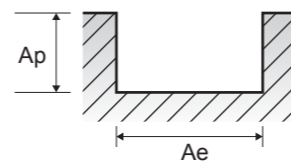


G9H86

SQUARE / 2 FLUTE / SLOTING / METRIC / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|------|----------|--|--|--------------------------------------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | | |
| P | 1-2 | Non-alloy steel | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | |
| | | | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | |
| | 3-4 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0009 | .0013 | .0016 | .0018 | .0025 | .0028 | .0031 | .0038 | | |
| | | | | | RPM | 4690 | 3520 | 3300 | 2750 | 2060 | 1650 | 1410 | 1170 | 880 | 780 | 700 | 560 | |
| | 5 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | |
| | | | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | |
| | 6 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | |
| RPM | | 5500 | | | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | | | |
| 7 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0009 | .0013 | .0016 | .0018 | .0025 | .0028 | .0031 | .0038 | | | | |
| | | | RPM | 4690 | 3520 | 3300 | 2750 | 2060 | 1650 | 1410 | 1170 | 880 | 780 | 700 | 560 | | | |
| 8-9 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | | | |
| | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | |
| 10 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | | | |
| | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | | | |
| 11.1 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | | | |
| | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | |
| M | 14.1 | Stainless steel | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | |
| | | | | | IPT | .0006 | .0009 | .0011 | .0014 | .0022 | .0029 | .0035 | .0052 | .0058 | .0064 | .0079 | | |
| | | | | | RPM | 6310 | 4730 | 3780 | 3150 | 2360 | 1890 | 1580 | 1180 | 1050 | 950 | 760 | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 1.0D | 1.0D | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | |
| | | | | | IPT | .0005 | .0008 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0034 | .0038 | .0047 | | |
| | | | | | RPM | 15850 | 11890 | 9510 | 7920 | 5940 | 4750 | 3960 | 2970 | 2640 | 2380 | 1900 | | |
| | 26-29.1 | | Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials | 1.0D | 1.0D | SFM | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 |
| | | | | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0034 | .0038 | .0047 | |
| | | | | | | RPM | 11970 | 8970 | 7180 | 5980 | 4490 | 3590 | 2990 | 2240 | 1990 | 1790 | 1440 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



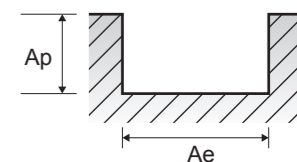
Slotting

E5H86

SQUARE / 2 FLUTE / SLOTING / METRIC / **Uncoated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|---------|--|--|------|--------------------------------------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | | |
| P | 1-2 | Non-alloy steel | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 | | |
| | | | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | |
| | 3-4 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0009 | .0012 | .0016 | .0017 | .0026 | .0028 | .0031 | .0038 | | |
| | | | | | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | | |
| | 5 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | | | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | |
| | | | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | |
| | 6 | | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 | | |
| RPM | | 3560 | | | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | | | |
| 7 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0009 | .0012 | .0016 | .0017 | .0026 | .0028 | .0031 | .0038 | | | | |
| | | | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | | | | |
| 8-9 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | | | |
| | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | | |
| 10 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 | | | | |
| | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | | | |
| 11.1 | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | | | |
| | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 1.0D | upto Ø1/2 : 0.5D over Ø1/2 : 0.3D | SFM | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 1.0D | 1.0D | SFM | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0033 | .0037 | .0045 | | |
| | | | | | RPM | 10190 | 7640 | 6110 | 5090 | 3820 | 3060 | 2550 | 1910 | 1700 | 1530 | 1220 | | |
| 26-29.1 | Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials | 1.0D | 1.0D | SFM | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0031 | .0034 | .0037 | .0045 | | | |
| | | | | RPM | 7600 | 5700 | 4560 | 3800 | 2850 | 2280 | 1900 | 1420 | 1270 | 1140 | 910 | | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

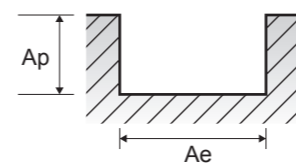


Slotting

G9H83, G9H84, G9H88, G9H90, G9H92, G9H94, G9H97
 SQUARE / CORNER RADIUS / 4 FLUTE / SLOTING / INCH / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | | | | | | | | | | | |
|---------|--|--|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 | | | | | | | | | | | | |
| P | 1-2 | Non-alloy steel | 1.0D | 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | |
| | | | | | IPT | .0005 | .0006 | .0008 | .0009 | .0012 | .0015 | .0017 | .0018 | .0025 | .0029 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 |
| | | | | | RPM | 5190 | 4160 | 3460 | 2600 | 2080 | 1730 | 1480 | 1300 | 1040 | 870 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 |
| | 3-4 | | 1.0D | 0.3D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | |
| | | | | | IPT | .0005 | .0006 | .0008 | .0009 | .0013 | .0016 | .0017 | .0019 | .0024 | .0029 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 |
| | | | | | RPM | 4430 | 3540 | 2950 | 2220 | 1770 | 1480 | 1270 | 1110 | 890 | 740 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 |
| | 5 | | 1.0D | 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| | | | | | IPT | .0004 | .0006 | .0007 | .0008 | .0011 | .0014 | .0015 | .0017 | .0027 | .0032 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 |
| | | | | | RPM | 3670 | 2930 | 2440 | 1830 | 1470 | 1220 | 1050 | 920 | 730 | 610 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 |
| | 6 | | 1.0D | 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | |
| IPT | | .0005 | | | .0006 | .0008 | .0009 | .0012 | .0015 | .0017 | .0018 | .0025 | .0029 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | | |
| RPM | | 5190 | | | 4160 | 3460 | 2600 | 2080 | 1730 | 1480 | 1300 | 1040 | 870 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | | |
| 7 | 1.0D | 0.3D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | | | |
| | | | IPT | .0005 | .0006 | .0008 | .0009 | .0013 | .0016 | .0017 | .0019 | .0024 | .0029 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | | |
| | | | RPM | 4430 | 3540 | 2950 | 2220 | 1770 | 1480 | 1270 | 1110 | 890 | 740 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | 550 | | |
| 8-9 | 1.0D | 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | |
| | | | IPT | .0004 | .0006 | .0007 | .0008 | .0011 | .0014 | .0015 | .0017 | .0027 | .0032 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | | |
| | | | RPM | 3670 | 2930 | 2440 | 1830 | 1470 | 1220 | 1050 | 920 | 730 | 610 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | | |
| 10 | 1.0D | 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | | |
| | | | IPT | .0005 | .0006 | .0008 | .0009 | .0012 | .0015 | .0017 | .0018 | .0025 | .0029 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | .0037 | | |
| | | | RPM | 5190 | 4160 | 3460 | 2600 | 2080 | 1730 | 1480 | 1300 | 1040 | 870 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | | |
| 11.1 | 1.0D | 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | |
| | | | IPT | .0004 | .0006 | .0007 | .0008 | .0011 | .0014 | .0015 | .0017 | .0027 | .0032 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | | |
| | | | RPM | 3670 | 2930 | 2440 | 1830 | 1470 | 1220 | 1050 | 920 | 730 | 610 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | 460 | | |
| M | 14.1 | Stainless steel | 1.0D | 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 1.0D | 0.3D | SFM | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | | | |
| | | | | | IPT | .0006 | .0008 | .0011 | .0015 | .0022 | .0027 | .0032 | .0037 | .0051 | .0061 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | .0080 | |
| | | | | | RPM | 5960 | 4770 | 3970 | 2980 | 2380 | 1990 | 1700 | 1490 | 1190 | 990 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 | 740 |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 1.0D | 0.5D | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | | |
| | | | | | IPT | .0005 | .0008 | .0009 | .0011 | .0015 | .0019 | .0021 | .0023 | .0030 | .0036 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 | .0048 |
| | | | | | RPM | 14970 | 11980 | 9980 | 7490 | 5990 | 4990 | 4280 | 3740 | 2990 | 2500 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| 26-29.1 | Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials | 1.0D | 0.5D | SFM | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | | | |
| | | | | IPT | .0006 | .0007 | .0009 | .0012 | .0015 | .0020 | .0021 | .0023 | .0030 | .0036 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | .0047 | |
| | | | | RPM | 11310 | 9050 | 7540 | 5650 | 4520 | 3770 | 3230 | 2830 | 2260 | 1880 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | 1410 | |

SFM = ft./min.
 IPT = In./tooth
 RPM = rev./min.
 IPM = In./min.



