

Economical, 4 cutting edges per insert.

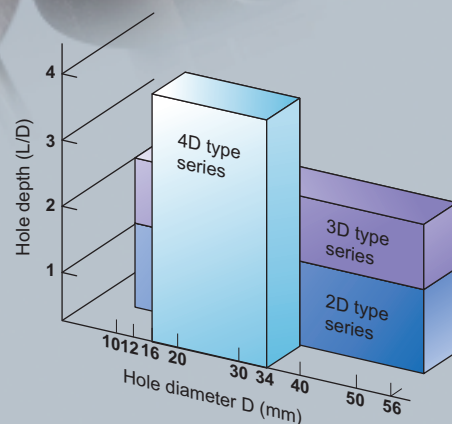
Low drilling noise and tough body.

■ New **MIRACLE®** Coated **VP15TF** (**U2** breaker) for stable machining and a wider application area.



JUST FIT SLEEVE

Allows the drill diameter to be increased in increments of 0.1mm up to a maximum of 0.5mm.



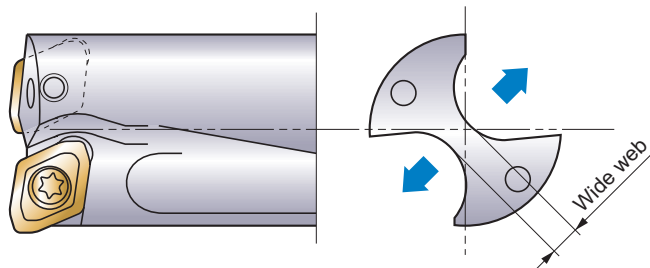
Indexable Type Drill

TAF Drill

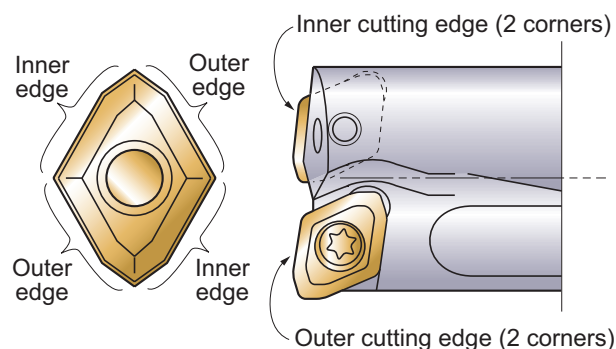
Features

Tough Body

- ①The new, wider web design reduces chattering.
- ②Lower cutting noise.
- ③High insert seat rigidity for reliable insert location.



Economical Insert



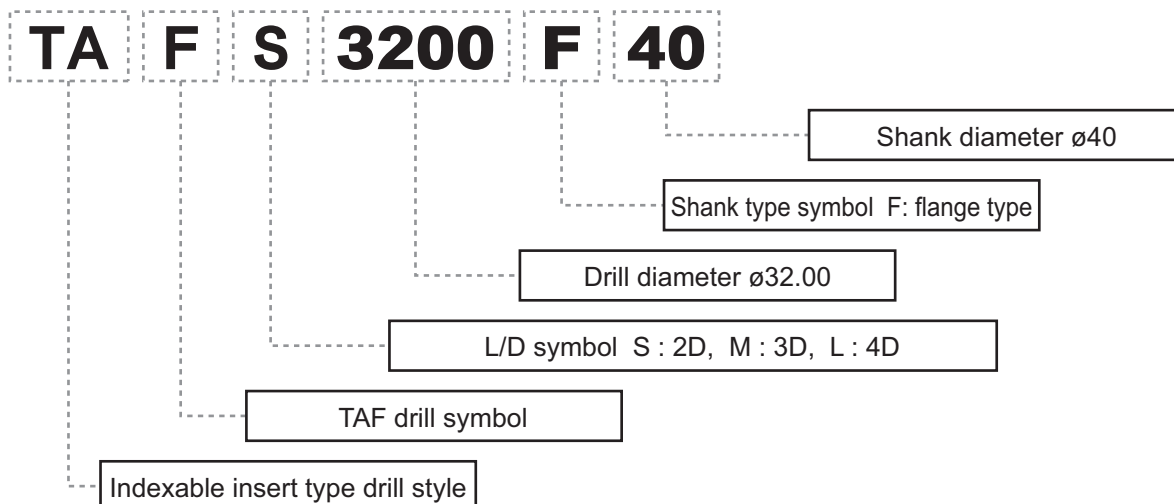
Economical four corner use

Grade Selection

Breaker	NEW Grade VP15TF		UP20M		GP20M		UE6020		US735		F5010	
	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT
U1			Mild steel	Mild steel								
U2	Carbon steel Alloy steel Stainless steel Cast iron Ductile cast iron	Stainless steel			Carbon steel Alloy steel Stainless steel Cast iron Ductile cast iron					Stainless steel		
U3				Ductile cast iron				Carbon steel Alloy steel				Cast iron Ductile cast iron





*1st recommendation shown above. Please refer to P.7 for further details.

Designation



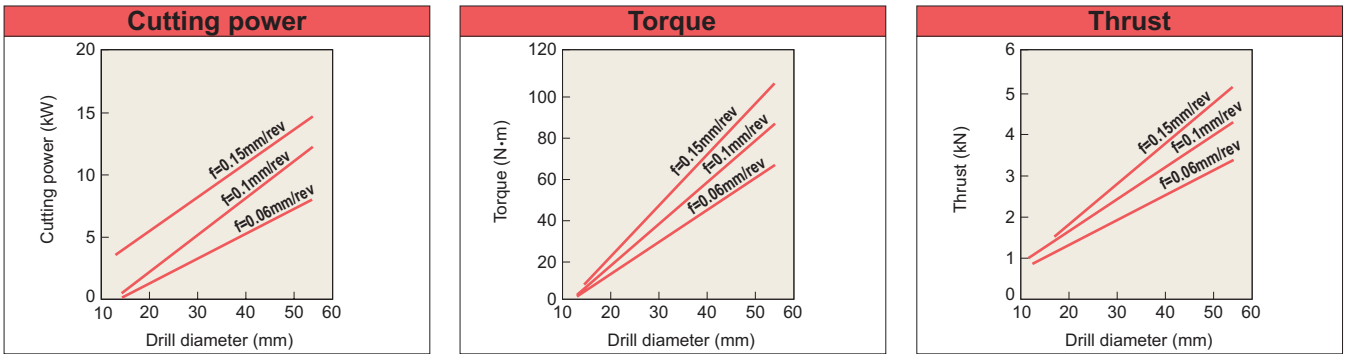
Cutting Performance

● Chip geometry Drill diameter : $\phi 25$

U1 Breaker	U2 Breaker	U3 Breaker	U3 Breaker
Workpiece : Mild steel Cutting speed : 200m/min Feed : 0.10mm/rev	Workpiece : DIN X5CrNi189 Cutting speed : 150m/min Feed : 0.10mm/rev	Workpiece : DIN Ck45 Cutting speed : 150m/min Feed : 0.14mm/rev	Workpiece : DIN 42CrMo4 Cutting speed : 150m/min Feed : 0.12mm/rev
			

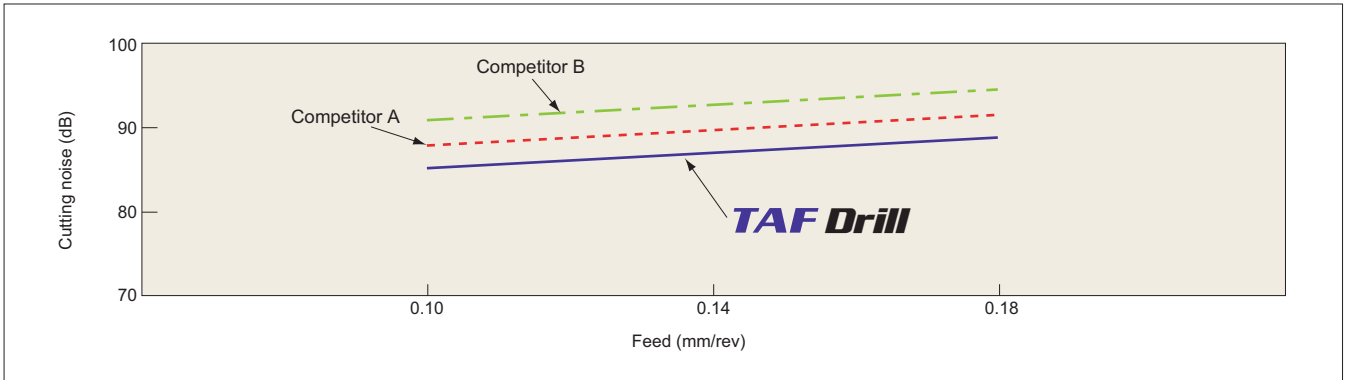
● Cutting resistance

Workpiece : DIN 42CrMo4 (200HB - 220HB) Cutting speed : 150m/min Insert : U2 Breaker



