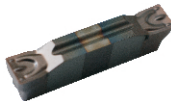
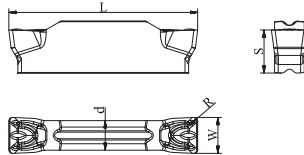
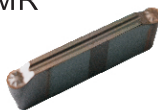
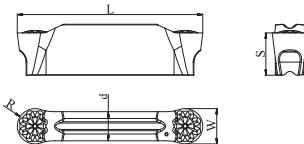
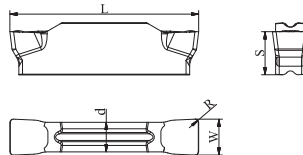


TKD-MT					<table><tr><td>Material</td><td colspan="2">TG4230</td></tr><tr><td>Steel</td><td>P</td><td>●</td></tr><tr><td>Stainless</td><td>M</td><td>●</td></tr><tr><td>Cast Iron</td><td>K</td><td>●</td></tr></table>	Material	TG4230		Steel	P	●	Stainless	M	●	Cast Iron	K	●
Material	TG4230																
Steel	P	●															
Stainless	M	●															
Cast Iron	K	●															
Order No .	Dimension (mm)																
	W	R	L	d	S												
TKD 2002 - MT	2	0.2	16	1.2	3.5												
TKD 2502 - MT	2.5	0.2	18.5	2	3.85												
TKD 3004 - MT	3	0.4	21.2	2.35	4.8												
TKD 4004 - MT	4	0.4	21	3.3	4.8												
TKD 5004 - MT	5	0.4	26	4.1	5.8												
TKD 5008 - MT	5	0.8	26	4.1	5.8												
TKD 6004 - MT	6	0.4	26	5	5.8												
TKD 6008 - MT	6	0.8	26	5	5.8												

TKD-MR 						<table><tr><td>Material</td><td colspan="2">TG4230</td></tr><tr><td>Steel</td><td>P</td><td></td></tr><tr><td>Stainless</td><td>M</td><td></td></tr><tr><td>Cast Iron</td><td>K</td><td></td></tr></table>	Material	TG4230		Steel	P		Stainless	M		Cast Iron	K	
	Material	TG4230																
	Steel	P																
	Stainless	M																
	Cast Iron	K																
Dimension (mm)																		
Order No .	W	R	L	d	S													
TKD 2010 - MR	2	1	16	1.5	3.5													
TKD 3015 - MR	3	1.5	21	2.35	4.8													
TKD 4020 - MR	4	2	21	3.3	4.8													
TKD 5025 - MR	5	2.5	26	4.1	5.8													
TKD 6030 - MR	6	3	26	5	5.8													

TKD-AL 						<table><tr><td>Material</td><td colspan="2">TN410</td></tr><tr><td>Non-ferrous Metal</td><td>N</td><td>●</td></tr></table>	Material	TN410		Non-ferrous Metal	N	●
	Material	TN410										
Non-ferrous Metal	N	●										
Order No .	Dimension (mm)											
	W	R	L	d	S							
TKD 2002 -AL	2	0.2	16	1.2	3.5							
TKD 2502 -AL	2.5	0.2	18.5	2	3.85							
TKD 3004 -AL	3	0.4	21.2	2.35	4.8							
TKD 4004 -AL	4	0.4	21	3.3	4.8							

Insert

External Toolholder

Internal Toolholder

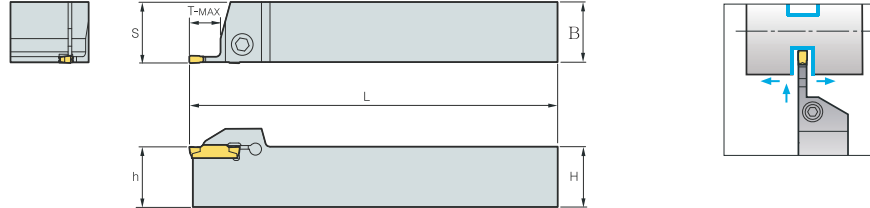
PSC Toolholder

Threading

Parting, Grooving

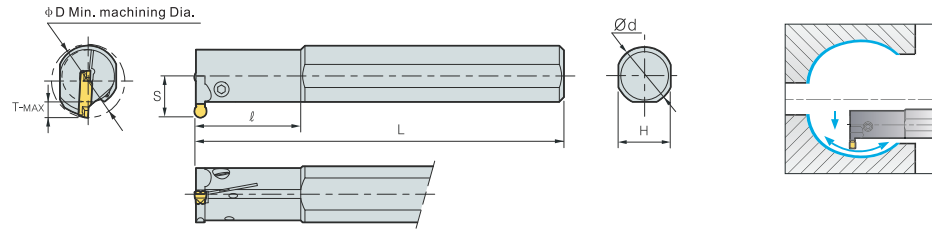
Miniature Tool

MGEHR/L



(mm)

Order No.	Dimension (mm)							Insert	Wrench	Screw
	W	T-MAX	H	B	L	S	h			
MGEHR/L1212-2.0	2	12	12	12	100	13	12	TKD20 ..MT TKD20 ..MR	LW20	LHA210
MGEHR/L1616-2.0	2	14	16	16	100	17	16		LW30	LHA310
MGEHR/L2020-2.0	2	14	20	20	125	21	20		LW40	LHA410
MGEHR/L2525-2.0	2	14	25	25	150	26	25		LW50	LHA510
MGEHR/L1616-2.5	2.5	16	16	16	100	17	16	TKD25 ..MT TKD25 ..MR	LW30	LHA310
MGEHR/L2020-2.5	2.5	16	20	20	125	21	20		LW40	LHA410
MGEHR/L2525-2.5	2.5	16	25	25	150	26	25		LW50	LHA510
MGEHR/L1212-3.0	3	16	12	12	100	13	12	TKD30 ..MT TKD30 ..MR	LW20	LHA210
MGEHR/L1616-3.0	3	18	16	16	100	17	16		LW30	LHA310
MGEHR/L2020-3.0	3	18	20	20	125	21	20		LW40	LHA410
MGEHR/L2525-3.0	3	18	25	25	150	26	25		LW50	LHA510
MGEHR/L3232-3.0	3	18	32	32	170	33	32		LW60	LHA610
MGEHR/L1616-4.0	4	18	16	16	100	17	16	TKD40 ..MT TKD40 ..MR	LW30	LHA310
MGEHR/L2020-4.0	4	18	20	20	125	21	20		LW40	LHA410
MGEHR/L2525-4.0	4	18	25	25	150	26	25		LW50	LHA510
MGEHR/L3232-4.0	4	18	32	32	170	33	32		LW60	LHA610
MGEHR/L2020-5.0	5	23	20	20	125	21	20	TKD50 ..MT TKD50 ..MR	LW40	LHA410
MGEHR/L2525-5.0	5	23	25	25	150	26	25		LW50	LHA510
MGEHR/L3232-5.0	5	23	32	32	170	33	32		LW60	LHA610
MGEHR/L2525-6.0	6	25	25	25	150	26	25	TKD60 ..MT TKD60 ..MR	LW50	LHA510
MGEHR/L3232-6.0	6	25	32	32	170	33	32		LW60	LHA610

