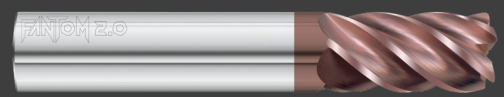


3415 FANTOM VICOR - IMPERIAL

FANTOM 2.0



3412 Series Fantom 2.0 End Mill designed to excel in difficult to machine materials.

Not Recommended for High Si Aluminum (>10%), Low Si Aluminum (<10%), Composites, Plastics, Brass & Copper, or Graphite.

The parameters listed for tool series that are stocked uncoated are based on running an uncoated tool. If a coating is applied to the tools, the SFM can be increased by approximately 25%. All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analyzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance.

| | Cast Iron | | | | | Hardened Steels > 48 RC | | | | | Steels | | | | |
|--------------|-----------|-------------|---------------|------------|-------------|-------------------------|-------------|---------------|------------|-------------|----------|-------------|---------------|------------|-------------|
| | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish |
| SFM (ft/min) | 300 | 300 | 500 | 700 | 700 | 150 | 150 | 250 | 500 | 500 | 400 | 400 | 600 | 1000 | 1000 |
| Axial Depth | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) |
| Radial Width | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD |
| 1/8" | .0010 | .0012 | .0010 | .0010 | .0012 | .0007 | .0008 | .0005 | .0005 | .0010 | .0010 | .0012 | .0010 | .0010 | .0012 |
| 1/4" | .0018 | .0018 | .0018 | .0018 | .0018 | .0014 | .0014 | .0010 | .0010 | .0015 | .0018 | .0018 | .0018 | .0018 | .0018 |
| 3/8" | .0027 | .0027 | .0027 | .0027 | .0027 | .0020 | .0026 | .0020 | .0020 | .0026 | .0027 | .0035 | .0035 | .0035 | .0035 |
| 1/2" | .0035 | .0035 | .0035 | .0035 | .0035 | .0026 | .0030 | .0025 | .0025 | .0030 | .0035 | .0039 | .0039 | .0039 | .0039 |
| 3/4" | .0043 | .0043 | .0043 | .0043 | .0043 | .0033 | .0033 | .0030 | .0030 | .0033 | .0043 | .0043 | .0043 | .0043 | .0043 |
| 1" | .0050 | .0050 | .0050 | .0050 | .0050 | .0039 | .0039 | .0040 | .0040 | .0045 | .0050 | .0050 | .0050 | .0050 | .0050 |

| | Stainless Steels | | | | | Super Alloys (Nickel Based, Inconel) | | | | | Titanium | | | | |
|--------------|------------------|-------------|---------------|------------|-------------|--------------------------------------|-------------|---------------|------------|-------------|----------|-------------|---------------|------------|-------------|
| | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish |
| SFM (ft/min) | 250 | 250 | 400 | 800 | 800 | 75 | 75 | 100 | 125 | 125 | 150 | 150 | 300 | 400 | 400 |
| Axial Depth | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) |
| Radial Width | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD |
| 1/8" | .0004 | .0008 | .0004 | .0004 | .0008 | .0006 | .0007 | .0006 | .0006 | .0007 | .0003 | .0004 | .0003 | .0003 | .0004 |
| 1/4" | .0010 | .0014 | .0010 | .0010 | .0014 | .0008 | .0010 | .0008 | .0008 | .0010 | .0008 | .0010 | .0008 | .0008 | .0010 |
| 3/8" | .0012 | .0022 | .0012 | .0012 | .0022 | .0010 | .0015 | .0010 | .0010 | .0015 | .0010 | .0015 | .0010 | .0010 | .0015 |
| 1/2" | .0015 | .0030 | .0015 | .0015 | .0030 | .0015 | .0020 | .0015 | .0015 | .0020 | .0015 | .0020 | .0015 | .0015 | .0020 |
| 3/4" | .0030 | .0035 | .0030 | .0030 | .0035 | .0025 | .0030 | .0025 | .0025 | .0030 | .0020 | .0025 | .0020 | .0020 | .0025 |
| 1" | .0040 | .0045 | .0040 | .0040 | .0045 | .0035 | .0040 | .0035 | .0035 | .0040 | .0032 | .0035 | .0032 | .0032 | .0035 |

FULLERTON®
SPEEDS / FEEDS

IPT (in/tooth)

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3415 FANTOM VICOR - METRIC

FANTOM 2.0



3412 Series Fantom 2.0 End Mill designed to excel in difficult to machine materials.

Not Recommended for High Si Aluminum (>10%), Low Si Aluminum (<10%), Composites, Plastics, Brass & Copper, or Graphite.