Slotting

E5H83, E5H84, E5H88, E5H90, E5H92, E5H94, E5H97
 SQUARE / CORNER RADIUS / 4 FLUTE / SLOTING / INCH / **Uncoated**

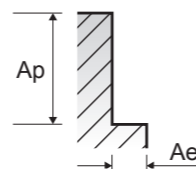
| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | | | | | | | | | | | |
|-----|----------|----------------------|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 | | | | | | | | | | | | |
| P | 1-2 | Non-alloy steel | 1.0D | 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | |
| | | | | | IPT | .0004 | .0006 | .0007 | .0009 | .0011 | .0014 | .0016 | .0018 | .0025 | .0030 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | |
| | | | | | RPM | 3360 | 2690 | 2240 | 1680 | 1340 | 1120 | 960 | 840 | 670 | 560 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 |
| | 3-4 | | 1.0D | 0.3D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | |
| | | | | | IPT | .0005 | .0006 | .0008 | .0009 | .0012 | .0015 | .0017 | .0018 | .0026 | .0030 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | |
| | | | | | RPM | 2900 | 2320 | 1940 | 1450 | 1160 | 970 | 830 | 730 | 580 | 480 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 |
| | 5 | | 1.0D | 0.3D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | |
| | | | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0015 | .0016 | .0027 | .0032 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 |
| | | | | | RPM | 2440 | 1960 | 1630 | 1220 | 980 | 810 | 700 | 610 | 490 | 410 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 |
| | 6 | | 1.0D | 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | |
| IPT | | .0004 | | | .0006 | .0007 | .0009 | .0011 | .0014 | .0016 | .0018 | .0025 | .0030 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | .0039 | | |
| RPM | | 3360 | | | 2690 | 2240 | 1680 | 1340 | 1120 | 960 | 840 | 670 | 560 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | 420 | | |
| 7 | 1.0D | 0.3D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | | | |
| | | | IPT | .0005 | .0006 | .0008 | .0009 | .0012 | .0015 | .0017 | .0018 | .0026 | .0030 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | .0038 | | |
| | | | RPM | 2900 | 2320 | 1940 | 1450 | 1160 | 970 | 830 | 730 | 580 | 480 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | 360 | | |
| 8-9 | 1.0D | 0.3D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | |
| | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0015 | .0016 | .0027 | .0032 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | .0041 | | |
| | | | RPM | 2440 | 1960 | 1630 | 1220 | 980 | 810 | 700 | 61 | | | | | | | | | | | | | | | | | |

G9H89, G9H95

SQUARE / 4 FLUTE / SIDE CUTTING / METRIC / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|------|----------|--|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | | |
| P | 1-2 | Non-alloy steel | 0.1D | 1.5D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| | | | | | IPT | .0006 | .0009 | .0011 | .0012 | .0017 | .0023 | .0024 | .0039 | .0042 | .0046 | .0055 | | |
| | | | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | |
| | 3-4 | | 0.1D | 1.5D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| | | | | | IPT | .0006 | .0009 | .0012 | .0013 | .0018 | .0024 | .0026 | .0038 | .0043 | .0047 | .0059 | | |
| | | | | | RPM | 4690 | 3520 | 2810 | 2340 | 1760 | 1410 | 1170 | 880 | 780 | 700 | 560 | | |
| | 5 | | 0.1D | 1.5D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | | | | | IPT | .0006 | .0008 | .0011 | .0011 | .0016 | .0022 | .0023 | .0040 | .0044 | .0048 | .0059 | | |
| | | | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | |
| | 6 | | 0.1D | 1.5D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| | | | | | IPT | .0006 | .0009 | .0011 | .0012 | .0017 | .0023 | .0024 | .0039 | .0042 | .0046 | .0055 | | |
| | | | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | |
| 7 | 0.1D | 1.5D | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | | |
| | | | IPT | .0006 | .0009 | .0012 | .0013 | .0018 | .0024 | .0026 | .0038 | .0043 | .0047 | .0059 | | | | |
| | | | RPM | 4690 | 3520 | 2810 | 2340 | 1760 | 1410 | 1170 | 880 | 780 | 700 | 560 | | | | |
| 8-9 | 0.1D | 1.5D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| | | | IPT | .0006 | .0008 | .0011 | .0011 | .0016 | .0022 | .0023 | .0040 | .0044 | .0048 | .0059 | | | | |
| | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | |
| 10 | 0.1D | 1.5D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | |
| | | | IPT | .0006 | .0009 | .0011 | .0012 | .0017 | .0023 | .0024 | .0039 | .0042 | .0046 | .0055 | | | | |
| | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | | | |
| 11.1 | 0.1D | 1.5D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| | | | IPT | .0006 | .0008 | .0011 | .0011 | .0016 | .0022 | .0023 | .0040 | .0044 | .0048 | .0059 | | | | |
| | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | |
| M | 14.1 | Stainless steel | 0.1D | 1.5D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | |
| | | | | | IPT | .0003 | .0005 | .0006 | .0006 | .0009 | .0012 | .0013 | .0020 | .0024 | .0027 | .0034 | | |
| | | | | | RPM | 5170 | 3880 | 3100 | 2590 | 1940 | 1550 | 1290 | 970 | 860 | 780 | 620 | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 0.1D | 1.5D | SFM | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | |
| | | | | | IPT | .0009 | .0012 | .0016 | .0022 | .0033 | .0043 | .0053 | .0079 | .0077 | .0081 | .0087 | | |
| | | | | | RPM | 6310 | 4730 | 3780 | 3150 | 2360 | 1890 | 1580 | 1180 | 1050 | 950 | 760 | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.1D | 1.5D | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | |
| | | | | | IPT | .0007 | .0011 | .0013 | .0016 | .0022 | .0029 | .0032 | .0045 | .0050 | .0056 | .0070 | | |
| | | | | | RPM | 15850 | 11890 | 9510 | 7920 | 5940 | 4750 | 3960 | 2970 | 2640 | 2380 | 1900 | | |
| N | 26-29.1 | Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials | 0.1D | 1.5D | SFM | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | |
| | | | | | IPT | .0008 | .0011 | .0014 | .0016 | .0022 | .0030 | .0032 | .0045 | .0050 | .0055 | .0068 | | |
| | | | | | RPM | 11970 | 8970 | 7180 | 5980 | 4490 | 3590 | 2990 | 2240 | 1990 | 1790 | 1440 | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



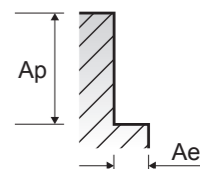
Side Cutting

E5H89, E5H95

SQUARE / 4 FLUTE / SIDE CUTTING / METRIC / **Uncoated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | |
|------|----------|--|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | |
| P | 1-2 | Non-alloy steel | 0.1D | 1.5D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| | | | | | IPT | .0006 | .0009 | .0011 | .0013 | .0017 | .0023 | .0025 | .0038 | .0042 | .0047 | .0058 | |
| | | | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | |
| | 3-4 | | 0.1D | 1.5D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| | | | | | IPT | .0006 | .0009 | .0012 | .0013 | .0018 | .0024 | .0025 | .0039 | .0042 | .0046 | .0057 | |
| | | | | | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | |
| | 5 | | 0.1D | 1.5D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | | | | | IPT | .0006 | .0008 | .0011 | .0012 | .0016 | .0021 | .0023 | .0040 | .0043 | .0047 | .0058 | |
| | | | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | |
| | 6 | | 0.1D | 1.5D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| | | | | | IPT | .0006 | .0009 | .0011 | .0013 | .0017 | .0023 | .0025 | .0038 | .0042 | .0047 | .0058 | |
| | | | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | |
| 7 | 0.1D | 1.5D | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | |
| | | | IPT | .0006 | .0009 | .0012 | .0013 | .0018 | .0024 | .0025 | .0039 | .0042 | .0046 | .0057 | | | |
| | | | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | | | |
| 8-9 | 0.1D | 1.5D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| | | | IPT | .0006 | .0008 | .0011 | .0012 | .0016 | .0021 | .0023 | .0040 | .0043 | .0047 | .0058 | | | |
| | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | |
| 10 | 0.1D | 1.5D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | |
| | | | IPT | .0006 | .0009 | .0011 | .0013 | .0017 | .0023 | .0025 | .0038 | .0042 | .0047 | .0058 | | | |
| | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | | |
| 11.1 | 0.1D | 1.5D | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| | | | IPT | .0006 | .0008 | .0011 | .0012 | .0016 | .0021 | .0023 | .0040 | .0043 | .0047 | .0058 | | | |
| | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | |
| M | 14.1 | Stainless steel | 0.1D | 1.5D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| | | | | | IPT | .0003 | .0005 | .0006 | .0007 | .0009 | .0012 | .0013 | .0020 | .0024 | .0027 | .0034 | |
| | | | | | RPM | 3230 | 2430 | 1940 | 1620 | 1210 | 970 | 810 | 610 | 540 | 490 | 390 | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 0.1D | 1.5D | SFM | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | |
| | | | | | IPT | .0009 | .0013 | .0017 | .0022 | .0032 | .0043 | .0053 | .0076 | .0087 | .0097 | .0122 | |
| | | | | | RPM | 4040 | 3030 | 2430 | 2020 | 1520 | 1210 | 1010 | 760 | 670 | 610 | 490 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.1D | 1.5D | SFM | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | |
| | | | | | IPT | .0007 | .0011 | .0014 | .0016 | .0023 | .0030 | .0033 | .0046 | .0050 | .0055 | .0067 | |
| | | | | | RPM | 10190 | 7640 | 6110 | 5090 | 3820 | 3060 | 2550 | 1910 | 1700 | 1530 | 1220 | |
| N | 26-29.1 | Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials | 0.1D | 1.5D | SFM | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | |
| | | | | | IPT | .0007 | .0010 | .0013 | .0016 | .0023 | .0030 | .0033 | .0046 | .0051 | .0056 | .0068 | |
| | | | | | RPM | 7600 | 5700 | 4560 | 3800 | 2850 | 2280 | 1900 | 1420 | 1270 | 1140 | 910 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



