

RECOMMENDED CUTTING CONDITIONS

| Work material | Structural steel, Carbon steel AISI 1045, AISI 1050 | | Carbon steel, Alloy steel (20—30HRC) AISI 1055, AISI P20 | | Alloy steel, Tool steel, Pre-hardened steel (30—35HRC) AISI H13 | | Austenitic stainless steel AISI 304, AISI 316 | | Cast iron AISI No 35 B | | Aluminium alloy | |
|---------------|--|--------------------|---|--------------------|--|--------------------|--|--------------------|---------------------------------|--------------------|---------------------------------|--------------------|
| | Revolution (min ⁻¹) | Feed rate (mm/min) | Revolution (min ⁻¹) | Feed rate (mm/min) | Revolution (min ⁻¹) | Feed rate (mm/min) | Revolution (min ⁻¹) | Feed rate (mm/min) | Revolution (min ⁻¹) | Feed rate (mm/min) | Revolution (min ⁻¹) | Feed rate (mm/min) |
| 1 | 5300 | 65 (50) | 4200 | 40 (30) | 3000 | 30 (25) | 2400 | 22 (18) | 4500 | 70 (55) | 11000 | 140 (110) |
| 2 | 3100 | 70 (55) | 2600 | 50 (40) | 1800 | 40 (30) | 1400 | 25 (20) | 2700 | 75 (60) | 6800 | 160 (130) |
| 3 | 2300 | 75 (60) | 1800 | 55 (45) | 1400 | 45 (35) | 1100 | 30 (25) | 2000 | 80 (65) | 4800 | 200 (160) |
| 4 | 1800 | 85 (70) | 1400 | 60 (50) | 1100 | 45 (35) | 850 | 30 (25) | 1600 | 90 (70) | 3800 | 260 (210) |
| 5 | 1600 | 95 (75) | 1200 | 75 (60) | 900 | 50 (40) | 710 | 35 (25) | 1300 | 100 (80) | 3200 | 300 (240) |
| 6 | 1400 | 100 (80) | 1000 | 75 (60) | 780 | 55 (45) | 610 | 40 (30) | 1100 | 110 (90) | 2800 | 330 (260) |
| 8 | 1100 | 110 (90) | 800 | 80 (65) | 580 | 55 (45) | 470 | 40 (30) | 850 | 115 (90) | 2200 | 380 (300) |
| 10 | 860 | 120 (95) | 640 | 85 (70) | 470 | 55 (45) | 380 | 45 (35) | 700 | 130 (105) | 1800 | 360 (290) |
| 12 | 720 | 110 (90) | 530 | 80 (65) | 390 | 50 (40) | 310 | 40 (30) | 580 | 115 (90) | 1600 | 350 (280) |
| 16 | 540 | 95 (75) | 400 | 75 (60) | 300 | 45 (35) | 230 | 35 (28) | 440 | 100 (80) | 1200 | 290 (230) |
| 20 | 430 | 80 (65) | 320 | 60 (50) | 240 | 38 (30) | 190 | 30 (25) | 350 | 85 (70) | 960 | 250 (200) |
| 25 | 350 | 70 (55) | 250 | 50 (40) | 190 | 32 (25) | 150 | 25 (20) | 285 | 75 (60) | 760 | 220 (180) |
| 30 | 290 | 65 (50) | 210 | 45 (35) | 160 | 28 (22) | 120 | 22 (18) | 240 | 70 (55) | 640 | 200 (160) |
| 40 | 210 | 50 (40) | 150 | 30 (25) | 120 | 22 (18) | 90 | 18 (15) | 180 | 55 (45) | 480 | 160 (130) |
| 50 | 160 | 40 (30) | 115 | 28 (22) | 90 | 20 (15) | 70 | 15 (12) | 140 | 45 (35) | 380 | 130 (105) |
| 60 | 130 | 35 (28) | 95 | 25 (20) | 75 | 18 (15) | 55 | 12 (10) | 115 | 40 (30) | 310 | 110 (90) |

| | | | |
|--------------|-------|---|--|
| Depth of cut | (2MS) | $\leq 0.1DC$ ($DC \leq \phi 3$) $\leq 0.2DC$ ($DC > \phi 3$) | |
| | | $\leq 0.1DC$ ($DC < \phi 2$) $\leq 0.3DC$ ($\phi 2 \leq DC \leq \phi 3$) $\leq 0.5DC$ ($DC > \phi 3$) | |

DC: Dia.

() : Indicates standard feed rate for slotting.

- 1) Decrease the revolution by 20—30% and the feed rate by 40—50% for 2LS.
- 2) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.