The parameters listed for tool series that are stocked uncoated are based on running an uncoated tool. If a coating is applied to the tools, the SFM can be increased by approximately 25%. All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analyzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance.

FULLERTON[®]
SPEEDS / FEEDS

| | Cast Iron | | | | | Hardened Steels > 48 RC | | | | | Steels | | | | |
|--------------|-----------|-------------|---------------|------------|-------------|-------------------------|-------------|---------------|------------|-------------|----------|-------------|---------------|------------|-------------|
| | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish |
| SMM (m/min) | 91 | 91 | 152 | 213 | 213 | 45 | 45 | 76 | 152 | 152 | 121 | 121 | 182 | 304 | 304 |
| Axial Depth | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) |
| Radial Width | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD |
| 3 | .0254 | .0305 | .0254 | .0254 | .0305 | .0178 | .0203 | .0127 | .0127 | .0254 | .0254 | .0305 | .0254 | .0254 | .0305 |
| 6 | .0457 | .0457 | .0457 | .0457 | .0457 | .0356 | .0356 | .0254 | .0254 | .0381 | .0457 | .0457 | .0457 | .0457 | .0457 |
| 10 | .0686 | .0686 | .0686 | .0686 | .0686 | .0508 | .0660 | .0508 | .0508 | .0660 | .0686 | .0889 | .0889 | .0889 | .0889 |
| 12 | .0889 | .0889 | .0889 | .0889 | .0889 | .0660 | .0762 | .0635 | .0635 | .0762 | .0889 | .0991 | .0991 | .0991 | .0991 |
| 20 | .1092 | .1092 | .1092 | .1092 | .1092 | .0838 | .0838 | .0762 | .0762 | .0838 | .1092 | .1092 | .1092 | .1092 | .1092 |
| 25 | .1270 | .1270 | .1270 | .1270 | .1270 | .0991 | .0991 | .1016 | .1016 | .1143 | .1270 | .1270 | .1270 | .1270 | .1270 |

| | Stainless Steels | | | | | Super Alloys (Nickel Based, Inconel) | | | | | Titanium | | | | |
|--------------|------------------|-------------|---------------|------------|-------------|--------------------------------------|-------------|---------------|------------|-------------|----------|-------------|---------------|------------|-------------|
| | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish | Slotting | Plunge/Ramp | Rough/Profile | HEM | Finish |
| SMM (m/min) | 76 | 76 | 121 | 243 | 243 | 22 | 22 | 30 | 38 | 38 | 45 | 45 | 91 | 121 | 121 |
| Axial Depth | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) | < (1xD) | full | < (2xD) | < (2xD) | < (2xD) |
| Radial Width | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD | full | full | (.25-.3)xD | (.1-.25)xD | (.05-.08)xD |
| 3 | .0102 | .0203 | .0102 | .0102 | .0203 | .0152 | .0178 | .0152 | .0152 | .0178 | .0076 | .0102 | .0076 | .0076 | .0102 |
| 6 | .0254 | .0356 | .0254 | .0254 | .0356 | .0203 | .0254 | .0203 | .0203 | .0254 | .0203 | .0254 | .0203 | .0203 | .0254 |
| 10 | .0305 | .0559 | .0305 | .0305 | .0559 | .0254 | .0381 | .0254 | .0254 | .0381 | .0254 | .0381 | .0254 | .0254 | .0381 |
| 12 | .0381 | .0762 | .0381 | .0381 | .0762 | .0381 | .0508 | .0381 | .0381 | .0508 | .0381 | .0508 | .0381 | .0381 | .0508 |
| 20 | .0762 | .0889 | .0762 | .0762 | .0889 | .0635 | .0762 | .0635 | .0635 | .0762 | .0508 | .0635 | .0508 | .0508 | .0635 |
| 25 | .1016 | .1143 | .1016 | .1016 | .1143 | .0889 | .1016 | .0889 | .0889 | .1016 | .0813 | .0889 | .0813 | .0813 | .0889 |

MMPT (mm/tooth)

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