

Series *XPV & XPVB*

Cutting Parameters

Suggested Starting Speeds & Feed Rates

| Material Group | ISO Code | Material Examples | Finishing Cuts | | Medium Cuts | | Heavy Cuts | | Slotting | | Facing | | Ramping | |
|-----------------------------------|----------|--------------------|--------------------------|-------|-----------------------------|-------|----------------------------|-------|-----------|-------|-----------------------------|-------|------------------------|-------|
| | | | .1D Radial x 2D Axial | | .25D Radial x 1.5D Axial | | .5D Radial x 1.5D Axial | | .5D Axial | | .75D Radial x .25D Axial | | Max. Ramp Angle -7° | |
| | | | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM |
| High Temp - Titanium Alloys | S | 6Al4V, 5553, 99 | 300 | 20.00 | 300 | 18.00 | 300 | 14.00 | 300 | 10.00 | 300 | 18.00 | 300 | 14.00 |

Recommended Chip Loads

| Material Group | ISO Code | Material Examples | Cutting Diameter | | | | | | | |
|-----------------------------------|----------|-------------------|------------------|--------|--------|--------|--------|--------|--------|--------|
| | | | 1/8 | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| High Temp - Titanium Alloys | S | 6Al4V, 5553, 99 | 0.0004 | 0.0005 | 0.0010 | 0.0015 | 0.0020 | 0.0025 | 0.0030 | 0.0040 |

Series SM7F

Cutting Parameters

Suggested Starting Speeds & Feed Rates

| Material Group | ISO Code | Material Examples | High Feed | |
|-----------------------------|----------|-------------------|-----------------------|-----|
| | | | .1D Radial x 3D Axial | |
| | | | SFM | IPM |
| High Temp - Titanium Alloys | S | 6Al4V, 5553, 99 | 400 | 60 |

Recommended Chip Loads

| Material Group | ISO Code | Material Examples | Cutting Diameter | | | | | | |
|-----------------------------|----------|-------------------|------------------|--------|--------|--------|--------|--------|--------|
| | | | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| High Temp - Titanium Alloys | S | 6Al4V, 5553, 99 | 0.0010 | 0.0014 | 0.0020 | 0.0028 | 0.0035 | 0.0042 | 0.0056 |

Series *XPVS & XPVSB*

Cutting Parameters

Suggested Starting Speeds & Feed Rates

| Material Group | ISO Code | Material Examples | Finishing Cuts | | Medium Cuts | | Heavy Cuts | | Slotting | | Facing | | Ramping | |
|--------------------|----------|---|-----------------------|-------|--------------------------|-------|-------------------------|-------|-----------|-------|--------------------------|-------|----------------------|-------|
| | | | .1D Radial x 2D Axial | | .25D Radial x 1.5D Axial | | .5D Radial x 1.5D Axial | | .5D Axial | | .75D Radial x .25D Axial | | Max. Ramp Angle - 7° | |
| | | | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM | SFM | IPM |
| Steel | P | 1018 thru 1095, 12L14, A-36, Hot Rolled | 800 | 80.00 | 800 | 65.00 | 800 | 60.00 | 800 | 55.00 | 800 | 65.00 | 800 | 60.00 |
| Steel Alloys | P | 4140 thru 8820 | 700 | 70.00 | 700 | 60.00 | 700 | 55.00 | 700 | 50.00 | 700 | 60.00 | 700 | 55.00 |
| | | Steel Alloys <45 HRC, Cobalt Chrome | 300 | 12.00 | 300 | 10.00 | 300 | 9.00 | 300 | 8.00 | 300 | 10.00 | 300 | 9.00 |
| Tool & Mold Steels | P | H-13, O-1, A-2, D-2, S7, P20 | 350 | 45.00 | 350 | 40.00 | 350 | 30.00 | 350 | 25.00 | 350 | 40.00 | 350 | 30.00 |
| Stainless Steel | M | 303,304, 316 | 450 | 40.00 | 450 | 35.00 | 450 | 30.00 | 450 | 25.00 | 450 | 35.00 | 450 | 30.00 |
| | | 410, 420, 440, 13-8, 15-5, 17-4 Ph | 350 | 40.00 | 350 | 35.00 | 350 | 30.00 | 350 | 25.00 | 350 | 35.00 | 350 | 30.00 |
| Cast Iron | K | Gray Cast, Malleable & Ductile Iron | 800 | 80.00 | 800 | 65.00 | 800 | 60.00 | 800 | 55.00 | 800 | 65.00 | 800 | 60.00 |

