

Indexable Type Drill

TAF Drill

VP15TF
grade
U2 breaker
addition

Economical. 4 cutting edges per insert.

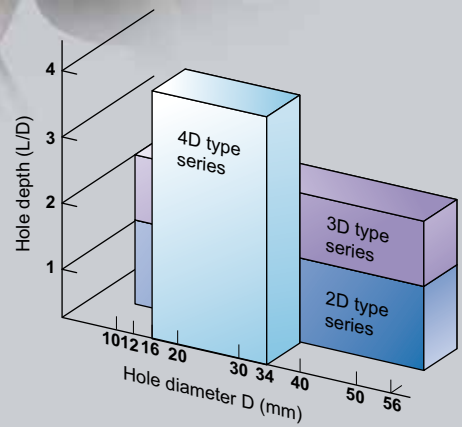
Low drilling noise and tough body.

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



JUST FIT SLEEVE Stock

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



Indexable Type Drill

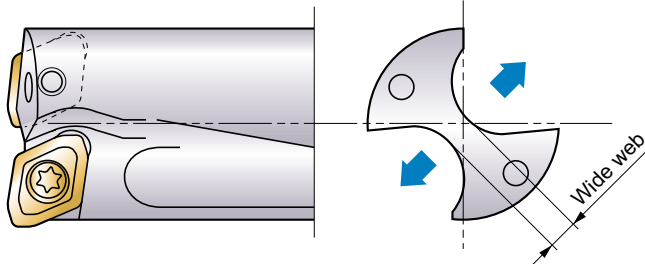
TAF Drill



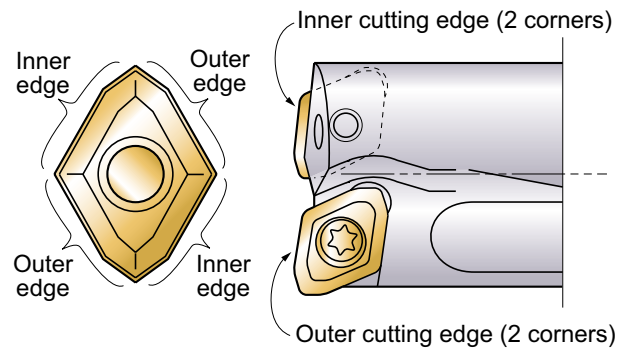
Features

Tough Body

- ① The new, wider web design reduces chattering. Cutting noise is lowered.
- ② High insert seat rigidity for reliable insert location.



Economical Insert



Economical four corner use

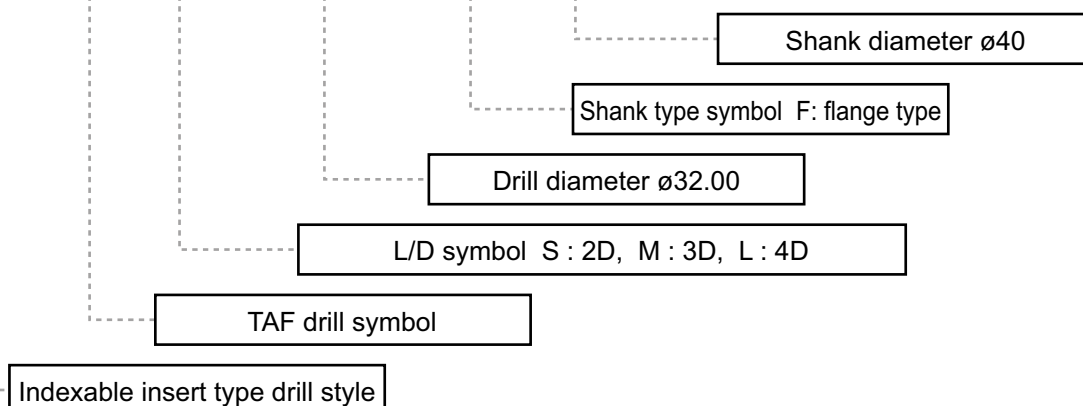
Grade Selection

Breaker	Grade NEW <i>VP15TF</i>		<i>UP20M</i>		<i>GP20M</i>		<i>UE6020</i>		<i>US735</i>		<i>F5010</i>	
	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.