MGIVR/L


Order No.	Dimension (mm)								Insert	Wrench 	Screw 
	W	T-MAX	D	d	L	S	H	I			
MGIVR/L2016-2.0	2	4.5	20	16	125	12.4	15	35	TKD20 ..MT TKD20 ..MR	HW20L	MHA0210
MGIVR/L2520-2.0	2	4.5	25	20	150	14	18	45		HW30L	MHA0310
MGIVR/L2925-2.0	2	4.5	29	25	200	17.2	23	45		HW40L	MHA0410
MGIVR/L2016-2.5	2.5	4.5	20	16	125	12.5	15	35	TKD25 ..MT TKD25 ..MR	HW20L	MHA0210
MGIVR/L2520-2.5	2.5	4.5	25	20	150	15.1	18	45		HW30L	MHA0310
MGIVR/L2925-2.5	2.5	4.5	29	25	200	18.2	23	45		HW40L	MHA0410
MGIVR/L2520-3.0	3	5	25	20	150	15.6	18	45	TKD30 ..MT TKD30 ..MR	HW30L	MHA0310
MGIVR/L3125-3.0	3	6	31	25	200	18.9	23	45		HW50L	MHA0510
MGIVR/L3732-3.0	3	6	37	32	250	21.5	30	60		HW60L	MHA0610
MGIVR/L2520-4.0	4	6	25	20	150	15.6	18	45	TKD40 ..MT TKD40 ..MR	HW30L	MHA0310
MGIVR/L3125-4.0	4	6	31	25	200	18.9	23	45		HW50L	MHA0510
MGIVR/L3732-4.0	4	6	37	32	250	21.5	30	60		HW60L	MHA0610
MGIVR/L3125-5.0	5	8	31	25	200	19.4	23	45	TKD50 ..MT TKD50 ..MR	HW50L	MHA0510
MGIVR/L3732-5.0	5	8	37	32	250	21.4	30	60		HW60L	MHA0610
MGIVR/L3125-6.0	6	8	31	25	200	19.4	23	45	TKD60 ..MT TKD60 ..MR	HW50L	MHA0510
MGIVR/L3732-6.0	6	8	37	32	250	21.4	30	60		HW60L	MHA0610

TKD Series Standard Cutting Conditions

ISO	Workpiece Material	Vc(m/min)	Grooving				Turning			
			Edge Width (mm)				Edge Width (mm)			
			2-3	4	5	6	2-3	4	5	6
			f(mm/r)				f(mm/r)			
P	Carbon Steel	80-200	0.05-0.15	0.10-0.20	0.15-0.25	0.15-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
	Alloy Steel	70-180	0.05-0.15	0.10-0.20	0.15-0.25	0.15-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
M	Stainless Steel	60-150	0.05-0.15	0.10-0.20	0.15-0.25	0.15-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
K	Cast Iron	100-200	0.05-0.20	0.10-0.25	0.15-0.30	0.15-0.35	0.10-0.30	0.10-0.35	0.15-0.35	0.20-0.40

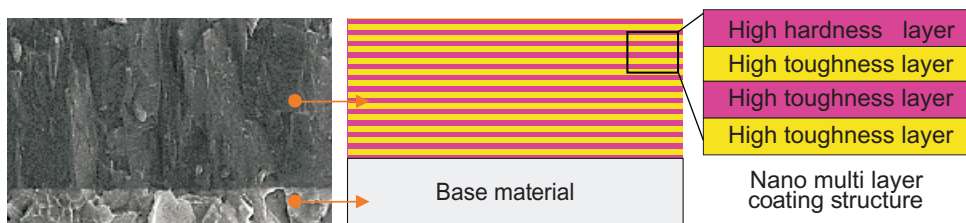
Coated Grade

TV3025

- Applied to difficult to cut materials high speed, continuous machining like HRSA(Ti alloy, Inconel) Stainless steel Increase tool life and prevent defects with NANO composite powder.

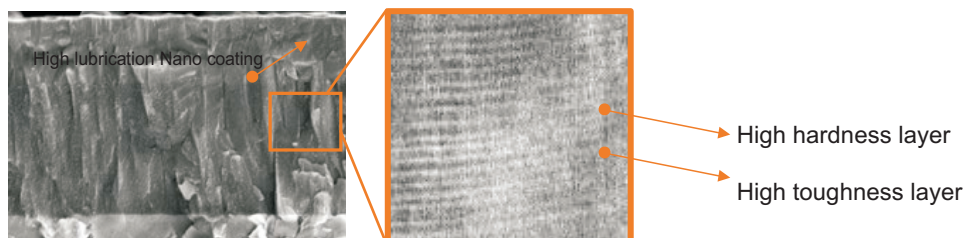
Features

- Excellent wear resistance and toughness in high temperature with NANO composite powder
- High speed continuous machining available ► Increase productivity
- Lower coefficient of friction ► Better surface roughness and decrease machining stress
- Nano multi coating layer ► High hardness and toughness



TU4025

- Suitable for high speed, continuous machining of Stainless steel and Steel(Carbon, Alloy, Mold steel etc.)
- Superior wear resistance with Nano composite powder
- Applying Nano Multi layer coating ► Heat resistance, wear resistance and high toughness available
- High lubrication coating layer apply to prevent built up edge



Chip Breaker Feature



★ G (Grind) insert can be provided according to customer needs



★ G (Grind) insert can be provided according to customer needs

Insert

External Toolholder

Internal Toolholder

PSC Toolholder

Threading

Parting, Grooving

Miniature Tool

Insert

External Toolholder

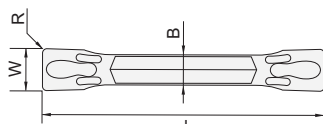
Internal Toolholder

PSC Toolholder

Threading

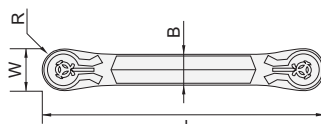
Parting, Grooving

Miniature Tool

TNG-TJ


Material	TV3025	TU4025
Steel	P	●
Stainless	M	●
Cast Iron	K	●
Superalloys	S	●

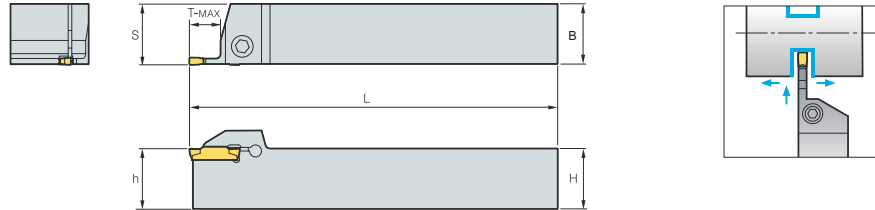
Order No.	Dimension (mm)				Coated	
	W	R	L	B	TV3025	TU4025
TNG20N02M-TJ	2	0.2	20.0	1.7	●	●
TNG30N02M-TJ	3	0.2	20.0	2.2	●	●
TNG30N04M-TJ	3	0.4	20.0	2.2	●	●
TNG40N02M-TJ	4	0.2	20.0	3.2	●	●
TNG40N04M-TJ	4	0.4	20.0	3.2	●	●
TNG40N08M-TJ	4	0.8	20.0	3.2	●	●
TNG50N02M-TJ	5	0.2	25.0	4.0	●	●
TNG50N04M-TJ	5	0.4	25.0	4.0	●	●
TNG50N08M-TJ	5	0.8	25.0	4.0	●	●
TNG60N08M-TJ	6	0.8	25.0	5.0	●	●
TNG80N08M-TJ	8	0.8	30.3	6.0	●	●

TNG-TR


Material	TV3025	TU4025
Steel	P	●
Stainless	M	●
Cast Iron	K	●
Superalloys	S	●

Order No.	Dimension (mm)				Coated	
	W	R	L	B	TV3025	TU4025
TNG30R15M-TR	3	1.5	20.0	2.2	●	●
TNG40R20M-TR	4	2.0	20.0	3.2	●	●
TNG50R25M-TR	5	2.5	25.0	4.0	●	●
TNG60R30M-TR	6	3.0	25.0	5.0	●	●
TNG80R40M-TR	8	4.0	30.3	6.0	●	●