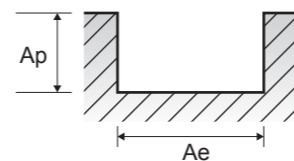
Side Cutting

G9H89, G9H95

SQUARE / 4 FLUTE / SLOTING / METRIC / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|------|----------|--|-------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | | |
| P | 1-2 | Non-alloy steel | 1.0D | 0.3D | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | |
| | | | | | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | |
| | 3-4 | | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | | | |
| | | | IPT | .0004 | .0006 | .0008 | .0009 | .0013 | .0016 | .0018 | .0025 | .0028 | .0031 | .0038 | | | | |
| | | | RPM | 4690 | 3520 | 2810 | 2340 | 1760 | 1410 | 1170 | 880 | 780 | 700 | 560 | | | | |
| | 5 | | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | | |
| | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | | | |
| | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | |
| | 6 | | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | | | |
| IPT | | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | | | | | |
| RPM | | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | | | | | |
| 7 | SFM | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | | | | | | |
| | IPT | .0004 | .0006 | .0008 | .0009 | .0013 | .0016 | .0018 | .0025 | .0028 | .0031 | .0038 | | | | | | |
| | RPM | 4690 | 3520 | 2810 | 2340 | 1760 | 1410 | 1170 | 880 | 780 | 700 | 560 | | | | | | |
| 8-9 | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | | | | |
| | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | | | | | |
| | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | | | |
| 10 | SFM | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | | | | | |
| | IPT | .0004 | .0006 | .0008 | .0008 | .0012 | .0016 | .0017 | .0026 | .0028 | .0030 | .0036 | | | | | | |
| | RPM | 5500 | 4120 | 3300 | 2750 | 2060 | 1650 | 1370 | 1030 | 920 | 820 | 660 | | | | | | |
| 11.1 | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | | | | |
| | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | | | | | |
| | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | | | | | |
| M | 14.1 | Stainless steel | 1.0D | 0.3D | SFM | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | | |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0016 | .0027 | .0030 | .0033 | .0041 | | |
| | | | | | RPM | 3880 | 2910 | 2330 | 1940 | 1460 | 1160 | 970 | 730 | 650 | 580 | 470 | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 1.0D | 0.3D | SFM | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | | | |
| | | | | | IPT | .0006 | .0009 | .0011 | .0014 | .0022 | .0029 | .0035 | .0052 | .0058 | .0064 | .0079 | | |
| | | | | | RPM | 6310 | 4730 | 3780 | 3150 | 2360 | 1890 | 1580 | 1180 | 1050 | 950 | 760 | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 1.0D | 0.5D | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | | |
| | | | | | IPT | .0005 | .0008 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0034 | .0038 | .0047 | | |
| | | | | | RPM | 15850 | 11890 | 9510 | 7920 | 5940 | 4750 | 3960 | 2970 | 2640 | 2380 | 1900 | | |
| | 26-29.1 | | SFM | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | | | | |
| | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0034 | .0038 | .0047 | | | | |
| | | | RPM | 11970 | 8970 | 7180 | 5980 | 4490 | 3590 | 2990 | 2240 | 1990 | 1790 | 1440 | | | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



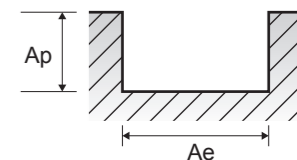
Slotting

E5H89, E5H95

SQUARE / 4 FLUTE / SLOTING / METRIC / **Uncoated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | |
|------|----------|--|-------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 |
| P | 1-2 | Non-alloy steel | 1.0D | 0.3D | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| | | | | | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 |
| | | | | | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 |
| | 3-4 | | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0009 | .0012 | .0016 | .0017 | .0025 | .0028 | .0031 | .0038 | | |
| | | | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | | |
| | 5 | | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| | | | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | |
| | | | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | |
| | 6 | | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | |
| IPT | | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 | | | | |
| RPM | | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | | | |
| 7 | SFM | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | | | | |
| | IPT | .0004 | .0006 | .0008 | .0009 | .0012 | .0016 | .0017 | .0025 | .0028 | .0031 | .0038 | | | | |
| | RPM | 3070 | 2300 | 1840 | 1540 | 1150 | 920 | 770 | 580 | 510 | 460 | 370 | | | | |
| 8-9 | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | | |
| | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | | | |
| | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | | |
| 10 | SFM | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | | | |
| | IPT | .0004 | .0006 | .0008 | .0008 | .0011 | .0015 | .0017 | .0025 | .0028 | .0031 | .0038 | | | | |
| | RPM | 3560 | 2670 | 2130 | 1780 | 1330 | 1070 | 890 | 670 | 590 | 530 | 430 | | | | |
| 11.1 | SFM | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | | |
| | IPT | .0004 | .0005 | .0007 | .0008 | .0011 | .0014 | .0016 | .0027 | .0030 | .0033 | .0040 | | | | |
| | RPM | 2590 | 1940 | 1550 | 1290 | 970 | 780 | 650 | 490 | 430 | 390 | 310 | | | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 1.0D | 0.3D | SFM | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | |
| | | | | | IPT | .0006 | .0008 | .0011 | .0014 | .0021 | .0029 | .0035 | .0051 | .0058 | .0065 | .0082 |
| | | | | | RPM | 4040 | 3030 | 2430 | 2020 | 1520 | 1210 | 1010 | 760 | 610 | 490 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 1.0D | 0.5D | SFM | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | 315 | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0030 | .0033 | .0037 | .0045 |
| | | | | | RPM | 10190 | 7640 | 6110 | 5090 | 3820 | 3060 | 2550 | 1910 | 1700 | 1530 | 1220 |
| | 26-29.1 | | SFM | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | 235 | | |
| | | | IPT | .0005 | .0007 | .0009 | .0011 | .0015 | .0020 | .0022 | .0031 | .0034 | .0037 | .0045 | | |
| | | | RPM | 7600 | 5700 | 4560 | 3800 | 2850 | 2280 | 1900 | 1420 | 1270 | 1140 | 910 | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



