | 31.70 | 75.00 | 3 |
| 1.20 | | 0.0472 | 0.57 | 0.64 | 2.17 | 14.40 | 16.20 | 55.00 | 3 | 2.38 | 3/32 | 0.0937 | 1.13 | 1.27 | 2.95 | 28.60 | 32.20 | 75.00 | 3 |
| 1.25 | | 0.0492 | 0.59 | 0.67 | 2.17 | 15.00 | 16.90 | 55.00 | 3 | 2.40 | | 0.0945 | 1.13 | 1.28 | 2.95 | 28.80 | 32.40 | 75.00 | 3 |
| 1.30 | | 0.0512 | 0.61 | 0.69 | 2.17 | 15.60 | 17.60 | 55.00 | 3 | 2.45 | | 0.0965 | 1.16 | 1.30 | 2.95 | 29.40 | 33.10 | 75.00 | 3 |
| 1.35 | | 0.0531 | 0.64 | 0.72 | 2.17 | 16.20 | 18.20 | 55.00 | 3 | 2.50 | | 0.0984 | 1.18 | 1.33 | 2.95 | 30.00 | 33.80 | 75.00 | 3 |
| 1.40 | | 0.0551 | 0.66 | 0.74 | 2.17 | 16.80 | 18.90 | 55.00 | 3 | 2.55 | | 0.1004 | 1.20 | 1.35 | 2.95 | 30.60 | 34.40 | 75.00 | 3 |
| 1.45 | | 0.0571 | 0.69 | 0.77 | 2.17 | 17.40 | 19.60 | 55.00 | 3 | 2.60 | | 0.1024 | 1.23 | 1.38 | 2.95 | 31.20 | 35.10 | 75.00 | 3 |
| 1.50 | | 0.0591 | 0.71 | 0.80 | 2.17 | 18.00 | 20.30 | 55.00 | 3 | 2.65 | | 0.1043 | 1.25 | 1.41 | 2.95 | 31.80 | 35.80 | 75.00 | 3 |
| 1.55 | | 0.0610 | 0.73 | 0.82 | 2.17 | 18.60 | 20.90 | 55.00 | 3 | 2.70 | | 0.1063 | 1.28 | 1.44 | 2.95 | 32.40 | 36.50 | 75.00 | 3 |
| 1.60 | 1/16 | 0.0630 | 0.76 | 0.85 | 2.56 | 19.20 | 21.60 | 65.00 | 3 | 2.75 | | 0.1083 | 1.30 | 1.46 | 2.95 | 33.00 | 37.10 | 75.00 | 3 |
| 1.65 | | 0.0650 | 0.78 | 0.88 | 2.56 | 19.80 | 22.30 | 65.00 | 3 | 2.78 | 7/64 | 0.1094 | 1.31 | 1.48 | 2.95 | 33.40 | 37.60 | 75.00 | 3 |
| 1.70 | | 0.0669 | 0.80 | 0.91 | 2.56 | 20.40 | 23.00 | 65.00 | 3 | 2.80 | | 0.1102 | 1.32 | 1.49 | 2.95 | 33.60 | 37.80 | 75.00 | 3 |
| 1.75 | | 0.0689 | 0.83 | 0.93 | 2.56 | 21.00 | 23.60 | 65.00 | 3 | 2.85 | | 0.1122 | 1.35 | 1.52 | 2.95 | 34.20 | 38.50 | 75.00 | 3 |
| 1.80 | | 0.0709 | 0.85 | 0.96 | 2.56 | 21.60 | 24.30 | 65.00 | 3 | 2.90 | | 0.1142 | 1.37 | 1.54 | 2.95 | 34.80 | 39.20 | 75.00 | 3 |
| 1.85 | | 0.0728 | 0.87 | 0.98 | 2.56 | 22.20 | 25.00 | 65.00 | 3 | 2.95 | | 0.1161 | 1.39 | 1.57 | 2.95 | 35.40 | 39.80 | 75.00 | 3 |
| 1.90 | | 0.0748 | 0.90 | 1.01 | 2.56 | 22.80 | 25.70 | 65.00 | 3 | 3.00 | | 0.1181 | 1.42 | 1.59 | 2.95 | 36.00 | 40.50 | 75.00 | 3 |
| 1.95 | | 0.0768 | 0.92 | 1.04 | 2.56 | 23.40 | 26.30 | 65.00 | 3 | | | | | | | | | | |

HAM 30-1301 Recommended as pilot hole drill when using deep hole drill, see page 11. For cutting data, see page 81.

Order example: 30-2261-0200



Liquid Boost

From nominal diameter 0.8 mm to 1.45 mm

Advantages:

- with the same pressure up to three times higher flow rate
- higher tool life
- more efficient chip removal

HAM 30-2301

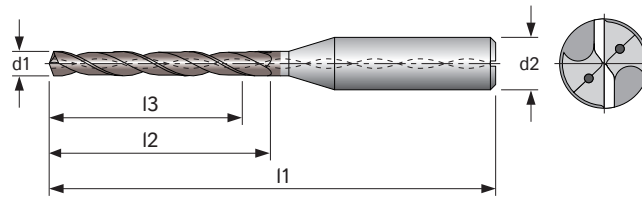
Solid Carbide Deep Hole Drill

15 X D

Z 2
30° Right
15 x D
140°
SHRINK FIT
HPC
HSF
TA
HA

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2301 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2301 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2301 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.80 | | 0.0315 | 0.47 | 0.54 | 2.36 | 12.00 | 13.60 | 60.00 | 3 | 2.00 | | 0.0787 | 1.18 | 1.30 | 2.95 | 30.00 | 33.00 | 75.00 | 3 |
| 0.85 | | 0.0335 | 0.50 | 0.57 | 2.36 | 12.75 | 14.45 | 60.00 | 3 | 2.05 | | 0.0807 | 1.21 | 1.33 | 2.95 | 30.80 | 33.80 | 75.00 | 3 |
| 0.90 | | 0.0354 | 0.53 | 0.60 | 2.36 | 13.50 | 15.30 | 60.00 | 3 | 2.10 | | 0.0827 | 1.24 | 1.37 | 2.95 | 31.50 | 34.70 | 75.00 | 3 |
| 0.95 | | 0.0374 | 0.56 | 0.64 | 2.36 | 14.25 | 16.15 | 60.00 | 3 | 2.15 | | 0.0846 | 1.27 | 1.40 | 2.95 | 32.30 | 35.50 | 75.00 | 3 |
| 1.00 | | 0.0394 | 0.59 | 0.65 | 2.36 | 15.00 | 16.50 | 60.00 | 3 | 2.20 | | 0.0866 | 1.30 | 1.43 | 2.95 | 33.00 | 36.30 | 75.00 | 3 |
| 1.05 | | 0.0413 | 0.62 | 0.68 | 2.36 | 15.80 | 17.30 | 60.00 | 3 | 2.25 | | 0.0886 | 1.33 | 1.46 | 2.95 | 33.80 | 37.10 | 75.00 | 3 |
| 1.10 | | 0.0433 | 0.65 | 0.72 | 2.36 | 16.50 | 18.20 | 60.00 | 3 | 2.30 | | 0.0906 | 1.36 | 1.50 | 3.23 | 34.50 | 38.00 | 82.00 | 3 |
| 1.15 | | 0.0453 | 0.68 | 0.75 | 2.36 | 17.30 | 19.00 | 60.00 | 3 | 2.35 | | 0.0925 | 1.39 | 1.53 | 3.23 | 35.30 | 38.80 | 82.00 | 3 |
| 1.20 | | 0.0472 | 0.71 | 0.78 | 2.36 | 18.00 | 19.80 | 60.00 | 3 | 2.38 | 3/32 | 0.0937 | 1.41 | 1.55 | 3.23 | 35.70 | 39.30 | 82.00 | 3 |
| 1.25 | | 0.0492 | 0.74 | 0.81 | 2.36 | 18.80 | 20.60 | 60.00 | 3 | 2.40 | | 0.0945 | 1.42 | 1.56 | 3.23 | 36.00 | 39.60 | 82.00 | 3 |
| 1.30 | | 0.0512 | 0.77 | 0.85 | 2.36 | 19.50 | 21.50 | 60.00 | 3 | 2.45 | | 0.0965 | 1.45 | 1.59 | 3.23 | 36.80 | 40.40 | 82.00 | 3 |
| 1.35 | | 0.0531 | 0.80 | 0.88 | 2.36 | 20.30 | 22.30 | 60.00 | 3 | 2.50 | | 0.0984 | 1.48 | 1.63 | 3.23 | 37.50 | 41.30 | 82.00 | 3 |
| 1.40 | | 0.0551 | 0.83 | 0.91 | 2.36 | 21.00 | 23.10 | 60.00 | 3 | 2.55 | | 0.1004 | 1.51 | 1.66 | 3.23 | 38.30 | 42.10 | 82.00 | 3 |
| 1.45 | | 0.0571 | 0.86 | 0.94 | 2.36 | 21.80 | 23.90 | 60.00 | 3 | 2.60 | | 0.1024 | 1.54 | 1.69 | 3.23 | 39.00 | 42.90 | 82.00 | 3 |
| 1.50 | | 0.0591 | 0.89 | 0.98 | 2.36 | 22.50 | 24.80 | 60.00 | 3 | 2.65 | | 0.1043 | 1.57 | 1.72 | 3.23 | 39.80 | 43.70 | 82.00 | 3 |
| 1.55 | | 0.0610 | 0.92 | 1.01 | 2.36 | 23.30 | 25.60 | 60.00 | 3 | 2.70 | | 0.1063 | 1.59 | 1.76 | 3.23 | 40.50 | 44.60 | 82.00 | 3 |
| 1.60 | 1/16 | 0.0630 | 0.94 | 1.04 | 2.56 | 24.00 | 26.40 | 65.00 | 3 | 2.75 | | 0.1083 | 1.63 | 1.79 | 3.23 | 41.30 | 45.40 | 82.00 | 3 |
| 1.65 | | 0.0650 | 0.98 | 1.07 | 2.56 | 24.80 | 27.20 | 65.00 | 3 | 2.78 | 7/64 | 0.1094 | 1.64 | 1.81 | 3.23 | 41.70 | 45.90 | 82.00 | 3 |
| 1.70 | | 0.0669 | 1.00 | 1.11 | 2.56 | 25.50 | 28.10 | 65.00 | 3 | 2.80 | | 0.1102 | 1.65 | 1.82 | 3.23 | 42.00 | 46.20 | 82.00 | 3 |
| 1.75 | | 0.0689 | 1.04 | 1.14 | 2.56 | 26.30 | 28.90 | 65.00 | 3 | 2.85 | | 0.1122 | 1.69 | 1.85 | 3.23 | 42.80 | 47.00 | 82.00 | 3 |
| 1.80 | | 0.0709 | 1.06 | 1.17 | 2.56 | 27.00 | 29.70 | 65.00 | 3 | 2.90 | | 0.1142 | 1.71 | 1.89 | 3.23 | 43.50 | 47.90 | 82.00 | 3 |
| 1.85 | | 0.0728 | 1.09 | 1.20 | 2.95 | 27.80 | 30.50 | 75.00 | 3 | 2.95 | | 0.1161 | 1.74 | 1.92 | 3.23 | 44.30 | 48.70 | 82.00 | 3 |
| 1.90 | | 0.0748 | 1.12 | 1.24 | 2.95 | 28.50 | 31.40 | 75.00 | 3 | 3.00 | | 0.1181 | 1.77 | 1.95 | 3.23 | 45.00 | 49.50 | 82.00 | 3 |
| 1.95 | | 0.0768 | 1.15 | 1.27 | 2.95 | 29.30 | 32.20 | 75.00 | 3 | | | | | | | | | | |

HAM 30-1301 Recommended as pilot hole drill when using deep hole drill, see page 11. For cutting data, see page 82.

Order example: 30-2301-0200



Liquid Boost

From nominal diameter 0.8 mm to 1.45 mm

Advantages:

- with the same pressure up to three times higher flow rate
- higher tool life
- more efficient chip removal

HAM 30-2341

Solid Carbide Deep Hole Drill

20 X D

Z 2

30° Right

20 x D

140°

SHRINK FIT

HPC

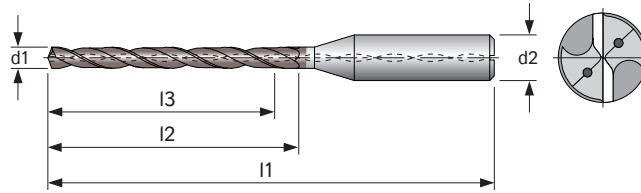
HSF

TA

HA

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



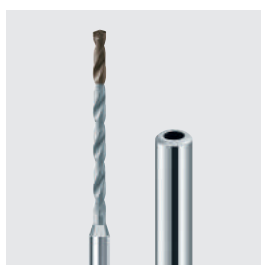
| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2341 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2341 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2341 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 0.80 | | 0.0315 | 0.63 | 0.69 | 2.56 | 16.00 | 17.60 | 65.00 | 3 | 2.00 | | 0.0787 | 1.57 | 1.69 | 3.23 | 40.00 | 43.00 | 82.00 | 3 |
| 0.85 | | 0.0335 | 0.67 | 0.74 | 2.56 | 17.00 | 18.70 | 65.00 | 3 | 2.05 | | 0.0807 | 1.61 | 1.74 | 3.23 | 41.00 | 44.10 | 82.00 | 3 |
| 0.90 | | 0.0354 | 0.71 | 0.78 | 2.56 | 18.00 | 19.80 | 65.00 | 3 | 2.10 | | 0.0827 | 1.65 | 1.78 | 3.23 | 42.00 | 45.20 | 82.00 | 3 |
| 0.95 | | 0.0374 | 0.75 | 0.82 | 2.56 | 19.00 | 20.90 | 65.00 | 3 | 2.15 | | 0.0846 | 1.69 | 1.82 | 3.23 | 43.00 | 46.20 | 82.00 | 3 |
| 1.00 | | 0.0394 | 0.79 | 0.85 | 2.56 | 20.00 | 21.50 | 65.00 | 3 | 2.20 | | 0.0866 | 1.73 | 1.86 | 3.23 | 44.00 | 47.30 | 82.00 | 3 |
| 1.05 | | 0.0413 | 0.83 | 0.89 | 2.56 | 21.00 | 22.60 | 65.00 | 3 | 2.25 | | 0.0886 | 1.77 | 1.91 | 3.23 | 45.00 | 48.40 | 82.00 | 3 |
| 1.10 | | 0.0433 | 0.87 | 0.93 | 2.56 | 22.00 | 23.70 | 65.00 | 3 | 2.30 | | 0.0906 | 1.81 | 1.95 | 3.94 | 46.00 | 49.50 | 100.00 | 3 |
| 1.15 | | 0.0453 | 0.91 | 0.97 | 2.56 | 23.00 | 24.70 | 65.00 | 3 | 2.35 | | 0.0925 | 1.85 | 1.99 | 3.94 | 47.00 | 50.50 | 100.00 | 3 |
| 1.20 | | 0.0472 | 0.94 | 1.02 | 2.56 | 24.00 | 25.80 | 65.00 | 3 | 2.38 | 3/32 | 0.0937 | 1.87 | 2.02 | 3.94 | 47.60 | 51.20 | 100.00 | 3 |
| 1.25 | | 0.0492 | 0.98 | 1.06 | 2.56 | 25.00 | 26.90 | 65.00 | 3 | 2.40 | | 0.0945 | 1.89 | 2.03 | 3.94 | 48.00 | 51.60 | 100.00 | 3 |
| 1.30 | | 0.0512 | 1.02 | 1.10 | 2.56 | 26.00 | 28.00 | 65.00 | 3 | 2.45 | | 0.0965 | 1.93 | 2.07 | 3.94 | 49.00 | 52.70 | 100.00 | 3 |
| 1.35 | | 0.0531 | 1.06 | 1.14 | 2.56 | 27.00 | 29.00 | 65.00 | 3 | 2.50 | | 0.0984 | 1.97 | 2.12 | 3.94 | 50.00 | 53.80 | 100.00 | 3 |
| 1.40 | | 0.0551 | 1.10 | 1.19 | 2.56 | 28.00 | 30.10 | 65.00 | 3 | 2.55 | | 0.1004 | 2.01 | 2.16 | 3.94 | 51.00 | 54.80 | 100.00 | 3 |
| 1.45 | | 0.0571 | 1.14 | 1.23 | 2.95 | 29.00 | 31.20 | 75.00 | 3 | 2.60 | | 0.1024 | 2.05 | 2.20 | 3.94 | 52.00 | 55.90 | 100.00 | 3 |
| 1.50 | | 0.0591 | 1.18 | 1.27 | 2.95 | 30.00 | 32.30 | 75.00 | 3 | 2.65 | | 0.1043 | 2.09 | 2.24 | 3.94 | 53.00 | 57.00 | 100.00 | 3 |
| 1.55 | | 0.0610 | 1.22 | 1.31 | 2.95 | 31.00 | 33.30 | 75.00 | 3 | 2.70 | | 0.1063 | 2.13 | 2.29 | 3.94 | 54.00 | 58.10 | 100.00 | 3 |
| 1.60 | 1/16 | 0.0630 | 1.26 | 1.35 | 2.95 | 32.00 | 34.40 | 75.00 | 3 | 2.75 | | 0.1083 | 2.17 | 2.33 | 3.94 | 55.00 | 59.10 | 100.00 | 3 |
| 1.65 | | 0.0650 | 1.30 | 1.40 | 2.95 | 33.00 | 35.50 | 75.00 | 3 | 2.78 | 7/64 | 0.1094 | 2.19 | 2.35 | 3.94 | 55.60 | 59.80 | 100.00 | 3 |
| 1.70 | | 0.0669 | 1.34 | 1.44 | 2.95 | 34.00 | 36.60 | 75.00 | 3 | 2.80 | | 0.1102 | 2.20 | 2.37 | 3.94 | 56.00 | 60.20 | 100.00 | 3 |
| 1.75 | | 0.0689 | 1.38 | 1.48 | 2.95 | 35.00 | 37.60 | 75.00 | 3 | 2.85 | | 0.1122 | 2.24 | 2.41 | 3.94 | 57.00 | 61.30 | 100.00 | 3 |
| 1.80 | | 0.0709 | 1.42 | 1.52 | 2.95 | 36.00 | 38.70 | 75.00 | 3 | 2.90 | | 0.1142 | 2.28 | 2.46 | 3.94 | 58.00 | 62.40 | 100.00 | 3 |
| 1.85 | | 0.0728 | 1.46 | 1.57 | 2.95 | 37.00 | 39.80 | 75.00 | 3 | 2.95 | | 0.1161 | 2.32 | 2.50 | 3.94 | 59.00 | 63.40 | 100.00 | 3 |
| 1.90 | | 0.0748 | 1.50 | 1.61 | 2.95 | 38.00 | 40.90 | 75.00 | 3 | 3.00 | | 0.1181 | 2.36 | 2.54 | 3.94 | 60.00 | 64.50 | 100.00 | 3 |
| 1.95 | | 0.0768 | 1.54 | 1.65 | 2.95 | 39.00 | 41.90 | 75.00 | 3 | | | | | | | | | | |

HAM 30-1301 Recommended as pilot hole drill when using deep hole drill, see page 11. For cutting data, see page 82.

Order example: 30-2341-0200



Liquid Boost

From nominal diameter 0.8 mm to 1.45 mm

Advantages:

- with the same pressure up to three times higher flow rate
- higher tool life
- more efficient chip removal



HAM – Your competent partner in the precision tool technology



Special Precision Tools

HAM 30-2381

Solid Carbide Deep Hole Drill

15 X D

Z 2

30° Right

15 x D

140°

SHRINK FIT

HPC

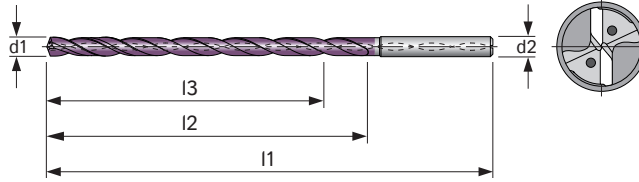
HSF

TA-C

DIN 6535

FHAK

- Engineering Data**
- special 4-facet ground
 - special point grind
 - special chip flute geometry
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2381 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2381 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2381 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 1.77 | 2.01 | 3.74 | 45.0 | 51.0 | 95.00 | 6 | 6.20 | | 0.2441 | 3.66 | 4.15 | 5.91 | 93.0 | 105.4 | 150.00 | 8 |
| 3.10 | | 0.1220 | 1.83 | 2.07 | 3.74 | 46.5 | 52.7 | 95.00 | 6 | 6.30 | | 0.2480 | 3.72 | 4.22 | 5.91 | 94.5 | 107.1 | 150.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 1.87 | 2.12 | 3.74 | 47.6 | 53.9 | 95.00 | 6 | 6.35 | 1/4 | 0.2500 | 3.75 | 4.25 | 5.91 | 95.3 | 108.0 | 150.00 | 8 |
| 3.20 | | 0.1260 | 1.89 | 2.14 | 3.94 | 48.0 | 54.4 | 100.00 | 6 | 6.40 | | 0.2520 | 3.78 | 4.28 | 5.91 | 96.0 | 108.8 | 150.00 | 8 |
| 3.30 | | 0.1299 | 1.95 | 2.21 | 3.94 | 49.5 | 56.1 | 100.00 | 6 | 6.50 | | 0.2559 | 3.84 | 4.35 | 5.91 | 97.5 | 110.5 | 150.00 | 8 |
| 3.40 | | 0.1339 | 2.01 | 2.28 | 3.94 | 51.0 | 57.8 | 100.00 | 6 | 6.60 | | 0.2598 | 3.90 | 4.42 | 6.10 | 99.0 | 112.2 | 155.00 | 8 |
| 3.50 | | 0.1378 | 2.07 | 2.34 | 4.33 | 52.5 | 59.5 | 110.00 | 6 | 6.70 | | 0.2638 | 3.96 | 4.48 | 6.10 | 100.5 | 113.9 | 155.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 2.11 | 2.39 | 4.33 | 53.6 | 60.7 | 110.00 | 6 | 6.75 | 17/64 | 0.2656 | 3.99 | 4.52 | 6.30 | 101.3 | 114.8 | 160.00 | 8 |
| 3.60 | | 0.1417 | 2.13 | 2.41 | 4.33 | 54.0 | 61.2 | 110.00 | 6 | 6.80 | | 0.2677 | 4.02 | 4.55 | 6.30 | 102.0 | 115.6 | 160.00 | 8 |
| 3.70 | | 0.1457 | 2.19 | 2.48 | 4.33 | 55.50 | 62.9 | 110.00 | 6 | 6.90 | | 0.2717 | 4.07 | 4.62 | 6.30 | 103.5 | 117.3 | 160.00 | 8 |
| 3.80 | | 0.1496 | 2.24 | 2.54 | 4.33 | 57.0 | 64.6 | 110.00 | 6 | 7.00 | | 0.2756 | 4.13 | 4.69 | 6.30 | 105.0 | 119.0 | 160.00 | 8 |
| 3.90 | | 0.1535 | 2.30 | 2.61 | 4.33 | 58.5 | 66.3 | 110.00 | 6 | 7.10 | | 0.2795 | 4.19 | 4.75 | 6.50 | 106.5 | 120.7 | 165.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 2.34 | 2.66 | 4.33 | 59.6 | 67.5 | 110.00 | 6 | 7.14 | 9/32 | 0.2811 | 4.22 | 4.78 | 6.50 | 107.1 | 121.4 | 165.00 | 8 |
| 4.00 | | 0.1575 | 2.36 | 2.68 | 4.33 | 60.0 | 68.0 | 110.00 | 6 | 7.20 | | 0.2835 | 4.25 | 4.82 | 6.50 | 108.0 | 122.4 | 165.00 | 8 |
| 4.10 | | 0.1614 | 2.42 | 2.74 | 4.53 | 61.5 | 69.7 | 115.00 | 6 | 7.30 | | 0.2874 | 4.31 | 4.89 | 6.50 | 109.5 | 124.1 | 165.00 | 8 |
| 4.20 | | 0.1654 | 2.48 | 2.81 | 4.72 | 63.0 | 71.4 | 120.00 | 6 | 7.40 | | 0.2913 | 4.37 | 4.95 | 6.50 | 111.0 | 125.8 | 165.00 | 8 |
| 4.30 | | 0.1693 | 2.54 | 2.88 | 4.72 | 64.5 | 73.1 | 120.00 | 6 | 7.50 | | 0.2953 | 4.43 | 5.02 | 6.50 | 112.5 | 127.5 | 165.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 2.58 | 2.92 | 4.72 | 65.6 | 74.3 | 120.00 | 6 | 7.54 | 19/64 | 0.2969 | 4.45 | 5.05 | 6.69 | 113.1 | 128.2 | 170.00 | 8 |
| 4.40 | | 0.1732 | 2.60 | 2.94 | 4.72 | 66.0 | 74.8 | 120.00 | 6 | 7.60 | | 0.2992 | 4.49 | 5.09 | 6.69 | 114.0 | 129.2 | 170.00 | 8 |
| 4.50 | | 0.1772 | 2.66 | 3.01 | 4.72 | 67.5 | 76.5 | 120.00 | 6 | 7.70 | | 0.3031 | 4.55 | 5.15 | 6.69 | 115.5 | 130.9 | 170.00 | 8 |
| 4.60 | | 0.1811 | 2.72 | 3.08 | 4.72 | 69.0 | 78.2 | 120.00 | 6 | 7.80 | | 0.3071 | 4.61 | 5.22 | 6.69 | 117.0 | 132.6 | 170.00 | 8 |
| 4.70 | | 0.1850 | 2.78 | 3.15 | 4.92 | 70.5 | 79.9 | 125.00 | 6 | 7.90 | | 0.3110 | 4.67 | 5.29 | 6.89 | 118.5 | 134.3 | 175.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 2.81 | 3.19 | 4.92 | 71.4 | 80.9 | 125.00 | 6 | 7.94 | 5/16 | 0.3126 | 4.69 | 5.31 | 6.89 | 119.1 | 135.0 | 175.00 | 8 |
| 4.80 | | 0.1890 | 2.83 | 3.21 | 4.92 | 72.0 | 81.6 | 125.00 | 6 | 8.00 | | 0.3150 | 4.72 | 5.35 | 6.89 | 120.0 | 136.0 | 175.00 | 8 |
| 4.90 | | 0.1929 | 2.89 | 3.28 | 4.92 | 73.5 | 83.3 | 125.00 | 6 | 8.10 | | 0.3189 | 4.78 | 5.42 | 7.28 | 121.5 | 137.7 | 185.00 | 10 |
| 5.00 | | 0.1969 | 2.95 | 3.35 | 4.92 | 75.0 | 85.0 | 125.00 | 6 | 8.20 | | 0.3228 | 4.84 | 5.49 | 7.28 | 123.0 | 139.4 | 185.00 | 10 |
| 5.10 | | 0.2008 | 3.01 | 3.41 | 5.12 | 76.5 | 86.7 | 130.00 | 6 | 8.30 | | 0.3268 | 4.90 | 5.56 | 7.48 | 124.5 | 141.1 | 190.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 3.05 | 3.45 | 5.12 | 77.4 | 87.7 | 130.00 | 6 | 8.33 | 21/64 | 0.3281 | 4.92 | 5.58 | 7.48 | 125.0 | 141.6 | 190.00 | 10 |
| 5.20 | | 0.2047 | 3.07 | 3.48 | 5.12 | 78.0 | 88.4 | 130.00 | 6 | 8.40 | | 0.3307 | 4.96 | 5.62 | 7.48 | 126.0 | 142.8 | 190.00 | 10 |
| 5.30 | | 0.2087 | 3.13 | 3.55 | 5.31 | 79.5 | 90.1 | 135.00 | 6 | 8.50 | | 0.3346 | 5.02 | 5.69 | 7.48 | 127.5 | 144.5 | 190.00 | 10 |
| 5.40 | | 0.2126 | 3.19 | 3.61 | 5.31 | 81.0 | 91.8 | 135.00 | 6 | 8.60 | | 0.3386 | 5.08 | 5.76 | 7.68 | 129.0 | 146.2 | 195.00 | 10 |
| 5.50 | | 0.2165 | 3.25 | 3.68 | 5.31 | 82.5 | 93.5 | 135.00 | 6 | 8.70 | | 0.3425 | 5.14 | 5.82 | 7.68 | 130.5 | 147.9 | 195.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 3.28 | 3.72 | 5.51 | 83.3 | 94.4 | 140.00 | 6 | 8.73 | 11/32 | 0.3437 | 5.16 | 5.84 | 7.68 | 131.0 | 148.4 | 195.00 | 10 |
| 5.60 | | 0.2205 | 3.31 | 3.75 | 5.51 | 84.0 | 95.2 | 140.00 | 6 | 8.80 | | 0.3465 | 5.20 | 5.89 | 7.87 | 132.0 | 149.6 | 200.00 | 10 |
| 5.70 | | 0.2244 | 3.37 | 3.81 | 5.51 | 85.5 | 96.9 | 140.00 | 6 | 8.90 | | 0.3504 | 5.26 | 5.96 | 7.87 | 133.5 | 151.3 | 200.00 | 10 |
| 5.80 | | 0.2283 | 3.43 | 3.88 | 5.51 | 87.0 | 98.6 | 140.00 | 6 | 9.00 | | 0.3543 | 5.31 | 6.02 | 7.87 | 135.0 | 153.0 | 200.00 | 10 |
| 5.90 | | 0.2323 | 3.48 | 3.95 | 5.51 | 88.5 | 100.3 | 140.00 | 6 | 9.10 | | 0.3583 | 5.37 | 6.09 | 7.87 | 136.5 | 154.7 | 200.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 3.51 | 3.98 | 5.51 | 89.3 | 101.2 | 140.00 | 6 | 9.13 | 23/64 | 0.3594 | 5.39 | 6.11 | 8.07 | 137.0 | 155.2 | 205.00 | 10 |
| 6.00 | | 0.2362 | 3.54 | 4.02 | 5.51 | 90.0 | 102.0 | 140.00 | 6 | 9.20 | | 0.3622 | 5.43 | 6.16 | 8.07 | 138.0 | 156.4 | 205.00 | 10 |
| 6.10 | | 0.2402 | 3.60 | 4.08 | 5.71 | 91.5 | 103.7 | 145.00 | 8 | 9.30 | | 0.3661 | 5.49 | 6.22 | 8.07 | 139.5 | 158.1 | 205.00 | 10 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2381-0700

