

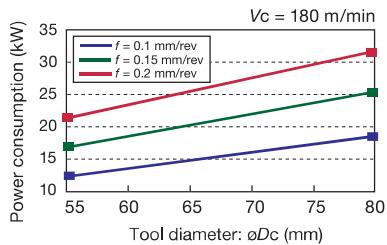
## STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Selection criteria	Chip-breaker	Grade	Cutting speed <i>Vc</i> (m/min)	Feed: <i>f</i> (mm/rev)		
						ø55 - 56	ø57 - 73	ø74 - 80
<b>P</b>	Low carbon steels (C<0.3) C15E4, E275A, E355D, etc.	First choice	DS	AH6030	160 - 250	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
		For wear resistance	DJ	AH9030	160 - 320	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
	Carbon steels (C>0.3) C45, C55, etc.	First choice	DJ	AH9030	80 - 250	0.06 - 0.16	0.06 - 0.18	0.08 - 0.2
		For impact resistance	DS	AH6030	80 - 250	0.04 - 0.13	0.04 - 0.15	0.04 - 0.16
	Low alloy steels 18CrMo4, etc.	First choice	DS	AH6030	160 - 250	0.04 - 0.12	0.04 - 0.12	0.04 - 0.12
		For wear resistance	DJ	AH9030	160 - 250	0.06 - 0.14	0.06 - 0.14	0.06 - 0.14
	Alloy steels 42CrMo4, 20Cr4, etc.	First choice	DJ	AH9030	80 - 200	0.06 - 0.16	0.06 - 0.18	0.08 - 0.2
		For impact resistance	DS	AH6030	80 - 200	0.04 - 0.13	0.04 - 0.14	0.04 - 0.15
<b>M</b>	Stainless steels (Austenitic) X5CrNi189, X5CrNiMo17-12-2, etc.	First choice	DS	AH6030	100 - 200	0.04 - 0.12	0.04 - 0.12	0.04 - 0.12
		—	DJ	AH9030	100 - 200	0.04 - 0.12	0.04 - 0.12	0.04 - 0.12
	Stainless steels (Martensitic and ferritic) X6Cr17, X12CrS13, etc.	First choice	DS	AH6030	100 - 200	0.04 - 0.12	0.04 - 0.12	0.04 - 0.12
		—	DJ	AH9030	100 - 200	0.04 - 0.12	0.04 - 0.12	0.04 - 0.12
	Stainless steels (Precipitation hardening) X5CrNiCuNb16-4, etc.	First choice	DS	AH6030	80 - 120	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
		—	DJ	AH9030	80 - 120	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
<b>K</b>	Grey cast irons 250, etc.	First choice	DJ	AH9030	80 - 250	0.06 - 0.18	0.08 - 0.2	0.08 - 0.22
		For impact resistance	DS	AH6030	80 - 200	0.06 - 0.15	0.08 - 0.16	0.08 - 0.18
	Ductile cast irons 700-2, etc.	First choice	DJ	AH9030	80 - 200	0.06 - 0.16	0.06 - 0.18	0.08 - 0.2
		For impact resistance	DS	AH6030	80 - 150	0.06 - 0.15	0.08 - 0.16	0.08 - 0.18
<b>N</b>	Aluminium alloys	First choice	DS	AH6030	200 - 400	0.1 - 0.2	0.1 - 0.23	0.1 - 0.25
		—	DJ	AH9030	200 - 400	0.1 - 0.2	0.1 - 0.23	0.1 - 0.25
	High temperature alloys Inconel718, etc.	First choice	DS	AH6030	20 - 60	0.04 - 0.08	0.04 - 0.1	0.04 - 0.1
<b>S</b>	Titanium alloys Ti-6Al-4V, etc.	—	DJ	AH9030	20 - 60	0.04 - 0.08	0.04 - 0.1	0.04 - 0.1
		First choice	DS	AH6030	40 - 120	0.06 - 0.12	0.06 - 0.14	0.06 - 0.14
<b>H</b>	High hardened steels < 40HRC	First choice	DJ	AH9030	50 - 100	0.04 - 0.08	0.04 - 0.1	0.04 - 0.1
		For impact resistance	DS	AH6030	40 - 80	0.04 - 0.08	0.04 - 0.1	0.04 - 0.1

### Caution

#### Machine

- Use drills on a fully covered machine to maintain safety.
- Use drills on a high powered machine such as a BT50.
- Figure on right shows reference of required machine power.



#### Cutting coolant

- Use water soluble type coolant
- with internal supply.
- Coolant pressure higher than 1MPa is essential.