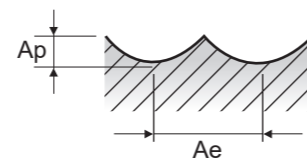
Slotting

G9H98, G9I02, G9I04, G9I07

BALL NOSE / 2 FLUTE / SIDE CUTTING / INCH / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|------|--|----------------------|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| | | | | | | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 | | |
| P | 1-4 | Non-alloy steel | 0.7D | 0.3D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0016 | .0017 | .0018 | .0023 | .0028 | .0036 | | |
| | RPM | | | | 4890 | 3910 | 3260 | 2440 | 1960 | 1630 | 1400 | 1220 | 980 | 810 | 610 | | | |
| | IPM | | | | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 4 | | | |
| | SFM | | | | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| | IPT | | | | .0003 | .0004 | .0005 | .0006 | .0008 | .0010 | .0010 | .0011 | .0015 | .0018 | .0022 | | | |
| | 5 | Low alloy steel | 0.7D | 0.3D | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | | | | | IPT | .0003 | .0004 | .0005 | .0006 | .0008 | .0010 | .0010 | .0011 | .0015 | .0018 | .0022 | | |
| | RPM | | | | 3970 | 3180 | 2650 | 1990 | 1590 | 1320 | 1140 | 990 | 790 | 660 | 500 | | | |
| | IPM | | | | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | |
| | SFM | | | | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | |
| | IPT | | | | .0005 | .0007 | .0009 | .0010 | .0013 | .0016 | .0017 | .0018 | .0023 | .0028 | .0036 | | | |
| 6-7 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| | | | | IPT | .0003 | .0004 | .0005 | .0006 | .0008 | .0010 | .0010 | .0011 | .0015 | .0018 | .0022 | | | |
| RPM | | | | 3970 | 3180 | 2650 | 1990 | 1590 | 1320 | 1140 | 990 | 790 | 660 | 500 | | | | |
| IPM | | | | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | | |
| SFM | | | | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | | |
| IPT | | | | .0005 | .0007 | .0009 | .0010 | .0013 | .0016 | .0017 | .0018 | .0023 | .0028 | .0036 | | | | |
| 8-9 | Grey cast iron Nodular cast iron Malleable cast iron | 0.7D | 0.3D | SFM | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | | | |
| | | | | IPT | .0006 | .0010 | .0014 | .0019 | .0032 | .0053 | .0050 | .0047 | .0062 | .0073 | .0066 | | | |
| RPM | | | | 6720 | 5380 | 4480 | 3360 | 2690 | 2240 | 1920 | 1680 | 1340 | 1120 | 840 | | | | |
| IPM | | | | 8 | 11 | 13 | 13 | 17 | 24 | 19 | 16 | 17 | 16 | 11 | | | | |
| SFM | | | | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | | | | |
| IPT | | | | .0003 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0039 | | | | |
| 10 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.7D | 0.3D | SFM | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | | | |
| | | | | IPT | .0003 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0039 | | | |
| RPM | | | | 20170 | 16130 | 13450 | 10080 | 8070 | 6720 | 5760 | 5040 | 4030 | 3360 | 2520 | | | | |
| IPM | | | | 14 | 15 | 19 | 16 | 19 | 21 | 21 | 22 | 20 | 20 | 19 | | | | |
| SFM | | | | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | | | | |
| IPT | | | | .0004 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0038 | | | | |
| 11.1 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.7D | 0.3D | SFM | 12990 | 10390 | 8660 | 6490 | 5190 | 4330 | 3710 | 3250 | 2600 | 2160 | 1620 | | | |
| | | | | IPT | .0004 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0038 | | | |
| RPM | | | | 12990 | 10390 | 8660 | 6490 | 5190 | 4330 | 3710 | 3250 | 2600 | 2160 | 1620 | | | | |
| IPM | | | | 9 | 9 | 11 | 11 | 13 | 14 | 14 | 14 | 13 | 13 | 12 | | | | |
| SFM | | | | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | | | | |
| IPT | | | | .0006 | .0010 | .0014 | .0019 | .0032 | .0040 | .0044 | .0047 | .0063 | .0071 | .0069 | | | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

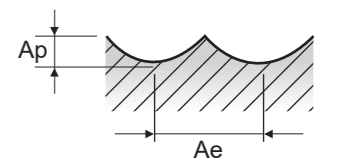


E5H98, E5I02, E5I04, E5I07

BALL NOSE / 2 FLUTE / SIDE CUTTING / INCH / **Uncoated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | | |
|-----|--|----------------------|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| | | | | | | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 | | |
| P | 1-4 | Non-alloy steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0017 | .0017 | .0018 | .0024 | .0029 | .0037 | | |
| | RPM | | | | 3060 | 2440 | 2040 | 1530 | 1220 | 1020 | 870 | 760 | 610 | 510 | 380 | | | |
| | IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | | |
| | IPT | | | | .0003 | .0004 | .0005 | .0006 | .0007 | .0009 | .0010 | .0011 | .0015 | .0018 | .0022 | | | |
| | 5 | Low alloy steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0017 | .0017 | .0018 | .0024 | .0029 | .0037 | | |
| | RPM | | | | 3060 | 2440 | 2040 | 1530 | 1220 | 1020 | 870 | 760 | 610 | 510 | 380 | | | |
| | IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | | |
| | IPT | | | | .0003 | .0004 | .0005 | .0006 | .0007 | .0009 | .0010 | .0011 | .0015 | .0018 | .0022 | | | |
| 6-7 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0017 | .0017 | .0018 | .0024 | .0029 | .0037 | | | |
| RPM | | | | 3060 | 2440 | 2040 | 1530 | 1220 | 1020 | 870 | 760 | 610 | 510 | 380 | | | | |
| IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | |
| SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | | | |
| IPT | | | | .0003 | .0004 | .0005 | .0006 | .0007 | .0009 | .0010 | .0011 | .0015 | .0018 | .0022 | | | | |
| 8-9 | Grey cast iron Nodular cast iron Malleable cast iron | 0.7D | 0.3D | SFM | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | | | | |
| | | | | IPT | .0006 | .0010 | .0014 | .0019 | .0032 | .0040 | .0044 | .0047 | .0063 | .0071 | .0069 | | | |
| RPM | | | | 4280 | 3420 | 2850 | 2140 | 1710 | 1430 | 1220 | 1070 | 860 | 710 | 530 | | | | |
| IPM | | | | 5 | 7 | 8 | 8 | 11 | 11 | 11 | 10 | 11 | 10 | 7 | | | | |
| SFM | | | | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | | | | |
| IPT | | | | .0004 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0038 | | | | |
| 10 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.7D | 0.3D | SFM | 12990 | 10390 | 8660 | 6490 | 5190 | 4330 | 3710 | 3250 | 2600 | 2160 | 1620 | | | |
| | | | | IPT | .0004 | .0005 | .0007 | .0008 | .0012 | .0016 | .0019 | .0022 | .0025 | .0030 | .0038 | | | |
| RPM | | | | 12990 | 10390 | 8660 | 6490 | 5190 | 4330 | 3710 | 3250 | 2600 | 2160 | 1620 | | | | |
| IPM | | | | 9 | 9 | 11 | 11 | 13 | 14 | 14 | 14 | 13 | 13 | 12 | | | | |
| SFM | | | | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | | | | |
| IPT | | | | .0006 | .0010 | .0014 | .0019 | .0032 | .0040 | .0044 | .0047 | .0063 | .0071 | .0069 | | | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

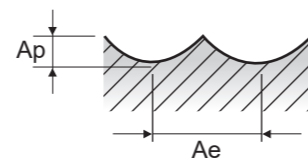


G9103

BALL NOSE / 2 FLUTE / SIDE CUTTING / METRIC / **X-Coated**

| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | | |
|------|------------------------------------|--|-------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 | |
| P | 1-4 | Non-alloy steel | 0.7D | 0.3D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0014 | .0017 | .0023 | .0027 | .0029 | .0035 | | |
| | RPM | | | | 5170 | 3880 | 3100 | 2590 | 1940 | 1550 | 1290 | 970 | 860 | 780 | 620 | | |
| | IPM | | | | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 4 | | |
| | SFM | | | | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | IPT | | | | .0003 | .0004 | .0005 | .0005 | .0008 | .0010 | .0010 | .0015 | .0018 | .0018 | .0021 | | |
| | RPM | 4200 | 3150 | 2520 | 2100 | 1580 | 1260 | 1050 | 790 | 700 | 630 | 500 | | | | | |
| | IPM | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | | | |
| | 6-7 | Low alloy steel | 0.7D | 0.3D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0014 | .0017 | .0023 | .0027 | .0029 | .0035 | | |
| | RPM | | | | 5170 | 3880 | 3100 | 2590 | 1940 | 1550 | 1290 | 970 | 860 | 780 | 620 | | |
| | IPM | | | | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 4 | | |
| SFM | 130 | | | | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| IPT | .0003 | | | | .0004 | .0005 | .0005 | .0008 | .0010 | .0010 | .0015 | .0018 | .0018 | .0021 | | | |
| RPM | 4200 | 3150 | 2520 | 2100 | 1580 | 1260 | 1050 | 790 | 700 | 630 | 500 | | | | | | |
| IPM | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | | | | |
| 8-9 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0014 | .0017 | .0023 | .0027 | .0029 | .0035 | | | |
| RPM | | | | 5170 | 3880 | 3100 | 2590 | 1940 | 1550 | 1290 | 970 | 860 | 780 | 620 | | | |
| IPM | | | | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 4 | | | |
| SFM | | | | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| IPT | | | | .0003 | .0004 | .0005 | .0005 | .0008 | .0010 | .0010 | .0015 | .0018 | .0018 | .0021 | | | |
| RPM | 4200 | 3150 | 2520 | 2100 | 1580 | 1260 | 1050 | 790 | 700 | 630 | 500 | | | | | | |
| IPM | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | | | | |
| 10 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0014 | .0017 | .0023 | .0027 | .0029 | .0035 | | | |
| RPM | | | | 5170 | 3880 | 3100 | 2590 | 1940 | 1550 | 1290 | 970 | 860 | 780 | 620 | | | |
| IPM | | | | 5 | 5 | 6 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 4 | | | |
| SFM | | | | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| IPT | | | | .0003 | .0004 | .0005 | .0005 | .0008 | .0010 | .0010 | .0015 | .0018 | .0018 | .0021 | | | |
| RPM | 4200 | 3150 | 2520 | 2100 | 1580 | 1260 | 1050 | 790 | 700 | 630 | 500 | | | | | | |
| IPM | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | | | | |
| 11.1 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | | | | IPT | .0003 | .0004 | .0005 | .0005 | .0008 | .0010 | .0010 | .0015 | .0018 | .0018 | .0021 | | |
| RPM | | | | 4200 | 3150 | 2520 | 2100 | 1580 | 1260 | 1050 | 790 | 700 | 630 | 500 | | | |
| IPM | | | | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | | | |
| SFM | | | | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | | |
| IPT | | | | .0006 | .0010 | .0015 | .0018 | .0033 | .0056 | .0044 | .0063 | .0077 | .0069 | .0065 | | | |
| RPM | 7110 | 5340 | 4270 | 3560 | 2670 | 2130 | 1780 | 1330 | 1190 | 1070 | 850 | | | | | | |
| IPM | 8 | 11 | 13 | 13 | 17 | 24 | 16 | 17 | 18 | 15 | 11 | | | | | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 0.7D | 0.3D | SFM | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | | |
| | | | | | IPT | .0003 | .0005 | .0007 | .0008 | .0012 | .0016 | .0020 | .0025 | .0029 | .0031 | .0038 | |
| RPM | | | | | 21340 | 16010 | 12810 | 10670 | 8000 | 6400 | 5340 | 4000 | 3560 | 3200 | 2560 | | |
| IPM | | | | | 14 | 15 | 19 | 16 | 19 | 21 | 22 | 20 | 21 | 20 | 19 | | |
| SFM | | | | | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | | |
| IPT | | | | | .0003 | .0005 | .0007 | .0008 | .0012 | .0017 | .0020 | .0025 | .0029 | .0031 | .0038 | | |
| RPM | 13740 | 10310 | 8250 | 6870 | 5150 | 4120 | 3440 | 2580 | 2290 | 2060 | 1650 | | | | | | |
| IPM | 9 | 9 | 12 | 10 | 13 | 14 | 14 | 13 | 13 | 13 | 12 | | | | | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.7D | 0.3D | SFM | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | | |
| | | | | | IPT | .0006 | .0010 | .0015 | .0018 | .0032 | .0042 | .0045 | .0063 | .0073 | .0068 | .0068 | |
| RPM | | | | | 4530 | 3400 | 2720 | 2260 | 1700 | 1360 | 1130 | 850 | 750 | 680 | 540 | | |
| IPM | | | | | 5 | 7 | 8 | 8 | 11 | 11 | 10 | 11 | 11 | 9 | 7 | | |
| SFM | | | | | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | 660 | | |
| IPT | | | | | .0003 | .0005 | .0007 | .0008 | .0012 | .0016 | .0020 | .0025 | .0029 | .0031 | .0038 | | |
| RPM | 21340 | 16010 | 12810 | 10670 | 8000 | 6400 | 5340 | 4000 | 3560 | 3200 | 2560 | | | | | | |
| IPM | 14 | 15 | 19 | 16 | 19 | 21 | 22 | 20 | 21 | 20 | 19 | | | | | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



