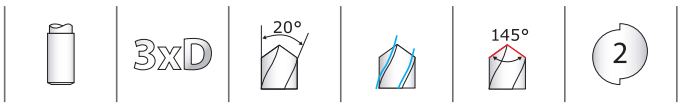
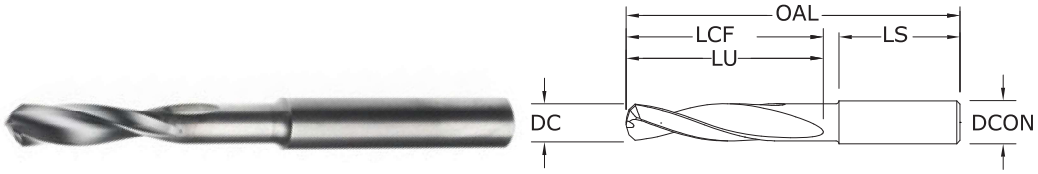
# Series 120




## 120
**FRACTIONAL & METRIC SERIES**

- Double margin design stabilizes the drill for greater hole accuracy and improved surface finish
- Notched point reduces thrust force over conventional designs
- 8 facet point reduces fiber breakout and delamination on exit
- 90 degree secondary chamfer angle improves hole entrance and exit quality

| inch & mm | | | | | | | EDP NO. |
|---|---|---|---|---|---|---|---|
| CUTTING DIAMETER DC | DECIMAL EQUIV. | METRIC EQUIV. | SHANK DIAMETER DCON | OVERALL LENGTH OAL | FLUTE LENGTH LCF/LU | SHANK LENGTH LS | Di-NAMITE® (Diamond) |
| #40 | 0.0980 | 2.49 | 1/8 | 2 | 9/16 | 1-1/4 | 50000 |
| 2,7 mm | 0.1063 | | 6,0 | 63,0 | 20,0 | 32,0 | 50001 |
| 3,0 mm | 0.1181 | | 6,0 | 63,0 | 20,0 | 36,0 | 50002 |
| 1/8 | 0.1250 | 3.18 | 1/4 | 2-1/2 | 3/4 | 1-7/16 | 50003 |
| 3,2 mm | 0.1260 | | 6,0 | 63,0 | 20,0 | 36,0 | 50004 |
| #30 | 0.1285 | 3.26 | 1/4 | 2-1/2 | 3/4 | 1-7/16 | 50005 |
| #28 | 0.1405 | 3.57 | 1/4 | 2-1/2 | 3/4 | 1-7/16 | 50006 |
| #22 | 0.1570 | 3.99 | 1/4 | 2-5/8 | 7/8 | 1-7/16 | 50007 |
| #21 | 0.1590 | 4.04 | 1/4 | 2-5/8 | 7/8 | 1-7/16 | 50008 |
| 4,1 mm | 0.1614 | | 6,0 | 66,0 | 24,0 | 36,0 | 50009 |
| #19 | 0.1660 | 4.22 | 1/4 | 2-5/8 | 7/8 | 1-7/16 | 50010 |
| 11/64 | 0.1719 | 4.37 | 1/4 | 2-5/8 | 7/8 | 1-7/16 | 50011 |
| 3/16 | 0.1875 | 4.76 | 1/4 | 2-5/8 | 1 | 1-7/16 | 50012 |
| #11 | 0.1910 | 4.85 | 1/4 | 2-5/8 | 1 | 1-7/16 | 50013 |
| #8 | 0.1990 | 5.05 | 1/4 | 2-5/8 | 1 | 1-7/16 | 50014 |
| #7 | 0.2010 | 5.11 | 1/4 | 2-5/8 | 1 | 1-7/16 | 50015 |
| #2 | 0.2210 | 5.61 | 1/4 | 2-5/8 | 1 | 1-7/16 | 50016 |
| 6,0 mm | 0.2362 | | 6,0 | 66,0 | 28,0 | 36,0 | 50017 |
| 1/4 | 0.2500 | 6.35 | 1/4 | 3-1/8 | 1-5/16 | 1-7/16 | 50018 |
| .2510 | 0.2510 | 6.38 | 5/16 | 3-1/8 | 1-5/16 | 1-7/16 | 50019 |
| F | 0.2570 | 6.53 | 5/16 | 3-1/8 | 1-5/16 | 1-7/16 | 50020 |
| I | 0.2720 | 6.91 | 5/16 | 3-1/8 | 1-5/16 | 1-7/16 | 50021 |
| J | 0.2770 | 7.04 | 5/16 | 3-1/8 | 1-5/16 | 1-7/16 | 50022 |
| K | 0.2810 | 7.14 | 5/16 | 3-1/8 | 1-9/16 | 1-7/16 | 50023 |
| 5/16 | 0.3125 | 7.94 | 5/16 | 3-1/8 | 1-9/16 | 1-7/16 | 50024 |
| 8,0 mm | 0.3150 | | 8,0 | 79,0 | 41,0 | 36,0 | 50025 |
| 3/8 | 0.3750 | 9.53 | 3/8 | 3-1/2 | 1-27/32 | 1-9/16 | 50026 |
| V | 0.3770 | 9.58 | 1/2 | 3-1/2 | 1-27/32 | 1-9/16 | 50027 |
| 10,0 mm | 0.3937 | | 10,0 | 89,0 | 47,0 | 40,0 | 50028 |
| 7/16 | 0.4375 | 11.11 | 1/2 | 4-1/16 | 2-3/16 | 1-9/16 | 50029 |
| 12,0 mm | 0.4724 | | 12,0 | 102,0 | 55,0 | 45,0 | 50030 |
| 1/2 | 0.5000 | 12.70 | 1/2 | 4-1/4 | 2-5/16 | 1-3/4 | 50031 |