NG..EHR/L



Order No.	Dimension (mm)						Insert	Wrench 	Screw
	W	T-MAX	H	B	L	h			
NG2EHR/L2020-T09	2	9	20	20	125	20	TNG20N02M-TJ	NW220	TNS220
NG2EHR/L2020-T13	2	13	20	20	125	20			
NG2EHR/L2020-T15	2	15	20	20	125	20			
NG2EHR/L2525-T09	2	9	25	25	150	25		NW225	TNS225
NG2EHR/L2525-T13	2	13	25	25	150	25			
NG2EHR/L2525-T15	2	15	25	25	150	25			
NG2EHR/L2525-T17	2	17	25	25	150	25		NW2325	TNS2325
NG2EHR/L3225-T09	2	9	32	25	150	32			
NG2EHR/L3225-T13	2	13	32	25	150	32			
NG2EHR/L3225-T15	2	15	32	25	150	32			
NG2EHR/L3225-T17	2	17	32	25	150	32	TNG30N..M-TJ TNG30R15M-TR	NW320	TNS320
NG3EHR/L2020-T09	3	9	20	20	120	20			
NG3EHR/L2020-T11	3	11	20	20	120	20			
NG3EHR/L2020-T13	3	13	20	20	120	20			
NG3EHR/L2020-T15	3	15	20	20	120	20			
NG3EHR/L2020-T17	3	17	20	20	120	20		NW325	TNS325
NG3EHR/L2020-T20	3	20	20	20	120	20			
NG3EHR/L2525-T09	3	9	25	25	150	25			
NG3EHR/L2525-T11	3	11	25	25	150	25			
NG3EHR/L2525-T13	3	13	25	25	150	25			
NG3EHR/L2525-T15	3	15	25	25	150	25			
NG3EHR/L2525-T17	3	17	25	25	150	25		NW3325	TNS3325
NG3EHR/L2525-T20	3	20	25	25	150	25			
NG3EHR/L3225-T09	3	9	32	25	150	32			
NG3EHR/L3225-T11	3	11	32	25	150	32			
NG3EHR/L3225-T13	3	13	32	25	150	32			
NG3EHR/L3225-T15	3	15	32	25	150	32			
NG3EHR/L3225-T17	3	17	32	25	150	32			
NG3EHR/L3225-T20	3	20	32	25	150	32		NW332	TNS332
NG3EHR/L3232-T09	3	9	32	32	150	32			
NG3EHR/L3232-T11	3	11	32	32	150	32			
NG3EHR/L3232-T13	3	13	32	32	150	32			
NG3EHR/L3232-T15	3	15	32	32	150	32			
NG3EHR/L3232-T17	3	17	32	32	150	32			
NG3EHR/L3232-T20	3	20	32	32	150	32			

Insert

External Toolholder

Internal Toolholder

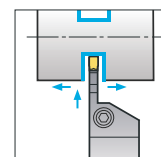
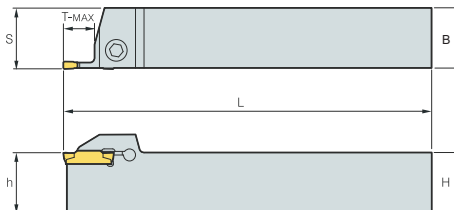
PSC Toolholder

Threading

Parting, Grooving

Miniature Tool

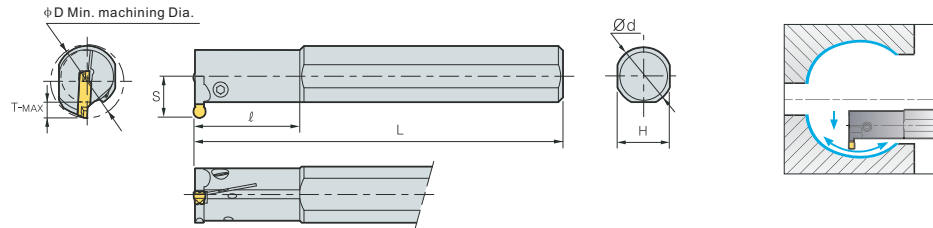
NG..EHR/L



(mm)

Order No.	Dimension (mm)						Insert	Wrench 	Screw 
	W	T-MAX	H	B	L	h			
NG4EHR/L2020-T09	4	9	20	20	125	20	TNG40N..M-TJ TNG40R20M-TR	NW420	TNS420
NG4EHR/L2020-T11	4	11	20	20	125	20			
NG4EHR/L2020-T13	4	13	20	20	125	20			
NG4EHR/L2020-T15	4	15	20	20	125	20			
NG4EHR/L2525-T09	4	9	25	25	150	25		NW425	TNS425
NG4EHR/L2525-T11	4	11	25	25	150	25			
NG4EHR/L2525-T13	4	13	25	25	150	25			
NG4EHR/L2525-T15	4	15	25	25	150	25			
NG4EHR/L3225-T09	4	9	32	25	150	32		NW4325	TNS4325
NG4EHR/L3225-T11	4	11	32	25	150	32			
NG4EHR/L3225-T13	4	13	32	25	150	32			
NG4EHR/L3225-T15	4	15	32	25	150	32			
NG4EHR/L3225-T17	4	17	32	25	150	32			
NG4EHR/L3225-T20	4	20	32	25	150	32			
NG5EHR/L2525-T15	5	15	25	25	150	25	TNG50N..M-TJ TNG50R25M-TR	NW525	TNS525
NG5EHR/L2525-T20	5	20	25	25	150	25		NW5325	TNS5325
NG5EHR/L3225-T15	5	15	32	25	150	32			
NG5EHR/L3225-T20	5	20	32	25	150	32		NW532	TNS532
NG5EHR/L3225-T25	5	25	32	25	150	32			
NG5EHR/L3232-T15	5	15	32	32	170	32			
NG5EHR/L3232-T20	5	20	32	32	170	32			
NG5EHR/L3232-T25	5	25	32	32	170	32			
NG6EHR/L2525-T15	6	15	25	25	150	25	TNG60N..M-TJ TNG60R30M-TR	NW625	TNS625
NG6EHR/L2525-T20	6	20	25	25	150	25			
NG6EHR/L2525-T25	6	25	25	25	150	25			
NG6EHR/L3225-T15	6	15	32	25	150	32		NW6325	TNS6325
NG6EHR/L3225-T20	6	20	32	25	150	32			
NG6EHR/L3225-T25	6	25	32	25	150	32		NW632	TNS632
NG6EHR/L3232-T15	6	15	32	32	170	32			
NG6EHR/L3232-T20	6	20	32	32	170	32			
NG6EHR/L3232-T25	6	25	32	32	170	32			
NG8EHR/L3225-T15	8	15	32	25	170	32	TNG80N..M-TJ TNG80R40M-TR	NW8325	TNS8325
NG8EHR/L3225-T20	8	20	32	25	170	32			
NG8EHR/L3225-T25	8	25	32	25	170	32			
NG8EHR/L3225-T30	8	30	32	25	170	32			
NG8EHR/L3232-T15	8	15	32	32	170	32		NW832	TNS832
NG8EHR/L3232-T20	8	20	32	32	170	32			
NG8EHR/L3232-T25	8	25	32	32	170	32			
NG8EHR/L3232-T30	8	30	32	32	170	32			
NG8EHR/L3232-T32	8	32	32	32	170	32			

NG..IVR/L



(mm)

Order No.	Dimension (mm)								Insert	Wrench	Screw
	W	T-MAX	D	d	L	S	H	I			
NG2IVR/L2516-T08	2	8	25	16	125	16.5	14	-	TNG20N02M-TJ	NFW216	TNFS216
NG2IVR/L2520-T06	2	6	25	20	160	15.8	18	40		NFW220	TNFS220
NG3IVR/L2520-T06	3	6	25	20	160	15.8	18	40	TNG30N..M-TJ TNG30R15M-TR	NFW320	TNFS320
NG3IVR/L2525-T051	3	5.1	25	25	200	17.5	23	40		NFW325	TNFS325
NG3IVR/L3225-T08	3	8	32	25	200	21.5	23	40		NFW3255	TNFS3255
NG3IVR/L4032-T10	3	10	40	32	250	27.0	30	60		NFW332	TNFS332
NG4IVR/L2520-T06	4	6	25	20	160	15.8	18	40	TNG40N..M-TJ TNG40R20M-TR	NFW420	TNFS420
NG4IVR/L3225-T08	4	8	32	25	200	21.5	23	40		NFW425	TNFS425
NG4IVR/L3132-T04	4	4	31	32	250	20.8	30	60		NFW4321	TNFS4321
NG4IVR/L4032-T10	4	10	40	32	250	27.0	30	60		NFW4322	TNFS4322
NG5IVR/L3125-T05	5	5	31	25	200	17.3	23	60	TNG50N..M-TJ TNG50R25M-TR	NFW525	TNFS525
NG5IVR/L4032-T10	5	10	40	32	250	27.0	30	60		NFW532	TNFS532
NG6IVR/L3132-T04	6	4	31	32	250	20.8	30	60	TNG60N..M-TJ TNG60R30M-TR	NFW6321	TNFS6321
NG6IVR/L4032-T10	6	10	40	32	250	27.0	30	60		NFW6322	TNFS6322
NG8IVR/L3732-T05	8	5	37	32	250	21.3	30	60	TNG80N..M-TJ TNG80R40M-TR	NFW832	TNFS832
NG8IVR/L4240-T058	8	5.8	42	40	300	25.8	38	65		NFW840	TNFS840