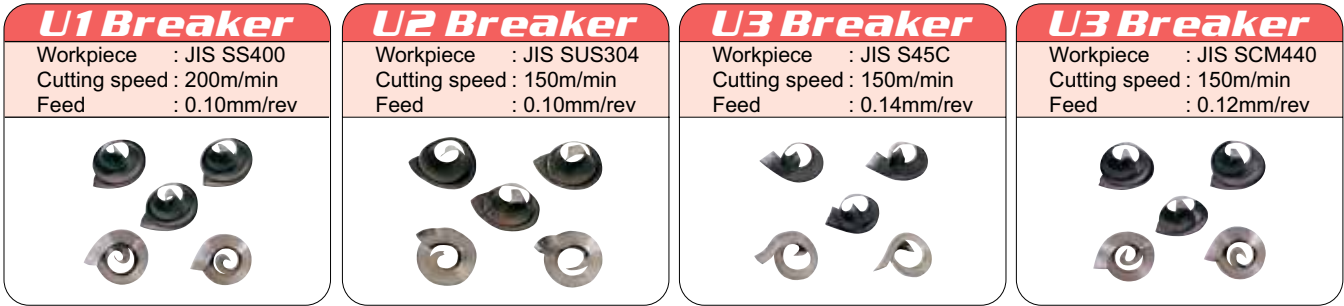
Designation

TA F S 3200 F 40

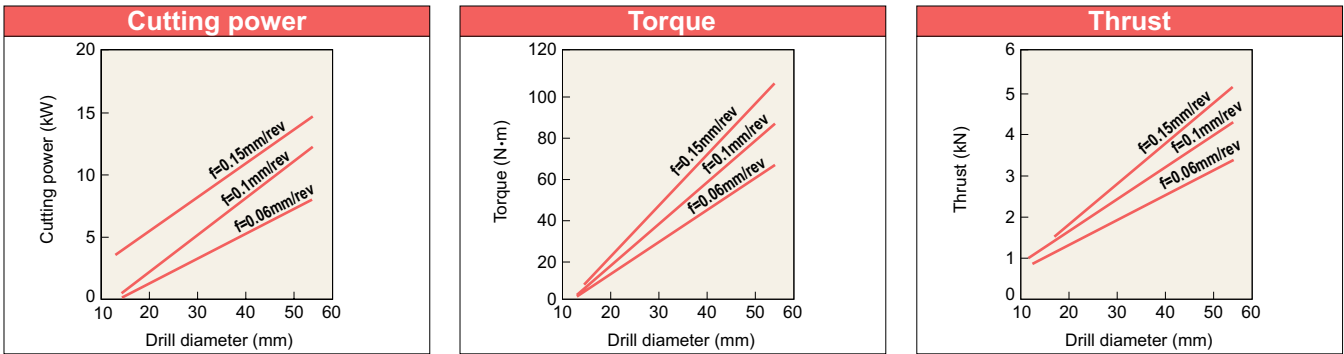


Cutting Performance

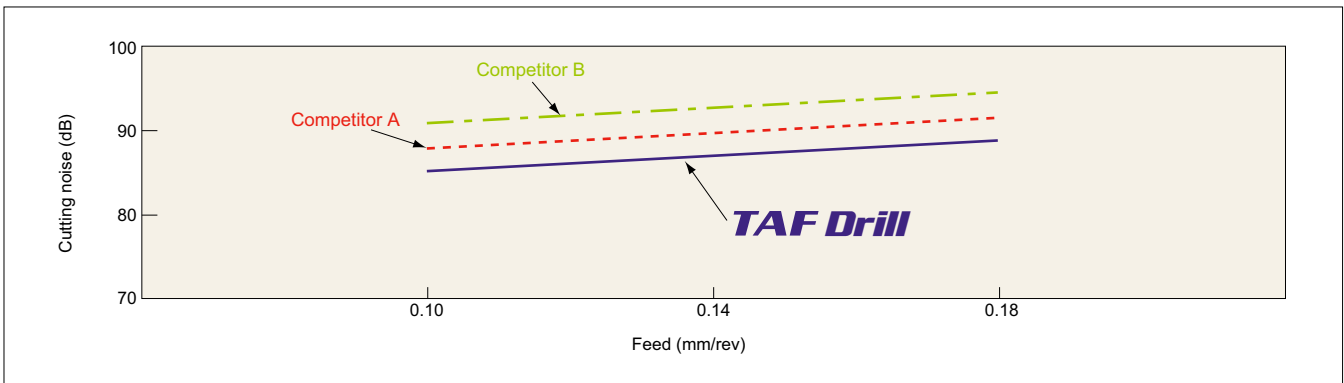
● Chip geometry Drill diameter : $\phi 25$