| 30-2381 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 5.55 | 6.29 | 8.07 | 141.0 | 159.8 | 205.00 | 10 |
| 9.50 | | 0.3740 | 5.61 | 6.36 | 8.27 | 142.5 | 161.5 | 210.00 | 10 |
| 9.53 | 3/8 | 0.3752 | 5.63 | 6.38 | 8.27 | 143.0 | 162.0 | 210.00 | 10 |
| 9.60 | | 0.3780 | 5.67 | 6.43 | 8.27 | 144.0 | 163.2 | 210.00 | 10 |
| 9.70 | | 0.3819 | 5.73 | 6.49 | 8.27 | 145.5 | 164.9 | 210.00 | 10 |
| 9.80 | | 0.3858 | 5.79 | 6.56 | 8.46 | 147.0 | 166.6 | 215.00 | 10 |
| 9.90 | | 0.3898 | 5.85 | 6.63 | 8.46 | 148.5 | 168.3 | 215.00 | 10 |
| 9.92 | 25/64 | 0.3906 | 5.86 | 6.64 | 8.46 | 148.8 | 168.6 | 215.00 | 10 |
| 10.00 | | 0.3937 | 5.91 | 6.69 | 8.46 | 150.0 | 170.0 | 215.00 | 10 |
| 10.10 | | 0.3976 | 5.96 | 6.76 | 8.86 | 151.5 | 171.7 | 225.00 | 12 |
| 10.20 | | 0.4016 | 6.02 | 6.83 | 9.06 | 153.0 | 173.4 | 230.00 | 12 |
| 10.30 | | 0.4055 | 6.08 | 6.89 | 9.06 | 154.5 | 175.1 | 230.00 | 12 |
| 10.32 | 13/32 | 0.4063 | 6.09 | 6.91 | 9.06 | 154.8 | 175.4 | 230.00 | 12 |
| 10.40 | | 0.4094 | 6.14 | 6.96 | 9.06 | 156.0 | 176.8 | 230.00 | 12 |
| 10.50 | | 0.4134 | 6.20 | 7.03 | 9.06 | 157.5 | 178.5 | 230.00 | 12 |
| 10.60 | | 0.4173 | 6.26 | 7.09 | 9.25 | 159.0 | 180.2 | 235.00 | 12 |
| 10.70 | | 0.4213 | 6.32 | 7.16 | 9.25 | 160.5 | 181.9 | 235.00 | 12 |
| 10.72 | 27/64 | 0.4219 | 6.33 | 7.17 | 9.25 | 160.8 | 182.2 | 235.00 | 12 |
| 10.80 | | 0.4252 | 6.38 | 7.23 | 9.25 | 162.0 | 183.6 | 235.00 | 12 |
| 10.90 | | 0.4291 | 6.44 | 7.30 | 9.45 | 163.5 | 185.3 | 240.00 | 12 |
| 11.00 | | 0.4331 | 6.50 | 7.36 | 9.45 | 165.0 | 187.0 | 240.00 | 12 |
| 11.10 | | 0.4370 | 6.56 | 7.43 | 9.45 | 166.5 | 188.7 | 240.00 | 12 |
| 11.11 | 7/16 | 0.4374 | 6.56 | 7.44 | 9.45 | 166.7 | 188.9 | 240.00 | 12 |
| 11.20 | | 0.4409 | 6.61 | 7.50 | 9.65 | 168.0 | 190.4 | 245.00 | 12 |
| 11.30 | | 0.4449 | 6.67 | 7.56 | 9.65 | 169.5 | 192.1 | 245.00 | 12 |
| 11.40 | | 0.4488 | 6.73 | 7.63 | 9.65 | 171.0 | 193.8 | 245.00 | 12 |
| 11.50 | | 0.4528 | 6.79 | 7.70 | 9.84 | 172.5 | 195.5 | 250.00 | 12 |
| 11.51 | 29/64 | 0.4531 | 6.80 | 7.70 | 9.84 | 172.70 | 195.7 | 250.00 | 12 |

| 30-2381 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 11.60 | | 0.4567 | 6.85 | 7.76 | 9.84 | 174.0 | 197.2 | 250.00 | 12 |
| 11.70 | | 0.4606 | 6.91 | 7.83 | 9.84 | 175.5 | 198.9 | 250.00 | 12 |
| 11.80 | | 0.4646 | 6.97 | 7.90 | 10.04 | 177.0 | 200.6 | 255.00 | 12 |
| 11.90 | | 0.4685 | 7.03 | 7.96 | 10.04 | 178.5 | 202.3 | 255.00 | 12 |
| 11.91 | 15/32 | 0.4689 | 7.03 | 7.97 | 10.04 | 178.7 | 202.5 | 255.00 | 12 |
| 12.00 | | 0.4724 | 7.09 | 8.03 | 10.04 | 180.0 | 204.0 | 255.00 | 12 |
| 12.10 | | 0.4764 | 7.15 | 8.10 | 10.24 | 181.5 | 205.7 | 260.00 | 14 |
| 12.20 | | 0.4803 | 7.20 | 8.17 | 10.24 | 183.0 | 207.4 | 260.00 | 14 |
| 12.30 | 31/64 | 0.4844 | 7.26 | 8.23 | 10.24 | 184.50 | 209.1 | 260.00 | 14 |
| 12.40 | | 0.4882 | 7.32 | 8.30 | 10.43 | 186.0 | 210.8 | 265.00 | 14 |
| 12.50 | | 0.4921 | 7.38 | 8.37 | 10.43 | 187.5 | 212.5 | 265.00 | 14 |
| 12.60 | | 0.4961 | 7.44 | 8.43 | 10.43 | 189.0 | 214.2 | 265.00 | 14 |
| 12.70 | 1/2 | 0.5000 | 7.50 | 8.50 | 10.63 | 190.5 | 215.9 | 270.00 | 14 |
| 12.80 | | 0.5039 | 7.56 | 8.57 | 10.63 | 192.0 | 217.6 | 270.00 | 14 |
| 12.90 | | 0.5079 | 7.62 | 8.63 | 10.63 | 193.5 | 219.3 | 270.00 | 14 |
| 13.00 | | 0.5118 | 7.68 | 8.70 | 10.83 | 195.0 | 221.0 | 275.00 | 14 |
| 13.10 | 33/64 | 0.5156 | 7.74 | 8.77 | 10.83 | 196.5 | 222.7 | 275.00 | 14 |
| 13.20 | | 0.5197 | 7.80 | 8.83 | 10.83 | 198.0 | 224.4 | 275.00 | 14 |
| 13.30 | | 0.5236 | 7.85 | 8.90 | 11.02 | 199.5 | 226.1 | 280.00 | 14 |
| 13.40 | | 0.5276 | 7.91 | 8.97 | 11.02 | 201.0 | 227.8 | 280.00 | 14 |
| 13.49 | 17/32 | 0.5311 | 7.97 | 9.03 | 11.02 | 202.4 | 229.3 | 280.00 | 14 |
| 13.50 | | 0.5315 | 7.97 | 9.04 | 11.02 | 202.5 | 229.5 | 280.00 | 14 |
| 13.60 | | 0.5354 | 8.03 | 9.10 | 11.22 | 204.0 | 231.2 | 285.00 | 14 |
| 13.70 | | 0.5394 | 8.09 | 9.17 | 11.22 | 205.5 | 232.9 | 285.00 | 14 |
| 13.80 | | 0.5433 | 8.15 | 9.24 | 11.22 | 207.0 | 234.6 | 285.00 | 14 |
| 13.89 | 35/64 | 0.5469 | 8.20 | 9.30 | 11.22 | 208.4 | 236.1 | 285.00 | 14 |
| 13.90 | | 0.5472 | 8.21 | 9.30 | 11.22 | 208.5 | 236.3 | 285.00 | 14 |
| 14.00 | | 0.5512 | 8.27 | 9.37 | 11.22 | 210.0 | 238.0 | 285.00 | 14 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2381-0700

HAM 30-2421

Solid Carbide Deep Hole Drill

20 X D

Z 2

30° Right

20 x D

137°

SHRINK FIT

HPC

HSF

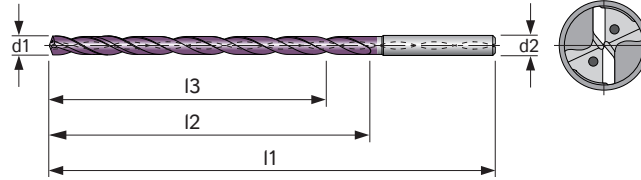
TA-C

DIN 6535

FHAK

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2421 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2421 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2421 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 2.36 | 2.60 | 4.33 | 60.00 | 66.0 | 110.00 | 6 | 6.20 | | 0.2441 | 4.88 | 5.37 | 7.09 | 124.00 | 136.4 | 180.00 | 8 |
| 3.10 | | 0.1220 | 2.44 | 2.69 | 4.33 | 62.00 | 68.2 | 110.00 | 6 | 6.30 | | 0.2480 | 4.96 | 5.46 | 7.09 | 126.00 | 138.6 | 180.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 2.50 | 2.75 | 4.53 | 63.40 | 69.7 | 115.00 | 6 | 6.35 | 1/4 | 0.2500 | 5.00 | 5.50 | 7.09 | 127.00 | 139.7 | 180.00 | 8 |
| 3.20 | | 0.1260 | 2.52 | 2.77 | 4.53 | 64.00 | 70.4 | 115.00 | 6 | 6.40 | | 0.2520 | 5.04 | 5.54 | 7.28 | 128.00 | 140.8 | 185.00 | 8 |
| 3.30 | | 0.1299 | 2.60 | 2.86 | 4.53 | 66.00 | 72.6 | 115.00 | 6 | 6.50 | | 0.2559 | 5.12 | 5.63 | 7.28 | 130.00 | 143.0 | 185.00 | 8 |
| 3.40 | | 0.1339 | 2.68 | 2.94 | 4.72 | 68.00 | 74.8 | 120.00 | 6 | 6.60 | | 0.2598 | 5.20 | 5.72 | 7.48 | 132.00 | 145.2 | 190.00 | 8 |
| 3.50 | | 0.1378 | 2.76 | 3.03 | 4.72 | 70.00 | 77.0 | 120.00 | 6 | 6.70 | | 0.2638 | 5.28 | 5.80 | 7.48 | 134.00 | 147.4 | 190.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 2.81 | 3.09 | 4.72 | 71.40 | 78.5 | 120.00 | 6 | 6.75 | 17/64 | 0.2656 | 5.31 | 5.85 | 7.48 | 135.00 | 148.5 | 190.00 | 8 |
| 3.60 | | 0.1417 | 2.83 | 3.12 | 4.92 | 72.00 | 79.2 | 125.00 | 6 | 6.80 | | 0.2677 | 5.35 | 5.89 | 7.68 | 136.00 | 149.6 | 195.00 | 8 |
| 3.70 | | 0.1457 | 2.91 | 3.20 | 4.92 | 74.00 | 81.4 | 125.00 | 6 | 6.90 | | 0.2717 | 5.43 | 5.98 | 7.68 | 138.00 | 151.8 | 195.00 | 8 |
| 3.80 | | 0.1496 | 2.99 | 3.29 | 5.12 | 76.00 | 83.6 | 130.00 | 6 | 7.00 | | 0.2756 | 5.51 | 6.06 | 7.68 | 140.00 | 154.0 | 195.00 | 8 |
| 3.90 | | 0.1535 | 3.07 | 3.38 | 5.12 | 78.00 | 85.8 | 130.00 | 6 | 7.10 | | 0.2795 | 5.59 | 6.15 | 7.68 | 142.00 | 156.2 | 195.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 3.13 | 3.44 | 5.12 | 79.40 | 87.3 | 130.00 | 6 | 7.14 | 9/32 | 0.2811 | 5.62 | 6.18 | 7.68 | 142.80 | 157.1 | 195.00 | 8 |
| 4.00 | | 0.1575 | 3.15 | 3.46 | 5.12 | 80.00 | 88.0 | 130.00 | 6 | 7.20 | | 0.2835 | 5.67 | 6.24 | 7.87 | 144.00 | 158.4 | 200.00 | 8 |
| 4.10 | | 0.1614 | 3.23 | 3.55 | 5.31 | 82.00 | 90.2 | 135.00 | 6 | 7.30 | | 0.2874 | 5.75 | 6.32 | 8.07 | 146.00 | 160.6 | 205.00 | 8 |
| 4.20 | | 0.1654 | 3.31 | 3.64 | 5.51 | 84.00 | 92.4 | 140.00 | 6 | 7.40 | | 0.2913 | 5.83 | 6.41 | 8.07 | 148.00 | 162.8 | 205.00 | 8 |
| 4.30 | | 0.1693 | 3.39 | 3.72 | 5.51 | 86.00 | 94.6 | 140.00 | 6 | 7.50 | | 0.2953 | 5.91 | 6.50 | 8.27 | 150.00 | 165.0 | 210.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 3.44 | 3.79 | 5.51 | 87.40 | 96.1 | 140.00 | 6 | 7.54 | 19/64 | 0.2969 | 5.94 | 6.53 | 8.27 | 150.80 | 165.9 | 210.00 | 8 |
| 4.40 | | 0.1732 | 3.46 | 3.81 | 5.51 | 88.00 | 96.8 | 140.00 | 6 | 7.60 | | 0.2992 | 5.98 | 6.58 | 8.27 | 152.00 | 167.2 | 210.00 | 8 |
| 4.50 | | 0.1772 | 3.54 | 3.90 | 5.51 | 90.00 | 99.0 | 140.00 | 6 | 7.70 | | 0.3031 | 6.06 | 6.67 | 8.46 | 154.00 | 169.4 | 215.00 | 8 |
| 4.60 | | 0.1811 | 3.62 | 3.98 | 5.71 | 92.00 | 101.2 | 145.00 | 6 | 7.80 | | 0.3071 | 6.14 | 6.76 | 8.46 | 156.00 | 171.6 | 215.00 | 8 |
| 4.70 | | 0.1850 | 3.70 | 4.07 | 5.71 | 94.00 | 103.4 | 145.00 | 6 | 7.90 | | 0.3110 | 6.22 | 6.84 | 8.46 | 158.00 | 173.8 | 215.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 3.75 | 4.12 | 5.71 | 95.20 | 104.7 | 145.00 | 6 | 7.94 | 5/16 | 0.3126 | 6.25 | 6.88 | 8.46 | 158.80 | 174.7 | 215.00 | 8 |
| 4.80 | | 0.1890 | 3.78 | 4.16 | 5.91 | 96.00 | 105.6 | 150.00 | 6 | 8.00 | | 0.3150 | 6.30 | 6.93 | 8.46 | 160.00 | 176.0 | 215.00 | 8 |
| 4.90 | | 0.1929 | 3.86 | 4.24 | 5.91 | 98.00 | 107.8 | 150.00 | 6 | 8.10 | | 0.3189 | 6.38 | 7.02 | 8.86 | 162.00 | 178.2 | 225.00 | 10 |
| 5.00 | | 0.1969 | 3.94 | 4.33 | 5.91 | 100.00 | 110.0 | 150.00 | 6 | 8.20 | | 0.3228 | 6.46 | 7.10 | 8.86 | 164.00 | 180.4 | 225.00 | 10 |
| 5.10 | | 0.2008 | 4.02 | 4.42 | 6.10 | 102.00 | 112.2 | 155.00 | 6 | 8.30 | | 0.3268 | 6.54 | 7.19 | 8.86 | 166.00 | 182.6 | 225.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 4.06 | 4.47 | 6.10 | 103.20 | 113.5 | 155.00 | 6 | 8.33 | 21/64 | 0.3281 | 6.56 | 7.21 | 9.06 | 166.60 | 183.3 | 230.00 | 10 |
| 5.20 | | 0.2047 | 4.09 | 4.50 | 6.30 | 104.00 | 114.4 | 160.00 | 6 | 8.40 | | 0.3307 | 6.61 | 7.28 | 9.06 | 168.00 | 184.8 | 230.00 | 10 |
| 5.30 | | 0.2087 | 4.17 | 4.59 | 6.30 | 106.00 | 116.6 | 160.00 | 6 | 8.50 | | 0.3346 | 6.69 | 7.36 | 9.06 | 170.00 | 187.0 | 230.00 | 10 |
| 5.40 | | 0.2126 | 4.25 | 4.68 | 6.30 | 108.00 | 118.8 | 160.00 | 6 | 8.60 | | 0.3386 | 6.77 | 7.45 | 9.25 | 172.00 | 189.2 | 235.00 | 10 |
| 5.50 | | 0.2165 | 4.33 | 4.76 | 6.30 | 110.00 | 121.0 | 160.00 | 6 | 8.70 | | 0.3425 | 6.85 | 7.54 | 9.25 | 174.00 | 191.4 | 235.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 4.37 | 4.81 | 6.30 | 111.00 | 122.1 | 160.00 | 6 | 8.73 | 11/32 | 0.3437 | 6.87 | 7.56 | 9.25 | 174.60 | 192.1 | 235.00 | 10 |
| 5.60 | | 0.2205 | 4.41 | 4.85 | 6.50 | 112.00 | 123.2 | 165.00 | 6 | 8.80 | | 0.3465 | 6.93 | 7.62 | 9.45 | 176.00 | 193.6 | 240.00 | 10 |
| 5.70 | | 0.2244 | 4.49 | 4.94 | 6.69 | 114.00 | 125.4 | 170.00 | 6 | 8.90 | | 0.3504 | 7.01 | 7.71 | 9.65 | 178.00 | 195.8 | 245.00 | 10 |
| 5.80 | | 0.2283 | 4.57 | 5.02 | 6.69 | 116.00 | 127.6 | 170.00 | 6 | 9.00 | | 0.3543 | 7.09 | 7.80 | 9.84 | 180.00 | 198.0 | 250.00 | 10 |
| 5.90 | | 0.2323 | 4.65 | 5.11 | 6.69 | 118.00 | 129.8 | 170.00 | 6 | 9.10 | | 0.3583 | 7.17 | 7.88 | 9.84 | 182.00 | 200.2 | 250.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 4.69 | 5.15 | 6.69 | 119.00 | 130.9 | 170.00 | 6 | 9.13 | 23/64 | 0.3594 | 7.19 | 7.91 | 9.84 | 182.60 | 200.9 | 250.00 | 10 |
| 6.00 | | 0.2362 | 4.72 | 5.20 | 6.69 | 120.00 | 132.0 | 170.00 | 6 | 9.20 | | 0.3622 | 7.24 | 7.97 | 9.84 | 184.00 | 202.4 | 250.00 | 10 |
| 6.10 | | 0.2402 | 4.80 | 5.28 | 6.89 | 122.00 | 134.2 | 175.00 | 8 | 9.30 | | 0.3661 | 7.32 | 8.06 | 9.84 | 186.00 | 204.6 | 250.00 | 10 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2421-0700

| 30-2421 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2421 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 7.40 | 8.14 | 10.04 | 188.00 | 206.8 | 255.00 | 10 | 11.60 | | 0.4567 | 9.13 | 10.05 | 12.20 | 232.00 | 255.2 | 310.00 | 12 |
| 9.50 | | 0.3740 | 7.48 | 8.23 | 10.04 | 190.00 | 209.0 | 255.00 | 10 | 11.70 | | 0.4606 | 9.21 | 10.13 | 12.20 | 234.00 | 257.4 | 310.00 | 12 |
| 9.53 | 3/8 | 0.3752 | 7.50 | 8.25 | 10.04 | 190.60 | 209.7 | 255.00 | 10 | 11.80 | | 0.4646 | 9.29 | 10.22 | 12.40 | 236.00 | 259.6 | 315.00 | 12 |
| 9.60 | | 0.3780 | 7.56 | 8.31 | 10.24 | 192.00 | 211.2 | 260.00 | 10 | 11.90 | | 0.4685 | 9.37 | 10.31 | 12.40 | 238.00 | 261.8 | 315.00 | 12 |
| 9.70 | | 0.3819 | 7.64 | 8.40 | 10.24 | 194.00 | 213.4 | 260.00 | 10 | 11.91 | 15/32 | 0.4689 | 9.38 | 10.32 | 12.40 | 238.20 | 262.0 | 315.00 | 12 |
| 9.80 | | 0.3858 | 7.72 | 8.49 | 10.43 | 196.00 | 215.6 | 265.00 | 10 | 12.00 | | 0.4724 | 9.45 | 10.39 | 12.40 | 240.00 | 264.0 | 315.00 | 12 |
| 9.90 | | 0.3898 | 7.80 | 8.57 | 10.43 | 198.00 | 217.8 | 265.00 | 10 | 12.10 | | 0.4764 | 9.53 | 10.48 | 12.60 | 242.00 | 266.2 | 320.00 | 14 |
| 9.92 | 25/64 | 0.3906 | 7.81 | 8.59 | 10.43 | 198.40 | 218.2 | 265.00 | 10 | 12.20 | | 0.4803 | 9.61 | 10.57 | 12.60 | 244.00 | 268.4 | 320.00 | 14 |
| 10.00 | | 0.3937 | 7.87 | 8.66 | 10.43 | 200.00 | 220.0 | 265.00 | 10 | 12.30 | 31/64 | 0.4844 | 9.69 | 10.65 | 12.80 | 246.00 | 270.6 | 325.00 | 14 |
| 10.10 | | 0.3976 | 7.95 | 8.75 | 10.83 | 202.00 | 222.2 | 275.00 | 12 | 12.40 | | 0.4882 | 9.76 | 10.74 | 12.80 | 248.00 | 272.8 | 325.00 | 14 |
| 10.20 | | 0.4016 | 8.03 | 8.83 | 10.83 | 204.00 | 224.4 | 275.00 | 12 | 12.50 | | 0.4921 | 9.84 | 10.83 | 12.80 | 250.00 | 275.0 | 325.00 | 14 |
| 10.30 | | 0.4055 | 8.11 | 8.92 | 11.02 | 206.00 | 226.6 | 280.00 | 12 | 12.60 | | 0.4961 | 9.92 | 10.91 | 12.99 | 252.00 | 277.2 | 330.00 | 14 |
| 10.32 | 13/32 | 0.4063 | 8.13 | 8.94 | 11.02 | 206.40 | 227.0 | 280.00 | 12 | 12.70 | 1/2 | 0.5000 | 10.00 | 11.00 | 12.99 | 254.00 | 279.4 | 330.00 | 14 |
| 10.40 | | 0.4094 | 8.19 | 9.01 | 11.02 | 208.00 | 228.8 | 280.00 | 12 | 12.80 | | 0.5039 | 10.08 | 11.09 | 13.19 | 256.00 | 281.6 | 335.00 | 14 |
| 10.50 | | 0.4134 | 8.27 | 9.09 | 11.22 | 210.00 | 231.0 | 285.00 | 12 | 12.90 | | 0.5079 | 10.16 | 11.17 | 13.19 | 258.00 | 283.8 | 335.00 | 14 |
| 10.60 | | 0.4173 | 8.35 | 9.18 | 11.22 | 212.00 | 233.2 | 285.00 | 12 | 13.00 | | 0.5118 | 10.24 | 11.26 | 13.39 | 260.00 | 286.0 | 340.00 | 14 |
| 10.70 | | 0.4213 | 8.43 | 9.27 | 11.42 | 214.00 | 235.4 | 290.00 | 12 | 13.10 | 33/64 | 0.5156 | 10.31 | 11.35 | 13.39 | 262.00 | 288.2 | 340.00 | 14 |
| 10.72 | 27/64 | 0.4219 | 8.44 | 9.29 | 11.42 | 214.40 | 235.8 | 290.00 | 12 | 13.20 | | 0.5197 | 10.39 | 11.43 | 13.58 | 264.00 | 290.4 | 345.00 | 14 |
| 10.80 | | 0.4252 | 8.50 | 9.35 | 11.61 | 216.00 | 237.6 | 295.00 | 12 | 13.30 | | 0.5236 | 10.47 | 11.52 | 13.58 | 266.00 | 292.6 | 345.00 | 14 |
| 10.90 | | 0.4291 | 8.58 | 9.44 | 11.61 | 218.00 | 239.8 | 295.00 | 12 | 13.40 | | 0.5276 | 10.55 | 11.61 | 13.58 | 268.00 | 294.8 | 345.00 | 14 |
| 11.00 | | 0.4331 | 8.66 | 9.53 | 11.61 | 220.00 | 242.0 | 295.00 | 12 | 13.49 | 17/32 | 0.5311 | 10.62 | 11.68 | 13.78 | 269.80 | 296.8 | 350.00 | 14 |
| 11.10 | | 0.4370 | 8.74 | 9.61 | 11.61 | 222.00 | 244.2 | 295.00 | 12 | 13.50 | | 0.5315 | 10.63 | 11.69 | 13.78 | 270.00 | 297.0 | 350.00 | 14 |
| 11.11 | 7/16 | 0.4374 | 8.75 | 9.62 | 11.61 | 222.20 | 244.4 | 295.00 | 12 | 13.60 | | 0.5354 | 10.71 | 11.78 | 13.78 | 272.00 | 299.2 | 350.00 | 14 |
| 11.20 | | 0.4409 | 8.82 | 9.70 | 11.81 | 224.00 | 246.4 | 300.00 | 12 | 13.70 | | 0.5394 | 10.79 | 11.87 | 13.98 | 274.00 | 301.4 | 355.00 | 14 |
| 11.30 | | 0.4449 | 8.90 | 9.79 | 11.81 | 226.00 | 248.6 | 300.00 | 12 | 13.80 | | 0.5433 | 10.87 | 11.95 | 13.98 | 276.00 | 303.6 | 355.00 | 14 |
| 11.40 | | 0.4488 | 8.98 | 9.87 | 12.01 | 228.00 | 250.8 | 305.00 | 12 | 13.89 | 35/64 | 0.5469 | 10.94 | 12.03 | 14.17 | 277.80 | 305.6 | 360.00 | 14 |
| 11.50 | | 0.4528 | 9.06 | 9.96 | 12.01 | 230.00 | 253.0 | 305.00 | 12 | 13.90 | | 0.5472 | 10.94 | 12.04 | 14.17 | 278.00 | 305.8 | 360.00 | 14 |
| 11.51 | 29/64 | 0.4531 | 9.06 | 9.97 | 12.01 | 230.20 | 253.2 | 305.00 | 12 | 14.00 | | 0.5512 | 11.02 | 12.13 | 14.17 | 280.00 | 308.0 | 360.00 | 14 |

HAM 30-1621 Recommended as pilot hole drill
when using deep hole drill, see page 14.
For cutting data, see page 83.

Order example: 30-2421-0700

HAM 30-2461

Solid Carbide Deep Hole Drill

25 X D

Z 2

30° Right

25 x D

137°

SHRINK FIT

HPC

HSF

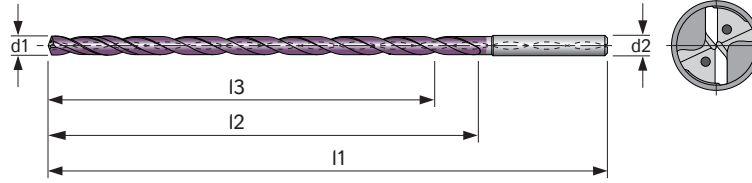
TA-C

DIN 6535

HAK

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2461 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2461 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2461 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 2.95 | 3.19 | 4.92 | 75.00 | 81.0 | 125.00 | 6 | 6.20 | | 0.2441 | 6.10 | 6.59 | 8.27 | 155.00 | 167.4 | 210.00 | 8 |
| 3.10 | | 0.1220 | 3.05 | 3.30 | 4.92 | 77.50 | 83.7 | 125.00 | 6 | 6.30 | | 0.2480 | 6.20 | 6.70 | 8.46 | 157.50 | 170.1 | 215.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 3.12 | 3.37 | 5.12 | 79.25 | 85.6 | 130.00 | 6 | 6.35 | 1/4 | 0.2500 | 6.25 | 6.75 | 8.46 | 158.75 | 171.5 | 215.00 | 8 |
| 3.20 | | 0.1260 | 3.15 | 3.40 | 5.12 | 80.00 | 86.4 | 130.00 | 6 | 6.40 | | 0.2520 | 6.30 | 6.80 | 8.46 | 160.00 | 172.8 | 215.00 | 8 |
| 3.30 | | 0.1299 | 3.25 | 3.51 | 5.51 | 82.50 | 89.1 | 140.00 | 6 | 6.50 | | 0.2559 | 6.40 | 6.91 | 8.46 | 162.50 | 175.5 | 215.00 | 8 |
| 3.40 | | 0.1339 | 3.35 | 3.61 | 5.51 | 85.00 | 91.8 | 140.00 | 6 | 6.60 | | 0.2598 | 6.50 | 7.02 | 8.66 | 165.00 | 178.2 | 220.00 | 8 |
| 3.50 | | 0.1378 | 3.44 | 3.72 | 5.51 | 87.50 | 94.5 | 140.00 | 6 | 6.70 | | 0.2638 | 6.59 | 7.12 | 8.86 | 167.50 | 180.9 | 225.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 3.51 | 3.79 | 5.51 | 89.25 | 96.4 | 140.00 | 6 | 6.75 | 17/64 | 0.2656 | 6.64 | 7.18 | 8.86 | 168.75 | 182.3 | 225.00 | 8 |
| 3.60 | | 0.1417 | 3.54 | 3.83 | 5.51 | 90.00 | 97.2 | 140.00 | 6 | 6.80 | | 0.2677 | 6.69 | 7.23 | 9.06 | 170.00 | 183.6 | 230.00 | 8 |
| 3.70 | | 0.1457 | 3.64 | 3.93 | 5.71 | 92.50 | 99.9 | 145.00 | 6 | 6.90 | | 0.2717 | 6.79 | 7.33 | 9.06 | 172.50 | 186.3 | 230.00 | 8 |
| 3.80 | | 0.1496 | 3.74 | 4.04 | 5.91 | 95.00 | 102.6 | 150.00 | 6 | 7.00 | | 0.2756 | 6.89 | 7.44 | 9.06 | 175.00 | 189.0 | 230.00 | 8 |
| 3.90 | | 0.1535 | 3.84 | 4.15 | 5.91 | 97.50 | 105.3 | 150.00 | 6 | 7.10 | | 0.2795 | 6.99 | 7.55 | 9.25 | 177.50 | 191.7 | 235.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 3.91 | 4.22 | 5.91 | 99.25 | 107.2 | 150.00 | 6 | 7.14 | 9/32 | 0.2811 | 7.03 | 7.59 | 9.25 | 178.50 | 192.8 | 235.00 | 8 |
| 4.00 | | 0.1575 | 3.94 | 4.25 | 5.91 | 100.00 | 108.0 | 150.00 | 6 | 7.20 | | 0.2835 | 7.09 | 7.65 | 9.25 | 180.00 | 194.4 | 235.00 | 8 |
| 4.10 | | 0.1614 | 4.04 | 4.36 | 6.10 | 102.50 | 110.7 | 155.00 | 6 | 7.30 | | 0.2874 | 7.19 | 7.76 | 9.25 | 182.50 | 197.1 | 235.00 | 8 |
| 4.20 | | 0.1654 | 4.13 | 4.46 | 6.30 | 105.00 | 113.4 | 160.00 | 6 | 7.40 | | 0.2913 | 7.28 | 7.87 | 9.65 | 185.00 | 199.8 | 245.00 | 8 |
| 4.30 | | 0.1693 | 4.23 | 4.57 | 6.30 | 107.50 | 116.1 | 160.00 | 6 | 7.50 | | 0.2953 | 7.38 | 7.97 | 10.04 | 187.50 | 202.5 | 255.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 4.30 | 4.65 | 6.30 | 109.25 | 118.0 | 160.00 | 6 | 7.54 | 19/64 | 0.2969 | 7.42 | 8.01 | 10.04 | 188.50 | 203.6 | 255.00 | 8 |
| 4.40 | | 0.1732 | 4.33 | 4.68 | 6.30 | 110.00 | 118.8 | 160.00 | 6 | 7.60 | | 0.2992 | 7.48 | 8.08 | 10.04 | 190.00 | 205.2 | 255.00 | 8 |
| 4.50 | | 0.1772 | 4.43 | 4.78 | 6.50 | 112.50 | 121.5 | 165.00 | 6 | 7.70 | | 0.3031 | 7.58 | 8.19 | 10.04 | 192.50 | 207.9 | 255.00 | 8 |
| 4.60 | | 0.1811 | 4.53 | 4.89 | 6.69 | 115.00 | 124.2 | 170.00 | 6 | 7.80 | | 0.3071 | 7.68 | 8.29 | 10.04 | 195.00 | 210.6 | 255.00 | 8 |
| 4.70 | | 0.1850 | 4.63 | 5.00 | 6.69 | 117.50 | 126.9 | 170.00 | 6 | 7.90 | | 0.3110 | 7.78 | 8.40 | 10.04 | 197.50 | 213.3 | 255.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 4.69 | 5.06 | 6.69 | 119.00 | 128.5 | 170.00 | 6 | 7.94 | 5/16 | 0.3126 | 7.81 | 8.44 | 10.04 | 198.50 | 214.4 | 255.00 | 8 |
| 4.80 | | 0.1890 | 4.72 | 5.10 | 6.89 | 120.00 | 129.6 | 175.00 | 6 | 8.00 | | 0.3150 | 7.87 | 8.50 | 10.04 | 200.00 | 216.0 | 255.00 | 8 |
| 4.90 | | 0.1929 | 4.82 | 5.21 | 6.89 | 122.50 | 132.3 | 175.00 | 6 | 8.10 | | 0.3189 | 7.97 | 8.61 | 10.43 | 202.50 | 218.7 | 265.00 | 10 |
| 5.00 | | 0.1969 | 4.92 | 5.31 | 6.89 | 125.00 | 135.0 | 175.00 | 6 | 8.20 | | 0.3228 | 8.07 | 8.72 | 10.63 | 205.00 | 221.4 | 270.00 | 10 |
| 5.10 | | 0.2008 | 5.02 | 5.42 | 7.09 | 127.50 | 137.7 | 180.00 | 6 | 8.30 | | 0.3268 | 8.17 | 8.82 | 10.63 | 207.50 | 224.1 | 270.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 5.08 | 5.49 | 7.28 | 129.00 | 139.3 | 185.00 | 6 | 8.33 | 21/64 | 0.3281 | 8.20 | 8.85 | 10.63 | 208.25 | 224.9 | 270.00 | 10 |
| 5.20 | | 0.2047 | 5.12 | 5.53 | 7.28 | 130.00 | 140.4 | 185.00 | 6 | 8.40 | | 0.3307 | 8.27 | 8.93 | 10.83 | 210.00 | 226.8 | 275.00 | 10 |
| 5.30 | | 0.2087 | 5.22 | 5.63 | 7.28 | 132.50 | 143.1 | 185.00 | 6 | 8.50 | | 0.3346 | 8.37 | 9.04 | 11.22 | 212.50 | 229.5 | 285.00 | 10 |
| 5.40 | | 0.2126 | 5.31 | 5.74 | 7.48 | 135.00 | 145.8 | 190.00 | 6 | 8.60 | | 0.3386 | 8.46 | 9.14 | 11.22 | 215.00 | 232.2 | 285.00 | 10 |
| 5.50 | | 0.2165 | 5.41 | 5.85 | 7.48 | 137.50 | 148.5 | 190.00 | 6 | 8.70 | | 0.3425 | 8.56 | 9.25 | 11.22 | 217.50 | 234.9 | 285.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 5.46 | 5.90 | 7.68 | 138.75 | 149.9 | 195.00 | 6 | 8.73 | 11/32 | 0.3437 | 8.59 | 9.28 | 11.22 | 218.25 | 235.7 | 285.00 | 10 |
| 5.60 | | 0.2205 | 5.51 | 5.95 | 7.68 | 140.00 | 151.2 | 195.00 | 6 | 8.80 | | 0.3465 | 8.66 | 9.35 | 12.20 | 220.00 | 237.6 | 310.00 | 10 |
| 5.70 | | 0.2244 | 5.61 | 6.06 | 7.68 | 142.50 | 153.9 | 195.00 | 6 | 8.90 | | 0.3504 | 8.76 | 9.46 | 12.20 | 222.50 | 240.3 | 310.00 | 10 |
| 5.80 | | 0.2283 | 5.71 | 6.17 | 7.87 | 145.00 | 156.6 | 200.00 | 6 | 9.00 | | 0.3543 | 8.86 | 9.57 | 12.20 | 225.00 | 243.0 | 310.00 | 10 |
| 5.90 | | 0.2323 | 5.81 | 6.27 | 7.87 | 147.50 | 159.3 | 200.00 | 6 | 9.10 | | 0.3583 | 8.96 | 9.67 | 12.20 | 227.50 | 245.7 | 310.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 5.86 | 6.32 | 7.87 | 148.75 | 160.7 | 200.00 | 6 | 9.13 | 23/64 | 0.3594 | 8.99 | 9.71 | 12.20 | 228.25 | 246.5 | 310.00 | 10 |
| 6.00 | | 0.2362 | 5.91 | 6.38 | 7.87 | 150.00 | 162.0 | 200.00 | 6 | 9.20 | | 0.3622 | 9.06 | 9.78 | 12.20 | 230.00 | 248.4 | 310.00 | 10 |
| 6.10 | | 0.2402 | 6.00 | 6.48 | 8.27 | 152.50 | 164.7 | 210.00 | 8 | 9.30 | | 0.3661 | 9.15 | 9.89 | 12.20 | 232.50 | 251.1 | 310.00 | 10 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2461-0600