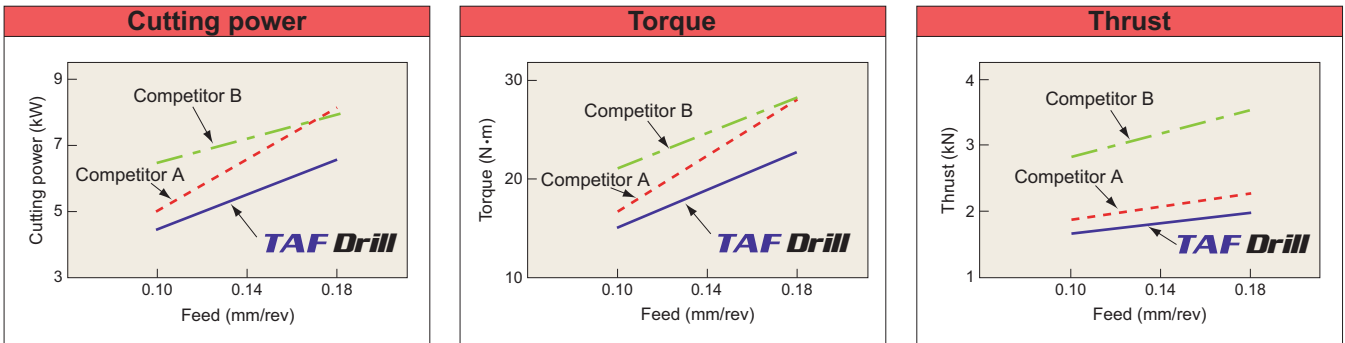
● Cutting noise

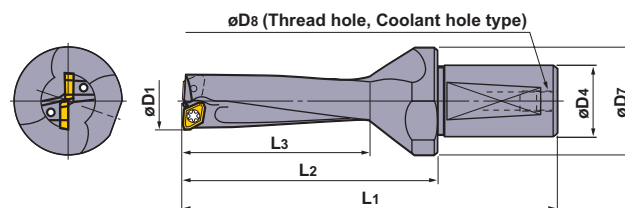
Workpiece : DIN 42CrMo4 (200HB - 220HB) Drill diameter : $\phi 25$ Insert : U2 Breaker Cutting speed : 150m/min







● Cutting resistance

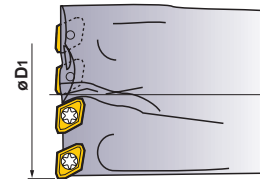
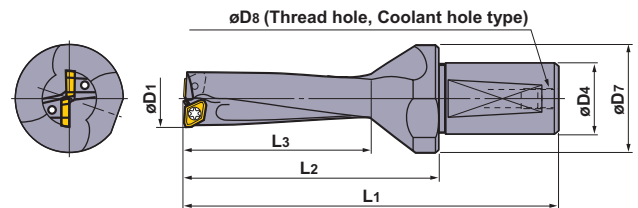
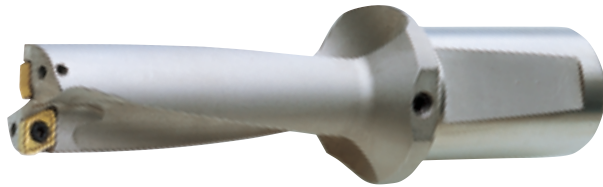
Workpiece : DIN 42CrMo4 (200HB - 220HB) Drill diameter : $\phi 25$ Insert : U3 Breaker Cutting speed : 150m/min







TAFS, TAFM, TAFL

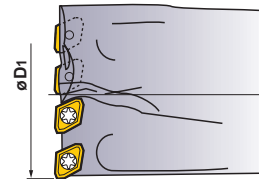
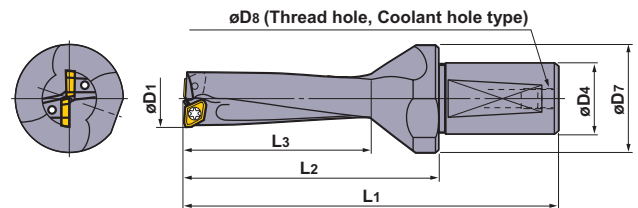
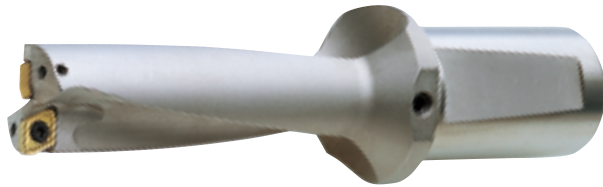
Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D4	D7	D8	L1	L2	L3		Clamp Screw	Wrench
12.0	2	TAFS1200F20	●	2	20	25	PT1/8	82	39	29	GCMT040204-U	TS2	TKY06F
	3	TAFM1200F20	●	2	20	25	PT1/8	94	51	41	GCMT040204-U	TS2	TKY06F
	4	TAFL1200F20	●	2	20	25	PT1/8	106	63	53	GCMT040204-U	TS2	TKY06F
12.5	2	TAFS1250F20	●	2	20	25	PT1/8	82	39	29	GCMT040204-U	TS2	TKY06F
	3	TAFM1250F20	●	2	20	25	PT1/8	94	51	41	GCMT040204-U	TS2	TKY06F
	4	TAFL1250F20	●	2	20	25	PT1/8	106	63	53	GCMT040204-U	TS2	TKY06F
13.0	2	TAFS1300F20	●	2	20	25	PT1/8	84	41	31	GCMT040204-U	TS2	TKY06F
	3	TAFM1300F20	●	2	20	25	PT1/8	97	54	44	GCMT040204-U	TS2	TKY06F
	4	TAFL1300F20	●	2	20	25	PT1/8	110	67	57	GCMT040204-U	TS2	TKY06F
13.5	2	TAFS1350F20	●	2	20	25	PT1/8	84	41	31	GCMT040204-U	TS2	TKY06F
	3	TAFM1350F20	●	2	20	25	PT1/8	97	54	44	GCMT040204-U	TS2	TKY06F
	4	TAFL1350F20	●	2	20	25	PT1/8	110	67	57	GCMT040204-U	TS2	TKY06F
14.0	2	TAFS1400F20	●	2	20	25	PT1/8	86	43	33	GCMT040204-U	TS2	TKY06F
	3	TAFM1400F20	●	2	20	25	PT1/8	100	57	47	GCMT040204-U	TS2	TKY06F
	4	TAFL1400F20	●	2	20	25	PT1/8	114	71	61	GCMT040204-U	TS2	TKY06F
14.5	2	TAFS1450F20	●	2	20	25	PT1/8	86	43	33	GCMT040204-U	TS2	TKY06F
	3	TAFM1450F20	●	2	20	25	PT1/8	100	57	47	GCMT040204-U	TS2	TKY06F
	4	TAFL1450F20	●	2	20	25	PT1/8	114	71	61	GCMT040204-U	TS2	TKY06F
15.0	2	TAFS1500F20	●	2	20	25	PT1/8	88	45	35	GPMT060204-U	TS2	TKY06F
	3	TAFM1500F20	●	2	20	25	PT1/8	103	60	50	GPMT060204-U	TS2	TKY06F
	4	TAFL1500F20	●	2	20	25	PT1/8	118	75	65	GPMT060204-U	TS2	TKY06F
15.5	2	TAFS1550F20	●	2	20	25	PT1/8	88	45	35	GPMT060204-U	TS2	TKY06F
	3	TAFM1550F20	●	2	20	25	PT1/8	103	60	50	GPMT060204-U	TS2	TKY06F
	4	TAFL1550F20	●	2	20	25	PT1/8	118	75	65	GPMT060204-U	TS2	TKY06F
16.0	2	TAFS1600F25	●	2	25	35	PT1/8	107	57	38	GPMT060204-U	TS2	TKY06F
	3	TAFM1600F25	●	2	25	35	PT1/8	123	73	54	GPMT060204-U	TS2	TKY06F
	4	TAFL1600F25	●	2	25	35	PT1/8	139	89	70	GPMT060204-U	TS2	TKY06F
16.5	2	TAFS1650F25	●	2	25	35	PT1/8	107	57	38	GPMT060204-U	TS2	TKY06F
	3	TAFM1650F25	●	2	25	35	PT1/8	123	73	54	GPMT060204-U	TS2	TKY06F
	4	TAFL1650F25	●	2	25	35	PT1/8	139	89	70	GPMT060204-U	TS2	TKY06F
17.0	2	TAFS1700F25	●	2	25	35	PT1/8	109	59	41	GPMT060204-U	TS2	TKY06F
	3	TAFM1700F25	●	2	25	35	PT1/8	126	76	58	GPMT060204-U	TS2	TKY06F
	4	TAFL1700F25	●	2	25	35	PT1/8	143	93	75	GPMT060204-U	TS2	TKY06F
17.5	2	TAFS1750F25	●	2	25	35	PT1/8	109	59	41	GPMT060204-U	TS2	TKY06F
	3	TAFM1750F25	●	2	25	35	PT1/8	126	76	58	GPMT060204-U	TS2	TKY06F
	4	TAFL1750F25	●	2	25	35	PT1/8	143	93	75	GPMT060204-U	TS2	TKY06F



Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D4	D7	D8	L1	L2	L3		Clamp Screw	Wrench
18.0	2	TAFS1800F25	●	2	25	35	PT1/8	111	61	43	GPMT070204-U○	TS25	TKY08F
	3	TAFM1800F25	●	2	25	35	PT1/8	129	79	61	GPMT070204-U○	TS25	TKY08F
	4	TAFL1800F25	●	2	25	35	PT1/8	147	97	79	GPMT070204-U○	TS25	TKY08F
18.5	2	TAFS1850F25	●	2	25	35	PT1/8	111	61	43	GPMT070204-U○	TS25	TKY08F
	3	TAFM1850F25	●	2	25	35	PT1/8	129	79	61	GPMT070204-U○	TS25	TKY08F
19.0	2	TAFS1900F25	●	2	25	35	PT1/8	113	63	46	GPMT070204-U○	TS25	TKY08F
	3	TAFM1900F25	●	2	25	35	PT1/8	132	82	65	GPMT070204-U○	TS25	TKY08F
	4	TAFL1900F25	●	2	25	35	PT1/8	151	101	84	GPMT070204-U○	TS25	TKY08F
19.5	2	TAFS1950F25	●	2	25	35	PT1/8	113	63	46	GPMT070204-U○	TS25	TKY08F
	3	TAFM1950F25	●	2	25	35	PT1/8	132	82	65	GPMT070204-U○	TS25	TKY08F
20.0	2	TAFS2000F25	●	2	25	35	PT1/8	115	65	48	GPMT070204-U○	TS25	TKY08F
	3	TAFM2000F25	●	2	25	35	PT1/8	135	85	68	GPMT070204-U○	TS25	TKY08F
	4	TAFL2000F25	●	2	25	35	PT1/8	155	105	88	GPMT070204-U○	TS25	TKY08F
20.5	2	TAFS2050F25	●	2	25	35	PT1/8	115	65	48	GPMT070204-U○	TS25	TKY08F
	3	TAFM2050F25	●	2	25	35	PT1/8	135	85	68	GPMT070204-U○	TS25	TKY08F
21.0	2	TAFS2100F25	●	2	25	35	PT1/8	117	67	50	GPMT070204-U○	TS25	TKY08F
	3	TAFM2100F25	●	2	25	35	PT1/8	138	88	71	GPMT070204-U○	TS25	TKY08F
	4	TAFL2100F25	●	2	25	35	PT1/8	159	109	92	GPMT070204-U○	TS25	TKY08F
21.5	2	TAFS2150F25	●	2	25	35	PT1/8	117	67	50	GPMT070204-U○	TS25	TKY08F
	3	TAFM2150F25	●	2	25	35	PT1/8	138	88	71	GPMT070204-U○	TS25	TKY08F
22.0	2	TAFS2200F25	●	2	25	35	PT1/8	119	69	53	GPMT070204-U○	TS25	TKY08F
	3	TAFM2200F25	●	2	25	35	PT1/8	141	91	75	GPMT070204-U○	TS25	TKY08F
	4	TAFL2200F25	●	2	25	35	PT1/8	163	113	97	GPMT070204-U○	TS25	TKY08F
22.5	2	TAFS2250F25	●	2	25	35	PT1/8	119	69	53	GPMT070204-U○	TS25	TKY08F
	3	TAFM2250F25	●	2	25	35	PT1/8	141	91	75	GPMT070204-U○	TS25	TKY08F
23.0	2	TAFS2300F25	●	2	25	35	PT1/8	121	71	55	GPMT090304-U○	TS3	TKY08F
	3	TAFM2300F25	●	2	25	35	PT1/8	144	94	78	GPMT090304-U○	TS3	TKY08F
	4	TAFL2300F25	●	2	25	35	PT1/8	167	117	101	GPMT090304-U○	TS3	TKY08F
23.5	2	TAFS2350F25	●	2	25	35	PT1/8	121	71	55	GPMT090304-U○	TS3	TKY08F
	3	TAFM2350F25	●	2	25	35	PT1/8	144	94	78	GPMT090304-U○	TS3	TKY08F
	4	TAFL2350F25	●	2	25	35	PT1/8	167	117	101	GPMT090304-U○	TS3	TKY08F
24.0	2	TAFS2400F25	●	2	25	35	PT1/8	123	73	58	GPMT090304-U○	TS3	TKY08F
	3	TAFM2400F25	●	2	25	35	PT1/8	147	97	82	GPMT090304-U○	TS3	TKY08F
	4	TAFL2400F25	●	2	25	35	PT1/8	171	121	106	GPMT090304-U○	TS3	TKY08F
24.5	2	TAFS2450F25	●	2	25	35	PT1/8	123	73	58	GPMT090304-U○	TS3	TKY08F
	3	TAFM2450F25	●	2	25	35	PT1/8	147	97	82	GPMT090304-U○	TS3	TKY08F
25.0	2	TAFS2500F32	●	2	32	42	PT1/8	130	75	60	GPMT090304-U○	TS3	TKY08F
	3	TAFM2500F32	●	2	32	42	PT1/8	155	100	85	GPMT090304-U○	TS3	TKY08F
	4	TAFL2500F25	●	2	32	42	PT1/8	180	125	110	GPMT090304-U○	TS3	TKY08F
	4	TAFL2500F32	●	2	32	42	PT1/8	180	125	110	GPMT090304-U○	TS3	TKY08F
25.5	2	TAFS2550F32	●	2	32	42	PT1/8	130	75	60	GPMT090304-U○	TS3	TKY08F
	3	TAFM2550F32	●	2	32	42	PT1/8	155	100	85	GPMT090304-U○	TS3	TKY08F
26.0	2	TAFS2600F32	●	2	32	42	PT1/8	132	77	62	GPMT090304-U○	TS3	TKY08F
	3	TAFM2600F32	●	2	32	42	PT1/8	158	103	88	GPMT090304-U○	TS3	TKY08F
	4	TAFL2600F32	●	2	32	42	PT1/8	184	129	114	GPMT090304-U○	TS3	TKY08F
26.5	2	TAFS2650F32	●	2	32	42	PT1/8	132	77	62	GPMT090304-U○	TS3	TKY08F
	3	TAFM2650F32	●	2	32	42	PT1/8	158	103	88	GPMT090304-U○	TS3	TKY08F
	4	TAFL2650F32	●	2	32	42	PT1/8	184	129	114	GPMT090304-U○	TS3	TKY08F



Number of Teeth = 4 ($\phi D_1 \geq 49$)