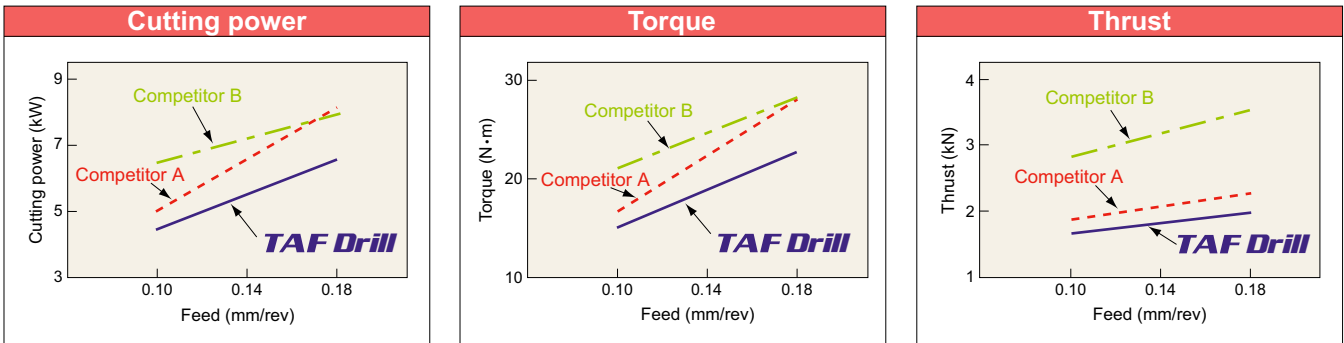
● Cutting resistance Workpiece : JIS SCM440 (200HB - 220HB) Cutting speed : 150m/min Insert : U2 Breaker

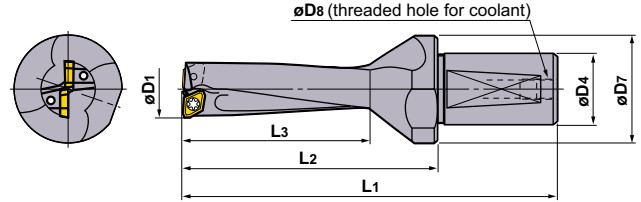




● Cutting noise Workpiece : JIS SCM440(200HB - 220HB) Drill diameter : $\phi 25$ Insert : U2 Breaker Cutting speed : 150m/min





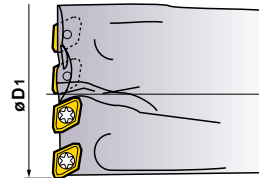
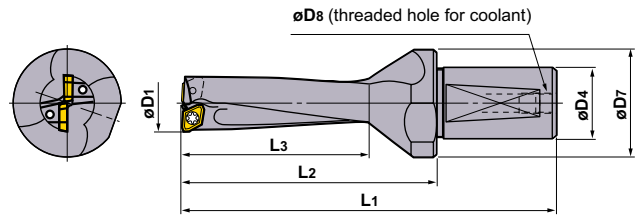
● Cutting resistance Workpiece : JIS SCM440 (200HB - 220HB) Drill diameter : $\phi 25$ Insert : U3 Breaker Cutting speed : 150m/min









Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Inserts	Dimensions (mm)						Insert Number	 Clamp Screw	 Wrench
					L3	L2	L1	D4	D7	D8			
12.0	2	TAFS1200F20	●	2	29	39	82	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1200F20	●	2	41	51	94	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
12.5	2	TAFS1250F20	●	2	29	39	82	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1250F20	●	2	41	51	94	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
13.0	2	TAFS1300F20	●	2	31	41	84	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1300F20	●	2	44	54	97	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
13.5	2	TAFS1350F20	●	2	31	41	84	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1350F20	●	2	44	54	97	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
14.0	2	TAFS1400F20	●	2	33	43	86	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1400F20	●	2	47	57	100	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
14.5	2	TAFS1450F20	●	2	33	43	86	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
	3	TAFM1450F20	●	2	47	57	100	20	25	PT1/8	GCMT040204-U	TS2	TKY06F
15.0	2	TAFS1500F20	●	2	35	45	88	20	25	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1500F20	●	2	50	60	103	20	25	PT1/8	GPMT060204-U	TS2	TKY06F
15.5	2	TAFS1550F20	●	2	35	45	88	20	25	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1550F20	●	2	50	60	103	20	25	PT1/8	GPMT060204-U	TS2	TKY06F
16.0	2	TAFS1600F25	●	2	38	57	107	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1600F25	●	2	54	73	123	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	4	TAFM1600F25	●	2	70	89	139	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
16.5	2	TAFS1650F25	●	2	38	57	107	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1650F25	●	2	54	73	123	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
17.0	2	TAFS1700F25	●	2	41	59	109	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1700F25	●	2	58	76	126	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	4	TAFM1700F25	●	2	75	93	143	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
17.5	2	TAFS1750F25	●	2	41	59	109	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
	3	TAFM1750F25	●	2	58	76	126	25	35	PT1/8	GPMT060204-U	TS2	TKY06F
18.0	2	TAFS1800F25	●	2	43	61	111	25	35	PT1/8	GPMT070204-U	TS25	TKY08F
	3	TAFM1800F25	●	2	61	79	129	25	35	PT1/8	GPMT070204-U	TS25	TKY08F
	4	TAFM1800F25	●	2	79	97	147	25	35	PT1/8	GPMT070204-U	TS25	TKY08F
18.5	2	TAFS1850F25	●	2	43	61	111	25	35	PT1/8	GPMT070204-U	TS25	TKY08F
	3	TAFM1850F25	●	2	61	79	129	25	35	PT1/8	GPMT070204-U	TS25	TKY08F