Insert

External Toolholder

Internal Toolholder

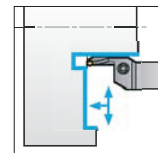
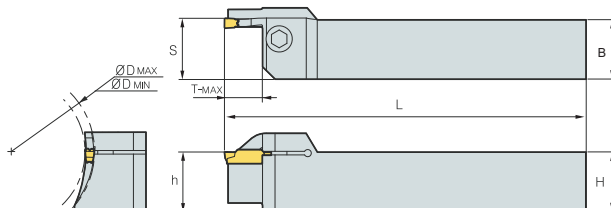
PSC Toolholder

Threading

Parting, Grooving

Miniature Tool

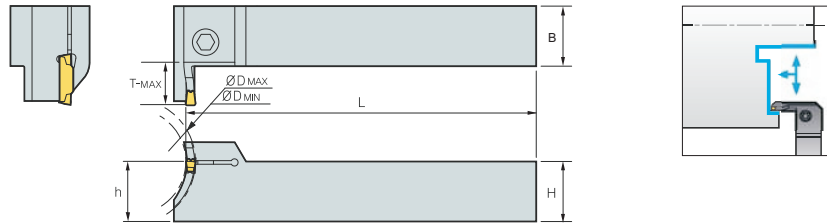
NG..TR/L



(mm)

Order No.	Dimension (mm)									Insert	Wrench 	Screw
	W	T-MAX	H	B	L	S	h	DMIN	DMAX			
NG3TR/L20-024035-T10	3	10	20	20	150	20.5	20	24	35	TNG30N..M-TJ TNG30R15M-TR	NTW320	TNTS320
NG3TR/L20-029040-T10	3	10	20	20	150	20.5	20	29	40			
NG3TR/L20-034050-T10	3	10	20	20	150	20.5	20	34	50			
NG3TR/L20-044070-T15	3	15	20	20	150	20.5	20	44	70			
NG3TR/L20-064100-T15	3	15	20	20	150	20.5	20	64	100			
NG3TR/L25-024035-T10	3	10	25	25	150	25.5	25	24	35			
NG3TR/L25-029040-T10	3	10	25	25	150	25.5	25	29	40	TNG40N..M-TJ TNG40R20M-TR	NTW420	TNTS420
NG3TR/L25-034050-T10	3	10	25	25	150	25.5	25	34	50			
NG3TR/L25-044070-T15	3	15	25	25	150	25.5	25	44	70			
NG3TR/L25-064100-T15	3	15	25	25	150	25.5	25	64	100			
NG4TR/L20-022036-T10	4	10	20	20	150	20.6	20	22	36			
NG4TR/L20-028042-T20	4	20	20	20	150	20.6	20	28	42			
NG4TR/L20-034050-T20	4	20	20	20	150	20.6	20	34	50	TNG50N..M-TJ TNG50R25M-TR	NTW425	TNTS425
NG4TR/L20-042070-T20	4	20	20	20	150	20.6	20	42	70			
NG4TR/L20-062120-T20	4	20	20	20	150	20.6	20	62	120			
NG4TR/L20-112200-T20	4	20	20	20	150	20.6	20	112	200			
NG4TR/L25-022036-T10	4	10	25	25	150	25.6	25	22	36			
NG4TR/L25-028042-T20	4	20	25	25	150	25.6	25	28	42			
NG4TR/L25-034050-T20	4	20	25	25	150	25.6	25	34	50	TNG60N..M-TJ TNG60R30M-TR	NTW520	TNTS520
NG4TR/L25-042070-T20	4	20	25	25	150	25.6	25	42	70			
NG4TR/L25-062120-T20	4	20	25	25	150	25.6	25	62	120			
NG4TR/L25-112200-T20	4	20	25	25	150	25.6	25	112	200			
NG5TR/L20-050080-T25	5	25	20	20	150	20.6	20	50	80			
NG5TR/L20-070110-T25	5	25	20	20	150	20.6	20	70	110			
NG5TR/L20-100150-T25	5	25	20	20	150	20.6	20	100	150	TNG60N..M-TJ TNG60R30M-TR	NTW525	TNTS525
NG5TR/L20-140200-T25	5	25	20	20	150	20.6	20	140	200			
NG5TR/L25-050080-T25	5	25	25	25	150	25.6	25	50	80			
NG5TR/L25-070110-T25	5	25	25	25	150	25.6	25	70	110			
NG5TR/L25-100150-T25	5	25	25	25	150	25.6	25	100	150			
NG5TR/L25-140200-T25	5	25	25	25	150	25.6	25	140	200			
NG6TR/L25-048070-T25	6	25	25	25	150	25.6	25	48	70	TNG60N..M-TJ TNG60R30M-TR	NTW625	TNTS625
NG6TR/L25-058100-T25	6	25	25	25	150	25.6	25	58	100			
NG6TR/L25-088180-T25	6	25	25	25	150	25.6	25	88	180			
NG6TR/L25-168400-T25	6	25	25	25	150	25.6	25	168	400			

NG..VR/L



(mm)

Order No.	Dimension (mm)								Insert	Wrench 	Screw
	W	T-MAX	H	B	L	h	DMIN	DMAX			
NG3VR/L20-024035-T10	3	10	20	20	150	20	24	35	TNG30N..M-TJ TNG30R15M-TR	NVW320	TNVS320
NG3VR/L20-029040-T10	3	10	20	20	150	20	29	40			
NG3VR/L20-034050-T10	3	10	20	20	150	20	34	50			
NG3VR/L20-044060-T15	3	15	20	20	150	20	44	60			
NG3VR/L20-054085-T15	3	15	20	20	150	20	54	85		NVW325	TNVS325
NG3VR/L25-024035-T10	3	10	25	25	150	25	24	35			
NG3VR/L25-029040-T10	3	10	25	25	150	25	29	40			
NG3VR/L25-034050-T10	3	10	25	25	150	25	34	50			
NG3VR/L25-044060-T15	3	15	25	25	150	25	44	60	TNG40N..M-TJ TNG40R20M-TR	NVW420	TNVS420
NG3VR/L25-054085-T15	3	15	25	25	150	25	54	85			
NG4VR/L20-022040-T12	4	12	20	20	150	20	22	40			
NG4VR/L20-032050-T15	4	15	20	20	150	20	32	50			
NG4VR/L20-042060-T15	4	15	20	20	150	20	42	60		NVW425	TNVS425
NG4VR/L20-052085-T15	4	15	20	20	150	20	52	85			
NG4VR/L25-022040-T12	4	12	25	25	150	25	22	40			
NG4VR/L25-032050-T15	4	15	25	25	150	25	32	50			
NG4VR/L25-042060-T15	4	15	25	25	150	25	42	60	TNG50N..M-TJ TNG50R25M-TR	NVW520	TNVS520
NG4VR/L25-052085-T15	4	15	25	25	150	25	52	85			
NG5VR/L20-050080-T20	5	20	20	20	150	20	50	80			
NG5VR/L20-070110-T20	5	20	20	20	150	20	70	110			
NG5VR/L20-100150-T20	5	20	20	20	150	20	100	150		NVW525	TNVS525
NG5VR/L20-140200-T20	5	20	20	20	150	20	140	200			
NG5VR/L25-050080-T20	5	20	25	25	150	25	50	80			
NG5VR/L25-070110-T20	5	20	25	25	150	25	70	110			
NG5VR/L25-100150-T20	5	20	25	25	150	25	100	150	TNG60N..M-TJ TNG60R30M-TR	NVW625	TNVS625
NG5VR/L25-140200-T20	5	20	25	25	150	25	140	200			
NG6VR/L25-048085-T20	6	20	25	25	150	25	48	85			
NG6VR/L25-073150-T20	6	20	25	25	150	25	73	150			
NG6VR/L25-138250-T20	6	20	25	25	150	25	138	250			