| 30-2461 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 9.25 | 9.99 | 12.20 | 235.00 | 253.8 | 310.00 | 10 |
| 9.50 | | 0.3740 | 9.35 | 10.10 | 12.20 | 237.50 | 256.5 | 310.00 | 10 |
| 9.53 | 3/8 | 0.3752 | 9.38 | 10.13 | 12.20 | 238.25 | 257.3 | 310.00 | 10 |
| 9.60 | | 0.3780 | 9.45 | 10.20 | 12.20 | 240.00 | 259.2 | 310.00 | 10 |
| 9.70 | | 0.3819 | 9.55 | 10.31 | 12.20 | 242.50 | 261.9 | 310.00 | 10 |
| 9.80 | | 0.3858 | 9.65 | 10.42 | 12.20 | 245.00 | 264.6 | 310.00 | 10 |
| 9.90 | | 0.3898 | 9.74 | 10.52 | 12.40 | 247.50 | 267.3 | 315.00 | 10 |
| 9.92 | 25/64 | 0.3906 | 9.76 | 10.54 | 12.40 | 248.00 | 267.8 | 315.00 | 10 |
| 10.00 | | 0.3937 | 9.84 | 10.63 | 12.40 | 250.00 | 270.0 | 315.00 | 10 |
| 10.10 | | 0.3976 | 9.94 | 10.74 | 12.80 | 252.50 | 272.7 | 325.00 | 12 |
| 10.20 | | 0.4016 | 10.04 | 10.84 | 12.80 | 255.00 | 275.4 | 325.00 | 12 |
| 10.30 | | 0.4055 | 10.14 | 10.95 | 12.99 | 257.50 | 278.1 | 330.00 | 12 |
| 10.32 | 13/32 | 0.4063 | 10.16 | 10.97 | 12.99 | 258.00 | 278.6 | 330.00 | 12 |
| 10.40 | | 0.4094 | 10.24 | 11.06 | 13.19 | 260.00 | 280.8 | 335.00 | 12 |
| 10.50 | | 0.4134 | 10.33 | 11.16 | 13.19 | 262.50 | 283.5 | 335.00 | 12 |
| 10.60 | | 0.4173 | 10.43 | 11.27 | 13.39 | 265.00 | 286.2 | 340.00 | 12 |
| 10.70 | | 0.4213 | 10.53 | 11.37 | 13.39 | 267.50 | 288.9 | 340.00 | 12 |
| 10.72 | 27/64 | 0.4219 | 10.55 | 11.40 | 13.39 | 268.00 | 289.4 | 340.00 | 12 |
| 10.80 | | 0.4252 | 10.63 | 11.48 | 13.39 | 270.00 | 291.6 | 340.00 | 12 |
| 10.90 | | 0.4291 | 10.73 | 11.59 | 13.58 | 272.50 | 294.3 | 345.00 | 12 |
| 11.00 | | 0.4331 | 10.83 | 11.69 | 13.78 | 275.00 | 297.0 | 350.00 | 12 |
| 11.10 | | 0.4370 | 10.93 | 11.80 | 13.78 | 277.50 | 299.7 | 350.00 | 12 |

| 30-2461 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 11.11 | 7/16 | 0.4374 | 10.94 | 11.81 | 13.78 | 277.75 | 300.0 | 350.00 | 12 |
| 11.20 | | 0.4409 | 11.02 | 11.91 | 13.98 | 280.00 | 302.4 | 355.00 | 12 |
| 11.30 | | 0.4449 | 11.12 | 12.01 | 14.17 | 282.50 | 305.1 | 360.00 | 12 |
| 11.40 | | 0.4488 | 11.22 | 12.12 | 14.17 | 285.00 | 307.8 | 360.00 | 12 |
| 11.50 | | 0.4528 | 11.32 | 12.22 | 14.17 | 287.50 | 310.5 | 360.00 | 12 |
| 11.51 | 29/64 | 0.4531 | 11.33 | 12.24 | 14.37 | 287.75 | 310.8 | 365.00 | 12 |
| 11.60 | | 0.4567 | 11.42 | 12.33 | 14.37 | 290.00 | 313.2 | 365.00 | 12 |
| 11.70 | | 0.4606 | 11.52 | 12.44 | 14.57 | 292.50 | 315.9 | 370.00 | 12 |
| 11.80 | | 0.4646 | 11.61 | 12.54 | 14.76 | 295.00 | 318.6 | 375.00 | 12 |
| 11.90 | | 0.4685 | 11.71 | 12.65 | 14.76 | 297.50 | 321.3 | 375.00 | 12 |
| 11.91 | 15/32 | 0.4689 | 11.72 | 12.66 | 14.76 | 297.75 | 321.6 | 375.00 | 12 |
| 12.00 | | 0.4724 | 11.81 | 12.76 | 14.76 | 300.00 | 324.0 | 375.00 | 12 |
| 12.10 | | 0.4764 | 11.91 | 12.86 | 14.96 | 302.50 | 326.7 | 380.00 | 14 |
| 12.20 | | 0.4803 | 12.01 | 12.97 | 14.96 | 305.00 | 329.4 | 380.00 | 14 |
| 12.30 | 31/64 | 0.4844 | 12.11 | 13.07 | 15.16 | 307.50 | 332.1 | 385.00 | 14 |
| 12.40 | | 0.4882 | 12.20 | 13.18 | 15.16 | 310.00 | 334.8 | 385.00 | 14 |
| 12.50 | | 0.4921 | 12.30 | 13.29 | 15.35 | 312.50 | 337.5 | 390.00 | 14 |
| 12.60 | | 0.4961 | 12.40 | 13.39 | 15.55 | 315.00 | 340.2 | 395.00 | 14 |
| 12.70 | 1/2 | 0.5000 | 12.50 | 13.50 | 15.55 | 317.50 | 342.9 | 395.00 | 14 |
| 12.80 | | 0.5039 | 12.60 | 13.61 | 15.75 | 320.00 | 345.6 | 400.00 | 14 |
| 12.90 | | 0.5079 | 12.70 | 13.71 | 15.75 | 322.50 | 348.3 | 400.00 | 14 |
| 12.90 | | 0.5079 | 12.70 | 13.71 | 15.75 | 322.50 | 348.3 | 400.00 | 14 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14.
For cutting data, see page 83.

Order example: 30-2461-0600

HAM 30-2501

Solid Carbide Deep Hole Drill

30 X D

Z 2

30° Right

30 x D

137°

SHRINK FIT

HPC

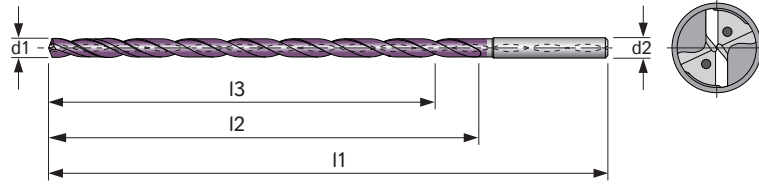
HSF

TA-C

DIN 6535

HAK

- Engineering Data**
- special 4-facet ground
 - special point grind
 - special chip flute geometry
 - 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2501 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2501 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2501 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 3.54 | 3.78 | 5.51 | 90.00 | 96.0 | 140.00 | 6 | 6.20 | | 0.2441 | 7.32 | 7.81 | 9.45 | 186.00 | 198.4 | 240.00 | 8 |
| 3.10 | | 0.1220 | 3.66 | 3.91 | 5.71 | 93.00 | 99.2 | 145.00 | 6 | 6.30 | | 0.2480 | 7.44 | 7.94 | 9.65 | 189.00 | 201.6 | 245.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 3.74 | 3.99 | 5.71 | 95.10 | 101.4 | 145.00 | 6 | 6.35 | 1/4 | 0.2500 | 7.50 | 8.00 | 9.65 | 190.50 | 203.2 | 245.00 | 8 |
| 3.20 | | 0.1260 | 3.78 | 4.03 | 5.91 | 96.00 | 102.4 | 150.00 | 6 | 6.40 | | 0.2520 | 7.56 | 8.06 | 9.84 | 192.00 | 204.8 | 250.00 | 8 |
| 3.30 | | 0.1299 | 3.90 | 4.16 | 5.91 | 99.00 | 105.6 | 150.00 | 6 | 6.50 | | 0.2559 | 7.68 | 8.19 | 9.84 | 195.00 | 208.0 | 250.00 | 8 |
| 3.40 | | 0.1339 | 4.02 | 4.28 | 5.91 | 102.00 | 108.8 | 150.00 | 6 | 6.60 | | 0.2598 | 7.80 | 8.31 | 10.04 | 198.00 | 211.2 | 255.00 | 8 |
| 3.50 | | 0.1378 | 4.13 | 4.41 | 6.10 | 105.00 | 112.0 | 155.00 | 6 | 6.70 | | 0.2638 | 7.91 | 8.44 | 10.24 | 201.00 | 214.4 | 260.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 4.22 | 4.50 | 6.30 | 107.10 | 114.2 | 160.00 | 6 | 6.75 | 17/64 | 0.2656 | 7.97 | 8.50 | 10.24 | 202.50 | 216.0 | 260.00 | 8 |
| 3.60 | | 0.1417 | 4.25 | 4.54 | 6.30 | 108.00 | 115.2 | 160.00 | 6 | 6.80 | | 0.2677 | 8.03 | 8.57 | 10.43 | 204.00 | 217.6 | 265.00 | 8 |
| 3.70 | | 0.1457 | 4.37 | 4.66 | 6.30 | 111.00 | 118.4 | 160.00 | 6 | 6.90 | | 0.2717 | 8.15 | 8.69 | 10.43 | 207.00 | 220.8 | 265.00 | 8 |
| 3.80 | | 0.1496 | 4.49 | 4.79 | 6.69 | 114.00 | 121.6 | 170.00 | 6 | 7.00 | | 0.2756 | 8.27 | 8.82 | 10.43 | 210.00 | 224.0 | 265.00 | 8 |
| 3.90 | | 0.1535 | 4.61 | 4.91 | 6.69 | 117.00 | 124.8 | 170.00 | 6 | 7.10 | | 0.2795 | 8.39 | 8.94 | 10.63 | 213.00 | 227.2 | 270.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 4.69 | 5.00 | 6.69 | 119.10 | 127.0 | 170.00 | 6 | 7.14 | 9/32 | 0.2811 | 8.43 | 9.00 | 10.63 | 214.20 | 228.5 | 270.00 | 8 |
| 4.00 | | 0.1575 | 4.72 | 5.04 | 6.69 | 120.00 | 128.0 | 170.00 | 6 | 7.20 | | 0.2835 | 8.50 | 9.07 | 10.83 | 216.00 | 230.4 | 275.00 | 8 |
| 4.10 | | 0.1614 | 4.84 | 5.17 | 6.89 | 123.00 | 131.2 | 175.00 | 6 | 7.30 | | 0.2874 | 8.62 | 9.20 | 10.83 | 219.00 | 233.6 | 275.00 | 8 |
| 4.20 | | 0.1654 | 4.96 | 5.29 | 7.28 | 126.00 | 134.4 | 185.00 | 6 | 7.40 | | 0.2913 | 8.74 | 9.32 | 11.02 | 222.00 | 236.8 | 280.00 | 8 |
| 4.30 | | 0.1693 | 5.08 | 5.42 | 7.28 | 129.00 | 137.6 | 185.00 | 6 | 7.50 | | 0.2953 | 8.86 | 9.45 | 11.02 | 225.00 | 240.0 | 280.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 5.16 | 5.51 | 7.28 | 131.10 | 139.8 | 185.00 | 6 | 7.54 | 19/64 | 0.2969 | 8.91 | 9.50 | 11.22 | 226.20 | 241.3 | 285.00 | 8 |
| 4.40 | | 0.1732 | 5.20 | 5.54 | 7.28 | 132.00 | 140.8 | 185.00 | 6 | 7.60 | | 0.2992 | 8.98 | 9.57 | 11.22 | 228.00 | 243.2 | 285.00 | 8 |
| 4.50 | | 0.1772 | 5.31 | 5.67 | 7.28 | 135.00 | 144.0 | 185.00 | 6 | 7.70 | | 0.3031 | 9.09 | 9.70 | 11.42 | 231.00 | 246.4 | 290.00 | 8 |
| 4.60 | | 0.1811 | 5.43 | 5.80 | 7.48 | 138.00 | 147.2 | 190.00 | 6 | 7.80 | | 0.3071 | 9.21 | 9.83 | 11.61 | 234.00 | 249.6 | 295.00 | 8 |
| 4.70 | | 0.1850 | 5.55 | 5.92 | 7.68 | 141.00 | 150.4 | 195.00 | 6 | 7.90 | | 0.3110 | 9.33 | 9.95 | 11.61 | 237.00 | 252.8 | 295.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 5.62 | 6.00 | 7.68 | 142.80 | 152.3 | 195.00 | 6 | 7.94 | 5/16 | 0.3126 | 9.38 | 10.00 | 11.61 | 238.20 | 254.1 | 295.00 | 8 |
| 4.80 | | 0.1890 | 5.67 | 6.05 | 7.87 | 144.00 | 153.6 | 200.00 | 6 | 8.00 | | 0.3150 | 9.45 | 10.08 | 11.61 | 240.00 | 256.0 | 295.00 | 8 |
| 4.90 | | 0.1929 | 5.79 | 6.17 | 7.87 | 147.00 | 156.8 | 200.00 | 6 | 8.10 | | 0.3189 | 9.57 | 10.20 | 12.01 | 243.00 | 259.2 | 305.00 | 10 |
| 5.00 | | 0.1969 | 5.91 | 6.30 | 7.87 | 150.00 | 160.0 | 200.00 | 6 | 8.20 | | 0.3228 | 9.69 | 10.33 | 12.20 | 246.00 | 262.4 | 310.00 | 10 |
| 5.10 | | 0.2008 | 6.02 | 6.43 | 8.07 | 153.00 | 163.2 | 205.00 | 6 | 8.30 | | 0.3268 | 9.80 | 10.46 | 12.40 | 249.00 | 265.6 | 315.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 6.09 | 6.50 | 8.27 | 154.80 | 165.1 | 210.00 | 6 | 8.33 | 21/64 | 0.3281 | 9.84 | 10.49 | 12.40 | 249.90 | 266.6 | 315.00 | 10 |
| 5.20 | | 0.2047 | 6.14 | 6.55 | 8.27 | 156.00 | 166.4 | 210.00 | 6 | 8.40 | | 0.3307 | 9.92 | 10.58 | 12.40 | 252.00 | 268.8 | 315.00 | 10 |
| 5.30 | | 0.2087 | 6.26 | 6.68 | 8.46 | 159.00 | 169.6 | 215.00 | 6 | 8.50 | | 0.3346 | 10.04 | 10.71 | 12.40 | 255.00 | 272.0 | 315.00 | 10 |
| 5.40 | | 0.2126 | 6.38 | 6.80 | 8.46 | 162.00 | 172.8 | 215.00 | 6 | 8.60 | | 0.3386 | 10.16 | 10.83 | 12.80 | 258.00 | 275.2 | 325.00 | 10 |
| 5.50 | | 0.2165 | 6.50 | 6.93 | 8.46 | 165.00 | 176.0 | 215.00 | 6 | 8.70 | | 0.3425 | 10.28 | 10.96 | 12.80 | 261.00 | 278.4 | 325.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 6.56 | 6.99 | 8.66 | 166.50 | 177.6 | 220.00 | 6 | 8.73 | 11/32 | 0.3437 | 10.31 | 11.00 | 12.80 | 261.90 | 279.4 | 325.00 | 10 |
| 5.60 | | 0.2205 | 6.61 | 7.06 | 8.86 | 168.00 | 179.2 | 225.00 | 6 | 8.80 | | 0.3465 | 10.39 | 11.09 | 12.80 | 264.00 | 281.6 | 325.00 | 10 |
| 5.70 | | 0.2244 | 6.73 | 7.18 | 8.86 | 171.00 | 182.4 | 225.00 | 6 | 8.90 | | 0.3504 | 10.51 | 11.21 | 12.99 | 267.00 | 284.8 | 330.00 | 10 |
| 5.80 | | 0.2283 | 6.85 | 7.31 | 9.06 | 174.00 | 185.6 | 230.00 | 6 | 9.00 | | 0.3543 | 10.63 | 11.34 | 13.19 | 270.00 | 288.0 | 335.00 | 10 |
| 5.90 | | 0.2323 | 6.97 | 7.43 | 9.06 | 177.00 | 188.8 | 230.00 | 6 | 9.10 | | 0.3583 | 10.75 | 11.46 | 13.39 | 273.00 | 291.2 | 340.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 7.03 | 7.50 | 9.06 | 178.50 | 190.4 | 230.00 | 6 | 9.13 | 23/64 | 0.3594 | 10.78 | 11.50 | 13.39 | 273.90 | 292.2 | 340.00 | 10 |
| 6.00 | | 0.2362 | 7.09 | 7.56 | 9.06 | 180.00 | 192.0 | 230.00 | 6 | 9.20 | | 0.3622 | 10.87 | 11.59 | 13.39 | 276.00 | 294.4 | 340.00 | 10 |
| 6.10 | | 0.2402 | 7.20 | 7.69 | 9.45 | 183.00 | 195.2 | 240.00 | 8 | 9.30 | | 0.3661 | 10.98 | 11.72 | 13.58 | 279.00 | 297.6 | 345.00 | 10 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2501-0600

| 30-2501 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 11.10 | 11.84 | 13.78 | 282.00 | 300.8 | 350.00 | 10 |
| 9.50 | | 0.3740 | 11.22 | 11.97 | 13.78 | 285.00 | 304.0 | 350.00 | 10 |
| 9.53 | 3/8 | 0.3752 | 11.26 | 12.01 | 13.78 | 285.90 | 305.0 | 350.00 | 10 |
| 9.60 | | 0.3780 | 11.34 | 12.09 | 13.98 | 288.00 | 307.2 | 355.00 | 10 |
| 9.70 | | 0.3819 | 11.46 | 12.22 | 14.17 | 291.00 | 310.4 | 360.00 | 10 |
| 9.80 | | 0.3858 | 11.57 | 12.35 | 14.17 | 294.00 | 313.6 | 360.00 | 10 |
| 9.90 | | 0.3898 | 11.69 | 12.47 | 14.37 | 297.00 | 316.8 | 365.00 | 10 |
| 9.92 | 25/64 | 0.3906 | 11.72 | 12.50 | 14.37 | 297.60 | 317.4 | 365.00 | 10 |
| 10.00 | | 0.3937 | 11.81 | 12.60 | 14.37 | 300.00 | 320.0 | 365.00 | 10 |
| 10.10 | | 0.3976 | 11.93 | 12.72 | 14.76 | 303.00 | 323.2 | 375.00 | 12 |
| 10.20 | | 0.4016 | 12.05 | 12.85 | 14.76 | 306.00 | 326.4 | 375.00 | 12 |

| 30-2501 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 10.30 | | 0.4055 | 12.17 | 12.98 | 14.96 | 309.00 | 329.6 | 380.00 | 12 |
| 10.32 | 13/32 | 0.4063 | 12.19 | 13.00 | 15.16 | 309.60 | 330.2 | 385.00 | 12 |
| 10.40 | | 0.4094 | 12.28 | 13.10 | 15.16 | 312.00 | 332.8 | 385.00 | 12 |
| 10.50 | | 0.4134 | 12.40 | 13.23 | 15.35 | 315.00 | 336.0 | 390.00 | 12 |
| 10.60 | | 0.4173 | 12.52 | 13.35 | 15.35 | 318.00 | 339.2 | 390.00 | 12 |
| 10.70 | | 0.4213 | 12.64 | 13.48 | 15.55 | 321.00 | 342.4 | 395.00 | 12 |
| 10.72 | 27/64 | 0.4219 | 12.66 | 13.51 | 15.55 | 321.60 | 343.0 | 395.00 | 12 |
| 10.80 | | 0.4252 | 12.76 | 13.61 | 15.55 | 324.00 | 345.6 | 395.00 | 12 |
| 10.90 | | 0.4291 | 12.87 | 13.73 | 15.75 | 327.00 | 348.8 | 400.00 | 12 |
| 11.00 | | 0.4331 | 12.99 | 13.86 | 15.75 | 330.00 | 352.0 | 400.00 | 12 |

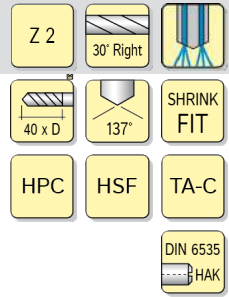
HAM 30-1621 Recommended as pilot hole drill
when using deep hole drill, see page 14.
For cutting data, see page 83.

Order example: 30-2501-0600

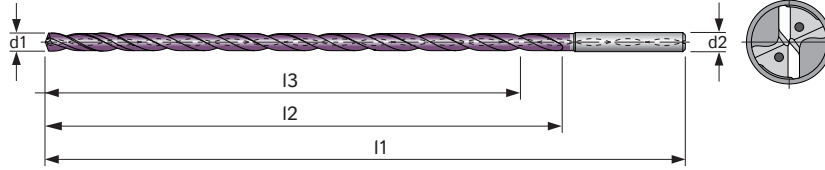
HAM 30-2541

Solid Carbide Deep Hole Drill

40 X D



- Engineering Data**
- special 4-facet ground
 - special point grind
 - special chip flute geometry
 - 4 guide chamfer



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2541 | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| 30-2541 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2541 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 4.72 | 4.96 | 6.69 | 120.00 | 126.0 | 170.00 | 6 | 5.80 | | 0.2283 | 9.13 | 9.59 | 11.22 | 232.00 | 243.6 | 285.00 | 6 |
| 3.10 | | 0.1220 | 4.88 | 5.13 | 6.89 | 124.00 | 130.2 | 175.00 | 6 | 5.90 | | 0.2323 | 9.29 | 9.76 | 11.42 | 236.00 | 247.8 | 290.00 | 6 |
| 3.17 | 1/8 | 0.1248 | 4.99 | 5.24 | 6.89 | 126.80 | 133.1 | 175.00 | 6 | 5.95 | 15/64 | 0.2343 | 9.37 | 9.84 | 11.61 | 238.00 | 249.9 | 295.00 | 6 |
| 3.20 | | 0.1260 | 5.04 | 5.29 | 7.09 | 128.00 | 134.4 | 180.00 | 6 | 6.00 | | 0.2362 | 9.45 | 9.92 | 11.61 | 240.00 | 252.0 | 295.00 | 6 |
| 3.30 | | 0.1299 | 5.20 | 5.46 | 7.09 | 132.00 | 138.6 | 180.00 | 6 | 6.10 | | 0.2402 | 9.61 | 10.09 | 11.81 | 244.00 | 256.2 | 300.00 | 8 |
| 3.40 | | 0.1339 | 5.35 | 5.62 | 7.28 | 136.00 | 142.8 | 185.00 | 6 | 6.20 | | 0.2441 | 9.76 | 10.25 | 12.01 | 248.00 | 260.4 | 305.00 | 8 |
| 3.50 | | 0.1378 | 5.51 | 5.79 | 7.48 | 140.00 | 147.0 | 190.00 | 6 | 6.30 | | 0.2480 | 9.92 | 10.42 | 12.20 | 252.00 | 264.6 | 310.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 5.62 | 5.90 | 7.48 | 142.80 | 149.9 | 190.00 | 6 | 6.35 | 1/4 | 0.2500 | 10.00 | 10.50 | 12.20 | 254.00 | 266.7 | 310.00 | 8 |
| 3.60 | | 0.1417 | 5.67 | 5.95 | 7.68 | 144.00 | 151.2 | 195.00 | 6 | 6.40 | | 0.2520 | 10.08 | 10.58 | 12.20 | 256.00 | 268.8 | 310.00 | 8 |
| 3.70 | | 0.1457 | 5.83 | 6.12 | 7.87 | 148.00 | 155.4 | 200.00 | 6 | 6.50 | | 0.2559 | 10.24 | 10.75 | 12.40 | 260.00 | 273.0 | 315.00 | 8 |
| 3.80 | | 0.1496 | 5.98 | 6.28 | 8.07 | 152.00 | 159.6 | 205.00 | 6 | 6.60 | | 0.2598 | 10.39 | 10.91 | 12.60 | 264.00 | 277.2 | 320.00 | 8 |
| 3.90 | | 0.1535 | 6.14 | 6.45 | 8.07 | 156.00 | 163.8 | 205.00 | 6 | 6.70 | | 0.2638 | 10.55 | 11.08 | 12.80 | 268.00 | 281.4 | 325.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 6.25 | 6.56 | 8.27 | 158.80 | 166.7 | 210.00 | 6 | 6.75 | 17/64 | 0.2656 | 10.63 | 11.16 | 12.80 | 270.00 | 283.5 | 325.00 | 8 |
| 4.00 | | 0.1575 | 6.30 | 6.61 | 8.27 | 160.00 | 168.0 | 210.00 | 6 | 6.80 | | 0.2677 | 10.71 | 11.24 | 12.99 | 272.00 | 285.6 | 330.00 | 8 |
| 4.10 | | 0.1614 | 6.46 | 6.78 | 8.46 | 164.00 | 172.2 | 215.00 | 6 | 6.90 | | 0.2717 | 10.87 | 11.41 | 13.19 | 276.00 | 289.8 | 335.00 | 8 |
| 4.20 | | 0.1654 | 6.61 | 6.94 | 8.66 | 168.00 | 176.4 | 220.00 | 6 | 7.00 | | 0.2756 | 11.02 | 11.57 | 13.19 | 280.00 | 294.0 | 335.00 | 8 |
| 4.30 | | 0.1693 | 6.77 | 7.11 | 8.86 | 172.00 | 180.6 | 225.00 | 6 | 7.10 | | 0.2795 | 11.18 | 11.74 | 13.39 | 284.00 | 298.2 | 340.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 6.88 | 7.23 | 8.86 | 174.80 | 183.5 | 225.00 | 6 | 7.14 | 9/32 | 0.2811 | 11.24 | 11.81 | 13.58 | 285.60 | 299.9 | 345.00 | 8 |
| 4.40 | | 0.1732 | 6.93 | 7.28 | 9.06 | 176.00 | 184.8 | 230.00 | 6 | 7.20 | | 0.2835 | 11.34 | 11.91 | 13.58 | 288.00 | 302.4 | 345.00 | 8 |
| 4.50 | | 0.1772 | 7.09 | 7.44 | 9.06 | 180.00 | 189.0 | 230.00 | 6 | 7.30 | | 0.2874 | 11.50 | 12.07 | 13.78 | 292.00 | 306.6 | 350.00 | 8 |
| 4.60 | | 0.1811 | 7.24 | 7.61 | 9.25 | 184.00 | 193.2 | 235.00 | 6 | 7.40 | | 0.2913 | 11.65 | 12.24 | 13.98 | 296.00 | 310.8 | 355.00 | 8 |
| 4.70 | | 0.1850 | 7.40 | 7.77 | 9.45 | 188.00 | 197.4 | 240.00 | 6 | 7.50 | | 0.2953 | 11.81 | 12.40 | 14.17 | 300.00 | 315.0 | 360.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 7.50 | 7.87 | 9.65 | 190.40 | 199.9 | 245.00 | 6 | 7.54 | 19/64 | 0.2969 | 11.87 | 12.47 | 14.17 | 301.60 | 316.7 | 360.00 | 8 |
| 4.80 | | 0.1890 | 7.56 | 7.94 | 9.65 | 192.00 | 201.6 | 245.00 | 6 | 7.60 | | 0.2992 | 11.97 | 12.57 | 14.37 | 304.00 | 319.2 | 365.00 | 8 |
| 4.90 | | 0.1929 | 7.72 | 8.10 | 9.84 | 196.00 | 205.8 | 250.00 | 6 | 7.70 | | 0.3031 | 12.13 | 12.73 | 14.37 | 308.00 | 323.4 | 365.00 | 8 |
| 5.00 | | 0.1969 | 7.87 | 8.27 | 9.84 | 200.00 | 210.0 | 250.00 | 6 | 7.80 | | 0.3071 | 12.28 | 12.90 | 14.57 | 312.00 | 327.6 | 370.00 | 8 |
| 5.10 | | 0.2008 | 8.03 | 8.43 | 10.24 | 204.00 | 214.2 | 260.00 | 6 | 7.90 | | 0.3110 | 12.44 | 13.06 | 14.76 | 316.00 | 331.8 | 375.00 | 8 |
| 5.16 | 13/64 | 0.2031 | 8.13 | 8.53 | 10.24 | 206.40 | 216.7 | 260.00 | 6 | 7.94 | 5/16 | 0.3126 | 12.50 | 13.13 | 14.76 | 317.60 | 333.5 | 375.00 | 8 |
| 5.20 | | 0.2047 | 8.19 | 8.60 | 10.24 | 208.00 | 218.4 | 260.00 | 6 | 8.00 | | 0.3150 | 12.60 | 13.23 | 14.96 | 320.00 | 336.0 | 380.00 | 8 |
| 5.30 | | 0.2087 | 8.35 | 8.76 | 10.43 | 212.00 | 222.6 | 265.00 | 6 | 8.10 | | 0.3189 | 12.76 | 13.39 | 15.35 | 324.00 | 340.2 | 390.00 | 10 |
| 5.40 | | 0.2126 | 8.50 | 8.93 | 10.63 | 216.00 | 226.8 | 270.00 | 6 | 8.20 | | 0.3228 | 12.91 | 13.56 | 15.35 | 328.00 | 344.4 | 390.00 | 10 |
| 5.50 | | 0.2165 | 8.66 | 9.09 | 10.83 | 220.00 | 231.0 | 275.00 | 6 | 8.30 | | 0.3268 | 13.07 | 13.72 | 15.55 | 332.00 | 348.6 | 395.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 8.74 | 9.18 | 10.83 | 222.00 | 233.1 | 275.00 | 6 | 8.33 | 21/64 | 0.3281 | 13.12 | 13.77 | 15.55 | 333.20 | 349.9 | 395.00 | 10 |
| 5.60 | | 0.2205 | 8.82 | 9.26 | 11.02 | 224.00 | 235.2 | 280.00 | 6 | 8.40 | | 0.3307 | 13.23 | 13.89 | 15.75 | 336.00 | 352.8 | 400.00 | 10 |
| 5.70 | | 0.2244 | 8.98 | 9.43 | 11.22 | 228.00 | 239.4 | 285.00 | 6 | 8.50 | | 0.3346 | 13.39 | 14.06 | 15.75 | 340.00 | 357.0 | 400.00 | 10 |

HAM 30-1621 Recommended as pilot hole drill when using deep hole drill, see page 14. For cutting data, see page 83.

