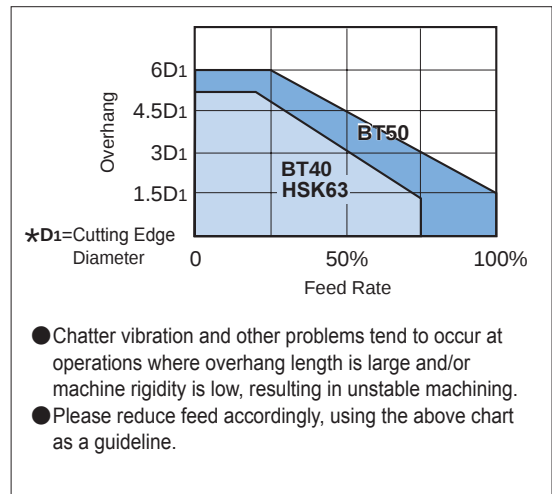
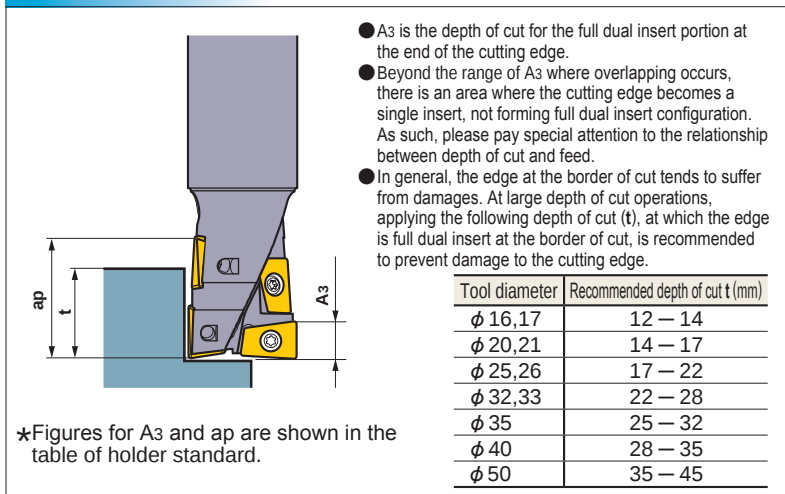


ROTATING TOOLS

RECOMMENDED CUTTING CONDITIONS



CUTTING CONDITIONS FOR SHOULDER MILLING

	Work Material	Hardness	Grade	Cutting Speed (m/min)	φ 16, φ 17			φ 20, φ 21		
					Depth of Cut (mm)	Width of Cut (mm)	Feed (mm/rev)	Depth of Cut (mm)	Width of Cut (mm)	Feed (mm/rev)
P	Mild Steel	≤180HB	VP15TF	180 (150–220)	–4.5	–8	0.25	–6	–10	0.30
					4.5–12	–5	0.16	6–14	–7	0.25
					12–17	–3	0.10	14–22	–4	0.18
M	Carbon Steel Alloy Steel	180–350HB	VP15TF	160 (120–200)	–4.5	–8	0.20	–6	–10	0.25
					4.5–12	–4	0.14	6–14	–6	0.20
					12–17	–2	0.08	14–22	–3	0.16
M	Stainless Steel	≤270HB	VP30RT (VP15TF)	150 (120–180)	–4.5	–8	0.20	–6	–10	0.25
					4.5–12	–4	0.14	6–14	–6	0.20
					12–17	–2	0.08	14–22	–3	0.16
K	Cast Iron	Tensile Strength ≤450MPa	VP15TF	180 (150–220)	–4.5	–8	0.25	–6	–10	0.30
					4.5–12	–5	0.16	6–14	–7	0.25
					12–17	–3	0.10	14–22	–4	0.18
N	Aluminium Alloy	—	HT10 (G1 Breaker)	500 (200–800)	–4.5	–11	0.30	–6	–14	0.35
					4.5–12	–8	0.21	6–14	–10	0.30
					12–17	–5	0.15	14–22	–6	0.23
H	Hardened Steel	45–55HRC	VP15TF	80 (50–120)	–4.5	–5	0.16	–6	–6	0.20
					4.5–12	–3	0.10	6–14	–4	0.16
					12–17	–1	0.06	14–22	–2	0.12

(Note 1) Please pay special attention on the depth of cut when using the short edge type.

(Note 2) When using the G1 breaker (VP15TF), please reduce the feed rate by 20%.

CUTTING CONDITIONS FOR SLOTTING

	Work Material	Hardness	Grade	Cutting Speed (m/min)	φ 16, φ 17		φ 20, φ 21	
					Depth of Cut (mm)	Feed (mm/rev)	Depth of Cut (mm)	Feed (mm/rev)
P	Mild Steel	≤180HB	VP15TF	180 (150–220)	–4.5	0.16	–6	0.18
					4.5–12	0.10	6–14	0.14
					12–17	0.07	14–22	0.10
M	Carbon Steel Alloy Steel	180–350HB	VP15TF	160 (120–200)	–4.5	0.14	–6	0.16
					4.5–12	0.09	6–14	0.12
					12–17	0.05	14–22	0.10
M	Stainless Steel	≤270HB	VP30RT (VP15TF)	150 (120–180)	–4.5	0.14	–6	0.16
					4.5–12	0.09	6–14	0.12
					12–17	0.05	14–22	0.10
K	Cast Iron	Tensile Strength ≤450MPa	VP15TF	180 (150–220)	–4.5	0.16	–6	0.18
					4.5–12	0.10	6–14	0.14
					12–17	0.07	14–22	0.10
N	Aluminium Alloy	—	HT10 (G1 Breaker)	500 (200–800)	–4.5	0.18	–6	0.20
					4.5–12	0.12	6–14	0.16
					12–17	0.09	14–22	0.12
H	Hardened Steel	45–55HRC	VP15TF	80 (50–120)	–4.5	0.10	–6	0.12
					4.5–12	0.07	6–14	0.10

(Note 1) Please pay special attention on the depth of cut when using the short edge type.

(Note 2) When using the G1 breaker (VP15TF), please reduce the feed rate by 20%.