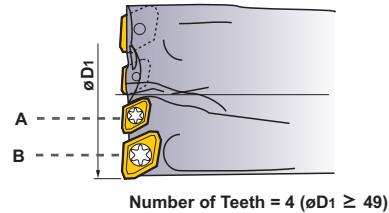
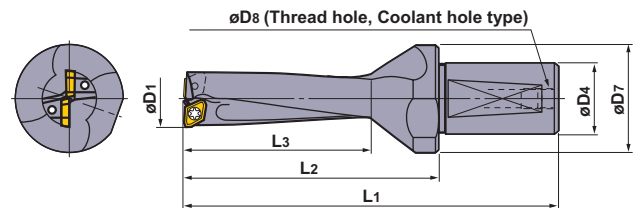
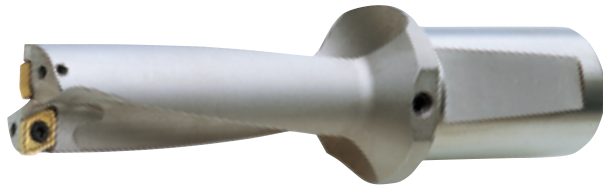
Drill Diameter D_1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D_4	D_7	D_8	L_1	L_2	L_3		Clamp Screw	Wrench
27.0	2	TAFS2700F32	●	2	32	42	PT1/8	134	79	65	GPMT090304-U	TS3	①TKY08F
	3	TAFM2700F32	●	2	32	42	PT1/8	161	106	92	GPMT090304-U	TS3	①TKY08F
	4	TAFL2700F32	●	2	32	42	PT1/8	188	133	119	GPMT090304-U	TS3	①TKY08F
27.5	2	TAFS2750F32	●	2	32	42	PT1/8	134	79	65	GPMT090304-U	TS3	①TKY08F
	3	TAFM2750F32	●	2	32	42	PT1/8	161	106	92	GPMT090304-U	TS3	①TKY08F
28.0	2	TAFS2800F32	●	2	32	42	PT1/8	136	81	67	GPMT11T308-U	TS4	②TKY15D
	3	TAFM2800F32	●	2	32	42	PT1/8	164	109	95	GPMT11T308-U	TS4	②TKY15D
	4	TAFL2800F32	●	2	32	42	PT1/8	192	137	123	GPMT11T308-U	TS4	②TKY15D
28.5	2	TAFS2850F32	●	2	32	42	PT1/8	136	81	67	GPMT11T308-U	TS4	②TKY15D
	3	TAFM2850F32	●	2	32	42	PT1/8	164	109	95	GPMT11T308-U	TS4	②TKY15D
	4	TAFL2850F40	●	2	40	50	PT1/8	202	137	123	GPMT11T308-U	TS4	②TKY15D
29.0	2	TAFS2900F32	●	2	32	42	PT1/8	138	83	70	GPMT11T308-U	TS4	②TKY15D
	3	TAFM2900F32	●	2	32	42	PT1/8	167	112	99	GPMT11T308-U	TS4	②TKY15D
	4	TAFL2900F32	●	2	32	42	PT1/8	196	141	128	GPMT11T308-U	TS4	②TKY15D
29.5	2	TAFS2950F32	●	2	32	42	PT1/8	138	83	70	GPMT11T308-U	TS4	②TKY15D
	3	TAFM2950F32	●	2	32	42	PT1/8	167	112	99	GPMT11T308-U	TS4	②TKY15D
30.0	2	TAFS3000F32	●	2	32	42	PT1/8	145	90	72	GPMT11T308-U	TS4	②TKY15D
	2	TAFS3000F40	●	2	40	50	PT1/4	155	90	72	GPMT11T308-U	TS4	②TKY15D
	3	TAFM3000F32	●	2	32	42	PT1/8	175	120	102	GPMT11T308-U	TS4	②TKY15D
	3	TAFM3000F40	●	2	40	50	PT1/4	185	120	102	GPMT11T308-U	TS4	②TKY15D
	4	TAFL3000F32	●	2	32	42	PT1/8	205	150	132	GPMT11T308-U	TS4	②TKY15D
	4	TAFL3000F40	●	2	40	50	PT1/4	215	150	132	GPMT11T308-U	TS4	②TKY15D
30.5	2	TAFS3050F40	●	2	40	50	PT1/4	155	90	72	GPMT11T308-U	TS4	②TKY15D
	3	TAFM3050F40	●	2	40	50	PT1/4	185	120	102	GPMT11T308-U	TS4	②TKY15D
31.0	2	TAFS3100F32	●	2	32	42	PT1/8	147	92	74	GPMT11T308-U	TS4	②TKY15D
	2	TAFS3100F40	●	2	40	50	PT1/4	157	92	74	GPMT11T308-U	TS4	②TKY15D
	3	TAFM3100F32	●	2	32	42	PT1/8	178	123	105	GPMT11T308-U	TS4	②TKY15D
	3	TAFM3100F40	●	2	40	50	PT1/4	188	123	105	GPMT11T308-U	TS4	②TKY15D
	4	TAFL3100F32	●	2	32	42	PT1/8	209	154	136	GPMT11T308-U	TS4	②TKY15D
	4	TAFL3100F40	●	2	40	50	PT1/4	219	154	136	GPMT11T308-U	TS4	②TKY15D



Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D4	D7	D8	L1	L2	L3		Clamp Screw	Wrench
32.0	2	TAFS3200F32	●	2	32	42	PT1/8	149	94	77	GPMT11T308-U○	TS4	TKY15D
	2	TAFS3200F40	●	2	40	50	PT1/4	159	94	77	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3200F32	●	2	32	42	PT1/8	181	126	109	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3200F40	●	2	40	50	PT1/4	191	126	109	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3200F32	●	2	32	42	PT1/8	213	158	141	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3200F40	●	2	40	50	PT1/4	223	158	141	GPMT11T308-U○	TS4	TKY15D
33.0	2	TAFS3300F32	●	2	32	42	PT1/8	151	96	79	GPMT11T308-U○	TS4	TKY15D
	2	TAFS3300F40	●	2	40	50	PT1/4	161	96	79	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3300F32	●	2	32	42	PT1/8	184	129	112	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3300F40	●	2	40	50	PT1/4	194	129	112	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3300F32	●	2	32	42	PT1/8	217	162	145	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3300F40	●	2	40	50	PT1/4	227	162	145	GPMT11T308-U○	TS4	TKY15D
34.0	2	TAFS3400F32	●	2	32	42	PT1/8	153	98	82	GPMT11T308-U○	TS4	TKY15D
	2	TAFS3400F40	●	2	40	50	PT1/4	163	98	82	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3400F32	●	2	32	42	PT1/8	187	132	116	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3400F40	●	2	40	50	PT1/4	197	132	116	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3400F32	●	2	32	42	PT1/8	231	166	150	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3400F40	●	2	40	50	PT1/4	231	166	150	GPMT11T308-U○	TS4	TKY15D
35.0	2	TAFS3500F32	●	2	32	42	PT1/8	155	100	84	GPMT140408-U○	TS5	TKY25D
	2	TAFS3500F40	●	2	40	50	PT1/4	165	100	84	GPMT140408-U○	TS5	TKY25D
	3	TAFM3500F32	●	2	32	42	PT1/8	190	135	119	GPMT140408-U○	TS5	TKY25D
	3	TAFM3500F40	●	2	40	50	PT1/4	200	135	119	GPMT140408-U○	TS5	TKY25D
	4	TAFL3500F32	●	2	32	42	PT1/8	235	170	154	GPMT140408-U○	TS5	TKY25D
	4	TAFL3500F40	●	2	40	50	PT1/4	235	170	154	GPMT140408-U○	TS5	TKY25D
36.0	2	TAFS3600F32	●	2	32	42	PT1/8	157	102	86	GPMT140408-U○	TS5	TKY25D
	2	TAFS3600F40	●	2	40	50	PT1/4	167	102	86	GPMT140408-U○	TS5	TKY25D
	3	TAFM3600F32	●	2	32	42	PT1/8	193	138	122	GPMT140408-U○	TS5	TKY25D
	3	TAFM3600F40	●	2	40	50	PT1/4	203	138	122	GPMT140408-U○	TS5	TKY25D
	4	TAFL3600F32	●	2	32	42	PT1/8	229	174	158	GPMT140408-U○	TS5	TKY25D
	4	TAFL3600F40	●	2	40	50	PT1/4	239	174	158	GPMT140408-U○	TS5	TKY25D
37.0	2	TAFS3700F32	●	2	32	42	PT1/8	159	104	89	GPMT140408-U○	TS5	TKY25D
	2	TAFS3700F40	●	2	40	50	PT1/4	169	104	89	GPMT140408-U○	TS5	TKY25D
	3	TAFM3700F32	●	2	32	42	PT1/8	196	141	126	GPMT140408-U○	TS5	TKY25D
	3	TAFM3700F40	●	2	40	50	PT1/4	206	141	126	GPMT140408-U○	TS5	TKY25D
	4	TAFL3700F32	●	2	32	42	PT1/8	233	178	163	GPMT140408-U○	TS5	TKY25D
	4	TAFL3700F40	●	2	40	50	PT1/4	243	178	163	GPMT140408-U○	TS5	TKY25D
37.5	2	TAFS3750F32	●	2	32	42	PT1/8	159	104	89	GPMT140408-U○	TS5	TKY25D
	2	TAFS3750F40	●	2	40	50	PT1/4	169	104	89	GPMT140408-U○	TS5	TKY25D
	3	TAFM3750F32	●	2	32	42	PT1/8	196	141	126	GPMT140408-U○	TS5	TKY25D
	3	TAFM3750F40	●	2	40	50	PT1/4	206	141	126	GPMT140408-U○	TS5	TKY25D
	4	TAFL3750F32	●	2	32	42	PT1/8	233	178	163	GPMT140408-U○	TS5	TKY25D
	4	TAFL3750F40	●	2	40	50	PT1/4	243	178	163	GPMT140408-U○	TS5	TKY25D
38.0	2	TAFS3800F32	●	2	32	42	PT1/8	161	106	91	GPMT140408-U○	TS5	TKY25D
	2	TAFS3800F40	●	2	40	50	PT1/4	171	106	91	GPMT140408-U○	TS5	TKY25D
	3	TAFM3800F32	●	2	32	42	PT1/8	199	144	129	GPMT140408-U○	TS5	TKY25D
	3	TAFM3800F40	●	2	40	50	PT1/4	209	144	129	GPMT140408-U○	TS5	TKY25D
	4	TAFL3800F32	●	2	32	42	PT1/8	247	182	167	GPMT140408-U○	TS5	TKY25D
	4	TAFL3800F40	●	2	40	50	PT1/4	247	182	167	GPMT140408-U○	TS5	TKY25D