TNG Series Standard Cutting Conditions

ISO	Workpiece Material	Grade	Vc (m/min)	Grooving				Turning			
				Edge Width (mm)				Edge Width (mm)			
				2-4	5	6	8	2-4	5	6	8
				f(mm/r)				f(mm/r)			
P	Carbon Steel	TU4025	150-300	0.05-0.20	0.10-0.25	0.10-0.30	0.10-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
	Alloy Steel	TU4025	120-280	0.05-0.15	0.10-0.20	0.10-0.25	0.10-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
M	Stainless Steel	TV3025	120-250	0.05-0.25	0.10-0.30	0.10-0.30	0.10-0.30	0.10-0.25	0.10-0.30	0.15-0.30	0.20-0.35
K	Cast Iron	TU4025	120-210	0.05-0.25	0.10-0.25	0.15-0.30	0.15-0.35	0.10-0.30	0.10-0.35	0.15-0.35	0.20-0.40
S	Hardened Alloy	TV3025	30-90	0.05-0.20	0.10-0.25	0.10-0.25	0.10-0.25	0.05-0.20	0.10-0.20	0.10-0.20	0.10-0.20
	Titanium Alloy	TV3025	30-90	0.05-0.20	0.10-0.25	0.10-0.25	0.10-0.25	0.05-0.20	0.10-0.20	0.10-0.20	0.10-0.20

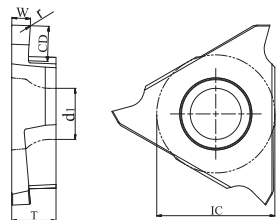
Applications

Insert	Workpiece name	Aerospace parts (COMP AFT INNER)	Workpiece material	Inconel 718
External Toolholder	Machining type	Ring shape/Vertical lathe(O.D deep grooving)/Wet		
	Cutting condition	Max.dia=542mm fn=0.15mm/rev	Vc=40m/min ap=0.7mm	
	Item	TNG50R25M-TR(TV3025)		
	Division	TOTIME		Competitor(T)
Internal Toolholder	Tool life/ Wear image (7min)			
PSC Toolholder	Status comparison	Normal wear		Lots of chipping at edge
	Result	Wear and damage comparison → Better wear resistance performance than competitor		

Threading	Workpiece name	Automobile parts (turbocharger housing)	Workpiece material	1.4837
Parting ,Grooving	Machining type	Turbocharger housing/Horizontal lathe(Shouldering,Grooving)/Wet		
	Cutting condition	Max.dia=99mm fn=0.05-0.2mm/rev	Vc=150m/min ap=3.0mm	
	Item	TNG30N04M-TJ (TV3025)		
	Division	TOTIME		Competitor(T)
Miniature Tool	Tool life/ Wear image			
	Status comparison	After 10pcs machining:normal wear		After 5pcs machining:partial chipping, large wear
	Result	Wear and damage comparison at limit → 2 times better wear, chipping resistance performance than competitor		

GB





Material	TG4230	
Steel	P	●
Stainless	M	●
Cast Iron	K	●

● : Stock

○ : Non – Stock

Order No.	Dimension (mm)							
	W	CD	r	IC	T	d1	R	L
GB3075R/L -010	0.75	2.0	0.1	9.525	3.18	4.4	●	○
GB3080R/L -005	0.80		0.05	9.525	3.18	4.4	●	○
GB3095R/L -010	0.95		0.1	9.525	3.18	4.4	●	○
GB3100R/L -005	1.00		0.05	9.525	3.18	4.4	●	○
GB3100R/L -010	1.00		0.1	9.525	3.18	4.4	●	○
GB3120R/L -010	1.20		0.1	9.525	3.18	4.4	●	○
GB3120R/L -020	1.20		0.2	9.525	3.18	4.4	●	○
GB3125R/L -010	1.25		0.1	9.525	3.18	4.4	●	○
GB3140R/L -010	1.40		0.1	9.525	3.18	4.4	●	○
GB3140R/L -020	1.40		0.2	9.525	3.18	4.4	●	●
GB3150R/L -010	1.50		0.1	9.525	3.18	4.4	●	○
GB3150R/L -020	1.50		0.2	9.525	3.18	4.4	●	●
GB3175R/L -010	1.75	2.5	0.1	9.525	3.18	4.4	●	○
GB3200R/L -010	2.00		0.1	9.525	3.18	4.4	●	○
GB3200R/L -020	2.00		0.2	9.525	3.18	4.4	●	●
GB3250R/L -010	2.50		0.1	9.525	3.18	4.4	●	○
GB3250R/L -020	2.50		0.2	9.525	3.18	4.4	●	●
GB3300R/L -020	3.00		0.2	9.525	3.18	4.4	●	●
GB4125R/L -020	1.25	2.0	0.2	12.7	4.76	5.5	●	●
GB4150R/L -010	1.50	3.5	0.1	12.7	4.76	5.5	●	○
GB4150R/L -020	1.50		0.2	12.7	4.76	5.5	●	●
GB4175R/L -020	1.75		0.2	12.7	4.76	5.5	●	○
GB4185R/L -020	1.85		0.2	12.7	4.76	5.5	●	●
GB4200R/L -005	2.00		0.05	12.7	4.76	5.5	●	○
GB4200R/L -010	2.00		0.1	12.7	4.76	5.5	●	○
GB4200R/L -020	2.00		0.2	12.7	4.76	5.5	●	●
GB4200R/L -030	2.00		0.3	12.7	4.76	5.5	●	○
GB4200R/L -050	2.00	4.0	0.5	12.7	4.76	5.5	●	○
GB4250R/L -030	2.50		0.3	12.7	4.76	5.5	●	●
GB4265R/L -030	2.65		0.3	12.7	4.76	5.5	●	○
GB4280R/L -030	2.80		0.3	12.7	4.76	5.5	●	○
GB4300R/L -030	3.00	5.0	0.3	12.7	4.76	5.5	●	●
GB4330R/L -030	3.30		0.3	12.7	4.76	5.5	●	○
GB4350R/L -030	3.50		0.3	12.7	4.76	5.5	●	●
GB4400R/L -040	4.00		0.4	12.7	4.76	5.5	●	●
GB4430R/L -040	4.30		0.4	12.7	4.76	5.5	●	○

Insert

External Toolholder

Internal Toolholder

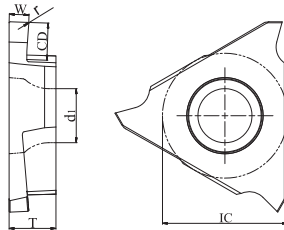
PSC Toolholder

Threading

Parting , Grooving

Miniature Tool

GBR



Material	TG4230	
Steel	P	●
Stainless	M	●
Cast Iron	K	●

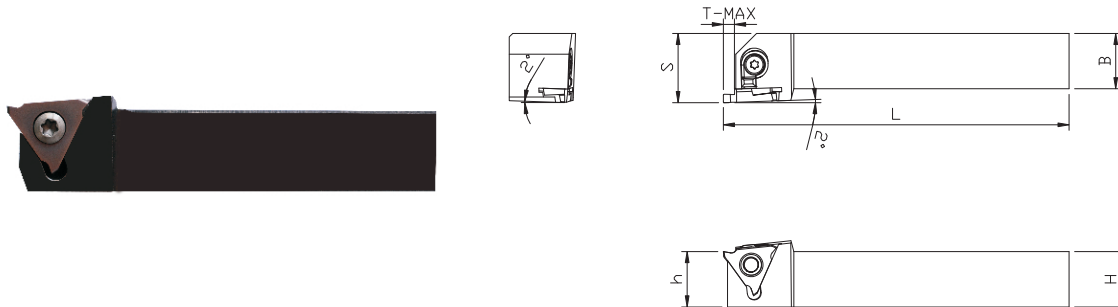
● : Stock ○ : Non-Stock

Order No.	Dimension (mm)							
	W	CD	r	IC	T	d1	R	L
GBR4100R/L -050	1.00	2.0	0.50	12.70	4.76	5.50	●	●
GBR4150R/L -075	1.50	3.5	0.75	12.70	4.76	5.50	●	●
GBR4200R/L -100	2.00	3.5	1.00	12.70	4.76	5.50	●	●
GBR4250R/L -125	2.50	4.0	1.25	12.70	4.76	5.50	●	●
GBR4300R/L -150	3.00	4.0	1.50	12.70	4.76	5.50	●	●
GBR4400R/L -200	4.00	5.0	2.00	12.70	4.76	5.50	●	●

