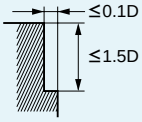
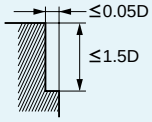
# RECOMMENDED CUTTING CONDITIONS

## Shoulder milling

| Work material | Alloy steel, Tool steel, Pre-hardened steel<br>X40CrMoV51 | | Austenitic stainless steel, Titanium alloy<br>X5CrNi1810, X5CrNiMo17-12-2, Ti6Al4V | | Heat resistant alloys<br>Inconel718 | |
|---|---|---|---|---|---|---|
| Dia. (mm) | Revolution ($min^{-1}$) | Feed rate (mm/min) | Revolution ($min^{-1}$) | Feed rate (mm/min) | Revolution ($min^{-1}$) | Feed rate (mm/min) |
| 6 | 10600 | 2900 | 8000 | 2000 | 2100 | 320 |
| 8 | 8000 | 2900 | 6000 | 2000 | 1600 | 300 |
| 10 | 6400 | 2700 | 4800 | 2000 | 1300 | 260 |
| 12 | 5300 | 2700 | 4000 | 2000 | 1100 | 230 |
| 16 | 4000 | 2200 | 3000 | 1600 | 800 | 180 |
| 20 | 3200 | 1900 | 2400 | 1400 | 640 | 150 |
| Depth of cut |  | | | |  | |

D:Dia.

1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.
2) If the depth of cut is shallow, the revolution and feed rate can be increased.
3) The irregular helix flute end mill has a larger effect on controlling vibration when compared to standard end mills. However, if the rigidity of the machine or the workpiece installation is poor, vibration or abonrmal sound can occur. In this case, please reduce the revolution and feed rate proportionately, or set a lower depth of cut.