Drill Diameter D1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Inserts	Dimensions (mm)						Insert Number	 Clamp Screw	 Wrench
					L3	L2	L1	D4	D7	D8			
19.0	2	TAFS1900F25	●	2	46	63	113	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM1900F25	●	2	65	82	132	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	4	T AFL1900F25	●	2	84	101	151	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
19.5	2	TAFS1950F25	●	2	46	63	113	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM1950F25	●	2	65	82	132	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
20.0	2	TAFS2000F25	●	2	48	65	115	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2000F25	●	2	68	85	135	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	4	T AFL2000F25	●	2	88	105	155	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
20.5	2	TAFS2050F25	●	2	48	65	115	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2050F25	●	2	68	85	135	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
21.0	2	TAFS2100F25	●	2	50	67	117	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2100F25	●	2	71	88	138	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	4	T AFL2100F25	●	2	92	109	159	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
21.5	2	TAFS2150F25	●	2	50	67	117	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2150F25	●	2	71	88	138	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
22.0	2	TAFS2200F25	●	2	53	69	119	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2200F25	●	2	75	91	141	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	4	T AFL2200F25	●	2	97	113	163	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
22.5	2	TAFS2250F25	●	2	53	69	119	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
	3	TAFM2250F25	●	2	75	91	141	25	35	PT1/8	GPMT070204-U	TS25	①TKY08F
23.0	2	TAFS2300F25	●	2	55	71	121	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2300F25	●	2	78	94	144	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	4	T AFL2300F25	●	2	101	117	167	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
23.5	2	TAFS2350F25	●	2	55	71	121	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2350F25	●	2	78	94	144	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
24.0	2	TAFS2400F25	●	2	58	73	123	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2400F25	●	2	82	97	147	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	4	T AFL2400F25	●	2	106	121	171	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
24.5	2	TAFS2450F25	●	2	58	73	123	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2450F25	●	2	82	97	147	25	35	PT1/8	GPMT090304-U	TS3	①TKY08F
25.0	2	TAFS2500F32	●	2	60	75	130	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2500F32	●	2	85	100	155	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	4	T AFL2500F32	●	2	110	125	180	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
25.5	2	TAFS2550F32	●	2	60	75	130	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2550F32	●	2	85	100	155	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
26.0	2	TAFS2600F32	●	2	62	77	132	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2600F32	●	2	88	103	158	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	4	T AFL2600F32	●	2	114	129	184	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
26.5	2	TAFS2650F32	●	2	62	77	132	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2650F32	●	2	88	103	158	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
27.0	2	TAFS2700F32	●	2	65	79	134	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2700F32	●	2	92	106	161	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	4	T AFL2700F32	●	2	119	133	188	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
27.5	2	TAFS2750F32	●	2	65	79	134	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
	3	TAFM2750F32	●	2	92	106	161	32	42	PT1/8	GPMT090304-U	TS3	①TKY08F
28.0	2	TAFS2800F32	●	2	67	81	136	32	42	PT1/8	GPMT11T308-U	TS4	②TKY15D
	3	TAFM2800F32	●	2	95	109	164	32	42	PT1/8	GPMT11T308-U	TS4	②TKY15D
	4	T AFL2800F32	●	2	123	137	192	32	42	PT1/8	GPMT11T308-U	TS4	②TKY15D

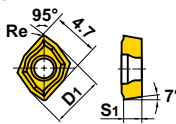
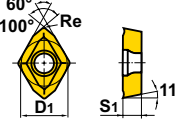
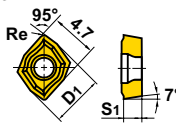
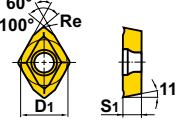
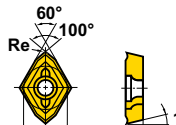