E5103

BALL NOSE / 2 FLUTE / SIDE CUTTING / METRIC / **Uncoated**

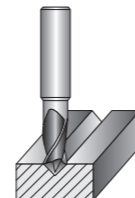
| ISO | VDI 3323 | Material Description | Ae | Ap | Parameter | Diameter (Ø) | | | | | | | | | | |
|-----|------------------------------------|--|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 25 |
| P | 1-4 | Non-alloy steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0018 | .0017 | .0024 | .0027 | .0030 | .0036 |
| | RPM | | | | 3230 | 2430 | 1940 | 1620 | 1210 | 970 | 810 | 610 | 540 | 490 | 390 | |
| | IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | |
| | IPT | | | | .0003 | .0004 | .0005 | .0005 | .0007 | .0010 | .0011 | .0015 | .0017 | .0018 | .0021 | |
| | RPM | 2750 | 2060 | 1650 | 1370 | 1030 | 820 | 690 | 520 | 460 | 410 | 330 | | | | |
| | IPM | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | | | | |
| | 6-7 | Low alloy steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| | | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0018 | .0017 | .0024 | .0027 | .0030 | .0036 |
| | RPM | | | | 3230 | 2430 | 1940 | 1620 | 1210 | 970 | 810 | 610 | 540 | 490 | 390 | |
| | IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| SFM | 85 | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | |
| IPT | .0003 | | | | .0004 | .0005 | .0005 | .0007 | .0010 | .0011 | .0015 | .0017 | .0018 | .0021 | | |
| RPM | 2750 | 2060 | 1650 | 1370 | 1030 | 820 | 690 | 520 | 460 | 410 | 330 | | | | | |
| IPM | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | | | | | |
| 8-9 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0018 | .0017 | .0024 | .0027 | .0030 | .0036 | |
| RPM | | | | 3230 | 2430 | 1940 | 1620 | 1210 | 970 | 810 | 610 | 540 | 490 | 390 | | |
| IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | |
| IPT | | | | .0003 | .0004 | .0005 | .0005 | .0007 | .0010 | .0011 | .0015 | .0017 | .0018 | .0021 | | |
| RPM | 2750 | 2060 | 1650 | 1370 | 1030 | 820 | 690 | 520 | 460 | 410 | 330 | | | | | |
| IPM | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | | | | | |
| 10 | High alloyed steel, and tool steel | 0.7D | 0.3D | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| | | | | IPT | .0005 | .0007 | .0009 | .0010 | .0013 | .0018 | .0017 | .0024 | .0027 | .0030 | .0036 | |
| RPM | | | | 3230 | 2430 | 1940 | 1620 | 1210 | 970 | 810 | 610 | 540 | 490 | 390 | | |
| IPM | | | | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| SFM | | | | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | | |
| IPT | | | | .0003 | .0004 | .0005 | .0005 | .0007 | .0010 | .0011 | .0015 | .0017 | .0018 | .0021 | | |
| RPM | 2750 | 2060 | 1650 | 1370 | 1030 | 820 | 690 | 520 | 460 | 410 | 330 | | | | | |
| IPM | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | | | | | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | 0.7D | 0.3D | SFM | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | |
| | | | | | IPT | .0006 | .0010 | .0015 | .0018 | .0032 | .0042 | .0045 | .0063 | .0073 | .0068 | .0068 |
| RPM | | | | | 4530 | 3400 | 2720 | 2260 | 1700 | 1360 | 1130 | 850 | 750 | 680 | 540 | |
| IPM | | | | | 5 | 7 | 8 | 8 | 11 | 11 | 10 | 11 | 11 | 9 | 7 | |
| SFM | | | | | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | |
| IPT | | | | | .0003 | .0005 | .0007 | .0008 | .0012 | .0017 | .0020 | .0025 | .0029 | .0031 | .0038 | |
| RPM | 13740 | 10310 | 8250 | 6870 | 5150 | 4120 | 3440 | 2580 | 2290 | 2060 | 1650 | | | | | |
| IPM | 9 | 9 | 12 | 10 | 13 | 14 | 14 | 13 | 13 | 13 | 12 | | | | | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | 0.7D | 0.3D | SFM | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | |
| | | | | | IPT | .0006 | .0010 | .0015 | .0018 | .0032 | .0042 | .0045 | .0063 | .0073 | .0068 | .0068 |
| RPM | | | | | 4530 | 3400 | 2720 | 2260 | 1700 | 1360 | 1130 | 850 | 750 | 680 | 540 | |
| IPM | | | | | 5 | 7 | 8 | 8 | 11 | 11 | 10 | 11 | 11 | 9 | 7 | |
| SFM | | | | | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | 425 | |
| IPT | | | | | .0003 | .0005 | .0007 | .0008 | .0012 | .0017 | .0020 | .0025 | .0029 | .0031 | .0038 | |
| RPM | 13740 | 10310 | 8250 | 6870 | 5150 | 4120 | 3440 | 2580 | 2290 | 2060 | 1650 | | | | | |
| IPM | 9 | 9 | 12 | 10 | 1 | | | | | | | | | | | |