**TOLERANCES (inch)**

**DC** = +0.0000/–0.0005
**DCON** = $h_6$

**TOLERANCES (mm)**

**DC** = +0,000/–0,013
**DCON** = $h_6$

PLASTICS/COMPOSITES

For patent information visit www.ksptpatents.com

| | Series 120 Fractional | Vc (sfm) | | DC • in | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 |
| N | CFRP, AFRP (Carbon Fiber, Aramid Fiber) | 320 | RPM | 9779 | 6519 | 4890 | 3912 | 3260 | 2794 | 2445 |
| | | (256-384) | Fr | 0.0006 | 0.0009 | 0.0012 | 0.0015 | 0.0018 | 0.0021 | 0.0024 |
| | | | Feed (ipm) | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| | GFRP (Fiberglass) | 240 | RPM | 7334 | 4890 | 3667 | 2934 | 2445 | 2096 | 1834 |
| | | (192-288) | Fr | 0.0006 | 0.0009 | 0.0012 | 0.0015 | 0.0018 | 0.0021 | 0.0024 |
| | | | Feed (ipm) | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| | CARBON, GRAPHITE | 400 | RPM | 12224 | 8149 | 6112 | 4890 | 4075 | 3493 | 3056 |
| | | (320-480) | Fr | 0.0008 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0028 | 0.0032 |
| | | | Feed (ipm) | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 |

rpm = Vc x 3.82 / DC
ipm = Fr x rpm
adjust speed and / or feed based on resin type and / or fiber structure
refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

| | Series 120 Metric | Vc (m/min) | | DC • mm | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2.5 | 3 | 4 | 6 | 8 | 10 | 12 |
| N | CFRP, AFRP (Carbon Fiber, Aramid Fiber) | 100 | RPM | 12722 | 10602 | 7951 | 5301 | 3976 | 3181 | 2650 |
| | | (80-120) | Fr | 0.012 | 0.014 | 0.019 | 0.028 | 0.038 | 0.047 | 0.057 |
| | | | Feed (mm/min) | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| | GFRP (Fiberglass) | 75 | RPM | 9542 | 7951 | 5963 | 3976 | 2982 | 2385 | 1988 |
| | | (65-90) | Fr | 0.012 | 0.014 | 0.019 | 0.029 | 0.039 | 0.048 | 0.058 |
| | | | Feed (mm/min) | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | CARBON, GRAPHITE | 120 | RPM | 15266 | 12722 | 9542 | 6361 | 4771 | 3817 | 3181 |
| | | (96-144) | Fr | 0.015 | 0.018 | 0.025 | 0.037 | 0.049 | 0.062 | 0.074 |
| | | | Feed (mm/min) | 235 | 235 | 235 | 235 | 235 | 235 | 235 |

rpm = (Vc x 1000) / (DC x 3.14)
mm/min = Fr x rpm
adjust speed and / or feed based on resin type and / or fiber structure
refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)