Drills between $\phi 49$ - $\phi 56$ have 4 inserts

Drill Diameter D_1 (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Inserts	Dimensions (mm)						Insert Number	 Clamp Screw	 Wrench
					L3	L2	L1	D4	D7	D8			
28.5	2	TAFS2850F32	●	2	67	81	136	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
	3	TAFM2850F32	●	2	95	109	164	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
29.0	2	TAFS2900F32	●	2	70	83	138	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
	3	TAFM2900F32	●	2	99	112	167	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
	4	TAFM2900F32	●	2	128	141	196	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
29.5	2	TAFS2950F32	●	2	70	83	138	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
	3	TAFM2950F32	●	2	99	112	167	32	42	PT1/8	GPMT11T308-U	TS4	TKY15D
30.0	2	TAFS3000F40	●	2	72	90	155	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	3	TAFM3000F40	●	2	102	120	185	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	4	TAFM3000F40	●	2	132	150	215	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
31.0	2	TAFS3100F40	●	2	74	92	157	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	3	TAFM3100F40	●	2	105	123	188	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	4	TAFM3100F40	●	2	136	154	219	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
32.0	2	TAFS3200F40	●	2	77	94	159	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	3	TAFM3200F40	●	2	109	126	191	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	4	TAFM3200F40	●	2	141	158	223	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
33.0	2	TAFS3300F40	●	2	79	96	161	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	3	TAFM3300F40	●	2	112	129	194	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	4	TAFM3300F40	●	2	145	162	227	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
34.0	2	TAFS3400F40	●	2	82	98	163	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	3	TAFM3400F40	●	2	116	132	197	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
	4	TAFM3400F40	●	2	150	166	231	40	50	PT1/4	GPMT11T308-U	TS4	TKY15D
35.0	2	TAFS3500F40	●	2	84	100	165	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
	3	TAFM3500F40	●	2	119	135	200	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
36.0	2	TAFS3600F40	●	2	86	102	167	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
	3	TAFM3600F40	●	2	122	138	203	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
37.0	2	TAFS3700F40	●	2	89	104	169	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
	3	TAFM3700F40	●	2	126	141	206	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
38.0	2	TAFS3800F40	●	2	91	106	171	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
	3	TAFM3800F40	●	2	129	144	209	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
39.0	2	TAFS3900F40	●	2	94	108	173	40	50	PT1/4	GPMT140408-U	TS55	TKY25D
	3	TAFM3900F40	●	2	133	147	212	40	50	PT1/4	GPMT140408-U	TS55	TKY25D

Drill Diameter D ₁ (mm)	Hole Depth (l/d)	Order Number	Stock	Number of Inserts	Dimensions (mm)						Insert Number		
					L ₃	L ₂	L ₁	D ₄	D ₇	D ₈			
40.0	2	TAFS4000F40	●	2	96	110	175	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4000F40	●	2	136	150	215	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
41.0	2	TAFS4100F40	●	2	98	112	177	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4100F40	●	2	139	153	218	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
42.0	2	TAFS4200F40	●	2	101	114	179	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4200F40	●	2	143	156	221	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
43.0	2	TAFS4300F40	●	2	103	116	181	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4300F40	●	2	146	159	224	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
44.0	2	TAFS4400F40	●	2	106	118	183	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4400F40	●	2	150	162	227	40	50	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
45.0	2	TAFS4500F40	●	2	108	120	185	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4500F40	●	2	153	165	230	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
46.0	2	TAFS4600F40	●	2	110	122	187	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4600F40	●	2	156	168	233	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
47.0	2	TAFS4700F40	●	2	113	124	189	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4700F40	●	2	160	171	236	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
48.0	2	TAFS4800F40	●	2	115	126	191	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
	3	TAFM4800F40	●	2	163	174	239	40	54	PT1/4	GPMT140408-U [○]	TS55	②TKY25D
49.0	2	TAFS4900F40	●	4	118	133	198	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM4900F40	●	4	167	182	247	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
50.0	2	TAFS5000F40	●	4	120	135	200	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5000F40	●	4	170	185	250	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
51.0	2	TAFS5100F40	●	4	122	137	202	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5100F40	●	4	173	188	253	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
52.0	2	TAFS5200F40	●	4	125	139	204	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5200F40	●	4	177	191	256	40	58	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
53.0	2	TAFS5300F40	●	4	127	141	206	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5300F40	●	4	180	194	259	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
54.0	2	TAFS5400F40	●	4	128	134	208	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5400F40	●	4	182	197	262	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
55.0	2	TAFS5500F40	●	4	130	145	210	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5500F40	●	4	185	200	265	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
56.0	2	TAFS5600F40	●	4	132	147	212	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F
	3	TAFM5600F40	●	4	188	203	268	40	63	PT1/4	GPMT090304-U [○]	TS3	①TKY08F