Order example: 30-2541-0500

Advanced Materials



Machining of stack components

HAM 30-2580

Solid Carbide Deep Hole Drill

15 X D

Z 2

15° Right

15 x D

137°

SHRINK FIT

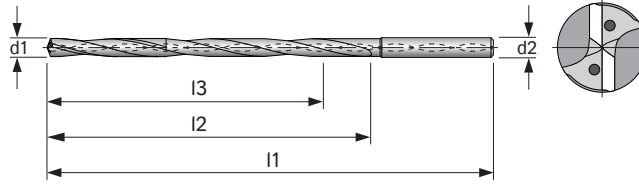
HPC

HSF

DIN 6535

HAK

- Engineering Data**
- special 4-facet ground
 - special point grind
 - special chip flute geometry
 - 15° RH helix
 - polished flute



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2580 | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2580 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2580 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 1.77 | 2.01 | 3.74 | 45.00 | 51.0 | 95.00 | 6 | 6.20 | | 0.2441 | 3.66 | 4.15 | 5.91 | 93.00 | 105.4 | 150.00 | 8 |
| 3.10 | | 0.1220 | 1.83 | 2.07 | 3.74 | 46.50 | 52.7 | 95.00 | 6 | 6.30 | | 0.2480 | 3.72 | 4.22 | 5.91 | 94.50 | 107.1 | 150.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 1.87 | 2.12 | 3.74 | 47.55 | 53.9 | 95.00 | 6 | 6.35 | 1/4 | 0.2500 | 3.75 | 4.25 | 5.91 | 95.25 | 108.0 | 150.00 | 8 |
| 3.20 | | 0.1260 | 1.89 | 2.14 | 3.94 | 48.00 | 54.4 | 100.00 | 6 | 6.40 | | 0.2520 | 3.78 | 4.28 | 5.91 | 96.00 | 108.8 | 150.00 | 8 |
| 3.30 | | 0.1299 | 1.95 | 2.21 | 3.94 | 49.50 | 56.1 | 100.00 | 6 | 6.50 | | 0.2559 | 3.84 | 4.35 | 5.91 | 97.50 | 110.5 | 150.00 | 8 |
| 3.40 | | 0.1339 | 2.01 | 2.28 | 3.94 | 51.00 | 57.8 | 100.00 | 6 | 6.60 | | 0.2598 | 3.90 | 4.42 | 6.10 | 99.00 | 112.2 | 155.00 | 8 |
| 3.50 | | 0.1378 | 2.07 | 2.34 | 4.33 | 52.50 | 59.5 | 110.00 | 6 | 6.70 | | 0.2638 | 3.96 | 4.48 | 6.10 | 100.50 | 113.9 | 155.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 2.11 | 2.39 | 4.33 | 53.55 | 60.7 | 110.00 | 6 | 6.75 | 17/64 | 0.2656 | 3.99 | 4.52 | 6.30 | 101.25 | 114.8 | 160.00 | 8 |
| 3.60 | | 0.1417 | 2.13 | 2.41 | 4.33 | 54.00 | 61.2 | 110.00 | 6 | 6.80 | | 0.2677 | 4.02 | 4.55 | 6.30 | 102.00 | 115.6 | 160.00 | 8 |
| 3.70 | | 0.1457 | 2.19 | 2.48 | 4.33 | 55.50 | 62.9 | 110.00 | 6 | 6.90 | | 0.2717 | 4.07 | 4.62 | 6.30 | 103.50 | 117.3 | 160.00 | 8 |
| 3.80 | | 0.1496 | 2.24 | 2.54 | 4.33 | 57.00 | 64.6 | 110.00 | 6 | 7.00 | | 0.2756 | 4.13 | 4.69 | 6.30 | 105.00 | 119.0 | 160.00 | 8 |
| 3.90 | | 0.1535 | 2.30 | 2.61 | 4.33 | 58.50 | 66.3 | 110.00 | 6 | 7.10 | | 0.2795 | 4.19 | 4.75 | 6.50 | 106.50 | 120.7 | 165.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 2.34 | 2.66 | 4.33 | 59.55 | 67.5 | 110.00 | 6 | 7.14 | 9/32 | 0.2811 | 4.22 | 4.78 | 6.50 | 107.10 | 121.4 | 165.00 | 8 |
| 4.00 | | 0.1575 | 2.36 | 2.68 | 4.33 | 60.00 | 68.0 | 110.00 | 6 | 7.20 | | 0.2835 | 4.25 | 4.82 | 6.50 | 108.00 | 122.4 | 165.00 | 8 |
| 4.10 | | 0.1614 | 2.42 | 2.74 | 4.53 | 61.50 | 69.7 | 115.00 | 6 | 7.30 | | 0.2874 | 4.31 | 4.89 | 6.50 | 109.50 | 124.1 | 165.00 | 8 |
| 4.20 | | 0.1654 | 2.48 | 2.81 | 4.72 | 63.00 | 71.4 | 120.00 | 6 | 7.40 | | 0.2913 | 4.37 | 4.95 | 6.50 | 111.00 | 125.8 | 165.00 | 8 |
| 4.30 | | 0.1693 | 2.54 | 2.88 | 4.72 | 64.50 | 73.1 | 120.00 | 6 | 7.50 | | 0.2953 | 4.43 | 5.02 | 6.50 | 112.50 | 127.5 | 165.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 2.58 | 2.92 | 4.72 | 65.55 | 74.3 | 120.00 | 6 | 7.54 | 19/64 | 0.2969 | 4.45 | 5.05 | 6.69 | 113.10 | 128.2 | 170.00 | 8 |
| 4.40 | | 0.1732 | 2.60 | 2.94 | 4.72 | 66.00 | 74.8 | 120.00 | 6 | 7.60 | | 0.2992 | 4.49 | 5.09 | 6.69 | 114.00 | 129.2 | 170.00 | 8 |
| 4.50 | | 0.1772 | 2.66 | 3.01 | 4.72 | 67.50 | 76.5 | 120.00 | 6 | 7.70 | | 0.3031 | 4.55 | 5.15 | 6.69 | 115.50 | 130.9 | 170.00 | 8 |
| 4.60 | | 0.1811 | 2.72 | 3.08 | 4.72 | 69.00 | 78.2 | 120.00 | 6 | 7.80 | | 0.3071 | 4.61 | 5.22 | 6.69 | 117.00 | 132.6 | 170.00 | 8 |
| 4.70 | | 0.1850 | 2.78 | 3.15 | 4.92 | 70.50 | 79.9 | 125.00 | 6 | 7.90 | | 0.3110 | 4.67 | 5.29 | 7.09 | 118.50 | 134.3 | 180.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 2.81 | 3.19 | 4.92 | 71.40 | 80.9 | 125.00 | 6 | 7.94 | 5/16 | 0.3126 | 4.69 | 5.31 | 7.09 | 119.10 | 135.0 | 180.00 | 8 |
| 4.80 | | 0.1890 | 2.83 | 3.21 | 4.92 | 72.00 | 81.6 | 125.00 | 6 | 8.00 | | 0.3150 | 4.72 | 5.35 | 7.09 | 120.00 | 136.0 | 180.00 | 8 |
| 4.90 | | 0.1929 | 2.89 | 3.28 | 4.92 | 73.50 | 83.3 | 125.00 | 6 | 8.10 | | 0.3189 | 4.78 | 5.42 | 7.28 | 121.50 | 137.7 | 185.00 | 10 |
| 5.00 | | 0.1969 | 2.95 | 3.35 | 4.92 | 75.00 | 85.0 | 125.00 | 6 | 8.20 | | 0.3228 | 4.84 | 5.49 | 7.28 | 123.00 | 139.4 | 185.00 | 10 |
| 5.10 | | 0.2008 | 3.01 | 3.41 | 5.12 | 76.50 | 86.7 | 130.00 | 6 | 8.30 | | 0.3268 | 4.90 | 5.56 | 7.48 | 124.50 | 141.1 | 190.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 3.05 | 3.45 | 5.12 | 77.40 | 87.7 | 130.00 | 6 | 8.33 | 21/64 | 0.3281 | 4.92 | 5.58 | 7.48 | 124.95 | 141.6 | 190.00 | 10 |
| 5.20 | | 0.2047 | 3.07 | 3.48 | 5.12 | 78.00 | 88.4 | 130.00 | 6 | 8.40 | | 0.3307 | 4.96 | 5.62 | 7.48 | 126.00 | 142.8 | 190.00 | 10 |
| 5.30 | | 0.2087 | 3.13 | 3.55 | 5.31 | 79.50 | 90.1 | 135.00 | 6 | 8.50 | | 0.3346 | 5.02 | 5.69 | 7.48 | 127.50 | 144.5 | 190.00 | 10 |
| 5.40 | | 0.2126 | 3.19 | 3.61 | 5.31 | 81.00 | 91.8 | 135.00 | 6 | 8.60 | | 0.3386 | 5.08 | 5.76 | 7.68 | 129.00 | 146.2 | 195.00 | 10 |
| 5.50 | | 0.2165 | 3.25 | 3.68 | 5.31 | 82.50 | 93.5 | 135.00 | 6 | 8.70 | | 0.3425 | 5.14 | 5.82 | 7.68 | 130.50 | 147.9 | 195.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 3.28 | 3.71 | 5.51 | 83.25 | 94.4 | 140.00 | 6 | 8.73 | 11/32 | 0.3437 | 5.16 | 5.84 | 7.68 | 130.95 | 148.4 | 195.00 | 10 |
| 5.60 | | 0.2205 | 3.31 | 3.75 | 5.51 | 84.00 | 95.2 | 140.00 | 6 | 8.80 | | 0.3465 | 5.20 | 5.89 | 7.87 | 132.00 | 149.6 | 200.00 | 10 |
| 5.70 | | 0.2244 | 3.37 | 3.81 | 5.51 | 85.50 | 96.9 | 140.00 | 6 | 8.90 | | 0.3504 | 5.26 | 5.96 | 7.87 | 133.50 | 151.3 | 200.00 | 10 |
| 5.80 | | 0.2283 | 3.43 | 3.88 | 5.51 | 87.00 | 98.6 | 140.00 | 6 | 9.00 | | 0.3543 | 5.31 | 6.02 | 7.87 | 135.00 | 153.0 | 200.00 | 10 |
| 5.90 | | 0.2323 | 3.48 | 3.95 | 5.51 | 88.50 | 100.3 | 140.00 | 6 | 9.10 | | 0.3583 | 5.37 | 6.09 | 7.87 | 136.50 | 154.7 | 200.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 3.51 | 3.98 | 5.51 | 89.25 | 101.2 | 140.00 | 6 | 9.13 | 23/64 | 0.3594 | 5.39 | 6.11 | 8.07 | 136.95 | 155.2 | 205.00 | 10 |
| 6.00 | | 0.2362 | 3.54 | 4.02 | 5.51 | 90.00 | 102.0 | 140.00 | 6 | 9.20 | | 0.3622 | 5.43 | 6.16 | 8.07 | 138.00 | 156.4 | 205.00 | 10 |
| 6.10 | | 0.2402 | 3.60 | 4.08 | 5.71 | 91.50 | 103.7 | 145.00 | 8 | 9.30 | | 0.3661 | 5.49 | 6.22 | 8.07 | 139.50 | 158.1 | 205.00 | 10 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2580-0700

| 30-2580 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2580 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 5.55 | 6.29 | 8.07 | 141.00 | 159.8 | 205.00 | 10 | 11.60 | | 0.4567 | 6.85 | 7.76 | 9.84 | 174.00 | 197.2 | 250.00 | 12 |
| 9.50 | | 0.3740 | 5.61 | 6.36 | 8.27 | 142.50 | 161.5 | 210.00 | 10 | 11.70 | | 0.4606 | 6.91 | 7.83 | 9.84 | 175.50 | 198.9 | 250.00 | 12 |
| 9.53 | 3/8 | 0.3752 | 5.63 | 6.38 | 8.27 | 142.95 | 162.0 | 210.00 | 10 | 11.80 | | 0.4646 | 6.97 | 7.90 | 10.04 | 177.00 | 200.6 | 255.00 | 12 |
| 9.60 | | 0.3780 | 5.67 | 6.43 | 8.27 | 144.00 | 163.2 | 210.00 | 10 | 11.90 | | 0.4685 | 7.03 | 7.96 | 10.04 | 178.50 | 202.3 | 255.00 | 12 |
| 9.70 | | 0.3819 | 5.73 | 6.49 | 8.27 | 145.50 | 164.9 | 210.00 | 10 | 11.91 | 15/32 | 0.4689 | 7.03 | 7.97 | 10.04 | 178.65 | 202.5 | 255.00 | 12 |
| 9.80 | | 0.3858 | 5.79 | 6.56 | 8.46 | 147.00 | 166.6 | 215.00 | 10 | 12.00 | | 0.4724 | 7.09 | 8.03 | 10.04 | 180.00 | 204.0 | 255.00 | 12 |
| 9.90 | | 0.3898 | 5.85 | 6.63 | 8.46 | 148.50 | 168.3 | 215.00 | 10 | 12.10 | | 0.4764 | 7.15 | 8.10 | 10.24 | 181.50 | 205.7 | 260.00 | 14 |
| 9.92 | 25/64 | 0.3906 | 5.86 | 6.64 | 8.46 | 148.80 | 168.6 | 215.00 | 10 | 12.20 | | 0.4803 | 7.20 | 8.17 | 10.24 | 183.00 | 207.4 | 260.00 | 14 |
| 10.00 | | 0.3937 | 5.91 | 6.69 | 8.46 | 150.00 | 170.0 | 215.00 | 10 | 12.30 | 31/64 | 0.4844 | 7.26 | 8.23 | 10.24 | 184.50 | 209.1 | 260.00 | 14 |
| 10.10 | | 0.3976 | 5.96 | 6.76 | 8.86 | 151.50 | 171.7 | 225.00 | 12 | 12.40 | | 0.4882 | 7.32 | 8.30 | 10.43 | 186.00 | 210.8 | 265.00 | 14 |
| 10.20 | | 0.4016 | 6.02 | 6.83 | 9.06 | 153.00 | 173.4 | 230.00 | 12 | 12.50 | | 0.4921 | 7.38 | 8.37 | 10.43 | 187.50 | 212.5 | 265.00 | 14 |
| 10.30 | | 0.4055 | 6.08 | 6.89 | 9.06 | 154.50 | 175.1 | 230.00 | 12 | 12.60 | | 0.4961 | 7.44 | 8.43 | 10.43 | 189.00 | 214.2 | 265.00 | 14 |
| 10.32 | 13/32 | 0.4063 | 6.09 | 6.91 | 9.06 | 154.80 | 175.4 | 230.00 | 12 | 12.70 | 1/2 | 0.5000 | 7.50 | 8.50 | 10.63 | 190.50 | 215.9 | 270.00 | 14 |
| 10.40 | | 0.4094 | 6.14 | 6.96 | 9.06 | 156.00 | 176.8 | 230.00 | 12 | 12.80 | | 0.5039 | 7.56 | 8.57 | 10.63 | 192.00 | 217.6 | 270.00 | 14 |
| 10.50 | | 0.4134 | 6.20 | 7.03 | 9.06 | 157.50 | 178.5 | 230.00 | 12 | 12.90 | | 0.5079 | 7.62 | 8.63 | 10.63 | 193.50 | 219.3 | 270.00 | 14 |
| 10.60 | | 0.4173 | 6.26 | 7.09 | 9.25 | 159.00 | 180.2 | 235.00 | 12 | 13.00 | | 0.5118 | 7.68 | 8.70 | 10.83 | 195.00 | 221.0 | 275.00 | 14 |
| 10.70 | | 0.4213 | 6.32 | 7.16 | 9.25 | 160.50 | 181.9 | 235.00 | 12 | 13.10 | 33/64 | 0.5156 | 7.74 | 8.77 | 10.83 | 196.50 | 222.7 | 275.00 | 14 |
| 10.72 | 27/64 | 0.4219 | 6.33 | 7.17 | 9.25 | 160.80 | 182.2 | 235.00 | 12 | 13.20 | | 0.5197 | 7.80 | 8.83 | 10.83 | 198.00 | 224.4 | 275.00 | 14 |
| 10.80 | | 0.4252 | 6.38 | 7.23 | 9.25 | 162.00 | 183.6 | 235.00 | 12 | 13.30 | | 0.5236 | 7.85 | 8.90 | 11.02 | 199.50 | 226.1 | 280.00 | 14 |
| 10.90 | | 0.4291 | 6.44 | 7.30 | 9.45 | 163.50 | 185.3 | 240.00 | 12 | 13.40 | | 0.5276 | 7.91 | 8.97 | 11.02 | 201.00 | 227.8 | 280.00 | 14 |
| 11.00 | | 0.4331 | 6.50 | 7.36 | 9.45 | 165.00 | 187.0 | 240.00 | 12 | 13.49 | 17/32 | 0.5311 | 7.97 | 9.03 | 11.02 | 202.35 | 229.3 | 280.00 | 14 |
| 11.10 | | 0.4370 | 6.56 | 7.43 | 9.45 | 166.50 | 188.7 | 240.00 | 12 | 13.50 | | 0.5315 | 7.97 | 9.04 | 11.02 | 202.50 | 229.5 | 280.00 | 14 |
| 11.11 | 7/16 | 0.4374 | 6.56 | 7.44 | 9.45 | 166.65 | 188.9 | 240.00 | 12 | 13.60 | | 0.5354 | 8.03 | 9.10 | 11.22 | 204.00 | 231.2 | 285.00 | 14 |
| 11.20 | | 0.4409 | 6.61 | 7.50 | 9.65 | 168.00 | 190.4 | 245.00 | 12 | 13.70 | | 0.5394 | 8.09 | 9.17 | 11.22 | 205.50 | 232.9 | 285.00 | 14 |
| 11.30 | | 0.4449 | 6.67 | 7.56 | 9.65 | 169.50 | 192.1 | 245.00 | 12 | 13.80 | | 0.5433 | 8.15 | 9.24 | 11.22 | 207.00 | 234.6 | 285.00 | 14 |
| 11.40 | | 0.4488 | 6.73 | 7.63 | 9.65 | 171.00 | 193.8 | 245.00 | 12 | 13.89 | 35/64 | 0.5469 | 8.20 | 9.30 | 11.22 | 208.35 | 236.1 | 285.00 | 14 |
| 11.50 | | 0.4528 | 6.79 | 7.70 | 9.84 | 172.50 | 195.5 | 250.00 | 12 | 13.90 | | 0.5472 | 8.21 | 9.30 | 11.22 | 208.50 | 236.3 | 285.00 | 14 |
| 11.51 | 29/64 | 0.4531 | 6.80 | 7.70 | 9.84 | 172.65 | 195.7 | 250.00 | 12 | 14.00 | | 0.5512 | 8.27 | 9.37 | 11.22 | 210.00 | 238.0 | 285.00 | 14 |

HAM 30-1891 Recommended as pilot hole drill
when using deep hole drill, see page 28.
For cutting data, see page 84.

Order example: 30-2580-0700

HAM 30-2620

Solid Carbide Deep Hole Drill

20 X D

Z 2

15° Right

20 x D

137°

SHRINK FIT

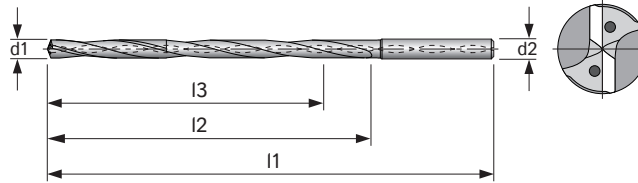
HPC

HSF

DIN 6535 HAK

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 15° RH helix
- polished flute



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2620 | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

● very suitable / sehr gut geeignet ○ suitable / geeignet

| 30-2620 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2620 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 2.36 | 2.60 | 4.33 | 60.00 | 66.0 | 110.00 | 6 | 6.20 | | 0.2441 | 4.88 | 5.37 | 7.09 | 124.00 | 136.4 | 180.00 | 8 |
| 3.10 | | 0.1220 | 2.44 | 2.69 | 4.33 | 62.00 | 68.2 | 110.00 | 6 | 6.30 | | 0.2480 | 4.96 | 5.46 | 7.09 | 126.00 | 138.6 | 180.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 2.50 | 2.75 | 4.53 | 63.40 | 69.7 | 115.00 | 6 | 6.35 | 1/4 | 0.2500 | 5.00 | 5.50 | 7.09 | 127.00 | 139.7 | 180.00 | 8 |
| 3.20 | | 0.1260 | 2.52 | 2.77 | 4.53 | 64.00 | 70.4 | 115.00 | 6 | 6.40 | | 0.2520 | 5.04 | 5.54 | 7.28 | 128.00 | 140.8 | 185.00 | 8 |
| 3.30 | | 0.1299 | 2.60 | 2.86 | 4.53 | 66.00 | 72.6 | 115.00 | 6 | 6.50 | | 0.2559 | 5.12 | 5.63 | 7.28 | 130.00 | 143.0 | 185.00 | 8 |
| 3.40 | | 0.1339 | 2.68 | 2.94 | 4.72 | 68.00 | 74.8 | 120.00 | 6 | 6.60 | | 0.2598 | 5.20 | 5.72 | 7.48 | 132.00 | 145.2 | 190.00 | 8 |
| 3.50 | | 0.1378 | 2.76 | 3.03 | 4.72 | 70.00 | 77.0 | 120.00 | 6 | 6.70 | | 0.2638 | 5.28 | 5.80 | 7.48 | 134.00 | 147.4 | 190.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 2.81 | 3.09 | 4.72 | 71.40 | 78.5 | 120.00 | 6 | 6.75 | 17/64 | 0.2656 | 5.31 | 5.85 | 7.48 | 135.00 | 148.5 | 190.00 | 8 |
| 3.60 | | 0.1417 | 2.83 | 3.12 | 4.92 | 72.00 | 79.2 | 125.00 | 6 | 6.80 | | 0.2677 | 5.35 | 5.89 | 7.68 | 136.00 | 149.6 | 195.00 | 8 |
| 3.70 | | 0.1457 | 2.91 | 3.20 | 4.92 | 74.00 | 81.4 | 125.00 | 6 | 6.90 | | 0.2717 | 5.43 | 5.98 | 7.68 | 138.00 | 151.8 | 195.00 | 8 |
| 3.80 | | 0.1496 | 2.99 | 3.29 | 5.12 | 76.00 | 83.6 | 130.00 | 6 | 7.00 | | 0.2756 | 5.51 | 6.06 | 7.68 | 140.00 | 154.0 | 195.00 | 8 |
| 3.90 | | 0.1535 | 3.07 | 3.38 | 5.12 | 78.00 | 85.8 | 130.00 | 6 | 7.10 | | 0.2795 | 5.59 | 6.15 | 7.68 | 142.00 | 156.2 | 195.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 3.13 | 3.44 | 5.12 | 79.40 | 87.3 | 130.00 | 6 | 7.14 | 9/32 | 0.2811 | 5.62 | 6.18 | 7.68 | 142.80 | 157.1 | 195.00 | 8 |
| 4.00 | | 0.1575 | 3.15 | 3.46 | 5.12 | 80.00 | 88.0 | 130.00 | 6 | 7.20 | | 0.2835 | 5.67 | 6.24 | 7.87 | 144.00 | 158.4 | 200.00 | 8 |
| 4.10 | | 0.1614 | 3.23 | 3.55 | 5.31 | 82.00 | 90.2 | 135.00 | 6 | 7.30 | | 0.2874 | 5.75 | 6.32 | 8.07 | 146.00 | 160.6 | 205.00 | 8 |
| 4.20 | | 0.1654 | 3.31 | 3.64 | 5.51 | 84.00 | 92.4 | 140.00 | 6 | 7.40 | | 0.2913 | 5.83 | 6.41 | 8.07 | 148.00 | 162.8 | 205.00 | 8 |
| 4.30 | | 0.1693 | 3.39 | 3.72 | 5.51 | 86.00 | 94.6 | 140.00 | 6 | 7.50 | | 0.2953 | 5.91 | 6.50 | 8.27 | 150.00 | 165.0 | 210.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 3.44 | 3.79 | 5.51 | 87.40 | 96.1 | 140.00 | 6 | 7.54 | 19/64 | 0.2969 | 5.94 | 6.53 | 8.27 | 150.80 | 165.9 | 210.00 | 8 |
| 4.40 | | 0.1732 | 3.46 | 3.81 | 5.51 | 88.00 | 96.8 | 140.00 | 6 | 7.60 | | 0.2992 | 5.98 | 6.58 | 8.27 | 152.00 | 167.2 | 210.00 | 8 |
| 4.50 | | 0.1772 | 3.54 | 3.90 | 5.51 | 90.00 | 99.0 | 140.00 | 6 | 7.70 | | 0.3031 | 6.06 | 6.67 | 8.46 | 154.00 | 169.4 | 215.00 | 8 |
| 4.60 | | 0.1811 | 3.62 | 3.98 | 5.71 | 92.00 | 101.2 | 145.00 | 6 | 7.80 | | 0.3071 | 6.14 | 6.76 | 8.46 | 156.00 | 171.6 | 215.00 | 8 |
| 4.70 | | 0.1850 | 3.70 | 4.07 | 5.71 | 94.00 | 103.4 | 145.00 | 6 | 7.90 | | 0.3110 | 6.22 | 6.84 | 8.46 | 158.00 | 173.8 | 215.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 3.75 | 4.12 | 5.71 | 95.20 | 104.7 | 145.00 | 6 | 7.94 | 5/16 | 0.3126 | 6.25 | 6.88 | 8.46 | 158.80 | 174.7 | 215.00 | 8 |
| 4.80 | | 0.1890 | 3.78 | 4.16 | 5.91 | 96.00 | 105.6 | 150.00 | 6 | 8.00 | | 0.3150 | 6.30 | 6.93 | 8.46 | 160.00 | 176.0 | 215.00 | 8 |
| 4.90 | | 0.1929 | 3.86 | 4.24 | 5.91 | 98.00 | 107.8 | 150.00 | 6 | 8.10 | | 0.3189 | 6.38 | 7.02 | 8.86 | 162.00 | 178.2 | 225.00 | 10 |
| 5.00 | | 0.1969 | 3.94 | 4.33 | 5.91 | 100.00 | 110.0 | 150.00 | 6 | 8.20 | | 0.3228 | 6.46 | 7.10 | 8.86 | 164.00 | 180.4 | 225.00 | 10 |
| 5.10 | | 0.2008 | 4.02 | 4.42 | 6.10 | 102.00 | 112.2 | 155.00 | 6 | 8.30 | | 0.3268 | 6.54 | 7.19 | 8.86 | 166.00 | 182.6 | 225.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 4.06 | 4.47 | 6.10 | 103.20 | 113.5 | 155.00 | 6 | 8.33 | 21/64 | 0.3281 | 6.56 | 7.21 | 9.06 | 166.60 | 183.3 | 230.00 | 10 |
| 5.20 | | 0.2047 | 4.09 | 4.50 | 6.30 | 104.00 | 114.4 | 160.00 | 6 | 8.40 | | 0.3307 | 6.61 | 7.28 | 9.06 | 168.00 | 184.8 | 230.00 | 10 |
| 5.30 | | 0.2087 | 4.17 | 4.59 | 6.30 | 106.00 | 116.6 | 160.00 | 6 | 8.50 | | 0.3346 | 6.69 | 7.36 | 9.06 | 170.00 | 187.0 | 230.00 | 10 |
| 5.40 | | 0.2126 | 4.25 | 4.68 | 6.30 | 108.00 | 118.8 | 160.00 | 6 | 8.60 | | 0.3386 | 6.77 | 7.45 | 9.25 | 172.00 | 189.2 | 235.00 | 10 |
| 5.50 | | 0.2165 | 4.33 | 4.76 | 6.30 | 110.00 | 121.0 | 160.00 | 6 | 8.70 | | 0.3425 | 6.85 | 7.54 | 9.25 | 174.00 | 191.4 | 235.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 4.37 | 4.81 | 6.30 | 111.00 | 122.1 | 160.00 | 6 | 8.73 | 11/32 | 0.3437 | 6.87 | 7.56 | 9.25 | 174.60 | 192.1 | 235.00 | 10 |
| 5.60 | | 0.2205 | 4.41 | 4.85 | 6.50 | 112.00 | 123.2 | 165.00 | 6 | 8.80 | | 0.3465 | 6.93 | 7.62 | 9.45 | 176.00 | 193.6 | 240.00 | 10 |
| 5.70 | | 0.2244 | 4.49 | 4.94 | 6.69 | 114.00 | 125.4 | 170.00 | 6 | 8.90 | | 0.3504 | 7.01 | 7.71 | 9.65 | 178.00 | 195.8 | 245.00 | 10 |
| 5.80 | | 0.2283 | 4.57 | 5.02 | 6.69 | 116.00 | 127.6 | 170.00 | 6 | 9.00 | | 0.3543 | 7.09 | 7.80 | 9.84 | 180.00 | 198.0 | 250.00 | 10 |
| 5.90 | | 0.2323 | 4.65 | 5.11 | 6.69 | 118.00 | 129.8 | 170.00 | 6 | 9.10 | | 0.3583 | 7.17 | 7.88 | 9.84 | 182.00 | 200.2 | 250.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 4.69 | 5.15 | 6.69 | 119.00 | 130.9 | 170.00 | 6 | 9.13 | 23/64 | 0.3594 | 7.19 | 7.91 | 9.84 | 182.60 | 200.9 | 250.00 | 10 |
| 6.00 | | 0.2362 | 4.72 | 5.20 | 6.69 | 120.00 | 132.0 | 170.00 | 6 | 9.20 | | 0.3622 | 7.24 | 7.97 | 9.84 | 184.00 | 202.4 | 250.00 | 10 |
| 6.10 | | 0.2402 | 4.80 | 5.28 | 6.89 | 122.00 | 134.2 | 175.00 | 8 | 9.30 | | 0.3661 | 7.32 | 8.06 | 9.84 | 186.00 | 204.6 | 250.00 | 10 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2620-0650