Number of Teeth = 4 ($\phi D1 \geq 49$)

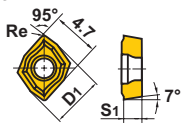
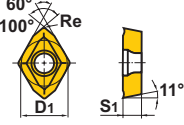
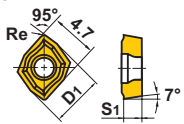
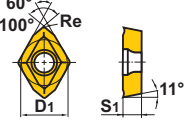
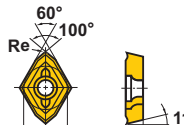
Drill Diameter D_1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D_4	D_7	D_8	L_1	L_2	L_3		Clamp Screw	Wrench
39.0	2	TAFS3900F32	●	2	32	42	PT1/8	163	108	94	GPMT140408-U	TS5	TKY25D
	2	TAFS3900F40	●	2	40	50	PT1/4	173	108	94	GPMT140408-U	TS5	TKY25D
	3	TAFM3900F32	●	2	32	42	PT1/8	202	147	133	GPMT140408-U	TS5	TKY25D
	3	TAFM3900F40	●	2	40	50	PT1/4	212	147	133	GPMT140408-U	TS5	TKY25D
	4	TAFL3900F32	●	2	32	42	PT1/8	251	186	172	GPMT140408-U	TS5	TKY25D
	4	TAFL3900F40	●	2	40	50	PT1/4	251	186	172	GPMT140408-U	TS5	TKY25D
40.0	2	TAFS4000F32	●	2	32	42	PT1/8	165	110	96	GPMT140408-U	TS5	TKY25D
	2	TAFS4000F40	●	2	40	50	PT1/4	175	110	96	GPMT140408-U	TS5	TKY25D
	3	TAFM4000F32	●	2	32	42	PT1/8	205	150	136	GPMT140408-U	TS5	TKY25D
	3	TAFM4000F40	●	2	40	50	PT1/4	215	150	136	GPMT140408-U	TS5	TKY25D
	4	TAFL4000F32	●	2	32	42	PT1/8	245	190	176	GPMT140408-U	TS5	TKY25D
	4	TAFL4000F40	●	2	40	50	PT1/4	255	190	176	GPMT140408-U	TS5	TKY25D
41.0	2	TAFS4100F40	●	2	40	50	PT1/4	177	112	98	GPMT140408-U	TS5	TKY25D
	3	TAFM4100F40	●	2	40	50	PT1/4	218	153	139	GPMT140408-U	TS5	TKY25D
	4	TAFL4100F40	●	2	40	50	PT1/4	259	194	180	GPMT140408-U	TS5	TKY25D
42.0	2	TAFS4200F40	●	2	40	50	PT1/4	179	114	101	GPMT140408-U	TS5	TKY25D
	3	TAFM4200F40	●	2	40	50	PT1/4	221	156	143	GPMT140408-U	TS5	TKY25D
	4	TAFL4200F40	●	2	40	50	PT1/4	263	198	185	GPMT140408-U	TS5	TKY25D
43.0	2	TAFS4300F40	●	2	40	50	PT1/4	181	116	103	GPMT140408-U	TS5	TKY25D
	3	TAFM4300F40	●	2	40	50	PT1/4	224	159	146	GPMT140408-U	TS5	TKY25D
	4	TAFL4300F40	●	2	40	50	PT1/4	267	202	189	GPMT140408-U	TS5	TKY25D
44.0	2	TAFS4400F40	●	2	40	50	PT1/4	183	118	106	GPMT140408-U	TS5	TKY25D
	3	TAFM4400F40	●	2	40	50	PT1/4	227	162	150	GPMT140408-U	TS5	TKY25D
	4	TAFL4400F40	●	2	40	50	PT1/4	271	206	194	GPMT140408-U	TS5	TKY25D
45.0	2	TAFS4500F40	●	2	40	54	PT1/4	185	120	108	GPMT140408-U	TS5	TKY25D
	3	TAFM4500F40	●	2	40	54	PT1/4	230	165	153	GPMT140408-U	TS5	TKY25D
	4	TAFL4500F40	●	2	40	54	PT1/4	275	210	198	GPMT140408-U	TS5	TKY25D
46.0	2	TAFS4600F40	●	2	40	54	PT1/4	187	122	110	GPMT140408-U	TS5	TKY25D
	3	TAFM4600F40	●	2	40	54	PT1/4	233	168	156	GPMT140408-U	TS5	TKY25D
	4	TAFL4600F40	●	2	40	54	PT1/4	279	214	202	GPMT140408-U	TS5	TKY25D

Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Insert Number		
					D4	D7	D8	L1	L2	L3		Clamp Screw	Wrench
47.0	2	TAFS4700F40	●	2	40	54	PT1/4	189	124	113	GPMT140408-U [○]	TS5	②TKY25D
	3	TAFM4700F40	●	2	40	54	PT1/4	236	171	160	GPMT140408-U [○]	TS5	②TKY25D
	4	TAFL4700F40	●	2	40	54	PT1/4	283	218	207	GPMT140408-U [○]	TS5	②TKY25D
48.0	2	TAFS4800F40	●	2	40	54	PT1/4	191	126	115	GPMT140408-U [○]	TS5	②TKY25D
	3	TAFM4800F40	●	2	40	54	PT1/4	239	174	163	GPMT140408-U [○]	TS5	②TKY25D
	4	TAFL4800F40	●	2	40	54	PT1/4	287	222	211	GPMT140408-U [○]	TS5	②TKY25D
49.0	2	TAFS4900F40	●	4	40	58	PT1/4	198	133	118	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM4900F40	●	4	40	58	PT1/4	247	182	167	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL4900F40	●	4	40	58	PT1/4	296	231	216	GPMT090304-U [○]	TS3	①TKY08F
50.0	2	TAFS5000F40	●	4	40	58	PT1/4	200	135	120	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5000F40	●	4	40	58	PT1/4	250	185	170	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5000F40	●	4	40	58	PT1/4	300	235	220	GPMT090304-U [○]	TS3	①TKY08F
51.0	2	TAFS5100F40	●	4	40	58	PT1/4	202	137	122	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5100F40	●	4	40	58	PT1/4	253	188	173	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5100F40	●	4	40	58	PT1/4	304	239	224	GPMT090304-U [○]	TS3	①TKY08F
52.0	2	TAFS5200F40	●	4	40	58	PT1/4	204	139	125	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5200F40	●	4	40	58	PT1/4	256	191	177	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5200F40	●	4	40	58	PT1/4	308	243	229	GPMT090304-U [○]	TS3	①TKY08F
53.0	2	TAFS5300F40	●	4	40	63	PT1/4	206	141	127	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5300F40	●	4	40	63	PT1/4	259	194	180	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5300F40	●	4	40	63	PT1/4	312	247	233	GPMT090304-U [○]	TS3	①TKY08F
54.0	2	TAFS5400F40	●	4	40	63	PT1/4	208	134	128	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5400F40	●	4	40	63	PT1/4	262	197	182	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5400F40	●	4	40	63	PT1/4	316	251	236	GPMT090304-U [○]	TS3	①TKY08F
55.0	2	TAFS5500F40	●	4	40	63	PT1/4	210	145	130	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5500F40	●	4	40	63	PT1/4	265	200	185	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5500F40	●	4	40	63	PT1/4	320	255	240	GPMT090304-U [○]	TS3	①TKY08F
56.0	2	TAFS5600F40	●	4	40	63	PT1/4	212	147	132	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5600F40	●	4	40	63	PT1/4	268	203	188	GPMT090304-U [○]	TS3	①TKY08F
	4	TAFL5600F40	●	4	40	63	PT1/4	324	259	244	GPMT090304-U [○]	TS3	①TKY08F

TAFS, TAFM, TAFL■ Increased rigidity type **NEW**

Drill Diameter D_1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Teeth	Dimensions (mm)						Inner / Outer type	Insert Number	 Clamp Screw	 Wrench
					D_4	D_7	D_8	L_1	L_2	L_3				
50.0	2	TAFS5000F40-E	●	4	40	58	PT1/4	200	135	120	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	3	TAFM5000F40-E	●	4	40	58	PT1/4	250	185	170	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	4	TAFL5000F40-E	●	4	40	58	PT1/4	300	235	220	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
51.0	2	TAFS5100F40-E	●	4	40	58	PT1/4	202	137	122	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	3	TAFM5100F40-E	●	4	40	58	PT1/4	253	188	173	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	4	TAFL5100F40-E	●	4	40	58	PT1/4	304	239	224	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
52.0	2	TAFS5200F40-E	●	4	40	58	PT1/4	204	139	125	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	3	TAFM5200F40-E	●	4	40	58	PT1/4	256	191	177	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
	4	TAFL5200F40-E	●	4	40	58	PT1/4	308	243	229	A B	GPMT090304-U○ GPMT11T308-U○	TS3 TS4	①TKY08F ②TKY15D
53.0	2	TAFS5300F40-E	●	4	40	63	PT1/4	206	141	127	A	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM5300F40-E	●	4	40	63	PT1/4	259	194	180	A	GPMT11T308-U○	TS4	②TKY15D
	4	TAFL5300F40-E	●	4	40	63	PT1/4	312	247	233	A	GPMT11T308-U○	TS4	②TKY15D
54.0	2	TAFS5400F40-E	●	4	40	63	PT1/4	208	134	128	A	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM5400F40-E	●	4	40	63	PT1/4	262	197	182	A	GPMT11T308-U○	TS4	②TKY15D
	4	TAFL5400F40-E	●	4	40	63	PT1/4	316	251	236	A	GPMT11T308-U○	TS4	②TKY15D
55.0	2	TAFS5500F40-E	●	4	40	63	PT1/4	210	145	130	A	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM5500F40-E	●	4	40	63	PT1/4	265	200	185	A	GPMT11T308-U○	TS4	②TKY15D
	4	TAFL5500F40-E	●	4	40	63	PT1/4	320	255	240	A	GPMT11T308-U○	TS4	②TKY15D
56.0	2	TAFS5600F40-E	●	4	40	63	PT1/4	212	147	132	A	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM5600F40-E	●	4	40	63	PT1/4	268	203	188	A	GPMT11T308-U○	TS4	②TKY15D
	4	TAFL5600F40-E	●	4	40	63	PT1/4	324	259	244	A	GPMT11T308-U○	TS4	②TKY15D

Inserts

Geometry	Drill Dia.	Insert Number	Dimensions (mm)			Grade					
			D ₁	S ₁	Re	NEW VP15TF	UP20M	GP20M	UE6020	US735	F5010
U1 Breaker GCMT  GPMT 	φ 12 – φ 14.5	GCMT040204-U1	5.0	2.38	0.4		●				
	φ 15 – φ 17.5	GPMT060204-U1	5.56	2.38	0.4		●		●	●	●
	φ 18 – φ 22.5	GPMT070204-U1	6.35	2.38	0.4		●		●	●	●
	φ 23 – φ 27.5 φ 49 – φ 56	GPMT090304-U1	7.94	3.18	0.4		●		●	●	●
	φ 28 – φ 34	GPMT11T308-U1	9.525	3.97	0.8		●		●	●	●
	φ 35 – φ 48	GPMT140408-U1	12.70	4.76	0.8		●		●	●	●
U2 Breaker GCMT  GPMT 	φ 12 – φ 14.5	GCMT040204-U2	5.0	2.38	0.4	●		●			
	φ 15 – φ 17.5	GPMT060204-U2	5.56	2.38	0.4	●	●		●	●	●
	φ 18 – φ 22.5	GPMT070204-U2	6.35	2.38	0.4	●	●		●	●	●
	φ 23 – φ 27.5 φ 49 – φ 56	GPMT090304-U2	7.94	3.18	0.4	●	●		●	●	●
	φ 28 – φ 34	GPMT11T308-U2	9.525	3.97	0.8	●	●		●	●	●
	φ 35 – φ 48	GPMT140408-U2	12.70	4.76	0.8	●	●		●	●	●
U3 Breaker GPMT 	φ 15 – φ 17.5	GPMT060204-U3	5.56	2.38	0.4		●		●	●	●
	φ 18 – φ 22.5	GPMT070204-U3	6.35	2.38	0.4		●		●	●	●
	φ 23 – φ 27.5 φ 49 – φ 56	GPMT090304-U3	7.94	3.18	0.4		●		●	●	●
	φ 28 – φ 34	GPMT11T308-U3	9.525	3.97	0.8		●		●	●	●
	φ 35 – φ 48	GPMT140408-U3	12.70	4.76	0.8		●		●	●	●

Insert Recommendation**Chip breaker recommendation**

◎ : 1st recommendation ○ : 2nd recommendation

Work Material \ Breaker	P						M		K			
	Mild Steel		Carbon Steel		Alloy Steel		Stainless Steel		Cast Iron		Ductile Cast Iron	
	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT
U1	◎	◎	○	○	○	○	○	○	○	○	○	○
U2	○	○	◎	○	◎	○	◎	◎	◎	○	◎	○
U3		○		◎		◎		○		◎		◎

Insert Grade Recommendation

◎ : 1st recommendation ○ : 2nd recommendation

Work Material \ Breaker	P						M		K			
	Mild Steel		Carbon Steel		Alloy Steel		Stainless Steel		Cast Iron		Ductile Cast Iron	
	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT
NEW VP15TF	○	○	◎	○	◎	○	◎	◎	◎	○	◎	○
UP20M	◎	◎	○	○	○	○	○	○	○	○	○	◎
GP20M	○		◎		◎		◎		◎		◎	
UE6020		○		◎		◎		○		○		○
US735		○		○		○		◎		○		○
F5010										◎		◎