Inserts

Geometry	Drill Dia.	Insert Number	Dimensions (mm)			Grade					
			D1	S1	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	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	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

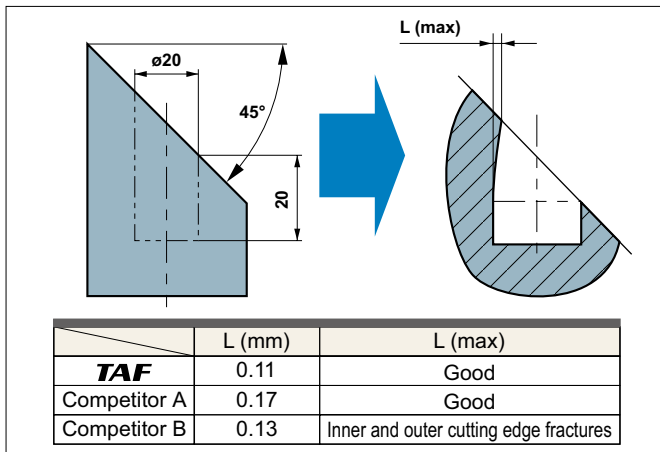
Work Material	Hardness	Cutting Speed (m/min)			Breaker	Feed (mm/rev)					
		l/d = 2 or 3		l/d = 4 (φ 16-)		Drill Diameter (mm)					
		(φ 12-φ 14.5)	(φ 15-)			φ 12-φ 14.5	φ 15-φ 22.5	φ 23-φ 34	φ 35-φ 48	φ 49-φ 56	
P Mild Steel (JIS SS400 etc.)	≤180HB	150 (100-200)	200 (150-300)	140 (100-200)	U1	0.06 (0.04-0.10)	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 (JIS S45C, JIS S48C etc.)	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 (JIS SCM440, JIS SCr420 etc.)	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 (JIS SUS304, JIS SUS316 etc.)	≤200HB	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 (JIS FC250 etc.)	Tensile strength ≤350MPa	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 (JIS FCD400 etc.)	Tensile strength ≤450MPa	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 : The above feed rates should be reduced to approximately 80% when using the l/d = 4 drill.

Applications

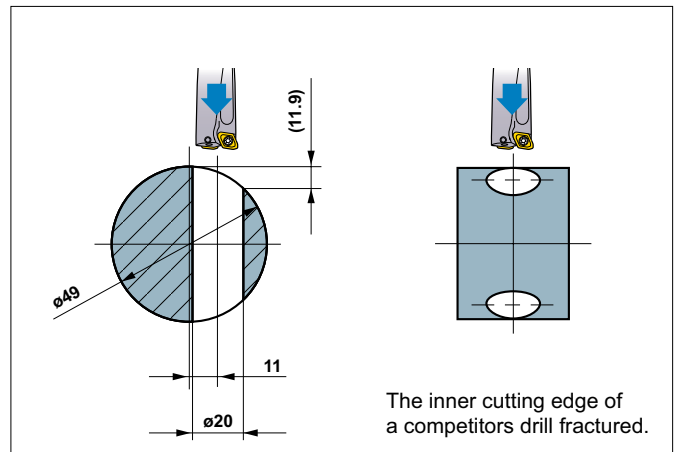
● Angled face drilling

Workpiece : JIS SCM440 (180HB - 280HB)
 Drill $\phi 20$ (3D type), Cutting speed : 80m/min
 Feed : 0.08mm/rev