| 30-2620 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 7.40 | 8.14 | 10.04 | 188.00 | 206.8 | 255.00 | 10 |
| 9.50 | | 0.3740 | 7.48 | 8.23 | 10.04 | 190.00 | 209.0 | 255.00 | 10 |
| 9.53 | 3/8 | 0.3752 | 7.50 | 8.25 | 10.04 | 190.60 | 209.7 | 255.00 | 10 |
| 9.60 | | 0.3780 | 7.56 | 8.31 | 10.24 | 192.00 | 211.2 | 260.00 | 10 |
| 9.70 | | 0.3819 | 7.64 | 8.40 | 10.24 | 194.00 | 213.4 | 260.00 | 10 |
| 9.80 | | 0.3858 | 7.72 | 8.49 | 10.43 | 196.00 | 215.6 | 265.00 | 10 |
| 9.90 | | 0.3898 | 7.80 | 8.57 | 10.43 | 198.00 | 217.8 | 265.00 | 10 |
| 9.92 | 25/64 | 0.3906 | 7.81 | 8.59 | 10.43 | 198.40 | 218.2 | 265.00 | 10 |
| 10.00 | | 0.3937 | 7.87 | 8.66 | 10.43 | 200.00 | 220.0 | 265.00 | 10 |
| 10.10 | | 0.3976 | 7.95 | 8.75 | 10.83 | 202.00 | 222.2 | 275.00 | 12 |
| 10.20 | | 0.4016 | 8.03 | 8.83 | 10.83 | 204.00 | 224.4 | 275.00 | 12 |
| 10.30 | | 0.4055 | 8.11 | 8.92 | 11.02 | 206.00 | 226.6 | 280.00 | 12 |
| 10.32 | 13/32 | 0.4063 | 8.13 | 8.94 | 11.02 | 206.40 | 227.0 | 280.00 | 12 |
| 10.40 | | 0.4094 | 8.19 | 9.01 | 11.02 | 208.00 | 228.8 | 280.00 | 12 |
| 10.50 | | 0.4134 | 8.27 | 9.09 | 11.22 | 210.00 | 231.0 | 285.00 | 12 |
| 10.60 | | 0.4173 | 8.35 | 9.18 | 11.22 | 212.00 | 233.2 | 285.00 | 12 |
| 10.70 | | 0.4213 | 8.43 | 9.27 | 11.42 | 214.00 | 235.4 | 290.00 | 12 |
| 10.72 | 27/64 | 0.4219 | 8.44 | 9.29 | 11.42 | 214.40 | 235.8 | 290.00 | 12 |
| 10.80 | | 0.4252 | 8.50 | 9.35 | 11.61 | 216.00 | 237.6 | 295.00 | 12 |
| 10.90 | | 0.4291 | 8.58 | 9.44 | 11.61 | 218.00 | 239.8 | 295.00 | 12 |
| 11.00 | | 0.4331 | 8.66 | 9.53 | 11.61 | 220.00 | 242.0 | 295.00 | 12 |
| 11.10 | | 0.4370 | 8.74 | 9.61 | 11.61 | 222.00 | 244.2 | 295.00 | 12 |
| 11.11 | 7/16 | 0.4374 | 8.75 | 9.62 | 11.61 | 222.20 | 244.4 | 295.00 | 12 |
| 11.20 | | 0.4409 | 8.82 | 9.70 | 11.81 | 224.00 | 246.4 | 300.00 | 12 |
| 11.30 | | 0.4449 | 8.90 | 9.79 | 11.81 | 226.00 | 248.6 | 300.00 | 12 |
| 11.40 | | 0.4488 | 8.98 | 9.87 | 12.01 | 228.00 | 250.8 | 305.00 | 12 |
| 11.50 | | 0.4528 | 9.06 | 9.96 | 12.01 | 230.00 | 253.0 | 305.00 | 12 |
| 11.51 | 29/64 | 0.4531 | 9.06 | 9.97 | 12.01 | 230.20 | 253.2 | 305.00 | 12 |

| 30-2620 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 11.60 | | 0.4567 | 9.13 | 10.05 | 12.20 | 232.00 | 255.2 | 310.00 | 12 |
| 11.70 | | 0.4606 | 9.21 | 10.13 | 12.20 | 234.00 | 257.4 | 310.00 | 12 |
| 11.80 | | 0.4646 | 9.29 | 10.22 | 12.40 | 236.00 | 259.6 | 315.00 | 12 |
| 11.90 | | 0.4685 | 9.37 | 10.31 | 12.40 | 238.00 | 261.8 | 315.00 | 12 |
| 11.91 | 17/32 | 0.4689 | 9.38 | 10.32 | 12.40 | 238.20 | 262.0 | 315.00 | 12 |
| 12.00 | | 0.4724 | 9.45 | 10.39 | 12.40 | 240.00 | 264.0 | 315.00 | 12 |
| 12.10 | | 0.4764 | 9.53 | 10.48 | 12.60 | 242.00 | 266.2 | 320.00 | 14 |
| 12.20 | | 0.4803 | 9.61 | 10.57 | 12.60 | 244.00 | 268.4 | 320.00 | 14 |
| 12.30 | 31/64 | 0.4844 | 9.69 | 10.65 | 12.80 | 246.00 | 270.6 | 325.00 | 14 |
| 12.40 | | 0.4882 | 9.76 | 10.74 | 12.80 | 248.00 | 272.8 | 325.00 | 14 |
| 12.50 | | 0.4921 | 9.84 | 10.83 | 12.80 | 250.00 | 275.0 | 325.00 | 14 |
| 12.60 | | 0.4961 | 9.92 | 10.91 | 12.99 | 252.00 | 277.2 | 330.00 | 14 |
| 12.70 | 1/2 | 0.5000 | 10.00 | 11.00 | 12.99 | 254.00 | 279.4 | 330.00 | 14 |
| 12.80 | | 0.5039 | 10.08 | 11.09 | 13.19 | 256.00 | 281.6 | 335.00 | 14 |
| 12.90 | | 0.5079 | 10.16 | 11.17 | 13.19 | 258.00 | 283.8 | 335.00 | 14 |
| 13.00 | | 0.5118 | 10.24 | 11.26 | 13.39 | 260.00 | 286.0 | 340.00 | 14 |
| 13.10 | 33/64 | 0.5156 | 10.31 | 11.35 | 13.39 | 262.00 | 288.2 | 340.00 | 14 |
| 13.20 | | 0.5197 | 10.39 | 11.43 | 13.58 | 264.00 | 290.4 | 345.00 | 14 |
| 13.30 | | 0.5236 | 10.47 | 11.52 | 13.58 | 266.00 | 292.6 | 345.00 | 14 |
| 13.40 | | 0.5276 | 10.55 | 11.61 | 13.58 | 268.00 | 294.8 | 345.00 | 14 |
| 13.49 | 17/32 | 0.5311 | 10.62 | 11.68 | 13.78 | 269.80 | 296.8 | 350.00 | 14 |
| 13.50 | | 0.5315 | 10.63 | 11.69 | 13.78 | 270.00 | 297.0 | 350.00 | 14 |
| 13.60 | | 0.5354 | 10.71 | 11.78 | 13.78 | 272.00 | 299.2 | 350.00 | 14 |
| 13.70 | | 0.5394 | 10.79 | 11.87 | 13.98 | 274.00 | 301.4 | 355.00 | 14 |
| 13.80 | | 0.5433 | 10.87 | 11.95 | 13.98 | 276.00 | 303.6 | 355.00 | 14 |
| 13.89 | 35/64 | 0.5469 | 10.94 | 12.03 | 14.17 | 277.80 | 305.6 | 360.00 | 14 |
| 13.90 | | 0.5472 | 10.94 | 12.04 | 14.17 | 278.00 | 305.8 | 360.00 | 14 |
| 14.00 | | 0.5512 | 11.02 | 12.13 | 14.17 | 280.00 | 308.0 | 360.00 | 14 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2620-0650

HAM 30-2660

Solid Carbide Deep Hole Drill

25 X D

Z 2

15° Right

25 x D

137°

SHRINK FIT

HPC

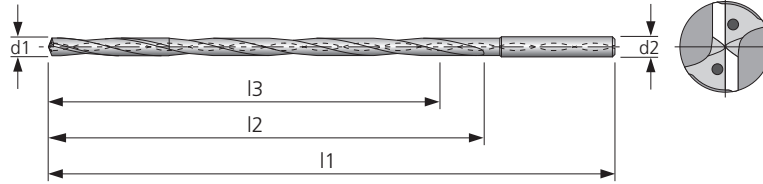
HSF

DIN 6535

HAK

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 15° RH helix
- polished flute



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2660 | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2660 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2660 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 2.95 | 3.19 | 4.92 | 75.00 | 81.0 | 125.00 | 6 | 6.20 | | 0.2441 | 6.10 | 6.59 | 8.27 | 155.00 | 167.4 | 210.00 | 8 |
| 3.10 | | 0.1220 | 3.05 | 3.30 | 4.92 | 77.50 | 83.7 | 125.00 | 6 | 6.30 | | 0.2480 | 6.20 | 6.70 | 8.46 | 157.50 | 170.1 | 215.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 3.12 | 3.37 | 5.12 | 79.25 | 85.6 | 130.00 | 6 | 6.35 | 1/4 | 0.2500 | 6.25 | 6.75 | 8.46 | 158.75 | 171.5 | 215.00 | 8 |
| 3.20 | | 0.1260 | 3.15 | 3.40 | 5.12 | 80.00 | 86.4 | 130.00 | 6 | 6.40 | | 0.2520 | 6.30 | 6.80 | 8.46 | 160.00 | 172.8 | 215.00 | 8 |
| 3.30 | | 0.1299 | 3.25 | 3.51 | 5.51 | 82.50 | 89.1 | 140.00 | 6 | 6.50 | | 0.2559 | 6.40 | 6.91 | 8.46 | 162.50 | 175.5 | 215.00 | 8 |
| 3.40 | | 0.1339 | 3.35 | 3.61 | 5.51 | 85.00 | 91.8 | 140.00 | 6 | 6.60 | | 0.2598 | 6.50 | 7.02 | 8.66 | 165.00 | 178.2 | 220.00 | 8 |
| 3.50 | | 0.1378 | 3.44 | 3.72 | 5.51 | 87.50 | 94.5 | 140.00 | 6 | 6.70 | | 0.2638 | 6.59 | 7.12 | 8.86 | 167.50 | 180.9 | 225.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 3.51 | 3.79 | 5.51 | 89.25 | 96.4 | 140.00 | 6 | 6.75 | 17/64 | 0.2656 | 6.64 | 7.18 | 8.86 | 168.75 | 182.3 | 225.00 | 8 |
| 3.60 | | 0.1417 | 3.54 | 3.83 | 5.51 | 90.00 | 97.2 | 140.00 | 6 | 6.80 | | 0.2677 | 6.69 | 7.23 | 9.06 | 170.00 | 183.6 | 230.00 | 8 |
| 3.70 | | 0.1457 | 3.64 | 3.93 | 5.71 | 92.50 | 99.9 | 145.00 | 6 | 6.90 | | 0.2717 | 6.79 | 7.33 | 9.06 | 172.50 | 186.3 | 230.00 | 8 |
| 3.80 | | 0.1496 | 3.74 | 4.04 | 5.91 | 95.00 | 102.6 | 150.00 | 6 | 7.00 | | 0.2756 | 6.89 | 7.44 | 9.06 | 175.00 | 189.0 | 230.00 | 8 |
| 3.90 | | 0.1535 | 3.84 | 4.15 | 5.91 | 97.50 | 105.3 | 150.00 | 6 | 7.10 | | 0.2795 | 6.99 | 7.55 | 9.25 | 177.50 | 191.7 | 235.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 3.91 | 4.22 | 5.91 | 99.25 | 107.2 | 150.00 | 6 | 7.14 | 9/32 | 0.2811 | 7.03 | 7.59 | 9.25 | 178.50 | 192.8 | 235.00 | 8 |
| 4.00 | | 0.1575 | 3.94 | 4.25 | 5.91 | 100.00 | 108.0 | 150.00 | 6 | 7.20 | | 0.2835 | 7.09 | 7.65 | 9.25 | 180.00 | 194.4 | 235.00 | 8 |
| 4.10 | | 0.1614 | 4.04 | 4.36 | 6.10 | 102.50 | 110.7 | 155.00 | 6 | 7.30 | | 0.2874 | 7.19 | 7.76 | 9.25 | 182.50 | 197.1 | 235.00 | 8 |
| 4.20 | | 0.1654 | 4.13 | 4.46 | 6.30 | 105.00 | 113.4 | 160.00 | 6 | 7.40 | | 0.2913 | 7.28 | 7.87 | 9.65 | 185.00 | 199.8 | 245.00 | 8 |
| 4.30 | | 0.1693 | 4.23 | 4.57 | 6.30 | 107.50 | 116.1 | 160.00 | 6 | 7.50 | | 0.2953 | 7.38 | 7.97 | 10.04 | 187.50 | 202.5 | 255.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 4.30 | 4.65 | 6.30 | 109.25 | 118.0 | 160.00 | 6 | 7.54 | 19/64 | 0.2969 | 7.42 | 8.01 | 10.04 | 188.50 | 203.6 | 255.00 | 8 |
| 4.40 | | 0.1732 | 4.33 | 4.68 | 6.30 | 110.00 | 118.8 | 160.00 | 6 | 7.60 | | 0.2992 | 7.48 | 8.08 | 10.04 | 190.00 | 205.2 | 255.00 | 8 |
| 4.50 | | 0.1772 | 4.43 | 4.78 | 6.50 | 112.50 | 121.5 | 165.00 | 6 | 7.70 | | 0.3031 | 7.58 | 8.19 | 10.04 | 192.50 | 207.9 | 255.00 | 8 |
| 4.60 | | 0.1811 | 4.53 | 4.89 | 6.69 | 115.00 | 124.2 | 170.00 | 6 | 7.80 | | 0.3071 | 7.68 | 8.29 | 10.04 | 195.00 | 210.6 | 255.00 | 8 |
| 4.70 | | 0.1850 | 4.63 | 5.00 | 6.69 | 117.50 | 126.9 | 170.00 | 6 | 7.90 | | 0.3110 | 7.78 | 8.40 | 10.04 | 197.50 | 213.3 | 255.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 4.69 | 5.06 | 6.69 | 119.00 | 128.5 | 170.00 | 6 | 7.94 | 5/16 | 0.3126 | 7.81 | 8.44 | 10.04 | 198.50 | 214.4 | 255.00 | 8 |
| 4.80 | | 0.1890 | 4.72 | 5.10 | 6.89 | 120.00 | 129.6 | 175.00 | 6 | 8.00 | | 0.3150 | 7.87 | 8.50 | 10.04 | 200.00 | 216.0 | 255.00 | 10 |
| 4.90 | | 0.1929 | 4.82 | 5.21 | 6.89 | 122.50 | 132.3 | 175.00 | 6 | 8.10 | | 0.3189 | 7.97 | 8.61 | 10.43 | 202.50 | 218.7 | 265.00 | 10 |
| 5.00 | | 0.1969 | 4.92 | 5.31 | 6.89 | 125.00 | 135.0 | 175.00 | 6 | 8.20 | | 0.3228 | 8.07 | 8.72 | 10.63 | 205.00 | 221.4 | 270.00 | 10 |
| 5.10 | | 0.2008 | 5.02 | 5.42 | 7.09 | 127.50 | 137.7 | 180.00 | 6 | 8.30 | | 0.3268 | 8.17 | 8.82 | 10.63 | 207.50 | 224.1 | 270.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 5.08 | 5.49 | 7.28 | 129.00 | 139.3 | 185.00 | 6 | 8.33 | 21/64 | 0.3281 | 8.20 | 8.85 | 10.63 | 208.25 | 224.9 | 270.00 | 10 |
| 5.20 | | 0.2047 | 5.12 | 5.53 | 7.28 | 130.00 | 140.4 | 185.00 | 6 | 8.40 | | 0.3307 | 8.27 | 8.93 | 10.83 | 210.00 | 226.8 | 275.00 | 10 |
| 5.30 | | 0.2087 | 5.22 | 5.63 | 7.28 | 132.50 | 143.1 | 185.00 | 6 | 8.50 | | 0.3346 | 8.37 | 9.04 | 11.22 | 212.50 | 229.5 | 285.00 | 10 |
| 5.40 | | 0.2126 | 5.31 | 5.74 | 7.48 | 135.00 | 145.8 | 190.00 | 6 | 8.60 | | 0.3386 | 8.46 | 9.14 | 11.22 | 215.00 | 232.2 | 285.00 | 10 |
| 5.50 | | 0.2165 | 5.41 | 5.85 | 7.48 | 137.50 | 148.5 | 190.00 | 6 | 8.70 | | 0.3425 | 8.56 | 9.25 | 11.22 | 217.50 | 234.9 | 285.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 5.46 | 5.90 | 7.68 | 138.75 | 149.9 | 195.00 | 6 | 8.73 | 11/32 | 0.3437 | 8.59 | 9.28 | 11.22 | 218.25 | 235.7 | 285.00 | 10 |
| 5.60 | | 0.2205 | 5.51 | 5.95 | 7.68 | 140.00 | 151.2 | 195.00 | 6 | 8.80 | | 0.3465 | 8.66 | 9.35 | 12.20 | 220.00 | 237.6 | 310.00 | 10 |
| 5.70 | | 0.2244 | 5.61 | 6.06 | 7.68 | 142.50 | 153.9 | 195.00 | 6 | 8.90 | | 0.3504 | 8.76 | 9.46 | 12.20 | 222.50 | 240.3 | 310.00 | 10 |
| 5.80 | | 0.2283 | 5.71 | 6.17 | 7.87 | 145.00 | 156.6 | 200.00 | 6 | 9.00 | | 0.3543 | 8.86 | 9.57 | 12.20 | 225.00 | 243.0 | 310.00 | 10 |
| 5.90 | | 0.2323 | 5.81 | 6.27 | 7.87 | 147.50 | 159.3 | 200.00 | 6 | 9.10 | | 0.3583 | 8.96 | 9.67 | 12.20 | 227.50 | 245.7 | 310.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 5.86 | 6.32 | 7.87 | 148.75 | 160.7 | 200.00 | 6 | 9.13 | 23/64 | 0.3594 | 8.99 | 9.71 | 12.20 | 228.25 | 246.5 | 310.00 | 10 |
| 6.00 | | 0.2362 | 5.91 | 6.38 | 7.87 | 150.00 | 162.0 | 200.00 | 6 | 9.20 | | 0.3622 | 9.06 | 9.78 | 12.20 | 230.00 | 248.4 | 310.00 | 10 |
| 6.10 | | 0.2402 | 6.00 | 6.48 | 8.27 | 152.50 | 164.7 | 210.00 | 8 | 9.30 | | 0.3661 | 9.15 | 9.89 | 12.20 | 232.50 | 251.1 | 310.00 | 10 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2660-0600

| 30-2660 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2660 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 9.25 | 9.99 | 12.20 | 235.00 | 253.8 | 310.00 | 10 | 11.50 | | 0.4528 | 11.32 | 12.22 | 14.17 | 287.50 | 310.5 | 360.00 | 12 |
| 9.50 | | 0.3740 | 9.35 | 10.10 | 12.20 | 237.50 | 256.5 | 310.00 | 10 | 11.51 | 29/64 | 0.4531 | 11.33 | 12.24 | 14.37 | 287.75 | 310.8 | 365.00 | 12 |
| 9.53 | 3/8 | 0.3752 | 9.38 | 10.13 | 12.20 | 238.25 | 257.3 | 310.00 | 10 | 11.60 | | 0.4567 | 11.42 | 12.33 | 14.37 | 290.00 | 313.2 | 365.00 | 12 |
| 9.60 | | 0.3780 | 9.45 | 10.20 | 12.20 | 240.00 | 259.2 | 310.00 | 10 | 11.70 | | 0.4606 | 11.52 | 12.44 | 14.57 | 292.50 | 315.9 | 370.00 | 12 |
| 9.70 | | 0.3819 | 9.55 | 10.31 | 12.20 | 242.50 | 261.9 | 310.00 | 10 | 11.80 | | 0.4646 | 11.61 | 12.54 | 14.76 | 295.00 | 318.6 | 375.00 | 12 |
| 9.80 | | 0.3858 | 9.65 | 10.42 | 12.20 | 245.00 | 264.6 | 310.00 | 10 | 11.90 | | 0.4685 | 11.71 | 12.65 | 14.76 | 297.50 | 321.3 | 375.00 | 12 |
| 9.90 | | 0.3898 | 9.74 | 10.52 | 12.40 | 247.50 | 267.3 | 315.00 | 10 | 11.91 | 15/32 | 0.4689 | 11.72 | 12.66 | 14.76 | 297.75 | 321.6 | 375.00 | 12 |
| 9.92 | 25/64 | 0.3906 | 9.76 | 10.54 | 12.40 | 248.00 | 267.8 | 315.00 | 10 | 12.00 | | 0.4724 | 11.81 | 12.76 | 14.76 | 300.00 | 324.0 | 375.00 | 12 |
| 10.00 | | 0.3937 | 9.84 | 10.63 | 12.40 | 250.00 | 270.0 | 315.00 | 10 | 12.10 | | 0.4764 | 11.91 | 12.86 | 14.96 | 302.50 | 326.7 | 380.00 | 14 |
| 10.10 | | 0.3976 | 9.94 | 10.74 | 12.80 | 252.50 | 272.7 | 325.00 | 12 | 12.20 | | 0.4803 | 12.01 | 12.97 | 14.96 | 305.00 | 329.4 | 380.00 | 14 |
| 10.20 | | 0.4016 | 10.04 | 10.84 | 12.80 | 255.00 | 275.4 | 325.00 | 12 | 12.30 | 31/64 | 0.4844 | 12.11 | 13.07 | 15.16 | 307.50 | 332.1 | 385.00 | 14 |
| 10.30 | | 0.4055 | 10.14 | 10.95 | 12.99 | 257.50 | 278.1 | 330.00 | 12 | 12.40 | | 0.4882 | 12.20 | 13.18 | 15.16 | 310.00 | 334.8 | 385.00 | 14 |
| 10.32 | 13/32 | 0.4063 | 10.16 | 10.97 | 12.99 | 258.00 | 278.6 | 330.00 | 12 | 12.50 | | 0.4921 | 12.30 | 13.29 | 15.35 | 312.50 | 337.5 | 390.00 | 14 |
| 10.40 | | 0.4094 | 10.24 | 11.06 | 13.19 | 260.00 | 280.8 | 335.00 | 12 | 12.60 | | 0.4961 | 12.40 | 13.39 | 15.55 | 315.00 | 340.2 | 395.00 | 14 |
| 10.50 | | 0.4134 | 10.33 | 11.16 | 13.19 | 262.50 | 283.5 | 335.00 | 12 | 12.70 | 1/2 | 0.5000 | 12.50 | 13.50 | 15.55 | 317.50 | 342.9 | 395.00 | 14 |
| 10.60 | | 0.4173 | 10.43 | 11.27 | 13.39 | 265.00 | 286.2 | 340.00 | 12 | 12.75 | | 0.5020 | 12.55 | 13.55 | 15.55 | 318.75 | 344.3 | 395.00 | 14 |
| 10.70 | | 0.4213 | 10.53 | 11.37 | 13.39 | 267.50 | 288.9 | 340.00 | 12 | 12.80 | | 0.5039 | 12.60 | 13.61 | 15.75 | 320.00 | 345.6 | 400.00 | 14 |
| 10.72 | 27/64 | 0.4219 | 10.55 | 11.40 | 13.39 | 268.00 | 289.4 | 340.00 | 12 | 12.90 | | 0.5079 | 12.70 | 13.71 | 15.75 | 322.50 | 348.3 | 400.00 | 14 |
| 10.80 | | 0.4252 | 10.63 | 11.48 | 13.39 | 270.00 | 291.6 | 340.00 | 12 | 13.00 | | 0.5118 | 12.80 | 13.82 | 15.94 | 325.00 | 351.0 | 405.00 | 14 |
| 10.90 | | 0.4291 | 10.73 | 11.59 | 13.58 | 272.50 | 294.3 | 345.00 | 12 | 13.10 | 33/64 | 0.5156 | 12.89 | 13.93 | 15.94 | 327.50 | 353.7 | 405.00 | 14 |
| 11.00 | | 0.4331 | 10.83 | 11.69 | 13.78 | 275.00 | 297.0 | 350.00 | 12 | 13.20 | | 0.5197 | 12.99 | 14.03 | 16.14 | 330.00 | 356.4 | 410.00 | 14 |
| 11.10 | | 0.4370 | 10.93 | 11.80 | 13.78 | 277.50 | 299.7 | 350.00 | 12 | 13.30 | | 0.5236 | 13.09 | 14.14 | 16.14 | 332.50 | 359.1 | 410.00 | 14 |
| 11.11 | 7/16 | 0.4374 | 10.94 | 11.81 | 13.78 | 277.75 | 300.0 | 350.00 | 12 | 13.40 | | 0.5276 | 13.19 | 14.24 | 16.34 | 335.00 | 361.8 | 415.00 | 14 |
| 11.20 | | 0.4409 | 11.02 | 11.91 | 13.98 | 280.00 | 302.4 | 355.00 | 12 | 13.49 | 17/32 | 0.5311 | 13.28 | 14.34 | 16.34 | 337.25 | 364.2 | 415.00 | 14 |
| 11.30 | | 0.4449 | 11.12 | 12.01 | 14.17 | 282.50 | 305.1 | 360.00 | 12 | 13.50 | | 0.5315 | 13.29 | 14.35 | 16.34 | 337.50 | 364.5 | 415.00 | 14 |
| 11.40 | | 0.4488 | 11.22 | 12.12 | 14.17 | 285.00 | 307.8 | 360.00 | 12 | | | | | | | | | | |

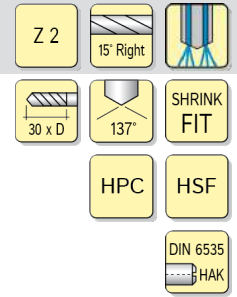
HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28.
For cutting data, see page 84.