Recommended Cutting Conditions

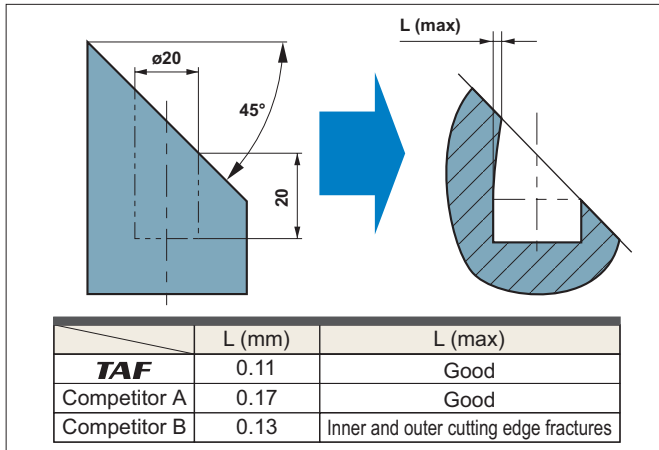
					Breaker	Feed (mm/rev)					
Work Material	Hardness	Cutting Speed (m/min)		For l/d=4 ($\phi 16-$)		Drill Diameter (mm)					
		For l/d=2, 3				$\phi 12-\phi 14.5$	$\phi 15-\phi 22.5$	$\phi 23-\phi 34$	$\phi 35-\phi 48$	$\phi 49-\phi 56$	
P	Mild Steel	$\leq 180\text{HB}$	150 (100-200)	200 (150-300)	140 (100-200)	U1	0.06 (0.04-0.10)	0.07 (0.04-0.10)	0.08 (0.04-0.10)	0.10 (0.04-0.12)	0.08 (0.04-0.10)
						U2	0.06 (0.04-0.10)	0.08 (0.04-0.12)	0.10 (0.04-0.12)	0.12 (0.04-0.14)	0.10 (0.04-0.12)
						U3	—	0.08 (0.04-0.12)	0.10 (0.04-0.12)	0.12 (0.04-0.14)	0.10 (0.04-0.12)
	Carbon Steel	180-280HB	120 (80-160)	150 (120-180)	100 (80-120)	U1	0.06 (0.04-0.10)	0.09 (0.06-0.12)	0.12 (0.08-0.14)	0.15 (0.08-0.18)	0.12 (0.08-0.14)
						U2	0.06 (0.04-0.10)	0.12 (0.06-0.14)	0.14 (0.08-0.18)	0.17 (0.08-0.20)	0.14 (0.08-0.18)
						U3	—	0.12 (0.06-0.14)	0.14 (0.08-0.18)	0.17 (0.08-0.20)	0.14 (0.08-0.18)
	Alloy Steel	180-280HB	120 (80-160)	150 (120-180)	100 (80-120)	U1	0.06 (0.04-0.10)	0.08 (0.06-0.10)	0.09 (0.06-0.12)	0.11 (0.06-0.14)	0.09 (0.06-0.12)
						U2	0.06 (0.04-0.10)	0.10 (0.06-0.12)	0.12 (0.08-0.16)	0.14 (0.08-0.18)	0.12 (0.08-0.16)
						U3	—	0.10 (0.06-0.12)	0.12 (0.08-0.16)	0.14 (0.08-0.18)	0.12 (0.08-0.16)
M	Stainless Steel	$\leq 200\text{HB}$	100 (80-120)	150 (120-200)	110 (80-140)	U1	0.07 (0.04-0.10)	0.07 (0.04-0.10)	0.08 (0.04-0.10)	0.10 (0.04-0.12)	0.08 (0.04-0.10)
						U2	0.07 (0.04-0.10)	0.08 (0.04-0.12)	0.10 (0.04-0.14)	0.12 (0.04-0.16)	0.10 (0.04-0.14)
						U3	—	0.08 (0.04-0.12)	0.10 (0.04-0.14)	0.12 (0.04-0.16)	0.10 (0.04-0.14)
K	Cast Iron	Tensile Strength $\leq 350\text{N/mm}^2$	120 (80-160)	150 (120-180)	140 (110-160)	U1	0.07 (0.06-0.10)	0.07 (0.06-0.10)	0.10 (0.04-0.14)	0.10 (0.06-0.14)	0.10 (0.06-0.14)
						U2	0.07 (0.06-0.10)	0.15 (0.10-0.18)	0.20 (0.10-0.25)	0.20 (0.10-0.25)	0.20 (0.10-0.25)
						U3	—	0.15 (0.10-0.18)	0.20 (0.10-0.25)	0.20 (0.10-0.25)	0.20 (0.10-0.25)
	Ductile Cast Iron	Tensile Strength $\leq 450\text{N/mm}^2$	120 (80-150)	150 (120-180)	100 (80-120)	U1	0.06 (0.04-0.10)	0.07 (0.06-0.10)	0.10 (0.06-0.14)	0.10 (0.06-0.14)	0.10 (0.06-0.14)
						U2	0.06 (0.04-0.10)	0.12 (0.08-0.14)	0.15 (0.08-0.20)	0.18 (0.08-0.20)	0.15 (0.08-0.20)
						U3	—	0.12 (0.08-0.14)	0.15 (0.08-0.20)	0.18 (0.08-0.20)	0.15 (0.08-0.20)

(Note) When using drills for l/d= 4, the feed should be reduced to 80% of the above recommendations.

Applications

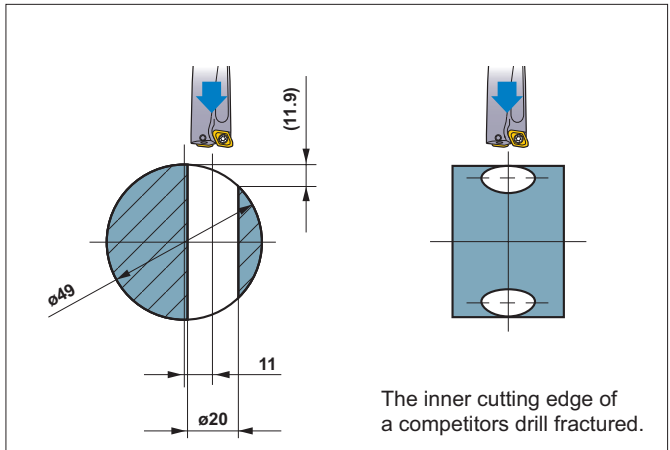
●Angled face drilling

Workpiece : DIN 42Cr Mo4 (180HB - 280HB)
Drill $\phi 20$ (3D type), Cutting speed : 80m/min
Feed : 0.08mm/rev



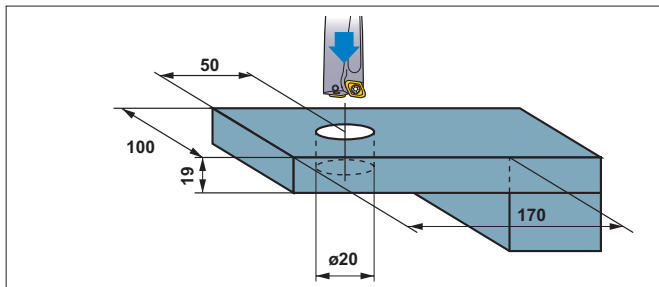
●Round workpiece drilling

Workpiece : DIN 42Cr Mo4 (180HB - 280HB)
Drill $\phi 20$ (3D type), Cutting speed : 50, 80, 100m/min
Feed : 0.08mm/rev (initial cutting 0.05mm/rev)

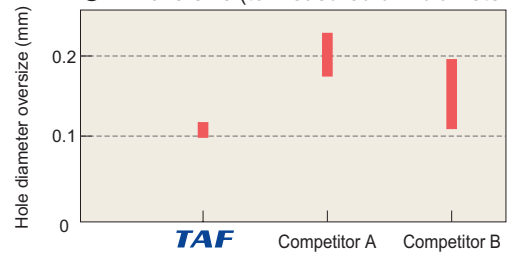


●Open sided drilling

Workpiece : DIN Ck50 (120HB - 180HB), Drill $\phi 20$ (3D type), Cutting speed : 80m/min Feed : 0.08mm/rev

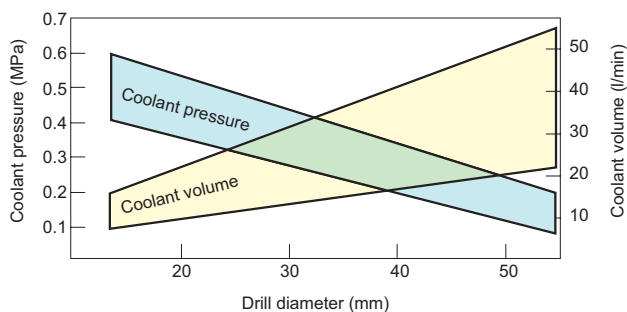


●Drill oversize (to measured drill diameter)



●Please ensure the highest rigidity possible exists in both machine set up and workholding.