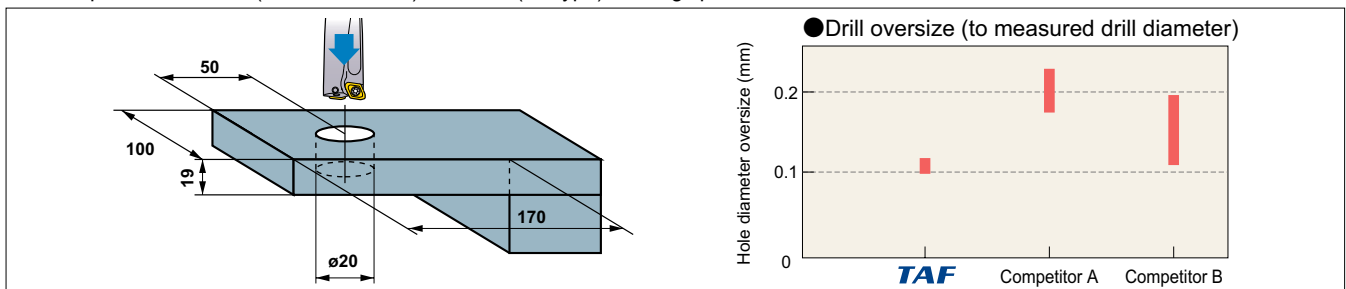
● Round workpiece drilling

Workpiece : JIS SCM440 (180HB - 280HB)
 Drill $\phi 20$ (3D type), Cutting speed : 50, 80, 100m/min
 Feed : 0.08mm/rev (initial cutting 0.05mm/rev)



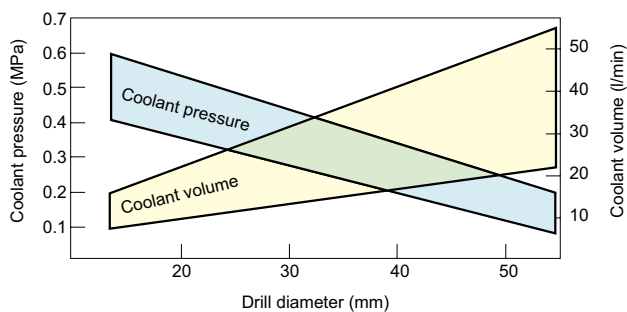
● Open sided drilling

Workpiece : JIS S50C (120HB - 180HB), Drill $\phi 20$ (3D type), Cutting speed : 80m/min Feed : 0.08mm/rev



● 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.

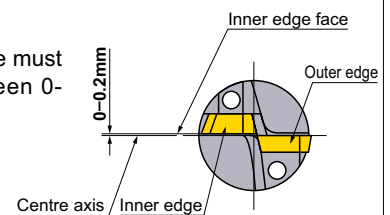


● Cannot be used for stack drilling.

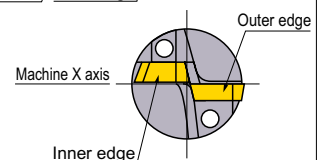
In common with many indexable insert drills, these drills produce a round disc on exit which unless evacuated may cause the drill to fracture.

● Use on a lathe

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

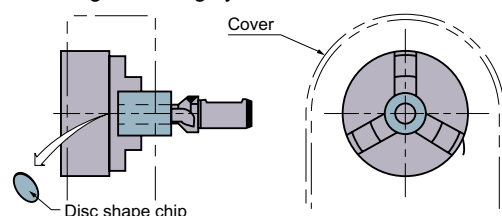


(2) To adjust the hole diameter by off-setting the drill, the outer cutting edge and machine axis must be set parallel.



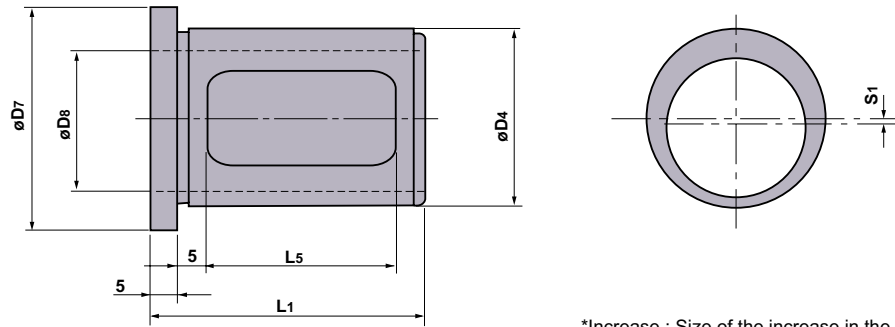
(3) When producing an oversize hole. The drill offset should be no more than 2% of the diameter. It is not possible to produce an undersized hole.

(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 (\$1 \times 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 adjust fit sleeve

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

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

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



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

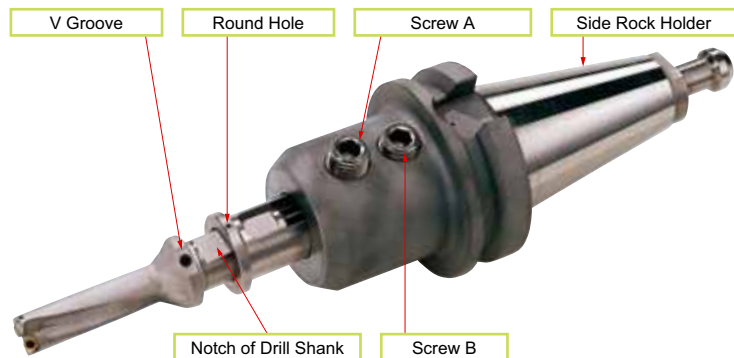
Note : Oversize can vary due to the cutting conditions used, please use the above as a guideline.