Series *XPVS & XPVSB*

Cutting Parameters

Recommended Chip Loads

| Material Group | ISO Code | Material Examples | Cutting Diameter | | | | | | | |
|--------------------|----------|---|------------------|--------|--------|--------|--------|--------|--------|--------|
| | | | 1/8 | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| Steel | P | 1018 thru 1095, 12L14, A-36, Hot Rolled | 0.0006 | 0.0010 | 0.0013 | 0.0020 | 0.0027 | 0.0034 | 0.0043 | 0.0052 |
| Steel Alloys | P | 4140 thru 8820 | 0.0007 | 0.0011 | 0.0015 | 0.0022 | 0.0030 | 0.0037 | 0.0047 | 0.0057 |
| | | Steel Alloys <45 HRC, Cobalt Chrome | 0.0003 | 0.0003 | 0.0005 | 0.0008 | 0.0010 | 0.0015 | 0.0020 | 0.0030 |
| Tool & Mold Steels | P | H-13, O-1, A-2, D-2, S7, P20 | 0.0010 | 0.0014 | 0.0019 | 0.0028 | 0.0037 | 0.0042 | 0.0052 | 0.0062 |
| Stainless Steel | M | 303,304, 316 | 0.0007 | 0.0010 | 0.0015 | 0.0020 | 0.0030 | 0.0040 | 0.0050 | 0.0060 |
| | | 410, 420, 440, 13-8, 15-5, 17-4 Ph | 0.0008 | 0.0014 | 0.0019 | 0.0028 | 0.0037 | 0.0042 | 0.0052 | 0.0062 |
| Cast Iron | K | Gray Cast, Malleable and Ductile | 0.0006 | 0.0010 | 0.0013 | 0.0020 | 0.0027 | 0.0034 | 0.0043 | 0.0052 |

Series *TC5F* — The Tomcat

Cutting Parameters

Suggested Starting Speeds & Feed Rates

| Material Group | ISO Code | Material Examples | High Feed | |
|--------------------|----------|---|-----------------------|-----|
| | | | .1D Radial x 3D Axial | |
| | | | SFM | IPM |
| Steel | P | 1018 thru 1095, 12L14, A-36, Hot Rolled | 800 | 150 |
| Steel Alloys | P | 4140 thru 8820 | 700 | 120 |
| | | Steel Alloys <45 HRC, Cobalt Chrome | 500 | 100 |
| Tool & Mold Steels | P | H-13, O-1, A-2, D-2, S7, P20 | 600 | 100 |
| Stainless Steel | M | 303,304, 316 | 500 | 50 |
| | | 410, 420, 440, 13-8, 15-5, 17-4 Ph | 600 | 60 |
| Cast Iron | K | Gray Cast, Malleable and Ductile Iron | 800 | 150 |

Recommended Chip Loads

| Material Group | ISO Code | Material Examples | Cutting Diameter | | | | | |
|--------------------|----------|---|------------------|--------|--------|--------|--------|--------|
| | | | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| Steel | P | 1018 thru 1095, 12L14, A-36, Hot Rolled | 0.0025 | 0.0037 | 0.0050 | 0.0062 | 0.0075 | 0.0090 |
| Steel Alloys | P | 4140 thru 8820 | 0.0025 | 0.0037 | 0.0050 | 0.0062 | 0.0075 | 0.0090 |
| | | Steel Alloys <45 HRC, Cobalt Chrome | 0.0025 | 0.0037 | 0.0050 | 0.0062 | 0.0075 | 0.0090 |
| Tool & Mold Steels | P | H-13, O-1, A-2, D-2, S7, P20 | 0.0025 | 0.0037 | 0.0050 | 0.0062 | 0.0075 | 0.0090 |
| Stainless Steel | M | 303,304, 316 | 0.0013 | 0.0020 | 0.0026 | 0.0033 | 0.0040 | 0.0052 |
| | | 410, 420, 440, 13-8, 15-5, 17-4 Ph | 0.0013 | 0.0020 | 0.0026 | 0.0033 | 0.0040 | 0.0052 |
| Cast Iron | K | Gray Cast, Malleable and Ductile Iron | 0.0025 | 0.0037 | 0.0050 | 0.0062 | 0.0075 | 0.0090 |