Order example: 30-2660-0600

HAM 30-2700

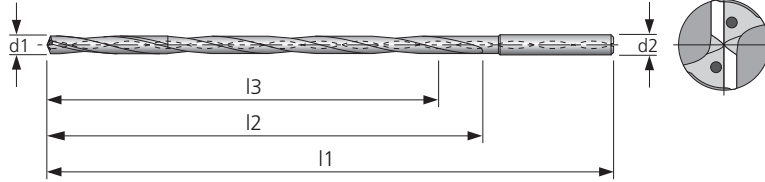
Solid Carbide Deep Hole Drill

30 X D



Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 15° RH helix
- polished flute



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2700 | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

● very suitable ○ suitable

| 30-2700 Ø d1 (h7) | | Dec. Equiv. | l3 Cutting Length Inch | l2 Flute Length Inch | l1 OAL Inch | l3 Cutting Length mm | l2 Flute Length mm | l1 OAL mm | Ø d2 (h6) mm | 30-2700 Ø d1 (h7) | | Dec. Equiv. | l3 Cutting Length Inch | l2 Flute Length Inch | l1 OAL Inch | l3 Cutting Length mm | l2 Flute Length mm | l1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|----------------------|-------|-------------|------------------------------|----------------------------|-------------------|----------------------------|--------------------------|-----------------|-----------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 3.54 | 3.78 | 5.51 | 90.00 | 96.0 | 140.00 | 6 | 6.20 | | 0.2441 | 7.32 | 7.81 | 9.45 | 186.00 | 198.4 | 240.00 | 8 |
| 3.10 | | 0.1220 | 3.66 | 3.91 | 5.71 | 93.00 | 99.2 | 145.00 | 6 | 6.30 | | 0.2480 | 7.44 | 7.94 | 9.65 | 189.00 | 201.6 | 245.00 | 8 |
| 3.17 | 1/8 | 0.1248 | 3.74 | 3.99 | 5.71 | 95.10 | 101.4 | 145.00 | 6 | 6.35 | 1/4 | 0.2500 | 7.50 | 8.00 | 9.65 | 190.50 | 203.2 | 245.00 | 8 |
| 3.20 | | 0.1260 | 3.78 | 4.03 | 5.91 | 96.00 | 102.4 | 150.00 | 6 | 6.40 | | 0.2520 | 7.56 | 8.06 | 9.84 | 192.00 | 204.8 | 250.00 | 8 |
| 3.30 | | 0.1299 | 3.90 | 4.16 | 5.91 | 99.00 | 105.6 | 150.00 | 6 | 6.50 | | 0.2559 | 7.68 | 8.19 | 9.84 | 195.00 | 208.0 | 250.00 | 8 |
| 3.40 | | 0.1339 | 4.02 | 4.28 | 5.91 | 102.00 | 108.8 | 150.00 | 6 | 6.60 | | 0.2598 | 7.80 | 8.31 | 10.04 | 198.00 | 211.2 | 255.00 | 8 |
| 3.50 | | 0.1378 | 4.13 | 4.41 | 6.10 | 105.00 | 112.0 | 155.00 | 6 | 6.70 | | 0.2638 | 7.91 | 8.44 | 10.24 | 201.00 | 214.4 | 260.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 4.22 | 4.50 | 6.30 | 107.10 | 114.2 | 160.00 | 6 | 6.75 | 17/64 | 0.2656 | 7.97 | 8.50 | 10.24 | 202.50 | 216.0 | 260.00 | 8 |
| 3.60 | | 0.1417 | 4.25 | 4.54 | 6.30 | 108.00 | 115.2 | 160.00 | 6 | 6.80 | | 0.2677 | 8.03 | 8.57 | 10.43 | 204.00 | 217.6 | 265.00 | 8 |
| 3.70 | | 0.1457 | 4.37 | 4.66 | 6.30 | 111.00 | 118.4 | 160.00 | 6 | 6.90 | | 0.2717 | 8.15 | 8.69 | 10.43 | 207.00 | 220.8 | 265.00 | 8 |
| 3.80 | | 0.1496 | 4.49 | 4.79 | 6.69 | 114.00 | 121.6 | 170.00 | 6 | 7.00 | | 0.2756 | 8.27 | 8.82 | 10.43 | 210.00 | 224.0 | 265.00 | 8 |
| 3.90 | | 0.1535 | 4.61 | 4.91 | 6.69 | 117.00 | 124.8 | 170.00 | 6 | 7.10 | | 0.2795 | 8.39 | 8.94 | 10.63 | 213.00 | 227.2 | 270.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 4.69 | 5.00 | 6.69 | 119.10 | 127.0 | 170.00 | 6 | 7.14 | 9/32 | 0.2811 | 8.43 | 9.00 | 10.63 | 214.20 | 228.5 | 270.00 | 8 |
| 4.00 | | 0.1575 | 4.72 | 5.04 | 6.69 | 120.00 | 128.0 | 170.00 | 6 | 7.20 | | 0.2835 | 8.50 | 9.07 | 10.83 | 216.00 | 230.4 | 275.00 | 8 |
| 4.10 | | 0.1614 | 4.84 | 5.17 | 6.89 | 123.00 | 131.2 | 175.00 | 6 | 7.30 | | 0.2874 | 8.62 | 9.20 | 10.83 | 219.00 | 233.6 | 275.00 | 8 |
| 4.20 | | 0.1654 | 4.96 | 5.29 | 7.28 | 126.00 | 134.4 | 185.00 | 6 | 7.40 | | 0.2913 | 8.74 | 9.32 | 11.02 | 222.00 | 236.8 | 280.00 | 8 |
| 4.30 | | 0.1693 | 5.08 | 5.42 | 7.28 | 129.00 | 137.6 | 185.00 | 6 | 7.50 | | 0.2953 | 8.86 | 9.45 | 11.02 | 225.00 | 240.0 | 280.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 5.16 | 5.51 | 7.28 | 131.10 | 139.8 | 185.00 | 6 | 7.54 | 19/64 | 0.2969 | 8.91 | 9.50 | 11.22 | 226.20 | 241.3 | 285.00 | 8 |
| 4.40 | | 0.1732 | 5.20 | 5.54 | 7.28 | 132.00 | 140.8 | 185.00 | 6 | 7.60 | | 0.2992 | 8.98 | 9.57 | 11.22 | 228.00 | 243.2 | 285.00 | 8 |
| 4.50 | | 0.1772 | 5.31 | 5.67 | 7.28 | 135.00 | 144.0 | 185.00 | 6 | 7.70 | | 0.3031 | 9.09 | 9.70 | 11.42 | 231.00 | 246.4 | 290.00 | 8 |
| 4.60 | | 0.1811 | 5.43 | 5.80 | 7.48 | 138.00 | 147.2 | 190.00 | 6 | 7.80 | | 0.3071 | 9.21 | 9.83 | 11.61 | 234.00 | 249.6 | 295.00 | 8 |
| 4.70 | | 0.1850 | 5.55 | 5.92 | 7.68 | 141.00 | 150.4 | 195.00 | 6 | 7.90 | | 0.3110 | 9.33 | 9.95 | 11.61 | 237.00 | 252.8 | 295.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 5.62 | 6.00 | 7.68 | 142.80 | 152.3 | 195.00 | 6 | 7.94 | 5/16 | 0.3126 | 9.38 | 10.00 | 11.61 | 238.20 | 254.1 | 295.00 | 8 |
| 4.80 | | 0.1890 | 5.67 | 6.05 | 7.87 | 144.00 | 153.6 | 200.00 | 6 | 8.00 | | 0.3150 | 9.45 | 10.08 | 11.61 | 240.00 | 256.0 | 295.00 | 8 |
| 4.90 | | 0.1929 | 5.79 | 6.17 | 7.87 | 147.00 | 156.8 | 200.00 | 6 | 8.10 | | 0.3189 | 9.57 | 10.20 | 12.01 | 243.00 | 259.2 | 305.00 | 10 |
| 5.00 | | 0.1969 | 5.91 | 6.30 | 7.87 | 150.00 | 160.0 | 200.00 | 6 | 8.20 | | 0.3228 | 9.69 | 10.33 | 12.20 | 246.00 | 262.4 | 310.00 | 10 |
| 5.10 | | 0.2008 | 6.02 | 6.43 | 8.07 | 153.00 | 163.2 | 205.00 | 6 | 8.30 | | 0.3268 | 9.80 | 10.46 | 12.40 | 249.00 | 265.6 | 315.00 | 10 |
| 5.16 | 13/64 | 0.2031 | 6.09 | 6.50 | 8.27 | 154.80 | 165.1 | 210.00 | 6 | 8.33 | 21/64 | 0.3281 | 9.84 | 10.49 | 12.40 | 249.90 | 266.6 | 315.00 | 10 |
| 5.20 | | 0.2047 | 6.14 | 6.55 | 8.27 | 156.00 | 166.4 | 210.00 | 6 | 8.40 | | 0.3307 | 9.92 | 10.58 | 12.40 | 252.00 | 268.8 | 315.00 | 10 |
| 5.30 | | 0.2087 | 6.26 | 6.68 | 8.46 | 159.00 | 169.6 | 215.00 | 6 | 8.50 | | 0.3346 | 10.04 | 10.71 | 12.40 | 255.00 | 272.0 | 315.00 | 10 |
| 5.40 | | 0.2126 | 6.38 | 6.80 | 8.46 | 162.00 | 172.8 | 215.00 | 6 | 8.60 | | 0.3386 | 10.16 | 10.83 | 12.80 | 258.00 | 275.2 | 325.00 | 10 |
| 5.50 | | 0.2165 | 6.50 | 6.93 | 8.46 | 165.00 | 176.0 | 215.00 | 6 | 8.70 | | 0.3425 | 10.28 | 10.96 | 12.80 | 261.00 | 278.4 | 325.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 6.56 | 6.99 | 8.66 | 166.50 | 177.6 | 220.00 | 6 | 8.73 | 11/32 | 0.3437 | 10.31 | 11.00 | 12.80 | 261.90 | 279.4 | 325.00 | 10 |
| 5.60 | | 0.2205 | 6.61 | 7.06 | 8.86 | 168.00 | 179.2 | 225.00 | 6 | 8.80 | | 0.3465 | 10.39 | 11.09 | 12.80 | 264.00 | 281.6 | 325.00 | 10 |
| 5.70 | | 0.2244 | 6.73 | 7.18 | 8.86 | 171.00 | 182.4 | 225.00 | 6 | 8.90 | | 0.3504 | 10.51 | 11.21 | 12.99 | 267.00 | 284.8 | 330.00 | 10 |
| 5.80 | | 0.2283 | 6.85 | 7.31 | 9.06 | 174.00 | 185.6 | 230.00 | 6 | 9.00 | | 0.3543 | 10.63 | 11.34 | 13.19 | 270.00 | 288.0 | 335.00 | 10 |
| 5.90 | | 0.2323 | 6.97 | 7.43 | 9.06 | 177.00 | 188.8 | 230.00 | 6 | 9.10 | | 0.3583 | 10.75 | 11.46 | 13.39 | 273.00 | 291.2 | 340.00 | 10 |
| 5.95 | 15/64 | 0.2343 | 7.03 | 7.50 | 9.06 | 178.50 | 190.4 | 230.00 | 6 | 9.13 | 23/64 | 0.3594 | 10.78 | 11.50 | 13.39 | 273.90 | 292.2 | 340.00 | 10 |
| 6.00 | | 0.2362 | 7.09 | 7.56 | 9.06 | 180.00 | 192.0 | 230.00 | 6 | 9.20 | | 0.3622 | 10.87 | 11.59 | 13.39 | 276.00 | 294.4 | 340.00 | 10 |
| 6.10 | | 0.2402 | 7.20 | 7.69 | 9.45 | 183.00 | 195.2 | 240.00 | 8 | 9.30 | | 0.3661 | 10.98 | 11.72 | 13.58 | 279.00 | 297.6 | 345.00 | 10 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2700-6

| 30-2700 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 9.40 | | 0.3701 | 11.10 | 11.84 | 13.78 | 282.00 | 300.8 | 350.00 | 10 |
| 9.50 | | 0.3740 | 11.22 | 11.97 | 13.78 | 285.00 | 304.0 | 350.00 | 10 |
| 9.53 | 3/8 | 0.3752 | 11.26 | 12.01 | 13.78 | 285.90 | 305.0 | 350.00 | 10 |
| 9.60 | | 0.3780 | 11.34 | 12.09 | 13.98 | 288.00 | 307.2 | 355.00 | 10 |
| 9.70 | | 0.3819 | 11.46 | 12.22 | 14.17 | 291.00 | 310.4 | 360.00 | 10 |
| 9.80 | | 0.3858 | 11.57 | 12.35 | 14.17 | 294.00 | 313.6 | 360.00 | 10 |
| 9.90 | | 0.3898 | 11.69 | 12.47 | 14.37 | 297.00 | 316.8 | 365.00 | 10 |
| 9.92 | 25/64 | 0.3906 | 11.72 | 12.50 | 14.37 | 297.60 | 317.4 | 365.00 | 10 |
| 10.00 | | 0.3937 | 11.81 | 12.60 | 14.37 | 300.00 | 320.0 | 365.00 | 10 |
| 10.10 | | 0.3976 | 11.93 | 12.72 | 14.76 | 303.00 | 323.2 | 375.00 | 12 |
| 10.20 | | 0.4016 | 12.05 | 12.85 | 14.76 | 306.00 | 326.4 | 375.00 | 12 |
| 10.30 | | 0.4055 | 12.17 | 12.98 | 14.96 | 309.00 | 329.6 | 380.00 | 12 |
| 10.32 | 13/32 | 0.4063 | 12.19 | 13.00 | 15.16 | 309.60 | 330.2 | 385.00 | 12 |
| 10.40 | | 0.4094 | 12.28 | 13.10 | 15.16 | 312.00 | 332.8 | 385.00 | 12 |

| 30-2700 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|----------------|---------------------------------|-------------------------------|-------------------|-------------------------------|-----------------------------|-----------------|--------------------|
| mm | Inch | | | | | | | | |
| 10.50 | | 0.4134 | 12.40 | 13.23 | 15.35 | 315.00 | 336.0 | 390.00 | 12 |
| 10.60 | | 0.4173 | 12.52 | 13.35 | 15.35 | 318.00 | 339.2 | 390.00 | 12 |
| 10.70 | | 0.4213 | 12.64 | 13.48 | 15.55 | 321.00 | 342.4 | 395.00 | 12 |
| 10.72 | 27/64 | 0.4219 | 12.66 | 13.51 | 15.55 | 321.60 | 343.0 | 395.00 | 12 |
| 10.80 | | 0.4252 | 12.76 | 13.61 | 15.55 | 324.00 | 345.6 | 395.00 | 12 |
| 10.90 | | 0.4291 | 12.87 | 13.73 | 15.75 | 327.00 | 348.8 | 400.00 | 12 |
| 11.00 | | 0.4331 | 12.99 | 13.86 | 15.94 | 330.00 | 352.0 | 405.00 | 12 |
| 11.10 | | 0.4370 | 13.11 | 13.98 | 16.14 | 333.00 | 355.2 | 410.00 | 12 |
| 11.11 | 7/16 | 0.4374 | 13.12 | 14.00 | 16.14 | 333.30 | 355.5 | 410.00 | 12 |
| 11.20 | | 0.4409 | 13.23 | 14.11 | 16.14 | 336.00 | 358.4 | 410.00 | 12 |
| 11.30 | | 0.4449 | 13.35 | 14.24 | 16.34 | 339.00 | 361.6 | 415.00 | 12 |
| 11.40 | | 0.4488 | 13.46 | 14.36 | 16.34 | 342.00 | 364.8 | 415.00 | 12 |
| 11.80 | | 0.4646 | 13.94 | 14.87 | 16.73 | 354.00 | 377.6 | 425.00 | 12 |
| 12.00 | | 0.4724 | 14.17 | 15.12 | 16.93 | 360.00 | 384.0 | 430.00 | 12 |

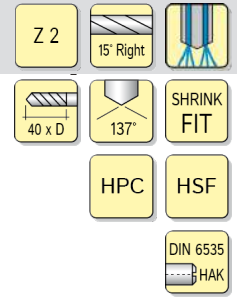
HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84.

Order example: 30-2700-6

HAM 30-2740

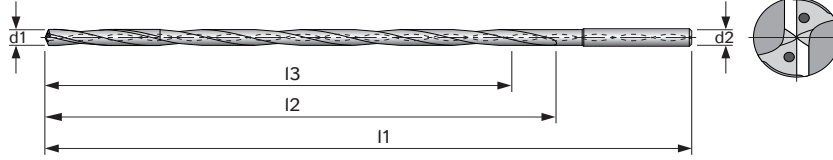
Solid Carbide Deep Hole Drill

40 x D



Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 15° RH helix
- polished flute



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2740 | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

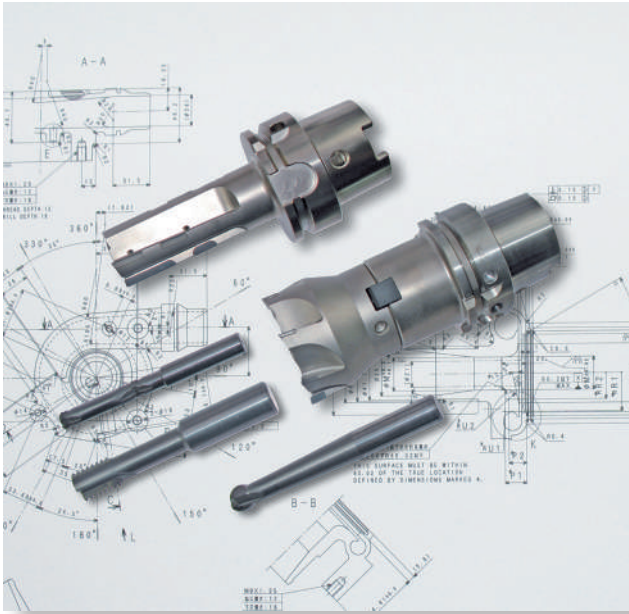
● very suitable ○ suitable

| 30-2740 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm | 30-2740 Ø d1 (h7) | | Dec. Equiv. | I3 Cutting Length Inch | I2 Flute Length Inch | I1 OAL Inch | I3 Cutting Length mm | I2 Flute Length mm | I1 OAL mm | Ø d2 (h6) mm |
|----------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|----------------------|-------|-------------|------------------------|----------------------|-------------|----------------------|--------------------|-----------|--------------|
| mm | Inch | | | | | | | | | mm | Inch | | | | | | | | |
| 3.00 | | 0.1181 | 4.72 | 4.96 | 6.69 | 120.00 | 126.0 | 170.00 | 6 | 5.95 | 15/64 | 0.2343 | 9.37 | 9.84 | 11.61 | 238.00 | 249.9 | 295.00 | 6 |
| 3.10 | | 0.1220 | 4.88 | 5.13 | 6.89 | 124.00 | 130.2 | 175.00 | 6 | 6.00 | | 0.2362 | 9.45 | 9.92 | 11.61 | 240.00 | 252.0 | 295.00 | 6 |
| 3.17 | 1/8 | 0.1248 | 4.99 | 5.24 | 6.89 | 126.80 | 133.1 | 175.00 | 6 | 6.10 | | 0.2402 | 9.61 | 10.09 | 11.81 | 244.00 | 256.2 | 300.00 | 8 |
| 3.20 | | 0.1260 | 5.04 | 5.29 | 7.09 | 128.00 | 134.4 | 180.00 | 6 | 6.20 | | 0.2441 | 9.76 | 10.25 | 12.01 | 248.00 | 260.4 | 305.00 | 8 |
| 3.30 | | 0.1299 | 5.20 | 5.46 | 7.09 | 132.00 | 138.6 | 180.00 | 6 | 6.30 | | 0.2480 | 9.92 | 10.42 | 12.20 | 252.00 | 264.6 | 310.00 | 8 |
| 3.40 | | 0.1339 | 5.35 | 5.62 | 7.28 | 136.00 | 142.8 | 185.00 | 6 | 6.35 | 1/4 | 0.2500 | 10.00 | 10.50 | 12.20 | 254.00 | 266.7 | 310.00 | 8 |
| 3.50 | | 0.1378 | 5.51 | 5.79 | 7.48 | 140.00 | 147.0 | 190.00 | 6 | 6.40 | | 0.2520 | 10.08 | 10.58 | 12.20 | 256.00 | 268.8 | 310.00 | 8 |
| 3.57 | 9/64 | 0.1406 | 5.62 | 5.90 | 7.48 | 142.80 | 149.9 | 190.00 | 6 | 6.50 | | 0.2559 | 10.24 | 10.75 | 12.40 | 260.00 | 273.0 | 315.00 | 8 |
| 3.60 | | 0.1417 | 5.67 | 5.95 | 7.68 | 144.00 | 151.2 | 195.00 | 6 | 6.60 | | 0.2598 | 10.39 | 10.91 | 12.60 | 264.00 | 277.2 | 320.00 | 8 |
| 3.70 | | 0.1457 | 5.83 | 6.12 | 7.87 | 148.00 | 155.4 | 200.00 | 6 | 6.70 | | 0.2638 | 10.55 | 11.08 | 12.80 | 268.00 | 281.4 | 325.00 | 8 |
| 3.80 | | 0.1496 | 5.98 | 6.28 | 8.07 | 152.00 | 159.6 | 205.00 | 6 | 6.75 | 17/64 | 0.2656 | 10.63 | 11.16 | 12.80 | 270.00 | 283.5 | 325.00 | 8 |
| 3.90 | | 0.1535 | 6.14 | 6.45 | 8.07 | 156.00 | 163.8 | 205.00 | 6 | 6.80 | | 0.2677 | 10.71 | 11.24 | 12.99 | 272.00 | 285.6 | 330.00 | 8 |
| 3.97 | 5/32 | 0.1563 | 6.25 | 6.56 | 8.27 | 158.80 | 166.7 | 210.00 | 6 | 6.90 | | 0.2717 | 10.87 | 11.41 | 13.19 | 276.00 | 289.8 | 335.00 | 8 |
| 4.00 | | 0.1575 | 6.30 | 6.61 | 8.27 | 160.00 | 168.0 | 210.00 | 6 | 7.00 | | 0.2756 | 11.02 | 11.57 | 13.19 | 280.00 | 294.0 | 335.00 | 8 |
| 4.10 | | 0.1614 | 6.46 | 6.78 | 8.46 | 164.00 | 172.2 | 215.00 | 6 | 7.10 | | 0.2795 | 11.18 | 11.74 | 13.39 | 284.00 | 298.2 | 340.00 | 8 |
| 4.20 | | 0.1654 | 6.61 | 6.94 | 8.66 | 168.00 | 176.4 | 220.00 | 6 | 7.14 | 9/32 | 0.2811 | 11.24 | 11.81 | 13.58 | 285.60 | 299.9 | 345.00 | 8 |
| 4.30 | | 0.1693 | 6.77 | 7.11 | 8.86 | 172.00 | 180.6 | 225.00 | 6 | 7.20 | | 0.2835 | 11.34 | 11.91 | 13.58 | 288.00 | 302.4 | 345.00 | 8 |
| 4.37 | 11/64 | 0.1720 | 6.88 | 7.23 | 8.86 | 174.80 | 183.5 | 225.00 | 6 | 7.30 | | 0.2874 | 11.50 | 12.07 | 13.78 | 292.00 | 306.6 | 350.00 | 8 |
| 4.40 | | 0.1732 | 6.93 | 7.28 | 9.06 | 176.00 | 184.8 | 230.00 | 6 | 7.40 | | 0.2913 | 11.65 | 12.24 | 13.98 | 296.00 | 310.8 | 355.00 | 8 |
| 4.50 | | 0.1772 | 7.09 | 7.44 | 9.06 | 180.00 | 189.0 | 230.00 | 6 | 7.50 | | 0.2953 | 11.81 | 12.40 | 14.17 | 300.00 | 315.0 | 360.00 | 8 |
| 4.60 | | 0.1811 | 7.24 | 7.61 | 9.25 | 184.00 | 193.2 | 235.00 | 6 | 7.54 | 19/64 | 0.2969 | 11.87 | 12.47 | 14.17 | 301.60 | 316.7 | 360.00 | 8 |
| 4.70 | | 0.1850 | 7.40 | 7.77 | 9.45 | 188.00 | 197.4 | 240.00 | 6 | 7.60 | | 0.2992 | 11.97 | 12.57 | 14.37 | 304.00 | 319.2 | 365.00 | 8 |
| 4.76 | 3/16 | 0.1874 | 7.50 | 7.87 | 9.65 | 190.40 | 199.9 | 245.00 | 6 | 7.70 | | 0.3031 | 12.13 | 12.73 | 14.37 | 308.00 | 323.4 | 365.00 | 8 |
| 4.80 | | 0.1890 | 7.56 | 7.94 | 9.65 | 192.00 | 201.6 | 245.00 | 6 | 7.80 | | 0.3071 | 12.28 | 12.90 | 14.57 | 312.00 | 327.6 | 370.00 | 8 |
| 4.90 | | 0.1929 | 7.72 | 8.10 | 9.84 | 196.00 | 205.8 | 250.00 | 6 | 7.90 | | 0.3110 | 12.44 | 13.06 | 14.76 | 316.00 | 331.8 | 375.00 | 8 |
| 5.00 | | 0.1969 | 7.87 | 8.27 | 9.84 | 200.00 | 210.0 | 250.00 | 6 | 7.94 | 5/16 | 0.3126 | 12.50 | 13.13 | 14.76 | 317.60 | 333.5 | 375.00 | 8 |
| 5.10 | | 0.2008 | 8.03 | 8.43 | 10.24 | 204.00 | 214.2 | 260.00 | 6 | 8.00 | | 0.3150 | 12.60 | 13.23 | 14.96 | 320.00 | 336.0 | 380.00 | 8 |
| 5.16 | 13/64 | 0.2031 | 8.13 | 8.53 | 10.24 | 206.40 | 216.7 | 260.00 | 6 | 8.10 | | 0.3189 | 12.76 | 13.39 | 15.35 | 324.00 | 340.2 | 390.00 | 10 |
| 5.20 | | 0.2047 | 8.19 | 8.60 | 10.24 | 208.00 | 218.4 | 260.00 | 6 | 8.20 | | 0.3228 | 12.91 | 13.56 | 15.35 | 328.00 | 344.4 | 390.00 | 10 |
| 5.30 | | 0.2087 | 8.35 | 8.76 | 10.43 | 212.00 | 222.6 | 265.00 | 6 | 8.30 | | 0.3268 | 13.07 | 13.72 | 15.55 | 332.00 | 348.6 | 395.00 | 10 |
| 5.40 | | 0.2126 | 8.50 | 8.93 | 10.63 | 216.00 | 226.8 | 270.00 | 6 | 8.33 | 21/64 | 0.3281 | 13.12 | 13.77 | 15.55 | 333.20 | 349.9 | 395.00 | 10 |
| 5.50 | | 0.2165 | 8.66 | 9.09 | 10.83 | 220.00 | 231.0 | 275.00 | 6 | 8.40 | | 0.3307 | 13.23 | 13.89 | 15.75 | 336.00 | 352.8 | 400.00 | 10 |
| 5.55 | 19/87 | 0.2185 | 8.74 | 9.18 | 10.83 | 222.00 | 233.1 | 275.00 | 6 | 8.50 | | 0.3346 | 13.39 | 14.06 | 15.75 | 340.00 | 357.0 | 400.00 | 10 |
| 5.60 | | 0.2205 | 8.82 | 9.26 | 11.02 | 224.00 | 235.2 | 280.00 | 6 | 8.60 | | 0.3386 | 13.54 | 14.22 | 16.14 | 344.00 | 361.2 | 410.00 | 10 |
| 5.70 | | 0.2244 | 8.98 | 9.43 | 11.22 | 228.00 | 239.4 | 285.00 | 6 | 8.70 | | 0.3425 | 13.70 | 14.39 | 16.34 | 348.00 | 365.4 | 415.00 | 10 |
| 5.80 | | 0.2283 | 9.13 | 9.59 | 11.22 | 232.00 | 243.6 | 285.00 | 6 | 8.73 | 11/32 | 0.3437 | 13.75 | 14.44 | 16.34 | 349.20 | 366.7 | 415.00 | 10 |
| 5.90 | | 0.2323 | 9.29 | 9.76 | 11.42 | 236.00 | 247.8 | 290.00 | 6 | 8.80 | | 0.3465 | 13.86 | 14.55 | 16.34 | 352.00 | 369.6 | 415.00 | 10 |

HAM 30-1891 Recommended as pilot hole drill when using deep hole drill, see page 28. For cutting data, see page 84

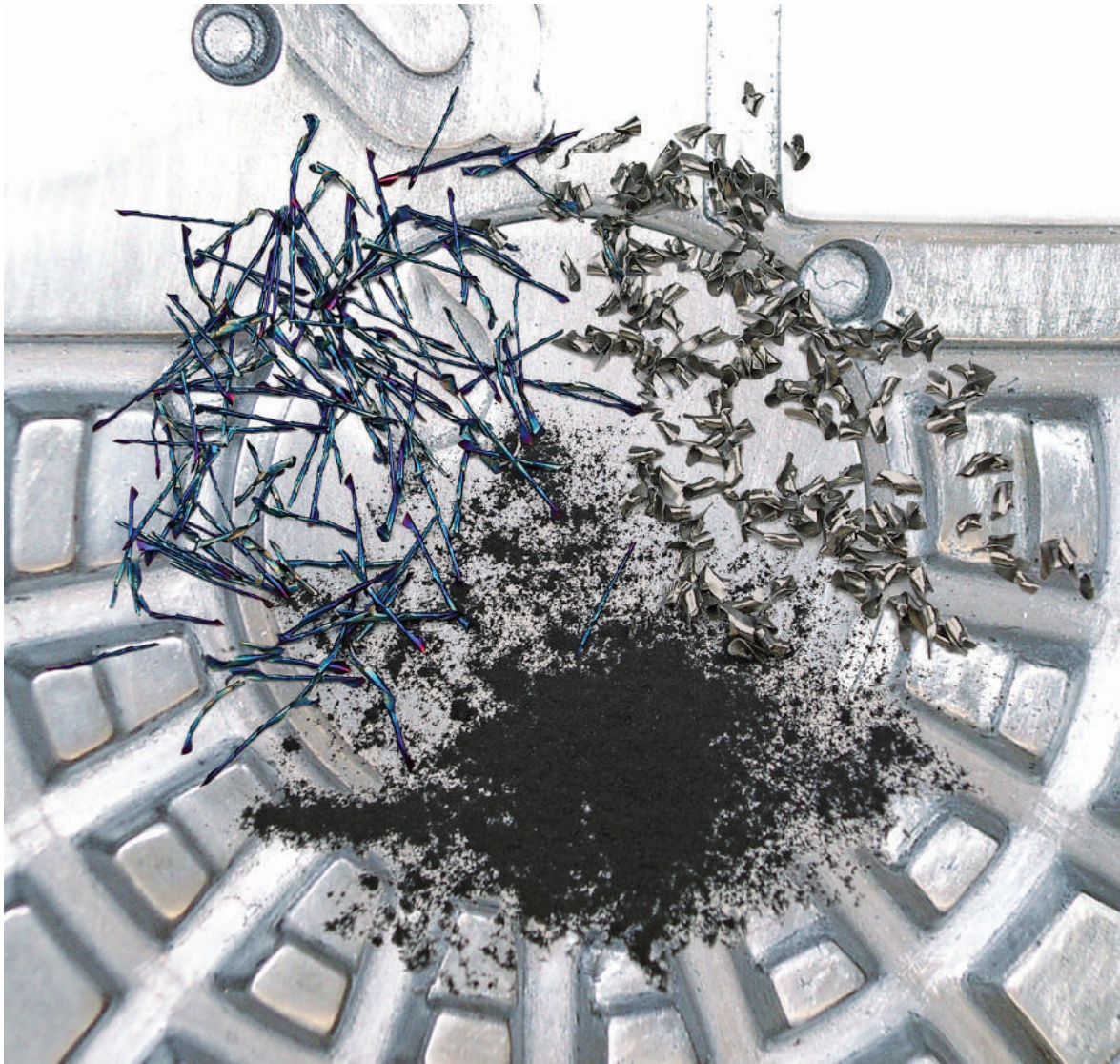
Order example: 30-2740-0500

Project Engineering



HAM Partnership from Project Engineering to Tool Management





Manufacturing Tolerances

h7, h6

| Diameter Range Nominal Size mm | Tolerance Range mm | |
|--------------------------------------|----------------------|----------------------|
| | h7 | h6 |
| 3.000 - 6.000 (0.118 - 0.236) | -0.012 (0.00047") | -0.008 (0.00031") |
| > 6.000 - 10.000 (0.236 - 0.393) | -0.015 (0.00059") | -0.009 (0.00035") |
| > 10.000 - 18.000 (0.393 - 0.709) | -0.018 (0.0007") | -0.011 (0.00043") |
| > 18.000 - 30.000 (0.709 - 1.181) | -0.021 (0.00083") | -0.013 (0.0005") |

m7


| Diameter Range Nominal Size mm | Tolerance Range | |
|--------------------------------------|------------------------|----------------------------|
| | mm | inches |
| 3.000 - 6.000 (0.118 - 0.236) | (+) 0.004 (+) 0.016 | (+) 0.00015 (+) 0.00063 |
| > 6.000 - 10.000 (0.236 - 0.393) | (+) 0.006 (+) 0.021 | (+) 0.00023 (+) 0.00083 |
| > 10.000 - 18.000 (0.393 - 0.709) | (+) 0.007 (+) 0.025 | (+) 0.00027 (+) 0.00098 |
| > 18.000 - 30.000 (0.709 - 1.181) | (+) 0.008 (+) 0.029 | (+) 0.00031 (+) 0.00114 |


Technical Information

| | | |
|---------|-------|---------|
| 30-1120 | ..... | Page 72 |
| 30-1121 | ..... | Page 72 |
| 30-1160 | ..... | Page 74 |
| 30-1301 | ..... | Page 75 |
| 30-1621 | ..... | Page 76 |
| 30-1741 | ..... | Page 77 |
| 30-1701 | ..... | Page 76 |
| 30-1781 | ..... | Page 77 |
| 30-1821 | ..... | Page 77 |
| 30-1861 | ..... | Page 78 |
| 30-1891 | ..... | Page 79 |
| 30-1881 | ..... | Page 80 |
| 30-1901 | ..... | Page 80 |
| 30-1941 | ..... | Page 82 |
| 30-1961 | ..... | Page 85 |
| 30-2001 | ..... | Page 86 |
| 30-2041 | | Page 87 |
| 30-2081 | | Page 88 |
| 30-2181 | | Page 81 |
| 30-2221 | | Page 81 |
| 30-2261 | | Page 81 |
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| 30-2341 | | Page 82 |
| 30-2381 | | Page 83 |
| 30-2421 | | Page 83 |
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| 30-2501 | | Page 83 |
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| 30-2580 | | Page 84 |
| 30-2620 | | Page 84 |
| 30-2660 | | Page 84 |
| 30-2700 | | Page 84 |
| 30-2740 | | Page 84 |

HAM 30 - 1120/1121

Solid Carbide Spiral Drill

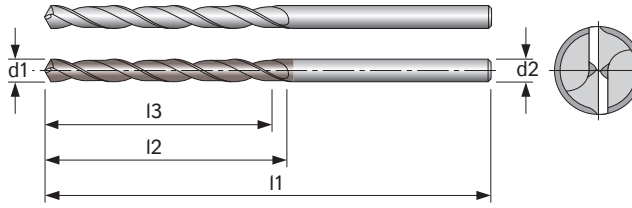
Z 2  DIN 338

Typ N  HA

TA

Engineering data

- 4-facet ground
- web thinning DIN 1412 form A
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1120 | ○ | ○ | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ | | | ● | | ○ | ● | ○ | ○ |
| 30-1121 | ○ | ○ | ● | ● | ○ | | | | ○ | ○ | ● | ● | | | ○ | | ○ | ● | ○ | ○ |