Application of the JUST FIT SLEEVE

- 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.)
- Insert screw A of the side lock holder directly through the open window of the sleeve to clamp the drill. Tighten screw B to a degree so 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

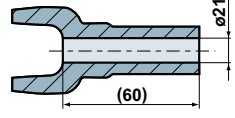
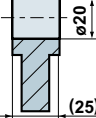
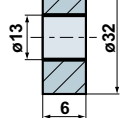
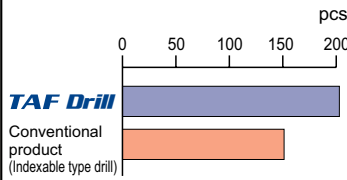
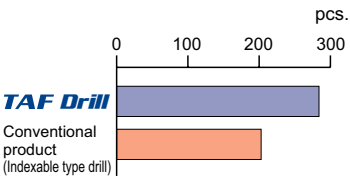
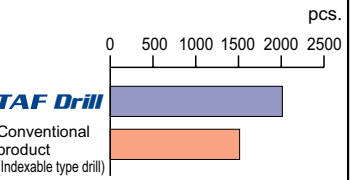
Oversize can vary due to the cutting conditions used. Therefore it is recommended to purchase as a set. When placing an order, please the Set order number. (5 sleeves/set)

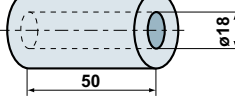
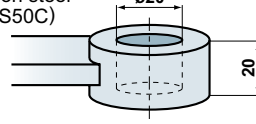
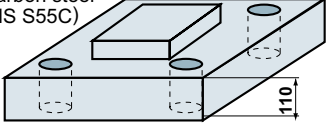
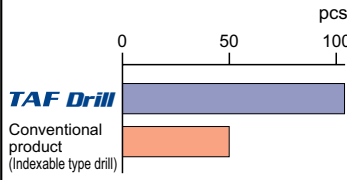
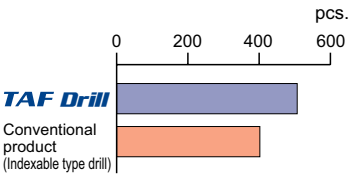
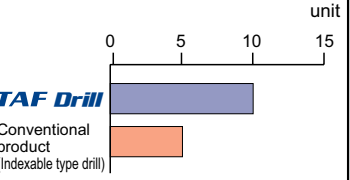
Purchasing Method 2

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

TAF Drill

Application Examples

Tool		TAFM2100F25	TAFS2000F25	TAFS1300F20
Insert		GPMT070204-U2 (VP15TF)	GPMT070204-U2 (VP15TF)	GCMT040204-U2 (GP20M)
Machine		NC lathe	Machining center	NC lathe
Workpiece		Carbon steel (JIS S48C) 	Carbon steel (JIS S30C) 	Carbon steel (JIS S45C) 
Cutting Conditions	Cutting Speed (m/min)	133	90	102
	Feed (mm/rev)	0.12	0.21	0.10
	Spindle Speed (min ⁻¹)	2016	1432	2500
	Feed (mm/min)	242	301	250
Coolant		Water soluble oil	Water soluble oil	Oil
Results				

Tool		TAFM1800F25	TAFM2000F25	TAFS2800F32
Insert		GPMT070204-U2 (UE6020)	GPMT070204-U2 (UP20M)	GPMT11T308-U3 (UP20M)
Machine		NC lathe	Machining center	Machining center
Workpiece		Alloy steel (JIS SCM440) 	Carbon steel (JIS S50C) 	Carbon steel (JIS S55C) 
Cutting Conditions	Cutting Speed (m/min)	150	95	106
	Feed (mm/rev)	0.1	0.08	0.125
	Spindle Speed (min ⁻¹)	2653	1512	1205
	Feed (mm/min)	265	121	151
Coolant		Water soluble oil	Water soluble oil	Water soluble oil
Results				

For Your Safety

- Don't touch inserts and chips without gloves. ● Please machine within the recommended application range, and exchange expired tools with new ones in advance of breakage. ● Please use safety cover and wear safety glasses. ● When using compounded cutting oils, please take fire preventions. ● When attaching inserts or spare parts, please use the attached wrench or spanner. ● When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

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