●Refer to the following graph for coolant pressure and volume. Coolant is an important factor in the efficient use of these drills.

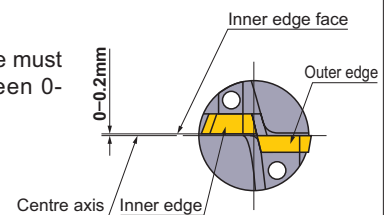


●Cannot be used for stack drilling.

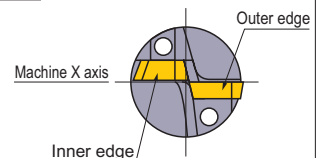
In common with many indexable insert drills, these drills produce a round disc on exit which unless evacuated may cause the drill to fracture.

●Use on a lathe

(1) The inner cutting edge must be positioned between 0-0.2mm over centre.

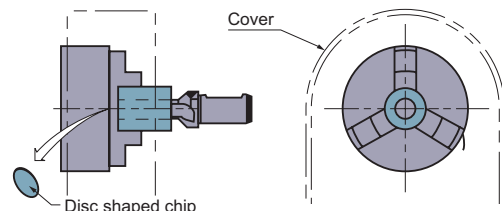


(2) To adjust the hole diameter by off-setting the drill, the outer cutting edge and machine axis must be set parallel.



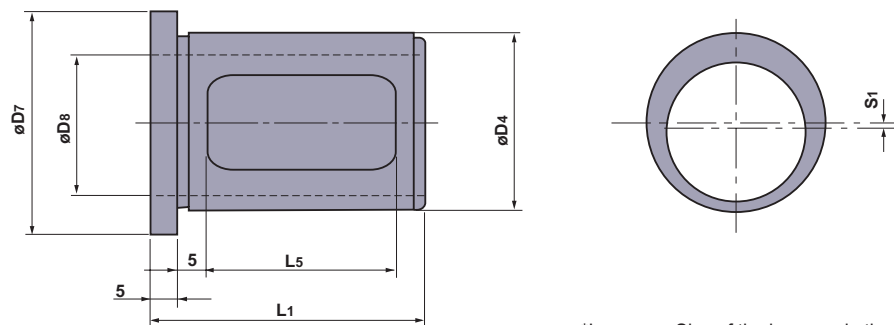
(3) When producing an oversize hole. The drill offset should be no more than 2% of the diameter. It is not possible to produce an undersized hole.

(4) When through hole drilling on a lathe the disc produced by the drill exiting the workpiece may be expelled at high velocity. To reduce the danger of injury or damage a cover guard is highly recommended.



JUST FIT SLEEVE

A sleeve designed to improve the versatility of the TAF drills, allowing the cutting diameter to be increased in increments of 0.1mm.



*Increase : Size of the increase in the cutting diameter

Set Order Number	Individual Order Number	Stock	Dimensions (mm)					*Increase (S1×2)	Suitable TAF Drill
			D7	D4	D8	L1	L5		
JFS-1	JFS2520-10	●	33	25	20	43	30	0.10	TAFS/M/L1200F20 TAFS/M/L1550F20
	2520-20	●	33	25	20	43	30	0.20	
	2520-30	●	33	25	20	43	30	0.30	
	2520-40	●	33	25	20	43	30	0.40	
	2520-50	●	33	25	20	43	30	0.50	
JFS-2	JFS3225-10	●	40	32	25	50	34	0.10	TAFS/M/L1600F25 TAFS/M/L2450F25
	3225-20	●	40	32	25	50	34	0.20	
	3225-30	●	40	32	25	50	34	0.30	
	3225-40	●	40	32	25	50	34	0.40	
	3225-50	●	40	32	25	50	34	0.50	
JFS-3	JFS4032-10	●	48	40	32	55	40	0.10	TAFS/M/L2500F32 TAFS/M/L2950F32
	4032-20	●	48	40	32	55	40	0.20	
	4032-30	●	48	40	32	55	40	0.30	
	4032-40	●	48	40	32	55	40	0.40	
	4032-50	●	48	40	32	55	40	0.50	

● : Inventory maintained.

Guideline for selecting a just fit sleeve

Desired ϕ = (Drill ϕ + Increase of JFS) + 0.1mm

(Eg.) Desired diameter is 20.3mm (oversize is taken as 0.1mm)

$$\phi 20.3 = (\text{TAS/M/L2000F25} + \text{JFS3225-20}) + 0.1$$

↓
20mm drill

↓
Using JFS an increase of 0.2mm

↓
Oversize

<Tool Selected>
Drill : TAFM2000F25
JUST FIT SLEEVE
: JFS3225-20

Note : Oversize can vary due to the cutting conditions used, please use the above as a guideline.

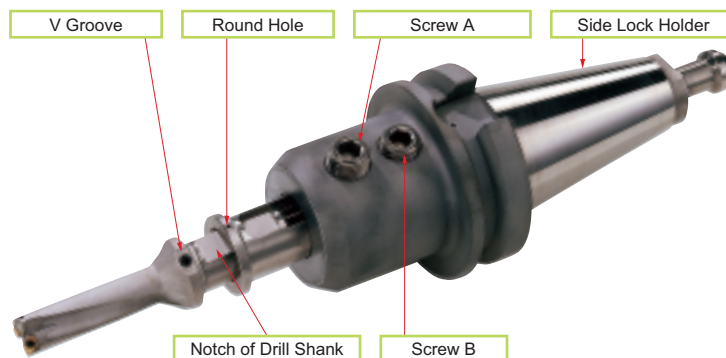
TAF Drill

Application of the JUST FIT SLEEVE

- 1 When inserting the drill into the side lock holder, align the V groove on the outer peripheral edge of the drill flange, the round holes of the outer peripheral edge of the sleeve flange and the screws of the side lock holder for fixing the drill. (If the drill does not have a V groove, align the notch of the drill shank with the round holes of the sleeve.)
- 2 Insert screw A of the side lock holder directly through the open window of the sleeve to clamp the drill. Tighten screw B so as not to damage the sleeve.

Note:

- Fine adjustments cannot be made for the diameter of the sleeve.
- Cannot be used with collet chuck type holders.



Ordering the JUST FIT SLEEVE

Purchasing Method 1

Oversize can vary due to the cutting conditions used. Therefore it is recommended to purchase as a set. When placing an order, please use the Set order number. (5 sleeves/set)

Purchasing Method 2

It is possible to order individually. When placing an order use the individual order number.



www.mitsubishicarbide.com

MMC HARTMETALL GmbH

Comeniusstr. 2, 40670 Meerbusch, Germany
Tel. +49-2159-91890 Fax +49-2159-918966
e-mail marketing@mmchg.de

MMC HARDMETAL U.K. LTD.

Mitsubishi House, Galena Close, Tamworth, B77 4AS, U.K.
Tel. +44-1827-312312 Fax +44-1827-312314
e-mail sales@mitsubishicarbide.co.uk

MMC METAL FRANCE S.A.R.L.

6, rue Jacques Monod, 91893 Orsay Cedex, France
Tel. +33-1-69 35 53 53 Fax +33-1-69 35 53 50
e-mail mmfsales@mmc-metal-france.fr

MITSUBISHI MATERIALS ESPAÑA, S.A.

C/Emperador 2, 46136 Museros, Valencia, Spain
Tel. +34-96-144-1711 Fax +34-96-144-3786
e-mail mme@mmevalencia.com

MMC ITALIA S.r.l.

V.le delle Industrie 20/5, 20020 Arese (Mi)
Tel. +39-02 93 77 03 1 Fax +39-02 93 58 90 93
e-mail info@mmc-italia.it

MMC HARDMETAL POLAND Sp. z o.o.

Armii Karjowej 61, Wrocław, Poland
Tel. +48-71-3351-620 Fax +48-71-3351-620
e-mail mmc@mhpl.pl

MITSUBISHI HARDMETAL RUSSIA OOO LTD.

ul. Bolschaja Pochtovaja, d.36, str.1 105082 Moscow, Russia
Tel. +007-095-72558-85 Fax +007-095-72558-85
e-mail mmc-moscow@lescom.ru