G9I31, G9I33

2 FLUTE / DRILL MILL / V-Grooving / **X-Coated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | | |
|----------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | |
| P | 1-2 | Non-alloy steel | SFM | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 |
| | | | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | |
| | | | RPM | 7720 | 5150 | 3860 | 3090 | 2570 | 2210 | 1930 | 1540 | 1290 | |
| | 3-4 | | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| | | | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | |
| | | | RPM | 5610 | 3740 | 2810 | 2250 | 1870 | 1600 | 1400 | 1120 | 940 | |
| | 5 | | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | |
| | | | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | |
| | | | RPM | 4910 | 3280 | 2460 | 1970 | 1640 | 1400 | 1230 | 980 | 820 | |
| | 6 | | SFM | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | |
| | | | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | |
| | | | RPM | 7720 | 5150 | 3860 | 3090 | 2570 | 2210 | 1930 | 1540 | 1290 | |
| 7 | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | | | |
| | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | | | |
| | RPM | 5610 | 3740 | 2810 | 2250 | 1870 | 1600 | 1400 | 1120 | 940 | | | |
| 8-9 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | |
| | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | | | |
| | RPM | 4910 | 3280 | 2460 | 1970 | 1640 | 1400 | 1230 | 980 | 820 | | | |
| 10 | SFM | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | 255 | | | |
| | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | | | |
| | RPM | 7720 | 5150 | 3860 | 3090 | 2570 | 2210 | 1930 | 1540 | 1290 | | | |
| 11.1 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | |
| | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | | | |
| | RPM | 4910 | 3280 | 2460 | 1970 | 1640 | 1400 | 1230 | 980 | 820 | | | |
| M | 14.1 | Stainless steel | SFM | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | | |
| | | | IPT | .0003 | .0005 | .0006 | .0007 | .0008 | .0011 | .0015 | .0015 | .0022 | |
| | | | RPM | 4210 | 2810 | 2110 | 1680 | 1400 | 1200 | 1050 | 840 | 700 | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | | |
| | | | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | |
| | | | RPM | 5610 | 3740 | 2810 | 2250 | 1870 | 1600 | 1400 | 1120 | 940 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | | |
| | | | IPT | .0006 | .0010 | .0013 | .0018 | .0021 | .0022 | .0023 | .0032 | .0041 | |
| | | | RPM | 21060 | 14040 | 10530 | 8420 | 7020 | 6020 | 5260 | 4210 | 3510 | |
| | | | IPM | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | |
| | | | IPM | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | |
| | | | IPM | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

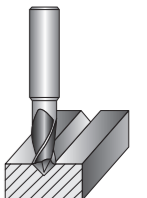


E5I31, E5I33

2 FLUTE / DRILL MILL / V-Grooving / **Uncoated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | | |
|----------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | |
| P | 1-2 | Non-alloy steel | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | |
| | | | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | |
| | | | RPM | 5510 | 3680 | 2760 | 2210 | 1840 | 1580 | 1380 | 1100 | 920 | |
| | 3-4 | | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | |
| | | | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | |
| | | | RPM | 4010 | 2670 | 2010 | 1600 | 1340 | 1150 | 1000 | 800 | 670 | |
| | 5 | | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | |
| | | | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | |
| | | | RPM | 3510 | 2340 | 1750 | 1400 | 1170 | 1000 | 880 | 700 | 580 | |
| | 6 | | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | |
| | | | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | |
| | | | RPM | 5510 | 3680 | 2760 | 2210 | 1840 | 1580 | 1380 | 1100 | 920 | |
| 7 | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | | |
| | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | | | |
| | RPM | 4010 | 2670 | 2010 | 1600 | 1340 | 1150 | 1000 | 800 | 670 | | | |
| 8-9 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | | |
| | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | | | |
| | RPM | 3510 | 2340 | 1750 | 1400 | 1170 | 1000 | 880 | 700 | 580 | | | |
| 10 | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | | |
| | IPT | .0004 | .0006 | .0008 | .0011 | .0013 | .0014 | .0015 | .0018 | .0023 | | | |
| | RPM | 5510 | 3680 | 2760 | 2210 | 1840 | 1580 | 1380 | 1100 | 920 | | | |
| 11.1 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | | |
| | IPT | .0003 | .0005 | .0007 | .0011 | .0012 | .0013 | .0014 | .0018 | .0023 | | | |
| | RPM | 3510 | 2340 | 1750 | 1400 | 1170 | 1000 | 880 | 700 | 580 | | | |
| M | 14.1 | Stainless steel | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| | | | IPT | .0003 | .0005 | .0006 | .0007 | .0008 | .0011 | .0015 | .0015 | .0022 | |
| | | | RPM | 3010 | 2010 | 1500 | 1200 | 1000 | 860 | 750 | 600 | 500 | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | | | IPT | .0003 | .0005 | .0006 | .0009 | .0011 | .0013 | .0016 | .0018 | .0023 | |
| | | | RPM | 4010 | 2670 | 2010 | 1600 | 1340 | 1150 | 1000 | 800 | 670 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | | |
| | | | IPT | .0006 | .0010 | .0013 | .0018 | .0021 | .0022 | .0023 | .0032 | .0041 | |
| | | | RPM | 15040 | 10030 | 7520 | 6020 | 5010 | 4300 | 3760 | 3010 | 2510 | |
| | | | IPM | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | | | IPM | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | | | IPM | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.





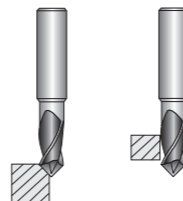
RECOMMENDED CUTTING CONDITIONS

G9I31, G9I33

2 FLUTE / DRILL MILL / CHAMFERING & SIDE CUTTING / **X-Coated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | | |
|------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | |
| P | 1-2 | Non-alloy steel | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| | | | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | |
| | | | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | |
| | 3-4 | | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 | |
| | | | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | |
| | 5 | | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | |
| | | | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | |
| | | | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | |
| | 6 | | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | |
| | | | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | |
| | | | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | |
| 7 | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | | | |
| | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 | | | |
| | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | | | |
| 8-9 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | | |
| | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | | | |
| 10 | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | | | |
| | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | | | |
| | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | | | |
| 11.1 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | | |
| | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | | | |
| M | 14.1 | Stainless steel | SFM | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | | |
| | | | IPT | .0004 | .0006 | .0007 | .0009 | .0010 | .0015 | .0019 | .0019 | .0029 | |
| | | | RPM | 4190 | 2800 | 2100 | 1680 | 1400 | 1200 | 1050 | 840 | 700 | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | | |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 | |
| | | | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | | |
| | | | IPT | .0008 | .0013 | .0017 | .0023 | .0027 | .0028 | .0030 | .0042 | .0053 | |
| | | | RPM | 21050 | 14030 | 10520 | 8420 | 7020 | 6010 | 5260 | 4210 | 3510 | |
| | | | IPM | 34 | 36 | 35 | 39 | 37 | 34 | 32 | 35 | 37 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



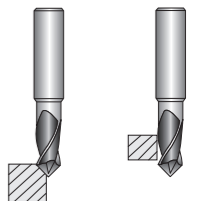
RECOMMENDED CUTTING CONDITIONS

E5I31, E5I33

2 FLUTE / DRILL MILL / CHAMFERING & SIDE CUTTING / **Uncoated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | |
|------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
| P | 1-2 | Non-alloy steel | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | | | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 |
| | | | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 |
| | 3-4 | | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 |
| | | | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 |
| | 5 | | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | | | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 |
| | | | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 |
| | 6 | | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | | | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 |
| | | | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 |
| 7 | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 | | |
| | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 | | |
| 8-9 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | |
| | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 | | |
| 10 | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | |
| | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | | |
| | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 | | |
| 11.1 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | |
| | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 | | |
| M | 14.1 | Stainless steel | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| | | | IPT | .0004 | .0006 | .0007 | .0009 | .0010 | .0015 | .0019 | .0019 | .0029 |
| | | | RPM | 2990 | 2000 | 1500 | 1200 | 1000 | 860 | 750 | 600 | 500 |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 |
| | | | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | |
| | | | IPT | .0008 | .0013 | .0017 | .0023 | .0027 | .0028 | .0030 | .0042 | .0053 |
| | | | RPM | 15040 | 10020 | 7520 | 6010 | 5010 | 4300 | 3760 | 3010 | 2510 |
| | | | IPM | 24 | 26 | 25 | 28 | 27 | 24 | 23 | 25 | 27 |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