● very suitable ○ suitable

| Material Group | Diameter Inch | .039 - .059 | .062 - .118 | .122 - .130 | .133 - .145 | .149 - .165 | .169 - .185 | .188 - .208 | .212 - .236 | .240 - .263 |
|--|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Diameter mm | 1.0 - 1.5 | 1.6 - 3 | 3.1 - 3.3 | 3.4 - 3.7 | 3.8 - 4.2 | 4.3 - 4.7 | 4.8 - 5.3 | 5.4 - 6.0 | 6.1 - 6.7 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 |
| | IPR [inches/rev] | 0.0010 | 0.0020 | 0.0028 | 0.0330 | 0.0039 | 0.0043 | 0.0047 | 0.0053 | 0.0059 |
| | Vc [m/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | f [mm/U] | 0.025 | 0.050 | 0.070 | 0.085 | 0.100 | 0.110 | 0.120 | 0.135 | 0.150 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 |
| | IPR [inches/rev] | 0.0010 | 0.0020 | 0.0028 | 0.0330 | 0.0039 | 0.0043 | 0.0047 | 0.0053 | 0.0059 |
| | Vc [m/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | f [mm/U] | 0.025 | 0.050 | 0.070 | 0.085 | 0.100 | 0.110 | 0.120 | 0.135 | 0.150 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 |
| | IPR [inches/rev] | 0.0010 | 0.0020 | 0.0028 | 0.0033 | 0.0039 | 0.0043 | 0.0047 | 0.0049 | 0.0053 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | f [mm/U] | 0.025 | 0.050 | 0.070 | 0.085 | 0.100 | 0.110 | 0.120 | 0.125 | 0.135 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 |
| | IPR [inches/rev] | 0.0010 | 0.0016 | 0.0023 | 0.0027 | 0.0029 | 0.0033 | 0.0035 | 0.0039 | 0.0043 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| | f [mm/U] | 0.025 | 0.040 | 0.060 | 0.070 | 0.075 | 0.085 | 0.090 | 0.100 | 0.110 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0006 | 0.0014 | 0.0016 | 0.0020 | 0.0023 | 0.0027 | 0.0029 | 0.0033 | 0.0035 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.015 | 0.035 | 0.040 | 0.050 | 0.060 | 0.070 | 0.075 | 0.085 | 0.090 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0006 | 0.0008 | 0.0011 | 0.0013 | 0.0015 | 0.0015 | 0.0017 | 0.0017 | 0.0019 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.015 | 0.020 | 0.030 | 0.035 | 0.040 | 0.040 | 0.045 | 0.045 | 0.050 |
| Cast Iron | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0010 | 0.0010 | 0.0011 | 0.0011 | 0.0013 | 0.0013 | 0.0015 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.010 | 0.015 | 0.025 | 0.025 | 0.030 | 0.030 | 0.035 | 0.035 | 0.040 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 |
| | IPR [inches/rev] | 0.0010 | 0.0020 | 0.0028 | 0.0033 | 0.0390 | 0.0430 | 0.0470 | 0.0049 | 0.0053 |
| | Vc [m/min] | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| | f [mm/U] | 0.025 | 0.050 | 0.070 | 0.085 | 0.100 | 0.110 | 0.120 | 0.125 | 0.135 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0010 | 0.0016 | 0.0023 | 0.0027 | 0.0029 | 0.0033 | 0.0035 | 0.0039 | 0.0043 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.025 | 0.040 | 0.060 | 0.070 | 0.075 | 0.085 | 0.090 | 0.1 | 0.110 |
| Titanium | SFM [surface feet/min] | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 |
| | IPR [inches/rev] | 0.0010 | 0.0020 | 0.0027 | 0.0033 | 0.0039 | 0.0043 | 0.0047 | 0.0053 | 0.0059 |
| | Vc [m/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | f [mm/U] | 0.025 | 0.050 | 0.070 | 0.085 | 0.100 | 0.110 | 0.120 | 0.135 | 0.150 |

• Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

| | Diameter Inch | .267 - .295 | .299 - .334 | .338 - .374 | .377 - .413 | .417 - .452 | .456 - .511 | .515 - .570 | 0.63 |
|--|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|
| Material Group | Diameter mm | 6.8 - 7.5 | 7.6 - 8.5 | 8.6 - 9.5 | 9.6 - 10.5 | 10.6 - 11.5 | 11.6 - 13.0 | 13.1 - 14.5 | 16 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 754 | 754 | 754 | 754 | 754 | 754 | 754 | 754 |
| | IPR [inches/rev] | 0.0067 | 0.0073 | 0.0078 | 0.0086 | 0.0094 | 0.0100 | 0.0106 | 0.0118 |
| | Vc [m/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | f [mm/U] | 0.170 | 0.185 | 0.200 | 0.220 | 0.240 | 0.255 | 0.270 | 0.300 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 |
| | IPR [inches/rev] | 0.0067 | 0.0073 | 0.0078 | 0.0086 | 0.0094 | 0.0100 | 0.0106 | 0.0118 |
| | Vc [m/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | f [mm/U] | 0.170 | 0.185 | 0.200 | 0.220 | 0.240 | 0.255 | 0.270 | 0.300 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 |
| | IPR [inches/rev] | 0.0059 | 0.0067 | 0.0073 | 0.0078 | 0.0082 | 0.0086 | 0.0086 | 0.0098 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | f [mm/U] | 0.150 | 0.170 | 0.185 | 0.200 | 0.210 | 0.220 | 0.220 | 0.250 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 |
| | IPR [inches/rev] | 0.0047 | 0.0051 | 0.0053 | 0.0059 | 0.0059 | 0.0067 | 0.0075 | 0.0082 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| | f [mm/U] | 0.120 | 0.130 | 0.135 | 0.150 | 0.150 | 0.170 | 0.190 | 0.210 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0039 | 0.0047 | 0.0051 | 0.0051 | 0.0055 | 0.0055 | 0.0059 | 0.0067 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.100 | 0.120 | 0.130 | 0.130 | 0.140 | 0.140 | 0.150 | 0.170 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0021 | 0.0023 | 0.0027 | 0.0029 | 0.0033 | 0.0037 | 0.0043 | 0.0059 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.055 | 0.060 | 0.070 | 0.075 | 0.085 | 0.095 | 0.110 | 0.150 |
| Cast Iron | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0017 | 0.0019 | 0.0021 | 0.0023 | 0.0027 | 0.0031 | 0.0035 | 0.0047 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.045 | 0.050 | 0.055 | 0.060 | 0.070 | 0.080 | 0.090 | 0.120 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 278 | 278 | 278 | 278 | 278 | 278 | 278 | 278 |
| | IPR [inches/rev] | 0.0059 | 0.0067 | 0.0073 | 0.0078 | 0.0082 | 0.0086 | 0.0086 | 0.0098 |
| | Vc [m/min] | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| | f [mm/U] | 0.150 | 0.170 | 0.185 | 0.200 | 0.210 | 0.220 | 0.220 | 0.250 |
| Inconel, Haynes, Hasteloy & other Super Alloy Metals | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0047 | 0.0051 | 0.0053 | 0.0059 | 0.0059 | 0.0067 | 0.0075 | 0.0082 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.120 | 0.130 | 0.135 | 0.150 | 0.150 | 0.170 | 0.190 | 0.210 |
| Titanium | SFM [surface feet/min] | 590 | 590 | 590 | 590 | 590 | 590 | 590 | 590 |
| | IPR [inches/rev] | 0.0067 | 0.0073 | 0.0078 | 0.0086 | 0.0094 | 0.0100 | 0.0106 | 0.0118 |
| | Vc [m/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | f [mm/U] | 0.170 | 0.185 | 0.200 | 0.220 | 0.240 | 0.255 | 0.270 | 0.300 |

- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

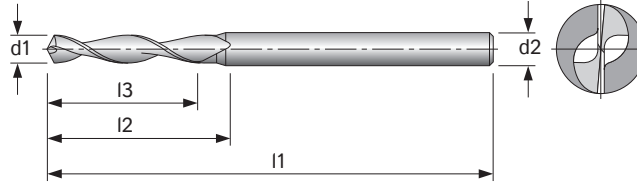
HAM 30 - 1160/1161

Solid Carbide Spiral Drill



Engineering data

- 4-facet ground
- web thinning DIN 1412 form A
- AMS geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1160 | ● | ● | ○ | ○ | | | | | ○ | ○ | ○ | | | ○ | ● | ○ | ○ | ● | ○ | ○ |
| 30-1161 | ● | ● | ○ | ○ | | | | | ○ | ○ | ○ | | | ○ | ● | ○ | ○ | ● | ○ | ○ |

● very suitable ○ suitable

| Material Group | Diameter Inch | .020 - .024 | .025 - .028 | .029 - .033 | .034 - .045 | .046 - .075 | .076 - .118 |
|--|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Diameter mm | 0.55 | 0.7 | 0.8 | 1.1 | 1.6 | 2.60 |
| Aluminum | SFM [surface feet/min] | 656 | 656 | 656 | 656 | 656 | 656 |
| | IPR [inches/rev] | 0.0008 | 0.0010 | 0.0012 | 0.0016 | 0.0024 | 0.0039 |
| | Vc [m/min] | 200 | 200 | 200 | 200 | 200 | 200 |
| | f [mm/U] | 0.020 | 0.025 | 0.030 | 0.040 | 0.060 | 0.100 |
| Aluminum > 9% Si | SFM [surface feet/min] | 525 | 525 | 525 | 525 | 525 | 525 |
| | IPR [inches/rev] | 0.0008 | 0.0010 | 0.0012 | 0.0016 | 0.0024 | 0.0039 |
| | Vc [m/min] | 160 | 160 | 160 | 160 | 160 | 160 |
| | f [mm/U] | 0.020 | 0.025 | 0.030 | 0.040 | 0.060 | 0.100 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 197 | 197 | 197 | 197 | 197 | 197 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0020 |
| | Vc [m/min] | 60 | 60 | 60 | 60 | 60 | 60 |
| | f [mm/U] | 0.010 | 0.015 | 0.020 | 0.025 | 0.035 | 0.050 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0004 | 0.0004 | 0.0006 | 0.0008 | 0.0012 | 0.0016 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.010 | 0.010 | 0.015 | 0.020 | 0.030 | 0.040 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0002 | 0.0002 | 0.0003 | 0.0004 | 0.0006 | 0.0010 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.005 | 0.006 | 0.008 | 0.01 | 0.015 | 0.025 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 |
| | IPR [inches/rev] | 0.0002 | 0.0002 | 0.0003 | 0.0004 | 0.0006 | 0.0010 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 |
| | f [mm/U] | 0.005 | 0.006 | 0.008 | 0.01 | 0.015 | 0.025 |
| Cast Iron | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0020 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 |
| | f [mm/U] | 0.010 | 0.015 | 0.020 | 0.025 | 0.035 | 0.050 |
| Titanium | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0002 | 0.0002 | 0.0003 | 0.0004 | 0.0006 | 0.0010 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.005 | 0.006 | 0.008 | 0.010 | 0.015 | 0.025 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 427 | 427 | 427 | 427 | 427 | 427 |
| | IPR [inches/rev] | 0.0006 | 0.0007 | 0.0010 | 0.0012 | 0.0016 | 0.0028 |
| | Vc [m/min] | 130 | 130 | 130 | 130 | 130 | 130 |
| | f [mm/U] | 0.015 | 0.017 | 0.025 | 0.030 | 0.040 | 0.070 |
| Graphite & Fibre Reinforced Composites | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0004 | 0.0005 | 0.0006 | 0.0008 | 0.0012 | 0.0018 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.010 | 0.012 | 0.016 | 0.020 | 0.030 | 0.045 |

• **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30 - 1301

Solid Carbide Spiral Drill

Z 2
30° Right

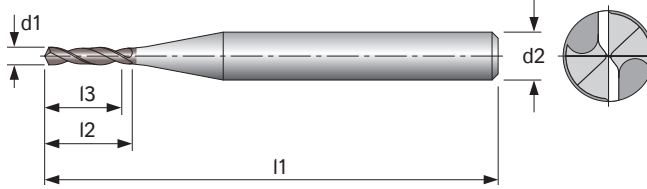
140°
SHRINK FIT

HPC
TA

HA

Engineering data

- 4-facet ground
- Ø 0.1 mm - 0.15 mm no web thinning
- Ø 0.2 mm - 0.45 mm web thinning
- DIN 1412 form A
- from Ø 0.5 mm web thinning
- DIN 1412 form C
- web thickness reinforced
- shank reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | | | ● | ● | ● | ○ | | | ● | ○ | ● | ○ | | ● | | | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | .0039 - .0137 | .0157 - .0256 | .0275 - .0374 | .0393 - .0452 | .0472 - .0570 | .0590 - .0767 | .0787 - .0964 | .0984 - .118 |
|-------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| | Diameter mm | 0.1 - 0.35 | 0.40 - 0.65 | 0.70 - 0.95 | 1.00 - 1.15 | 1.20 - 1.45 | 1.50 - 1.95 | 2.00 - 2.45 | 2.50 - 3.00 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0047 | 0.0059 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | f [mm/U] | 0.010 | 0.020 | 0.040 | 0.050 | 0.070 | 0.090 | 0.120 | 0.150 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0047 | 0.0059 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.010 | 0.020 | 0.040 | 0.050 | 0.070 | 0.090 | 0.120 | 0.150 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0003 | 0.0008 | 0.0014 | 0.0016 | 0.0022 | 0.0028 | 0.0035 | 0.0043 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.007 | 0.020 | 0.040 | 0.050 | 0.070 | 0.090 | 0.120 | 0.150 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0002 | 0.0004 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0018 | 0.0022 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.005 | 0.010 | 0.015 | 0.020 | 0.025 | 0.035 | 0.045 | 0.055 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0002 | 0.0003 | 0.0005 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0016 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.004 | 0.008 | 0.012 | 0.015 | 0.020 | 0.025 | 0.035 | 0.040 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0002 | 0.0003 | 0.0005 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0016 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.004 | 0.008 | 0.012 | 0.015 | 0.020 | 0.025 | 0.035 | 0.040 |
| Cast Iron | SFM [surface feet/min] | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0047 | 0.0059 |
| | Vc [m/min] | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| | f [mm/U] | 0.010 | 0.020 | 0.040 | 0.050 | 0.070 | 0.090 | 0.120 | 0.150 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0047 | 0.0059 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| | f [mm/U] | 0.010 | 0.020 | 0.040 | 0.050 | 0.070 | 0.090 | 0.120 | 0.150 |
| Titanium | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0002 | 0.0003 | 0.0005 | 0.0006 | 0.0008 | 0.0010 | 0.0014 | 0.0016 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.004 | 0.008 | 0.012 | 0.015 | 0.020 | 0.025 | 0.035 | 0.040 |

• **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30-1621/1701 Superdrill

Solid Carbide Twist Drill

280 Series

Z 2

30° Right

DIN 6537K

3 x D

5 x D

140°

SHRINK FIT

HSF

HPC

TA-C

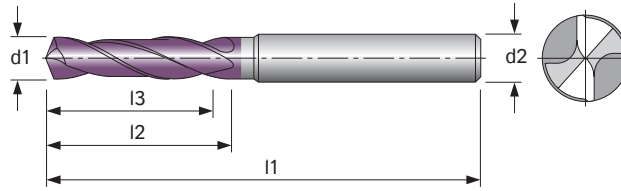
DIN 6535 HA

DIN 6535 HB

DIN 6535 HE

Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| Diameter Inch | | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 | 0.866 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Diameter mm | | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 | 22.00 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 427 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0157 | 0.0177 | 0.0197 | 0.0236 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 1140 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.400 | 0.450 | 0.500 | 0.600 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 295 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0157 | 0.0177 | 0.0197 | 0.0236 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 780 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.400 | 0.450 | 0.500 | 0.600 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 230 |
| | IPR [inches/rev] | 0.0031 | 0.0047 | 0.0059 | 0.0071 | 0.0079 | 0.0098 | 0.0118 | 0.0118 | 0.0138 | 0.0157 | 0.0177 | 0.0197 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 500 |
| | f [mm/U] | 0.080 | 0.120 | 0.150 | 0.180 | 0.200 | 0.250 | 0.300 | 0.300 | 0.350 | 0.400 | 0.450 | 0.500 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 49 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0047 | 0.0055 |
| | Vc [m/min] | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 30 |
| | f [mm/U] | 0.010 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.120 | 0.140 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 131 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0051 | 0.0059 | 0.0071 | 0.0079 | 0.0079 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 40 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.060 | 0.800 | 0.100 | 0.120 | 0.130 | 0.150 | 0.180 | 0.200 | 0.200 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 98 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0051 | 0.0059 | 0.0071 | 0.0079 | 0.0047 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 30 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.060 | 0.800 | 0.100 | 0.120 | 0.130 | 0.150 | 0.180 | 0.200 | 0.120 |
| Cast Iron | SFM [surface feet/min] | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 279 | 394 |
| | IPR [inches/rev] | 0.0039 | 0.0047 | 0.0059 | 0.0079 | 0.0098 | 0.0138 | 0.0177 | 0.0197 | 0.0236 | 0.0256 | 0.0276 | 0.0295 |
| | Vc [m/min] | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 120 |
| | f [mm/U] | 0.100 | 0.120 | 0.150 | 0.200 | 0.250 | 0.350 | 0.450 | 0.500 | 0.600 | 0.650 | 0.700 | 0.750 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 295 |
| | IPR [inches/rev] | 0.0024 | 0.0039 | 0.0047 | 0.0051 | 0.0071 | 0.0079 | 0.0098 | 0.0098 | 0.0098 | 0.0110 | 0.0118 | 0.0138 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 90 |
| | f [mm/U] | 0.060 | 0.100 | 0.120 | 0.130 | 0.180 | 0.200 | 0.250 | 0.250 | 0.250 | 0.280 | 0.300 | 0.300 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 164 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0016 | 0.0020 | 0.0028 | 0.0039 | 0.0047 | 0.0051 | 0.0055 | 0.0059 | 0.0063 | 0.0079 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 50 |
| | f [mm/U] | 0.030 | 0.040 | 0.040 | 0.050 | 0.070 | 0.100 | 0.120 | 0.130 | 0.140 | 0.150 | 0.160 | 0.200 |
| Titanium | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 98 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 | 0.0039 | 0.0043 | 0.0047 | 0.0047 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 30 |
| | f [mm/U] | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 | 0.100 | 0.110 | 0.120 | 0.120 |

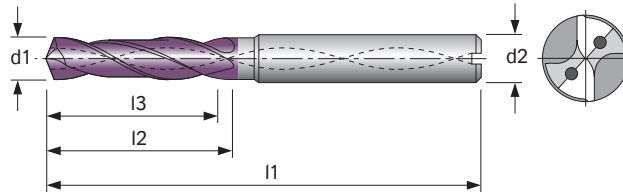
• Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30-1741/1781/1821 Superdrill Solid Carbide Twist Drill

Series 285/286/292

Engineering Data

- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix



Z 2

30° Right

3 x D

5 x D

8 x D

DIN 6537K

140°

SHRINK FIT

HSF

HPC

TA-C

DIN 6535 HA

DIN 6535 HB

DIN 6535 HE

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| | Diameter Inch | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 | 0.866 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Material Group | Diameter mm | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 | 22.00 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 |
| | IPR [inches/rev] | 0.0047 | 0.0067 | 0.0079 | 0.0087 | 0.0106 | 0.0126 | 0.0146 | 0.0157 | 0.0177 | 0.0197 | 0.0217 | 0.0236 |
| | Vc [m/min] | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 1140 |
| | f [mm/U] | 0.120 | 0.170 | 0.200 | 0.220 | 0.270 | 0.320 | 0.370 | 0.400 | 0.450 | 0.500 | 0.550 | 0.600 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 |
| | IPR [inches/rev] | 0.0047 | 0.0067 | 0.0079 | 0.0087 | 0.0106 | 0.0126 | 0.0146 | 0.0157 | 0.0177 | 0.0197 | 0.0217 | 0.0236 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 780 |
| | f [mm/U] | 0.120 | 0.170 | 0.200 | 0.220 | 0.270 | 0.320 | 0.370 | 0.400 | 0.450 | 0.500 | 0.550 | 0.600 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0039 | 0.0055 | 0.0067 | 0.0079 | 0.0087 | 0.0106 | 0.0126 | 0.0138 | 0.0146 | 0.0157 | 0.0185 | 0.0197 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 500 |
| | f [mm/U] | 0.100 | 0.140 | 0.170 | .2 | 0.220 | 0.270 | 0.320 | 0.350 | 0.370 | 0.400 | 0.470 | 0.500 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0047 | 0.0055 |
| | Vc [m/min] | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 30 |
| | f [mm/U] | 0.010 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.120 | 0.140 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 | 0.0043 | 0.0047 | 0.0055 | 0.0063 | 0.0079 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 | 0.110 | 0.120 | 0.140 | 0.160 | 0.200 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0006 | 0.0008 | 0.0010 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0047 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.015 | 0.020 | 0.025 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.120 |
| Cast Iron | SFM [surface feet/min] | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| | IPR [inches/rev] | 0.0047 | 0.0055 | 0.0067 | 0.0087 | 0.0106 | 0.0146 | 0.0177 | 0.0197 | 0.0244 | 0.0256 | 0.0283 | 0.0295 |
| | Vc [m/min] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | f [mm/U] | 0.120 | 0.140 | 0.170 | 0.220 | 0.270 | 0.370 | 0.450 | 0.500 | 0.620 | 0.650 | 0.720 | 0.750 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 | 295 |
| | IPR [inches/rev] | 0.0024 | 0.0039 | 0.0047 | 0.0051 | 0.0071 | 0.0079 | 0.0098 | 0.0098 | 0.0098 | 0.0098 | 0.0118 | 0.0138 |
| | Vc [m/min] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | f [mm/U] | 0.060 | 0.100 | 0.120 | 0.130 | 0.180 | 0.200 | 0.250 | 0.250 | 0.250 | 0.250 | 0.350 | 0.300 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0035 | 0.0047 | 0.0055 | 0.0059 | 0.0063 | 0.0067 | 0.0071 | 0.0079 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.040 | 0.050 | 0.060 | 0.070 | 0.090 | 0.120 | 0.140 | 0.150 | 0.160 | 0.170 | 0.180 | 0.200 |
| Titanium | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0006 | 0.0008 | 0.0010 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0047 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.015 | 0.020 | 0.025 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.120 |

- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

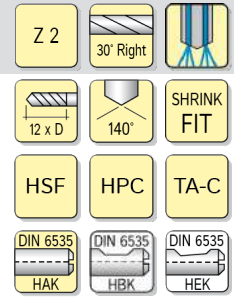
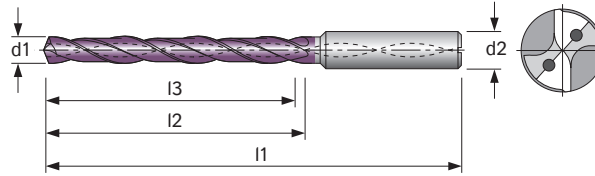
HAM 30-1861 Superdrill

Series 293

Solid Carbide Twist Drill

Engineering Data

- 4 guide chamfer
- special point ground
- special chip flute geometry
- web thickness reinforced
- 30° RH helix
- tip-coated



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| | ○ | ○ | ● | ● | ● | ● | | | ○ | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

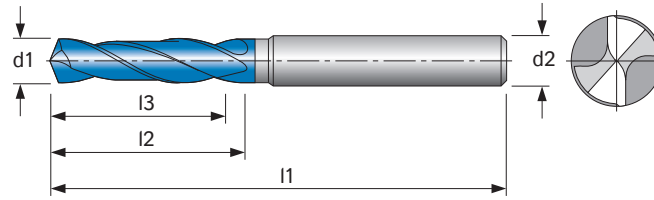
| Material Group | Diameter Inch | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 377 | 377 | 377 | 377 | 377 | 377 | 377 |
| | IPR [inches/rev] | 0.0035 | 0.0053 | 0.0063 | 0.0071 | 0.0087 | 0.0106 | 0.0118 |
| | Vc [m/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | f [mm/U] | 0.090 | 0.135 | 0.160 | 0.180 | 0.220 | 0.270 | 0.300 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 262 | 262 | 262 | 262 | 262 | 262 | 262 |
| | IPR [inches/rev] | 0.0035 | 0.0053 | 0.0063 | 0.0071 | 0.0087 | 0.0106 | 0.0118 |
| | Vc [m/min] | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | f [mm/U] | 0.090 | 0.135 | 0.160 | 0.180 | 0.220 | 0.270 | 0.300 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| | IPR [inches/rev] | 0.0028 | 0.0039 | 0.0051 | 0.0063 | 0.0071 | 0.0087 | 0.0106 |
| | Vc [m/min] | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | f [mm/U] | 0.070 | 0.100 | 0.130 | 0.160 | 0.180 | 0.220 | 0.270 |
| Steel < 55 Rockwell | SFM [surface feet/min] | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| | IPR [inches/rev] | 0.0004 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 |
| | Vc [m/min] | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | f [mm/U] | 0.010 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0010 | 0.0014 | 0.0018 | 0.0020 | 0.0028 | 0.0035 | 0.0039 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.025 | 0.035 | 0.045 | 0.050 | 0.070 | 0.090 | 0.100 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | IPR [inches/rev] | 0.0010 | 0.0014 | 0.0018 | 0.0020 | 0.0028 | 0.0035 | 0.0039 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| | f [mm/U] | 0.025 | 0.035 | 0.045 | 0.050 | 0.070 | 0.090 | 0.100 |
| Cast Iron | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0035 | 0.0039 | 0.0051 | 0.0071 | 0.0087 | 0.0118 | 0.0157 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.090 | 0.100 | 0.130 | 0.180 | 0.220 | 0.300 | 0.400 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 262 | 262 | 262 | 262 | 262 | 262 | 262 |
| | IPR [inches/rev] | 0.0020 | 0.0035 | 0.0039 | 0.0043 | 0.0063 | 0.0071 | 0.0087 |
| | Vc [m/min] | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | f [mm/U] | 0.050 | 0.090 | 0.100 | 0.110 | 0.160 | 0.180 | 0.220 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 148 | 148 | 148 | 148 | 148 | 148 | 148 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0012 | 0.0016 | 0.0024 | 0.0035 | 0.0039 |
| | Vc [m/min] | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| | f [mm/U] | 0.020 | 0.030 | 0.030 | 0.040 | 0.060 | 0.090 | 0.100 |
| Titanium | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | IPR [inches/rev] | 0.0007 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| | f [mm/U] | 0.018 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 |

- Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30-1891 Nirodrill

Solid Carbide Twist Drill

- Engineering Data**
- special chip flute geometry
 - special point ground for machining of stainless steel
 - 30° RH helix



| | | |
|-------------|-------------|-------------|
| Z 2 | 30° Right | DIN 6537K |
| 3 x D | 140° | SHRINK FIT |
| HSF | HPC | TA-CN |
| DIN 6535 HA | DIN 6535 HB | DIN 6535 HE |

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Stain ST > 403 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | ● | ● | | | | | | | ● | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.078 | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 | 0.551 | 0.63 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 2.00 | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
| Aluminum | SFM [surface feet/min] | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 |
| | IPR [inches/rev] | 0.0031 | 0.0035 | 0.0047 | 0.0059 | 0.0071 | 0.0094 | 0.0118 | 0.0142 | 0.0165 | 0.0189 |
| | Vc [m/min] | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| | f [mm/U] | 0.08 | 0.090 | 0.120 | 0.150 | 0.180 | 0.240 | 0.300 | 0.360 | 0.420 | 0.480 |
| Aluminum > 9% Si | SFM [surface feet/min] | 656 | 656 | 656 | 656 | 656 | 656 | 656 | 656 | 656 | 656 |
| | IPR [inches/rev] | 0.0028 | 0.0031 | 0.0043 | 0.0055 | 0.0067 | 0.0091 | 0.0114 | 0.0138 | 0.0161 | 0.0185 |
| | Vc [m/min] | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| | f [mm/U] | 0.070 | 0.080 | 0.110 | 0.140 | 0.170 | 0.230 | 0.290 | 0.350 | 0.410 | 0.470 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0022 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0079 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.055 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.200 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0008 | 0.0010 | 0.0012 | 0.0014 | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.020 | 0.025 | 0.030 | 0.035 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 |
| Stainless Steel > 40 Rockwell | SFM [surface feet/min] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| | IPR [inches/rev] | 0.0008 | 0.0010 | 0.0012 | 0.0014 | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 |
| | Vc [m/min] | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| | f [mm/U] | 0.020 | 0.025 | 0.030 | 0.035 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 |
| Cast Iron | SFM [surface feet/min] | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 |
| | IPR [inches/rev] | 0.0031 | 0.0035 | 0.0047 | 0.0059 | 0.0071 | 0.0094 | 0.0118 | 0.0142 | 0.0165 | 0.0185 |
| | Vc [m/min] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | f [mm/U] | 0.08 | 0.090 | 0.120 | 0.150 | 0.180 | 0.240 | 0.300 | 0.360 | 0.420 | 0.470 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0018 | 0.0020 | 0.0024 | 0.0031 | 0.0035 | 0.0043 | 0.0047 | 0.0059 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.020 | 0.030 | 0.045 | 0.050 | 0.060 | 0.080 | 0.090 | 0.110 | 0.120 | 0.150 |
| Titanium | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 | 0.0047 | 0.0055 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 | 0.120 | 0.140 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| | IPR [inches/rev] | 0.0028 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0087 | 0.0102 | 0.0118 | 0.0157 |
| | Vc [m/min] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | f [mm/U] | 0.070 | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.220 | 0.260 | 0.300 | 0.400 |

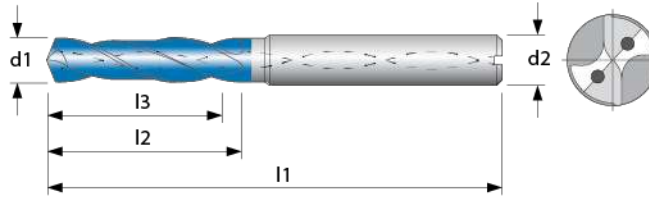
- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

**HAM 30-1881/1901/
1941 Nirodrill**

Solid Carbide Spiral Drill

Engineering Data

- special point ground for machining of stainless steel
- special chip flute geometry
- 30° RH helix



Z 2

30° Right

3 x D

5 x D

8 x D

DIN 6537K

140°

SHRINK FIT

HSF

HPC

TA-CN

DIN 6535 HAK

DIN 6535 HBK

DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Stain ST > 40 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | ● | ● | | | | | | | ● | ● | ● | ○ | | ○ | ● | ● | ○ | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 | 0.551 | 0.63 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 |
| Aluminum | SFM [surface feet/min] | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 |
| | IPR [inches/rev] | 0.0047 | 0.0071 | 0.0079 | 0.0098 | 0.0118 | 0.0157 | 0.0197 | 0.0236 | 0.0315 |
| | Vc [m/min] | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | f [mm/U] | 0.120 | 0.180 | 0.200 | 0.250 | 0.300 | 0.400 | 0.500 | 0.600 | 0.800 |
| Aluminum > 9% Si | SFM [surface feet/min] | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0098 | 0.0118 | 0.0138 | 0.0157 | 0.0197 | 0.0236 |
| | Vc [m/min] | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.250 | 0.300 | 0.350 | 0.400 | 0.500 | 0.600 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0022 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0079 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.040 | 0.050 | 0.055 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.200 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 |
| | IPR [inches/rev] | 0.0010 | 0.0012 | 0.0014 | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 |
| | Vc [m/min] | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| | f [mm/U] | 0.025 | 0.030 | 0.035 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 |
| Stainless Steel > 40 Rockwell | SFM [surface feet/min] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| | IPR [inches/rev] | 0.0010 | 0.0012 | 0.0014 | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 |
| | Vc [m/min] | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| | f [mm/U] | 0.025 | 0.030 | 0.035 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 |
| Cast Iron | SFM [surface feet/min] | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0165 | 0.0197 |
| | Vc [m/min] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.200 | 0.250 | 0.300 | 0.350 | 0.420 | 0.500 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0012 | 0.0018 | 0.0020 | 0.0024 | 0.0031 | 0.0035 | 0.0043 | 0.0047 | 0.0059 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.030 | 0.045 | 0.500 | 0.060 | 0.080 | 0.090 | 0.110 | 0.120 | 0.150 |
| Titanium | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 | 0.0047 | 0.0055 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 | 0.120 | 0.140 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 492 | 492 | 492 | 492 | 492 | 492 | 492 | 492 | 492 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0087 | 0.0102 | 0.0118 | 0.0157 |
| | Vc [m/min] | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| | f [mm/U] | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.220 | 0.260 | 0.300 | 0.400 |