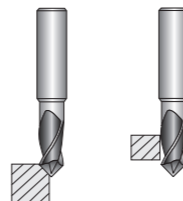


G9I32, G9I34

4 FLUTE / DRILL MILL / CHAMFERING & SIDE CUTTING / **X-Coated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | | |
|----------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | |
| P | 1-2 | Non-alloy steel | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| | | | IPT | .0010 | .0016 | .0021 | .0029 | .0033 | .0036 | .0038 | .0048 | .0061 | |
| | | | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | |
| | | | IPM | 16 | 17 | 16 | 18 | 17 | 16 | 15 | 15 | 16 | |
| | 3-4 | | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| | | | IPT | .0008 | .0012 | .0015 | .0023 | .0028 | .0034 | .0041 | .0046 | .0059 | |
| | | | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | |
| | | | IPM | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 10 | 11 | |
| | 5 | | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| | | | IPT | .0008 | .0012 | .0017 | .0028 | .0030 | .0033 | .0036 | .0047 | .0060 | |
| | | | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | |
| | | | IPM | 8 | 8 | 8 | 11 | 10 | 9 | 9 | 9 | 10 | |
| 6 | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | | |
| | IPT | .0010 | .0016 | .0021 | .0029 | .0033 | .0036 | .0038 | .0048 | .0061 | | | |
| | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | | | |
| | IPM | 16 | 17 | 16 | 18 | 17 | 16 | 15 | 15 | 16 | | | |
| 7 | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | | |
| | IPT | .0008 | .0012 | .0015 | .0023 | .0028 | .0034 | .0041 | .0046 | .0059 | | | |
| | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | | | |
| | IPM | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 10 | 11 | | | |
| 8-9 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | |
| | IPT | .0008 | .0012 | .0017 | .0028 | .0030 | .0033 | .0036 | .0047 | .0060 | | | |
| | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | | | |
| | IPM | 8 | 8 | 8 | 11 | 10 | 9 | 9 | 9 | 10 | | | |
| 10 | SFM | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | | |
| | IPT | .0010 | .0016 | .0021 | .0029 | .0033 | .0036 | .0038 | .0048 | .0061 | | | |
| | RPM | 7700 | 5130 | 3850 | 3080 | 2570 | 2200 | 1930 | 1540 | 1280 | | | |
| | IPM | 16 | 17 | 16 | 18 | 17 | 16 | 15 | 15 | 16 | | | |
| 11.1 | SFM | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | | |
| | IPT | .0008 | .0012 | .0017 | .0028 | .0030 | .0033 | .0036 | .0047 | .0060 | | | |
| | RPM | 4920 | 3280 | 2460 | 1970 | 1640 | 1410 | 1230 | 980 | 820 | | | |
| | IPM | 8 | 8 | 8 | 11 | 10 | 9 | 9 | 9 | 10 | | | |
| M | 14.1 | Stainless steel | SFM | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | |
| | | | IPT | .0009 | .0012 | .0015 | .0019 | .0021 | .0029 | .0038 | .0039 | .0058 | |
| | | | RPM | 4190 | 2800 | 2100 | 1680 | 1400 | 1200 | 1050 | 840 | 700 | |
| | | | IPM | 7 | 7 | 6 | 6 | 6 | 7 | 8 | 7 | 8 | |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | |
| | | | IPT | .0008 | .0012 | .0015 | .0023 | .0028 | .0034 | .0041 | .0046 | .0059 | |
| | | | RPM | 5600 | 3740 | 2800 | 2240 | 1870 | 1600 | 1400 | 1120 | 930 | |
| | | | IPM | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 10 | 11 | |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | |
| | | | IPT | .0016 | .0026 | .0033 | .0046 | .0053 | .0057 | .0061 | .0084 | .0106 | |
| | | | RPM | 21050 | 14030 | 10520 | 8420 | 7020 | 6010 | 5260 | 4210 | 3510 | |
| | | | IPM | 68 | 73 | 70 | 77 | 75 | 68 | 64 | 71 | 75 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

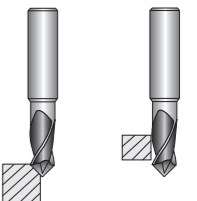


E5I32, E5I34

4 FLUTE / DRILL MILL / CHAMFERING & SIDE CUTTING / **Uncoated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | | | | | |
|----------|----------|--|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
| P | 1-2 | Non-alloy steel | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| | | | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 |
| | | | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 |
| | | | IPM | 11 | 12 | 11 | 13 | 12 | 11 | 10 | 10 | 11 |
| | 3-4 | | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 |
| | | | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 |
| | | | IPM | 6 | 7 | 6 | 7 | 7 | 8 | 8 | 7 | 8 |
| | 5 | | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 |
| | | | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 |
| | | | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 |
| | | | IPM | 5 | 5 | 6 | 8 | 7 | 7 | 6 | 7 | 7 |
| 6 | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | |
| | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | | |
| | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 | | |
| | IPM | 11 | 12 | 11 | 13 | 12 | 11 | 10 | 10 | 11 | | |
| 7 | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 | | |
| | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 | | |
| | IPM | 6 | 7 | 6 | 7 | 7 | 8 | 8 | 7 | 8 | | |
| 8-9 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | |
| | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 | | |
| | IPM | 5 | 5 | 6 | 8 | 7 | 7 | 6 | 7 | 7 | | |
| 10 | SFM | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | | |
| | IPT | .0005 | .0008 | .0010 | .0015 | .0017 | .0018 | .0019 | .0024 | .0030 | | |
| | RPM | 5500 | 3670 | 2750 | 2200 | 1830 | 1570 | 1380 | 1100 | 920 | | |
| | IPM | 11 | 12 | 11 | 13 | 12 | 11 | 10 | 10 | 11 | | |
| 11.1 | SFM | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | 115 | | |
| | IPT | .0004 | .0006 | .0009 | .0014 | .0015 | .0016 | .0018 | .0023 | .0030 | | |
| | RPM | 3510 | 2340 | 1760 | 1410 | 1170 | 1000 | 880 | 700 | 590 | | |
| | IPM | 5 | 5 | 6 | 8 | 7 | 7 | 6 | 7 | 7 | | |
| M | 14.1 | Stainless steel | SFM | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| | | | IPT | .0004 | .0006 | .0007 | .0009 | .0010 | .0015 | .0019 | .0019 | .0029 |
| | | | RPM | 2990 | 2000 | 1500 | 1200 | 1000 | 860 | 750 | 600 | 500 |
| | | | IPM | 5 | 5 | 4 | 4 | 4 | 5 | 6 | 5 | 6 |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | |
| | | | IPT | .0004 | .0006 | .0008 | .0012 | .0014 | .0017 | .0021 | .0023 | .0029 |
| | | | RPM | 4000 | 2670 | 2000 | 1600 | 1330 | 1140 | 1000 | 800 | 670 |
| | | | IPM | 6 | 7 | 6 | 7 | 7 | 8 | 8 | 7 | 8 |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | |
| | | | IPT | .0008 | .0013 | .0017 | .0023 | .0027 | .0028 | .0030 | .0042 | .0053 |
| | | | RPM | 15040 | 10020 | 7520 | 6010 | 5010 | 4300 | 3760 | 3010 | 2510 |
| | | | IPM | 48 | 52 | 50 | 55 | 53 | 49 | 45 | 50 | 53 |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.





G9I52, G9I53, G9I54

2 FLUTE / CHAMFER MILL / CHAMFERING / **X-Coated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | |
|---------|--|------------------------------------|-----------|--------------|-------|-------|-------|
| | | | | 1/8 | 1/4 | 3/8 | 1/2 |
| P | 1-2 | Non-alloy steel | SFM | 250 | 250 | 250 | 250 |
| | | | IPT | .0005 | .0010 | .0017 | .0019 |
| | | | RPM | 7700 | 3850 | 2570 | 1930 |
| | 3-4 | | IPM | 8 | 8 | 9 | 7 |
| | | | SFM | 185 | 185 | 185 | 185 |
| | | | IPT | .0004 | .0008 | .0014 | .0021 |
| | 5 | | RPM | 5600 | 2800 | 1870 | 1400 |
| | | | IPM | 4 | 4 | 5 | 6 |
| | | | SFM | 160 | 160 | 160 | 160 |
| | 6 | | IPT | .0004 | .0009 | .0015 | .0018 |
| | | | RPM | 4920 | 2460 | 1640 | 1230 |
| IPM | | 4 | 4 | 5 | 4 | | |
| 7 | Low alloy steel | SFM | 250 | 250 | 250 | 250 | |
| | | IPT | .0005 | .0010 | .0017 | .0019 | |
| | | RPM | 7700 | 3850 | 2570 | 1930 | |
| 8-9 | | IPM | 8 | 8 | 9 | 7 | |
| | | SFM | 185 | 185 | 185 | 185 | |
| | | IPT | .0004 | .0008 | .0014 | .0021 | |
| 10 | | RPM | 5600 | 2800 | 1870 | 1400 | |
| | | IPM | 4 | 4 | 5 | 6 | |
| | | SFM | 160 | 160 | 160 | 160 | |
| 11.1 | | High alloyed steel, and tool steel | IPT | .0004 | .0009 | .0015 | .0018 |
| | | | RPM | 4920 | 2460 | 1640 | 1230 |
| | IPM | | 4 | 4 | 5 | 4 | |
| M 14.1 | Stainless steel | | SFM | 135 | 135 | 135 | 135 |
| | | | IPT | .0004 | .0007 | .0010 | .0019 |
| | | | RPM | 4190 | 2100 | 1400 | 1050 |
| K 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | | IPM | 4 | 3 | 3 | 4 |
| | | | SFM | 185 | 185 | 185 | 185 |
| | | | IPT | .0004 | .0008 | .0014 | .0021 |
| N 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | | RPM | 5600 | 2800 | 1870 | 1400 |
| | | | IPM | 4 | 4 | 5 | 6 |
| | | SFM | 690 | 690 | 690 | 690 | |
| | | IPT | .0008 | .0017 | .0027 | .0030 | |
| | | RPM | 21050 | 10520 | 7020 | 5260 | |
| | | IPM | 34 | 35 | 37 | 32 | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



E5I52, E5I53, E5I54

2 FLUTE / CHAMFER MILL / CHAMFERING / **Uncoated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | | |
|---------|--|--|-----------------|--------------|-------|-------|-------|-------|
| | | | | 1/8 | 1/4 | 3/8 | 1/2 | |
| P | 1-2 | Non-alloy steel | SFM | 180 | 180 | 180 | 180 | |
| | | | IPT | .0005 | .0010 | .0017 | .0019 | |
| | | | RPM | 5500 | 2750 | 1830 | 1380 | |
| | 3-4 | | IPM | 6 | 6 | 6 | 5 | |
| | | | SFM | 130 | 130 | 130 | 130 | |
| | | | IPT | .0004 | .0008 | .0014 | .0021 | |
| | 5 | | RPM | 4000 | 2000 | 1330 | 1000 | |
| | | | IPM | 3 | 3 | 4 | 4 | |
| | | | SFM | 115 | 115 | 115 | 115 | |
| | 6 | | Low alloy steel | IPT | .0004 | .0009 | .0015 | .0018 |
| | | | | RPM | 3510 | 1760 | 1170 | 880 |
| IPM | | 3 | | 3 | 3 | 3 | | |
| 7 | SFM | 180 | | 180 | 180 | 180 | | |
| | IPT | .0005 | | .0010 | .0017 | .0019 | | |
| | RPM | 5500 | | 2750 | 1830 | 1380 | | |
| 8-9 | IPM | 6 | | 6 | 6 | 5 | | |
| | SFM | 130 | | 130 | 130 | 130 | | |
| | IPT | .0004 | | .0008 | .0014 | .0021 | | |
| 10 | High alloyed steel, and tool steel | RPM | | 4000 | 2000 | 1330 | 1000 | |
| | | IPM | | 3 | 3 | 4 | 4 | |
| | | SFM | 115 | 115 | 115 | 115 | | |
| 11.1 | | IPT | .0004 | .0009 | .0015 | .0018 | | |
| | | RPM | 3510 | 1760 | 1170 | 880 | | |
| | | IPM | 3 | 3 | 3 | 3 | | |
| M 14.1 | | Stainless steel | SFM | 100 | 100 | 100 | 100 | |
| | | | IPT | .0004 | .0007 | .0010 | .0019 | |
| | | | RPM | 2990 | 1500 | 1000 | 750 | |
| K 15-20 | | Grey cast iron Nodular cast iron Malleable cast iron | IPM | 3 | 2 | 2 | 3 | |
| | | | SFM | 130 | 130 | 130 | 130 | |
| | IPT | | .0004 | .0008 | .0014 | .0021 | | |
| N 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | RPM | 4000 | 2000 | 1330 | 1000 | | |
| | | IPM | 3 | 3 | 4 | 4 | | |
| | | SFM | 490 | 490 | 490 | 490 | | |
| | | IPT | .0008 | .0017 | .0027 | .0030 | | |
| | | RPM | 15040 | 7520 | 5010 | 3760 | | |
| | | IPM | 24 | 25 | 27 | 23 | | |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



G9I55, G9I56, G9I57

4 FLUTE / CHAMFER MILL / CHAMFERING / **X-Coated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | |
|------|----------|--|-----------|--------------|-------|-------|-------|
| | | | | 1/8 | 1/4 | 3/8 | 1/2 |
| P | 1-2 | Non-alloy steel | SFM | 250 | 250 | 250 | 250 |
| | | | IPT | .0010 | .0021 | .0033 | .0038 |
| | | | RPM | 7700 | 3850 | 2570 | 1930 |
| | 3-4 | | IPM | 16 | 16 | 17 | 15 |
| | | | SFM | 185 | 185 | 185 | 185 |
| | | | IPT | .0008 | .0015 | .0028 | .0041 |
| | 5 | | RPM | 5600 | 2800 | 1870 | 1400 |
| | | | IPM | 9 | 9 | 10 | 11 |
| | | | SFM | 160 | 160 | 160 | 160 |
| | 6 | | IPT | .0008 | .0017 | .0030 | .0036 |
| | | | RPM | 4920 | 2460 | 1640 | 1230 |
| | | | IPM | 8 | 8 | 10 | 9 |
| 7 | SFM | 250 | 250 | 250 | 250 | | |
| | IPT | .0010 | .0021 | .0033 | .0038 | | |
| | RPM | 7700 | 3850 | 2570 | 1930 | | |
| 8-9 | IPM | 16 | 16 | 17 | 15 | | |
| | SFM | 185 | 185 | 185 | 185 | | |
| | IPT | .0008 | .0015 | .0028 | .0041 | | |
| 10 | RPM | 5600 | 2800 | 1870 | 1400 | | |
| | IPM | 9 | 9 | 10 | 11 | | |
| | SFM | 160 | 160 | 160 | 160 | | |
| 11.1 | IPT | .0008 | .0017 | .0030 | .0036 | | |
| | RPM | 4920 | 2460 | 1640 | 1230 | | |
| | IPM | 8 | 8 | 10 | 9 | | |
| M | 14.1 | Stainless steel | SFM | 135 | 135 | 135 | 135 |
| | | | IPT | .0009 | .0015 | .0021 | .0038 |
| | | | RPM | 4190 | 2100 | 1400 | 1050 |
| | | | IPM | 7 | 6 | 6 | 8 |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 185 | 185 | 185 | 185 |
| | | | IPT | .0008 | .0015 | .0028 | .0041 |
| | | | RPM | 5600 | 2800 | 1870 | 1400 |
| | | | IPM | 9 | 9 | 10 | 11 |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 690 | 690 | 690 | 690 |
| | | | IPT | .0016 | .0033 | .0053 | .0061 |
| | | | RPM | 21050 | 10520 | 7020 | 5260 |
| | | | IPM | 68 | 70 | 75 | 64 |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.



E5I55, E5I56, E5I57

4 FLUTE / CHAMFER MILL / CHAMFERING / **Uncoated**

| ISO | VDI 3323 | Material Description | Parameter | Diameter (Ø) | | | |
|------|----------|--|-----------|--------------|-------|-------|-------|
| | | | | 1/8 | 1/4 | 3/8 | 1/2 |
| P | 1-2 | Non-alloy steel | SFM | 180 | 180 | 180 | 180 |
| | | | IPT | .0005 | .0010 | .0017 | .0019 |
| | | | RPM | 5500 | 2750 | 1830 | 1380 |
| | 3-4 | | IPM | 11 | 11 | 12 | 10 |
| | | | SFM | 130 | 130 | 130 | 130 |
| | | | IPT | .0004 | .0008 | .0014 | .0021 |
| | 5 | | RPM | 4000 | 2000 | 1330 | 1000 |
| | | | IPM | 6 | 6 | 7 | 8 |
| | | | SFM | 115 | 115 | 115 | 115 |
| | 6 | | IPT | .0004 | .0009 | .0015 | .0018 |
| | | | RPM | 3510 | 1760 | 1170 | 880 |
| | | | IPM | 5 | 6 | 7 | 6 |
| 7 | SFM | 180 | 180 | 180 | 180 | | |
| | IPT | .0005 | .0010 | .0017 | .0019 | | |
| | RPM | 5500 | 2750 | 1830 | 1380 | | |
| 8-9 | IPM | 11 | 11 | 12 | 10 | | |
| | SFM | 130 | 130 | 130 | 130 | | |
| | IPT | .0004 | .0008 | .0014 | .0021 | | |
| 10 | RPM | 4000 | 2000 | 1330 | 1000 | | |
| | IPM | 6 | 6 | 7 | 8 | | |
| | SFM | 115 | 115 | 115 | 115 | | |
| 11.1 | IPT | .0004 | .0009 | .0015 | .0018 | | |
| | RPM | 3510 | 1760 | 1170 | 880 | | |
| | IPM | 5 | 6 | 7 | 6 | | |
| M | 14.1 | Stainless steel | SFM | 100 | 100 | 100 | 100 |
| | | | IPT | .0004 | .0007 | .0010 | .0019 |
| | | | RPM | 2990 | 1500 | 1000 | 750 |
| | | | IPM | 5 | 4 | 4 | 6 |
| K | 15-20 | Grey cast iron Nodular cast iron Malleable cast iron | SFM | 130 | 130 | 130 | 130 |
| | | | IPT | .0004 | .0008 | .0014 | .0021 |
| | | | RPM | 4000 | 2000 | 1330 | 1000 |
| | | | IPM | 6 | 6 | 7 | 8 |
| N | 21-25 | Aluminum-wrought alloy Aluminum-cast, alloyed | SFM | 490 | 490 | 490 | 490 |
| | | | IPT | .0008 | .0017 | .0027 | .0030 |
| | | | RPM | 15040 | 7520 | 5010 | 3760 |
| | | | IPM | 48 | 50 | 53 | 45 |

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.