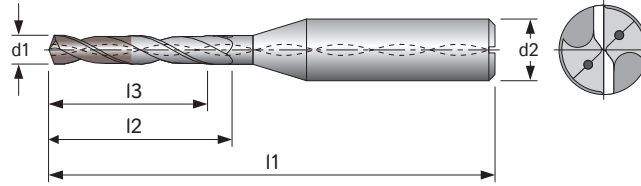
• Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30-2181/2221/2261

Solid Carbide Deep Hole Drill

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



Z 2

30° Right

5 x D

8 x D

12 x D

140°

SHRINK FIT

HPC

HSF

TA

HA

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| | Diameter Inch | .0314 - .0374 | .0393 - .0472 | .0492 - .0570 | .0590 - .0669 | .0689 - .0767 | .0787 - .0866 | .0885 - .0964 | .0984 - .1063 | .1082 - .1181 |
|--|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Material Group | Diameter mm | 0.8 - 0.95 | 1.0 - 1.2 | 1.25 - 1.45 | 1.5 - 1.7 | 1.75 - 1.9. | 2.0 - 2.2 | 2.25 - 2.45 | 2.5 - 2.7 | 2.75 - 3.0 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0047 | 0.0055 | 0.0063 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.040 | 0.050 | 0.060 | 0.080 | 0.100 | 0.120 | 0.120 | 0.140 | 0.160 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0016 | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0055 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.020 | 0.030 | 0.040 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.140 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | IPR [inches/rev] | 0.0008 | 0.0012 | 0.0024 | 0.0024 | 0.0031 | 0.0031 | 0.0039 | 0.0039 | 0.0047 |
| | Vc [m/min] | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| | f [mm/U] | 0.020 | 0.030 | 0.060 | 0.060 | 0.080 | 0.080 | 0.100 | 0.100 | 0.120 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0008 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.020 | 0.030 | 0.060 | 0.060 | 0.080 | 0.080 | 0.100 | 0.100 | 0.120 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0008 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.020 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 |
| Cast Iron | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0079 | 0.0098 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.200 | 0.250 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| | IPR [inches/rev] | 0.0016 | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0079 | 0.0098 |
| | Vc [m/min] | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | f [mm/U] | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.200 | 0.250 |
| Inconel, Haynes, Hasteloy & other Super Alloy Metals | SFM [surface feet/min] | 33 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0008 | 0.0008 | 0.0008 | 0.0016 | 0.0020 | 0.0024 | 0.0031 | 0.0039 | 0.0047 |
| | Vc [m/min] | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | f [mm/U] | 0.020 | 0.020 | 0.020 | 0.040 | 0.050 | 0.060 | 0.080 | 0.100 | 0.120 |
| Titanium | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0008 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0039 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.020 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.100 |

• Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

HAM 30-2301/2341

Solid Carbide Deep Hole Drill

Z 2

30° Right

15 x D

20 x D

140°

SHRINK FIT

HPC

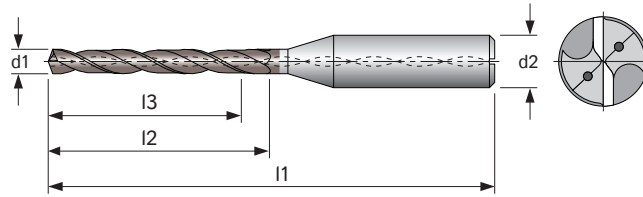
HSF

TA

HA

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 30° RH helix



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| Diameter Inch | | .0314 - .0374 | .0393 - .0472 | .0492 - .0570 | .0590 - .0669 | .0689 - .0767 | .0787 - .0866 | .0885 - .0964 | .0984 - .1063 | .1082 - .1181 |
|---|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Diameter mm | | 0.8 - 0.95 | 1.0 - 1.2 | 1.25 - 1.45 | 1.5 - 1.7 | 1.75 - 1.95 | 2.0 - 2.2 | 2.25 - 2.45 | 2.5 - 2.7 | 2.75 - 3.0 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 312 |
| | IPR [inches/rev] | 0.0012 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0043 | 0.0043 | 0.0051 | 0.0059 |
| | Vc [m/min] | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| | f [mm/U] | 0.030 | 0.040 | 0.050 | 0.070 | 0.090 | 0.110 | 0.110 | 0.130 | 0.150 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 |
| | IPR [inches/rev] | 0.0006 | 0.0010 | 0.0014 | 0.0014 | 0.0020 | 0.0028 | 0.0035 | 0.0043 | 0.0051 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| | f [mm/U] | 0.015 | 0.025 | 0.035 | 0.035 | 0.050 | 0.070 | 0.090 | 0.110 | 0.130 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0006 | 0.0010 | 0.0014 | 0.0014 | 0.0020 | 0.0028 | 0.0035 | 0.0039 | 0.0047 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.015 | 0.025 | 0.035 | 0.035 | 0.050 | 0.070 | 0.090 | 0.110 | 0.130 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0007 | 0.0012 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0039 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.010 | 0.015 | 0.018 | 0.030 | 0.040 | 0.050 | 0.070 | 0.090 | 0.100 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0035 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.010 | 0.015 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.090 |
| Cast Iron | SFM [surface feet/min] | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 312 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0028 | 0.0039 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0079 |
| | Vc [m/min] | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| | f [mm/U] | 0.040 | 0.050 | 0.070 | 0.100 | 0.100 | 0.120 | 0.150 | 0.180 | 0.200 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0028 | 0.0039 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0079 |
| | Vc [m/min] | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| | f [mm/U] | 0.040 | 0.050 | 0.070 | 0.100 | 0.100 | 0.120 | 0.150 | 0.180 | 0.200 |
| Inconel, Haynes, Hastelloy & other Super Alloy Metals | SFM [surface feet/min] | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0007 | 0.0012 | 0.0016 | 0.0020 | 0.0028 | 0.0035 | 0.0039 |
| | Vc [m/min] | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | f [mm/U] | 0.010 | 0.015 | 0.018 | 0.030 | 0.040 | 0.050 | 0.070 | 0.090 | 0.100 |
| Titanium | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | IPR [inches/rev] | 0.0004 | 0.0006 | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0035 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| | f [mm/U] | 0.010 | 0.015 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.090 |

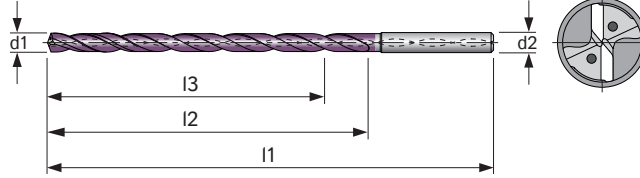
• Note: Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

**HAM 30-2381/2421/
2461/2501/2541**

Solid Carbide Deep Hole Drill

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 4 guide chamfer



Z 2 30° Right
15 x D 20 x D 25 x D 30 x D 40 x D
140° SHRINK FIT
HPC HSF TA-C

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | | | ● | ● | ○ | | | | ● | ○ | ● | ● | ○ | ○ | | | ● | ● | | |

● very suitable ○ suitable

| | Diameter Inch | 0.118 | 0.157 | 0.196 | 0.236 | 0.315 | 0.394 | 0.472 | 0.551 |
|--|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Material Group | Diameter mm | 3.00 | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 |
| Steel < 23 Rockwell | SFM [surface feet/min] | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Steel < 38 Rockwell | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Steel < 48 Rockwell | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Stainless Steel < 23 Rockwell | SFM [surface feet/min] | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0043 |
| | Vc [m/min] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | f [mm/U] | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.110 |
| Stainless Steel > 23 Rockwell | SFM [surface feet/min] | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0043 |
| | Vc [m/min] | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| | f [mm/U] | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.110 |
| Cast Iron | SFM [surface feet/min] | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Inconel, Haynes, Hastoloy & other Super Alloy Metals | SFM [surface feet/min] | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0177 |
| | Vc [m/min] | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | f [mm/U] | 0.080 | 0.100 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.450 |
| Titanium | SFM [surface feet/min] | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| | IPR [inches/rev] | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0031 | 0.0035 | 0.0039 | 0.0043 |
| | Vc [m/min] | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | f [mm/U] | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 | 0.110 |

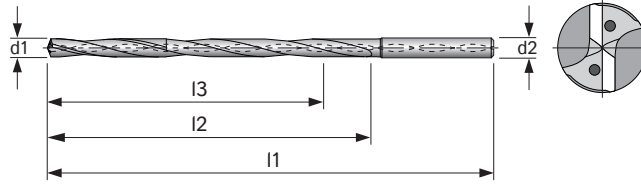
• **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

**HAM 30-2580/2620/
2660/2700/2740**

Solid Carbide Deep Hole Drill

Engineering Data

- special 4-facet ground
- special point grind
- special chip flute geometry
- 15° RH helix
- polished flute



Z 2
 15° Right
 15 x D
 20 x D
 25 x D
 30 x D
 40 x D
 137°
 SHRINK FIT
 HPC
 HSF

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| | ● | ● | | | | | | | | | | | | | ● | | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.078 | 0.118 | 0.157 | 0.177 | 0.197 | 0.216 | 0.236 | 0.256 | 0.275 | 0.315 | 0.335 | 0.393 | 0.472 | 0.551 |
|-----------------------------|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 2.00 | 3.00 | 4.00 | 4.50 | 5.00 | 5.50 | 6.00 | 6.50 | 7.00 | 8.00 | 8.50 | 10.00 | 12.00 | 14.00 |
| Aluminum | SFM [surface feet/min] | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 | 443 |
| | I _{PR} [inches/rev] | 0.0039 | 0.0047 | 0.0059 | 0.0059 | 0.0071 | 0.0071 | 0.0079 | 0.0079 | 0.0079 | 0.0118 | 0.0118 | 0.0138 | 0.0157 | 0.0197 |
| | V _c [m/min] | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 |
| | f [mm/U] | 0.100 | 0.120 | 0.150 | 0.150 | 0.180 | 0.180 | 0.200 | 0.200 | 0.200 | 0.300 | 0.300 | 0.350 | 0.400 | 0.500 |
| Aluminum > 9% Si | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | I _{PR} [inches/rev] | 0.0031 | 0.0039 | 0.0047 | 0.0047 | 0.0079 | 0.0079 | 0.0098 | 0.0098 | 0.0098 | 0.0118 | 0.0118 | 0.0157 | 0.0157 | 0.0217 |
| | V _c [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.080 | 0.100 | 0.120 | 0.120 | 0.200 | 0.200 | 0.250 | 0.250 | 0.250 | 0.300 | 0.300 | 0.400 | 0.400 | 0.550 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| | I _{PR} [inches/rev] | 0.0031 | 0.0039 | 0.0039 | 0.0039 | 0.0079 | 0.0079 | 0.0098 | 0.0098 | 0.0098 | 0.0118 | 0.0118 | 0.0157 | 0.0157 | 0.0217 |
| | V _c [m/min] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | f [mm/U] | 0.080 | 0.100 | 0.100 | 0.100 | 0.150 | 0.150 | 0.180 | 0.250 | 0.250 | 0.300 | 0.300 | 0.400 | 0.400 | 0.550 |

- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

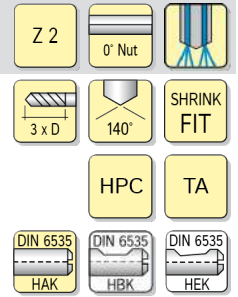
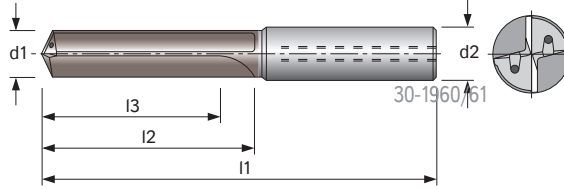
HAM 30-1960/1961 Multidrill

297 Series

Solid Carbide Drill

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-1960 Uncoated
- 30-1961 Coated



| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-1960 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-1961 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.157 | 0.197 | 0.236 | 0.315 | 0.393 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 |
|-----------------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 |
| Aluminum | SFM [surface feet/min] | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 |
| | IPR [inches/rev] | 0.0047 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0177 | 0.0197 | 0.0217 |
| | Vc [m/min] | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | f [mm/U] | 0.120 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.450 | 0.500 | 0.550 |
| Aluminum > 9% Si | SFM [surface feet/min] | 492 | 492 | 492 | 492 | 492 | 492 | 492 | 492 | 492 | 492 |
| | IPR [inches/rev] | 0.0039 | 0.0047 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0157 | 0.0177 |
| | Vc [m/min] | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| | f [mm/U] | 0.100 | 0.120 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.400 | 0.450 |
| Cast Iron | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0087 | 0.0091 | 0.0098 | 0.0110 | 0.0118 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.220 | 0.230 | 0.250 | 0.280 | 0.300 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0067 | 0.0071 | 0.0079 | 0.0087 | 0.0098 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.170 | 0.180 | 0.200 | 0.220 | 0.250 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0079 | 0.0087 | 0.0098 | 0.0098 | 0.0110 | 0.0110 | 0.0118 |
| | Vc [m/min] | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.200 | 0.220 | 0.250 | 0.250 | 0.280 | 0.280 | 0.300 |

- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

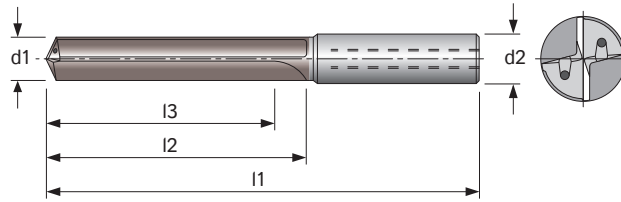
HAM 30-2000/2001 Multidrill

Solid Carbide Drill

298 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2000 Uncoated
- 30-2001 Coated



Z 2 0° Nut SHRINK FIT
5 x D 140° HPC TA
DIN 6535 HAK DIN 6535 HBK DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2000 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2001 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.276 | 0.315 | 0.393 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 | 0.708 | 0.787 |
|-----------------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 7.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 | 18.00 | 20.00 |
| Aluminum | SFM [surface feet/min] | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 |
| | IPR [inches/rev] | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0177 | 0.0197 | 0.0217 | 0.0197 | 0.0217 |
| | Vc [m/min] | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | f [mm/U] | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.450 | 0.500 | 0.550 | 0.500 | 0.550 |
| Aluminum > 9% Si | SFM [surface feet/min] | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 492 | 492 |
| | IPR [inches/rev] | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0157 | 0.0177 | 0.0157 | 0.0177 |
| | Vc [m/min] | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 150 | 150 |
| | f [mm/U] | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.400 | 0.450 | 0.400 | 0.450 |
| Cast Iron | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0047 | 0.0059 | 0.0071 | 0.0087 | 0.0091 | 0.0098 | 0.0110 | 0.0118 | 0.0110 | 0.0118 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | f [mm/U] | 0.120 | 0.150 | 0.180 | 0.220 | 0.230 | 0.250 | 0.280 | 0.300 | 0.280 | 0.300 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0039 | 0.0047 | 0.0059 | 0.0067 | 0.0071 | 0.0079 | 0.0087 | 0.0098 | 0.0087 | 0.0098 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| | f [mm/U] | 0.100 | 0.120 | 0.150 | 0.170 | 0.180 | 0.200 | 0.220 | 0.250 | 0.220 | 0.250 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 |
| | IPR [inches/rev] | 0.0071 | 0.0079 | 0.0087 | 0.0098 | 0.0098 | 0.0110 | 0.0110 | 0.0118 | 0.0110 | 0.0118 |
| | Vc [m/min] | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| | f [mm/U] | 0.180 | 0.200 | 0.220 | 0.250 | 0.250 | 0.280 | 0.280 | 0.300 | 0.280 | 0.300 |

• **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

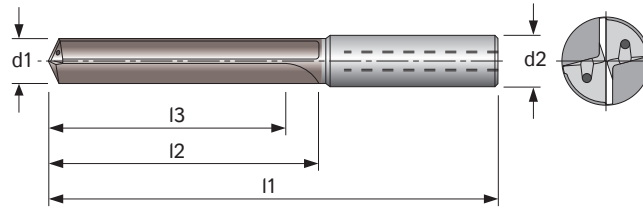
HAM 30-2040/2041 Multidrill

Solid Carbide Drill

299 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2040 Uncoated
- 30-2041 Coated



Z 2

0° Nut

7 x D

140°

SHRINK FIT

HPC

TA

DIN 6535 HAK

DIN 6535 HBK

DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|----------------------------|-----|------|------|-----|
| 30-2040 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2041 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| | Diameter Inch | 0.156 | 0.197 | 0.236 | 0.315 | 0.393 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 |
|-----------------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Material Group | Diameter mm | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 |
| Aluminum | SFM [surface feet/min] | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 | 984 |
| | IPR [inches/rev] | 0.0047 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0177 | 0.0197 | 0.0217 |
| | Vc [m/min] | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 2640 |
| | f [mm/U] | 0.120 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.450 | 0.500 | 0.550 |
| Aluminum > 9% Si | SFM [surface feet/min] | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 |
| | IPR [inches/rev] | 0.0039 | 0.0047 | 0.0059 | 0.0079 | 0.0098 | 0.0118 | 0.0138 | 0.0138 | 0.0157 | 0.0177 |
| | Vc [m/min] | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 1800 |
| | f [mm/U] | 0.100 | 0.120 | 0.150 | 0.200 | 0.250 | 0.300 | 0.350 | 0.350 | 0.400 | 0.450 |
| Cast Iron | SFM [surface feet/min] | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 | 328 |
| | IPR [inches/rev] | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0071 | 0.0087 | 0.0091 | 0.0098 | 0.0110 | 0.0118 |
| | Vc [m/min] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 480 |
| | f [mm/U] | 0.080 | 0.100 | 0.120 | 0.150 | 0.180 | 0.220 | 0.230 | 0.250 | 0.280 | 0.300 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| | IPR [inches/rev] | 0.0024 | 0.0031 | 0.0039 | 0.0047 | 0.0059 | 0.0067 | 0.0071 | 0.0079 | 0.0087 | 0.0098 |
| | Vc [m/min] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 280 |
| | f [mm/U] | 0.060 | 0.080 | 0.100 | 0.120 | 0.150 | 0.170 | 0.180 | 0.200 | 0.220 | 0.250 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 | 427 |
| | IPR [inches/rev] | 0.0039 | 0.0059 | 0.0071 | 0.0079 | 0.0087 | 0.0098 | 0.0098 | 0.0110 | 0.0110 | 0.0118 |
| | Vc [m/min] | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 630 |
| | f [mm/U] | 0.100 | 0.150 | 0.180 | 0.200 | 0.220 | 0.250 | 0.250 | 0.280 | 0.280 | 0.300 |

- **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.

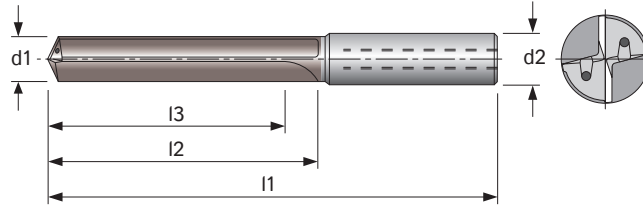
HAM 30-2080/2081 Multidrill

Solid Carbide Drill

294 Series

Engineering Data

- 4-facet ground
- straight fluted for machining of short chipping materials
- 30-2080 Uncoated
- 30-2081 Coated



Z 2

0° Nut

12 x D

140°

SHRINK FIT

HPC

TA

DIN 6535 HAK

DIN 6535 HBK

DIN 6535 HEK

| Material | Alu | Alu > 9% Silicon | Steel < 23 Rockwell | Steel < 38 Rockwell | Steel < 48 Rockwell | Steel < 55 Rockwell | Steel < 60 Rockwell | Steel < 66 Rockwell | Stain ST < 23 Rockwell | Stain ST > 23 Rockwell | Cast Iron | Nodular Ductile Cast Iron | Super Alloy Metals | Titanium | Copper & Nonferrous Metals | Graphit. & Fiber Composites | MMS | Max. | None | AIR |
|----------|-----|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-----------|---------------------------|--------------------|----------|----------------------------|-----------------------------|-----|------|------|-----|
| 30-2080 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |
| 30-2081 | ● | ● | | | | | | | | | ● | ○ | | | ● | | ● | ● | | |

● very suitable ○ suitable

| Material Group | Diameter Inch | 0.156 | 0.197 | 0.236 | 0.315 | 0.393 | 0.472 | 0.551 | 0.63 | 0.708 | 0.787 |
|-----------------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Diameter mm | 4.00 | 5.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 |
| Aluminum | SFM [surface feet/min] | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 984 | 984 |
| | IPR [inches/rev] | 0.0043 | 0.0055 | 0.0075 | 0.0091 | 0.0110 | 0.0130 | 0.0150 | 0.0165 | 0.0197 | 0.0217 |
| | Vc [m/min] | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 285 | 300 | 2640 |
| | f [mm/U] | 0.110 | 0.140 | 0.190 | 0.230 | 0.280 | 0.330 | 0.380 | 0.420 | 0.500 | 0.550 |
| Aluminum > 9% Si | SFM [surface feet/min] | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 820 | 820 |
| | IPR [inches/rev] | 0.0035 | 0.0043 | 0.0055 | 0.0075 | 0.0091 | 0.0110 | 0.0130 | 0.0130 | 0.0157 | 0.0177 |
| | Vc [m/min] | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 250 | 1800 |
| | f [mm/U] | 0.090 | 0.110 | 0.150 | 0.190 | 0.230 | 0.280 | 0.330 | 0.330 | 0.400 | 0.450 |
| Cast Iron | SFM [surface feet/min] | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 312 | 328 | 328 |
| | IPR [inches/rev] | 0.0020 | 0.0035 | 0.0043 | 0.0055 | 0.0067 | 0.0079 | 0.0083 | 0.0091 | 0.0110 | 0.0118 |
| | Vc [m/min] | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 100 | 480 |
| | f [mm/U] | 0.050 | 0.090 | 0.110 | 0.150 | 0.170 | 0.200 | 0.210 | 0.230 | 0.280 | 0.300 |
| Nodular or Ductile Iron | SFM [surface feet/min] | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 213 | 230 | 230 |
| | IPR [inches/rev] | 0.0020 | 0.0028 | 0.0035 | 0.0043 | 0.0055 | 0.0063 | 0.0067 | 0.0075 | 0.0087 | 0.0098 |
| | Vc [m/min] | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 70 | 280 |
| | f [mm/U] | 0.050 | 0.070 | 0.090 | 0.110 | 0.150 | 0.160 | 0.170 | 0.190 | 0.220 | 0.250 |
| Copper & Non Ferrous Metals | SFM [surface feet/min] | 410 | 410 | 410 | 410 | 410 | 410 | 410 | 410 | 427 | 427 |
| | IPR [inches/rev] | 0.0035 | 0.0055 | 0.0067 | 0.0075 | 0.0079 | 0.0091 | 0.0091 | 0.0102 | 0.0110 | 0.0118 |
| | Vc [m/min] | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 130 | 630 |
| | f [mm/U] | 0.090 | 0.140 | 0.170 | 0.190 | 0.200 | 0.230 | 0.230 | 0.260 | 0.280 | 0.300 |

• **Note:** Feed rates listed are starting points. With the proper setup, machine tools and holding technique, higher feeds can be achieved with excellent results. For cutting data for drill sizes not shown in above chart, please contact us.



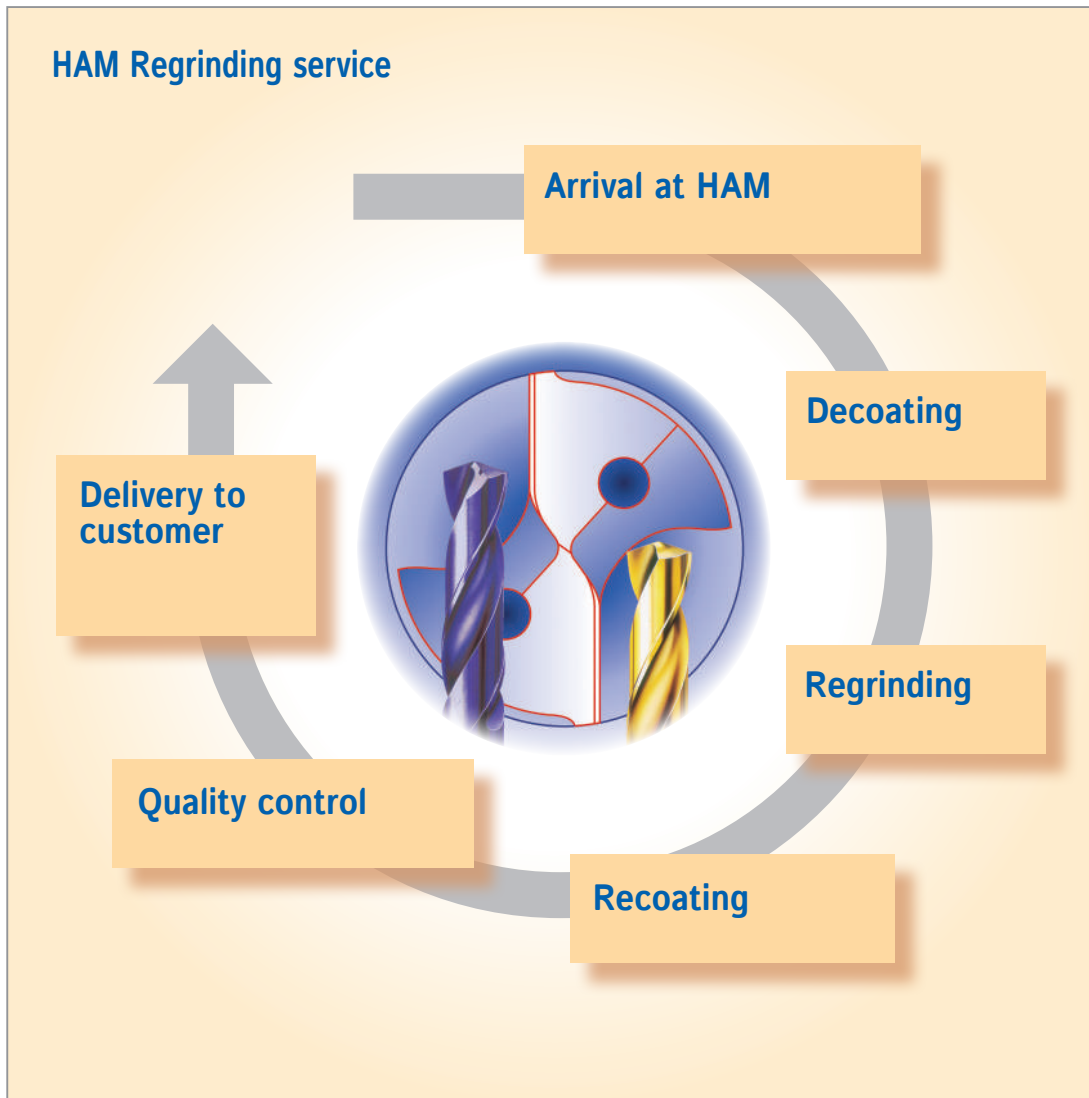
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- Carbide, Diamond and CBN Tools with all modular Interfaces as Monoblock Tools, Indexable Inserts and Cartridge Tools (adjustable rough and precisely) for Drilling and Countersinking, for Milling and for Pre- and Precise Machining

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HAM is certified acc. to DIN EN ISO 9001, VDA 6.4. and DIN EN ISO 13485

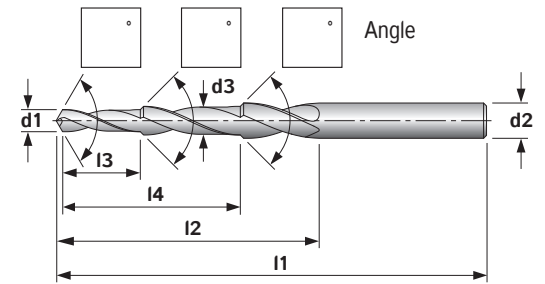
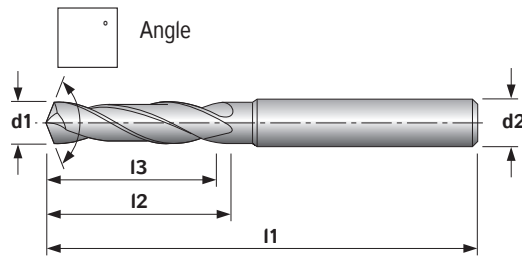


Measure machine for cutting edge adjustment.



HAM Coating machines.

Inquiry form for special tools drilling



Pieces _____

d1 Cutting diameter _____

d2 Shank diameter _____

d3 Step diameter _____

l1 Over all length _____

l2 Flute length _____

l3 Cutting length (step length 1) _____

l4 Step length 2 _____

zu Workpiece material _____

Coatings

Yes _____

No _____

Delivery _____

Drill

Step drill

Interior coolant

Teeth

Helix angle

Right hand fluted

Left hand fluted

Right hand cutting

Left hand cutting

Shank HA

Shank HB (Weldon)

Shank HE (Whistle Notch)

Cylindrical shank

We need all information for a detailed quotation.

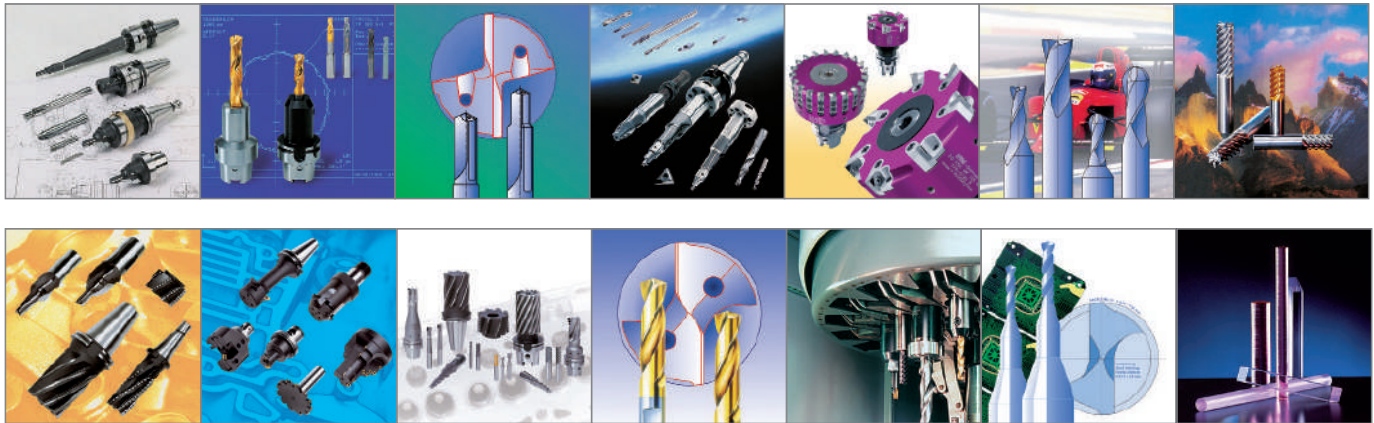
Distributor



Distributor

Agent

Address



North American Importer & Distributor
T. Friedl Enterprises (2000) Inc
79 Milliken Blvd Unit 4
Toronto, Ontario, CA
M1V 1V3

Tel: 416-321-0770
Fax: 416-292-3254

Internet: www.ham-tools.com | www.tfriedl.com
E-Mail: HMSALES@tfriedl.com

Catalog: 2401



Reg Nr. 2949 QM

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Andreas Maier GmbH
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Rpq Nr 2949 OM