GB/GBR Series Standard Cutting Conditions

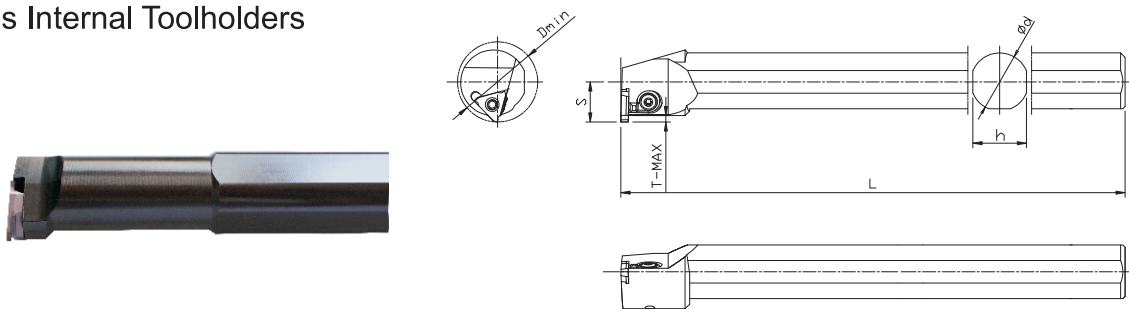
ISO	Workpiece Material	Vc(m/min)	Grooving					Turning				
			Edge Width (mm)					Edge Width (mm)				
			0.75-1.00	1.20-2.00	2.50-3.00	3.30-4.00	4.30	0.75-1.00	1.20-2.00	2.50-3.00	3.30-4.00	4.30
			f(mm/min)					f(mm/min)				
P	Carbon Steel	80-200	0.03-0.08	0.04-0.09	0.05-0.10	0.05-0.12	0.05-0.12	—	0.04-0.09	0.05-0.10	0.05-0.10	0.05-0.10
	Alloy Steel	80-180	0.03-0.07	0.04-0.08	0.05-0.09	0.05-0.10	0.05-0.10	—	0.04-0.08	0.05-0.09	0.05-0.10	0.05-0.10
M	Stainless Steel	60-150	0.03-0.07	0.04-0.08	0.05-0.09	0.05-0.10	0.05-0.10	—	0.04-0.08	0.05-0.09	0.05-0.10	0.05-0.10
K	Cast Iron	80-180	0.03-0.08	0.04-0.09	0.05-0.10	0.05-0.12	0.05-0.12	—	0.04-0.09	0.05-0.10	0.05-0.10	0.05-0.10

GB Series External Toolholders



Order No.	Dimension (mm)						Insert	Wrench 	Screw 
	T-MAX	H	B	L	S	h			
GBER2020K3	2.5	20	20	125	25	20	GB3...	TT15P	SI60M 035120
GBER2525M3	2.5	25	25	150	30	25			
GBER2020K4-15	4.0	20	20	125	25	20	GB4/GBR4... (1.0≤W<2.5)	TT20P	SI60M 050120
GBER2525M4-15	4.0	25	25	150	30	25			
GBER2020K4-25	4.5	20	20	125	25	20	GB4/GBR4... (2.5≤W<3.3)		
GBER2525M4-25	4.5	25	25	150	30	25			
GBER2020K4-35	5.5	20	20	125	25	20	GB4/GBR4... (3.3≤W<4.8)		
GBER2525M4-35	5.5	25	25	150	30	25			

GB Series Internal Toolholders



Order No.	Dimension (mm)						Insert	Wrench 	Screw 
	T-MAX	Dmin	Φd	L	S	h			
GBIR/L2620Q3	3.0	26	20	180	13	18	GB3...	TT15P	SI60M
GBIR/L3525R4	4.5	35	25	200	17.5	23	GB4/GBR4...	TT20P	SI60M

Insert

External Toolholder

Internal Toolholder

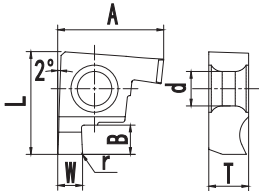
PSC Toolholder

Threading

Parting, Grooving

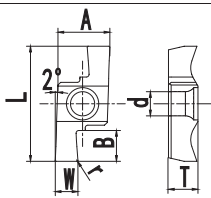
Miniature Tool

TGE Series Inserts for Grooving

Model	A(mm)	L(mm)	T (mm)	d (mm)	● Good recommendation			
TGER**-A	6.69	6.50	2.58	2.5				
TGER**-B	8.46	8.20	3.18	2.7	Material Recommended	Grade	TG1225	
TGER**-C	5.80	11.48	4.05	2.8		Steel	P ●	
TGER**-D	6.80	16.44	5.05	3.4		Stainless	M ●	
TGER**-E	9.54	21.66	5.55	4.4		Cast Iron	K ●	
Insert	Order No.			Dimensions(mm)			Toolholders	
	Right hand		Left hand	W	B	r		
	TGER050-A		TGEL050-A	0.50	1.2	0.05	SIGER/L0808A-EH SIGER/L0808A-WH	
	TGER060-A		TGEL060-A	0.60	1.2	0.05		
	TGER070-A		TGEL070-A	0.70	1.2	0.05		
	TGER080-A		TGEL080-A	0.80	1.2	0.05		
	TGER100-A		TGEL100-A	1.00	1.5	0.05		
	TGER120-A		TGEL120-A	1.20	1.5	0.05		
	TGER125-A		TGEL125-A	1.25	1.5	0.05		
	TGER140-A		TGEL140-A	1.40	1.5	0.10		
	TGER150-A		TGEL150-A	1.50	1.5	0.10		
	TGER180-A		TGEL180-A	1.80	1.5	0.10		
	TGER200-A		TGEL200-A	2.00	1.5	0.10	SIGER/L1010B-EH SIGER/L1010B-WH SIGER/L1210B-EH	
	TGER080-B		TGEL080-B	0.80	1.8	0.05		
	TGER100-B		TGEL100-B	1.00	2.2	0.05		
	TGER120-B		TGEL120-B	1.20	2.2	0.05		
	TGER125-B		TGEL125-B	1.25	2.2	0.05		
	TGER130-B		TGEL130-B	1.30	2.2	0.10		
	TGER145-B		TGEL145-B	1.45	2.2	0.10		
	TGER150-B		TGEL150-B	1.50	2.2	0.10		
	TGER180-B		TGEL180-B	1.80	2.2	0.10		
	TGER200-B		TGEL200-B	2.00	2.2	0.10		
	TGER225-B		TGEL225-B	2.25	2.2	0.10	SIGER/L1412C-EH SIGER/L1612C-EH SIGER/L1616C-EH	
	TGER250-B		TGEL250-B	2.50	2.2	0.10		
	TGER280-B		TGEL280-B	2.80	2.2	0.20		
	TGER300-B		TGEL300-B	3.00	2.2	0.20		
	TGER100-C		TGEL100-C	1.00	2.5	0.05		
	TGER120-C		TGEL120-C	1.20	2.5	0.05		
	TGER125-C		TGEL125-C	1.25	2.5	0.05		
	TGER140-C		TGEL140-C	1.40	2.5	0.10		
	TGER145-C		TGEL145-C	1.45	2.5	0.10		
	TGER150-C		TGEL150-C	1.50	2.5	0.10		
	TGER160-C		TGEL160-C	1.60	2.5	0.10		
	TGER170-C		TGEL170-C	1.70	2.5	0.10		
	TGER185-C		TGEL185-C	1.85	2.5	0.10		
	TGER195-C		TGEL195-C	1.95	2.5	0.10		
	TGER200-C		TGEL200-C	2.00	2.5	0.10		
	TGER225-C		TGEL225-C	2.25	2.5	0.10		
	TGER250-C		TGEL250-C	2.50	2.5	0.20		
	TGER275-C		TGEL275-C	2.75	2.5	0.20		
	TGER280-C		TGEL280-C	2.80	2.5	0.20		
	TGER300-C		TGEL300-C	3.00	2.5	0.20		
TGER320-C		TGEL320-C	3.20	2.5	0.20			
TGER350-C		TGEL350-C	3.50	2.5	0.20			

Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

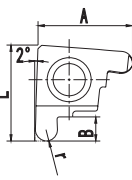
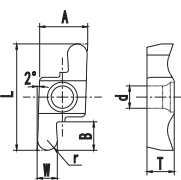
TGE Series Inserts for Grooving

Model	A(mm)	L(mm)	T (mm)	d(mm)				
TGER**-A	6.69	6.50	2.58	2.5	● Good recommendation			
TGER**-B	8.46	8.20	3.18	2.7	Material Recommended	Grade	TG1225	
TGER**-C	5.80	11.48	4.05	2.8		Steel	P ●	
TGER**-D	6.80	16.44	5.05	3.4		Stainless	M ●	
TGER**-E	9.54	21.66	5.55	4.4		Cast Iron	K ●	
Insert	Order No.		Dimensions(mm)			Toolholders		
	Right hand	Left hand	W	B	r			
	TGER100-D	TGEL100-D	1.00	2.5	0.05	SIGER/L2020D-EH SIGER/L2525D-EH		
	TGER120-D	TGEL120-D	1.20	2.5	0.05			
	TGER125-D	TGEL125-D	1.25	2.5	0.05			
	TGER140-D	TGEL140-D	1.40	2.5	0.05			
	TGER145-D	TGEL145-D	1.45	2.5	0.10			
	TGER150-D	TGEL150-D	1.50	3.0	0.10			
	TGER170-D	TGEL170-D	1.70	3.0	0.10			
	TGER185-D	TGEL185-D	1.85	3.0	0.10			
	TGER195-D	TGEL195-D	1.95	3.0	0.10			
	TGER200-D	TGEL200-D	2.00	3.6	0.10			
	TGER225-D	TGEL225-D	2.25	3.6	0.10			
	TGER230-D	TGEL230-D	2.30	3.6	0.20			
	TGER250-D	TGEL250-D	2.50	3.6	0.20			
	TGER275-D	TGEL275-D	2.75	3.6	0.20			
	TGER280-D	TGEL280-D	2.80	4.5	0.20			
	TGER300-D	TGEL300-D	3.00	4.5	0.20			
	TGER320-D	TGEL320-D	3.20	4.5	0.20			
	TGER350-D	TGEL350-D	3.50	4.5	0.20			
TGER400-D	TGEL400-D	4.00	4.5	0.20				
	TGER100-E	TGEL100-E	1.00	2.5	0.05	SIGER/L2525E-EH SIGER/L3232E-EH SIGER/L4032E-EH		
	TGER150-E	TGEL150-E	1.50	3.0	0.10			
	TGER170-E	TGEL170-E	1.70	3.0	0.10			
	TGER185-E	TGEL185-E	1.85	3.0	0.10			
	TGER195-E	TGEL195-E	1.95	3.0	0.10			
	TGER200-E	TGEL200-E	2.00	3.2	0.10			
	TGER225-E	TGEL225-E	2.25	3.2	0.10			
	TGER230-E	TGEL230-E	2.30	3.2	0.20			
	TGER250-E	TGEL250-E	2.50	4.5	0.20			
	TGER275-E	TGEL275-E	2.75	4.5	0.20			
	TGER280-E	TGEL280-E	2.80	4.5	0.20			
	TGER300-E	TGEL300-E	3.00	4.5	0.20			
	TGER330-E	TGEL330-E	3.30	4.5	0.20			
	TGER350-E	TGEL350-E	3.50	5.5	0.20			
	TGER400-E	TGEL400-E	4.00	5.5	0.20			
	TGER430-E	TGEL430-E	4.30	5.5	0.20			
	TGER450-E	TGEL450-E	4.50	6.5	0.20			
	TGER460-E	TGEL460-E	4.60	6.5	0.20			
	TGER500-E	TGEL500-E	5.00	6.5	0.20			

Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

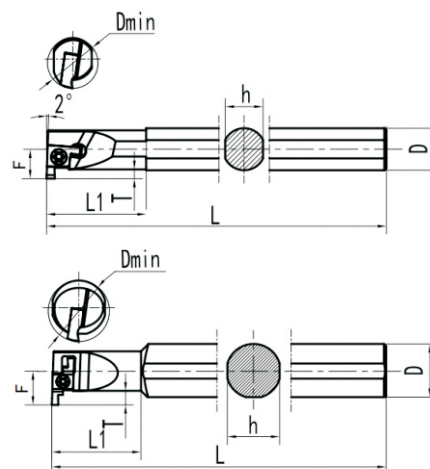
Insert
External Toolholder
Internal Toolholder
PSC Toolholder
Threading
Parting, Grooving
Miniature Tool

TGE Series Inserts for Grooving

Model	A(mm)	L(mm)	T (mm)	d(mm)						 A、B Series Type	 C、D、E Series Type
TGER**-A	6.69	6.5	2.58	2.5	Material Recommended	● Good recommendation	Grade	TG1225			
TGER**-B	8.46	8.2	3.18	2.7							
TGER**-C	5.8	11.48	4.05	2.8							
TGER**-D	6.8	16.44	5.05	3.4							
TGER**-E	9.54	21.66	5.55	4.4							
Cast Iron	K	●									
Insert		Order No.			Dimensions(mm)			Toolholders			
		Right hand		Left hand	W	B	r				
	TGER100-050AR	TGEL100-050AR		1.0	1.5	0.50	SIGER/L0808A-EH SIGER/L0808A-WH				
	TGER150-075AR	TGEL150-075AR		1.5	1.5	0.75					
	TGER200-100AR	TGEL200-100AR		2.0	1.5	1.00					
	TGER100-050BR	TGEL100-050BR		1.0	2.2	0.50	SIGER/L1010B-EH SIGER/L1010B-WH SIGER/L1210B-EH				
	TGER150-075BR	TGEL150-075BR		1.5	2.2	0.75					
	TGER200-100BR	TGEL200-100BR		2.0	2.2	1.00					
	TGER250-125BR	TGEL250-125BR		2.5	2.2	1.25					
	TGER300-150BR	TGEL300-150BR		3.0	2.2	1.50					
	TGER100-050CR	TGEL100-050CR		1.0	2.5	0.50	SIGER/L1412C-EH SIGER/L1612C-EH SIGER/L1616C-EH				
	TGER150-075CR	TGEL150-075CR		1.5	2.5	0.75					
	TGER200-100CR	TGEL200-100CR		2.0	2.5	1.00					
	TGER250-125CR	TGEL250-125CR		2.5	2.5	1.25					
	TGER300-150CR	TGEL300-150CR		3.0	2.5	1.50					
	TGER150-075DR	TGEL150-075DR		1.5	3.2	0.75	SIGER/L2020D-EH SIGER/L2525D-EH				
	TGER200-100DR	TGEL200-100DR		2.0	3.2	1.00					
	TGER250-125DR	TGEL250-125DR		2.5	4.5	1.25					
	TGER300-150DR	TGEL300-150DR		3.0	4.5	1.50					
	TGER250-125ER	TGEL250-125ER		2.5	5.5	1.25	SIGER/L2525E-EH SIGER/L3232E-EH SIGER/L4032E-EH				
	TGER300-150ER	TGEL300-150ER		3.0	5.5	1.50					
	TGER350-175ER	TGEL350-175ER		3.5	5.5	1.75					
	TGER400-200ER	TGEL400-200ER		4.0	6.5	2.00					
TGER450-225ER	TGEL450-225ER		4.5	6.5	2.25						
TGER500-250ER	TGEL500-250ER		5.0	6.5	2.50						

Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

TGE Series Toolholders for Grooving



WH: Carbide Shank

Order No.	Insert	Dimensions (mm)							Insert Screw	Torx Key
		Dmin	T	L1	D	F	h	L		
SIGER0808A-EH	TGER**A	8	1.5	20	8	4.8	7.2	100	L60M225	T6
SIGER0808A-WH	TGER**AR	8		20	8	4.8	7.2	100		
SIGER1010B-EH	TGER**B TGER**BR	10	2.2	25	10	6.2	9.0	125	L60M256	T8
SIGER1010B-WH		10		25	10	6.2	9.0	125		
SIGER1210B-EH		12		30	10	7.0	9.0	125		
SIGER1412C-EH	TGER**C TGER**CR	14	2.5	33	12	8.0	11.4	150	L60M256	T8
SIGER1612C-EH		16		20	12	8.5	11.4	150		
SIGER1616C-EH		16		36	16	9.0	15.0	160		
SIGER2020D-EH	TGER**D	20	4.5	40	20	12.1	19.0	180	L60M38	T10
SIGER2525D-EH	TGER**DR	25	4.2	45	25	12.3	24.0	200		
SIGER2525E-EH	TGER**E TGER**ER	25	6.5	45	25	15.6	24.0	200	L60M485	T15
SIGER3232E-EH		32		55	32	19.0	30.4	220		
SIGER4032E-EH		40		45	32	23.0	30.4	250		
SIGEL0808A-EH	TGEL**A	8	1.5	20	8	4.8	7.2	100	L60M225	T6
SIGEL0808A-WH	TGEL**AR	8		20	8	4.8	7.2	100		
SIGEL1010B-EH	TGEL**B TGEL**BR	10	2.2	25	10	6.2	9.0	125	L60M256	T8
SIGEL1010B-WH		10		25	10	6.2	9.0	125		
SIGEL1210B-EH		12		30	10	7.0	9.0	125		
SIGEL1412C-EH	TGEL**C TGEL**CR	14	2.5	33	12	8.0	11.4	150	L60M256	T8
SIGEL1612C-EH		16		20	12	8.5	11.4	150		
SIGEL1616C-EH		16		36	16	9.0	15.0	160		
SIGEL2020D-EH	TGEL**D	20	4.5	40	20	12.1	19.0	180	L60M38	T10
SIGEL2525D-EH	TGEL**DR	25	4.2	45	25	12.3	24.0	200		
SIGEL2525E-EH	TGEL**E TGEL**ER	25	6.5	45	25	15.6	24.0	200	L60M485	T15
SIGEL3232E-EH		32		55	32	19.0	30.4	220		
SIGEL4032E-EH		40		45	32	23.0	30.4	250		

Insert

External Toolholder

Internal Toolholder

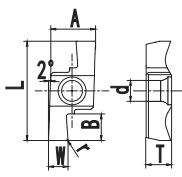
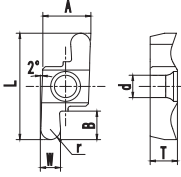
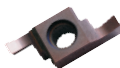
PSC Toolholder

Threading

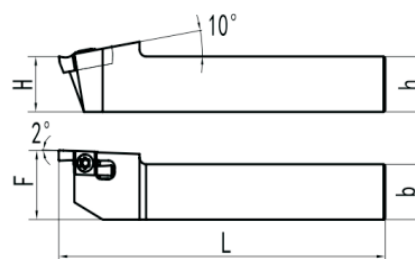
Parting, Grooving

Miniature Tool

TGE Series Inserts for Face Grooving

Model	A(mm)	L(mm)	T (mm)	d (mm)	● Good recommendation Material Recommended <table><tr><td>Grade</td><td>TG1225</td><td></td></tr><tr><td>Steel</td><td>P</td><td>●</td></tr><tr><td>Stainless</td><td>M</td><td>●</td></tr><tr><td>Cast Iron</td><td>K</td><td>●</td></tr></table>			Grade	TG1225		Steel	P	●	Stainless	M	●	Cast Iron	K	●	 DM Series Type  DM...R Series Type	
Grade	TG1225																				
Steel	P	●																			
Stainless	M	●																			
Cast Iron	K	●																			
TGER**-D	6.8	16.44	5.05	3.4																	
Insert		Order No.		External Dia. of the Groove		Dimensions (mm)			Toolholders												
		TGER200DM10-D		>10mm		W	B	r	SEGEL1010K-D SEGEL1212K-D SEGEL1616H-D SEGEL2020K-D SEGEL2525M-D												
		TGER250DM15-D		>15mm		2.0	3.5	0.20													
		TGER300DM15-D		>15mm		2.5	4.5	0.20													
		TGER400DM15-D		>15mm		3.0	4.5	0.20													
		TGER200DM10R100-D		>10mm		4.0	4.5	0.20													
		TGER250DM15R125-D		>15mm		2.0	3.5	1.00													
		TGER300DM15R150-D		>15mm		2.5	4.5	1.25													
		TGER400DM15R200-D		>15mm		3.0	4.5	1.50													
						4.0	4.5	2.00													

TGE Series Toolholders for Face Grooving



Order No.	Insert Type	Dimensions(mm)					Insert Screw	Torx Key
		h	b	L	F	H		
SEGEL1010K-D	TGER**-D	10	10	125	10	10	L60M310	T10
SEGEL1212K-D		12	12	125	12	12		
SEGEL1616H-D		16	16	100	20	16		
SEGEL2020K-D		20	20	125	25	20		
SEGEL2525M-D		25	25	150	32	25		

TGER/L...A(R),TGER/L...B(R) Series

ISO	Workpiece material	Vc(m/min)	Grooving			Turning		
			TGER/L050-200A	TGER/L080-200B	TGER/L225-200B	TGER/L050-200A	TGER/L080-200B	TGER/L225-200B
			TGER/L100-200AR	TGER/L100-200BR	TGER/L250-300BR	TGER/L100-200AR	TGER/L100-200BR	TGER/L250-300BR
			f(mm/r)			f(mm/r)		
P	Carbon Steel	50-80	0.01-0.03	0.02-0.04	0.02-0.04	0.01-0.03	0.02-0.04	0.02-0.04
	Alloy Steel	50-80	0.01-0.03	0.02-0.04	0.02-0.04	0.01-0.03	0.02-0.04	0.02-0.04
M	Stainless Steel	50-80	0.01-0.03	0.01-0.03	0.01-0.03	0.01-0.03	0.01-0.03	0.01-0.03
K	Cast Iron	50-80	0.01-0.03	0.02-0.04	0.02-0.04	0.01-0.03	0.02-0.04	0.02-0.04

TGER/L...C(R),TGER/L...D(R) ,TGER/L...E(R) Series

ISO	Workpiece material	Vc(m/min)	Grooving						
			TGER/L100-200C	TGER/L225-350C	TGER/L200-280D	TGER/L250-330E(R)	TGER/L300-400D	TGER/L350-430E(R)	TGER/L450-500E(R)
			TGER/L100-200CR	TGER/L250-300CR	TGER/L150-200DR	—	TGER/L300DR	—	—
			TGER/L100-145D	TGER/L150-195D	TGER/L200-230E(R)	—	—	—	—
			TGER/L100E(R)	TGER/L150-195E(R)	—	—	—	—	—
			f(mm/r)						
P	Carbon Steel	60-140	0.03-0.08	0.03-0.08	0.04-0.09	0.04-0.09	0.05-0.12	0.05-0.12	0.05-0.12
	Alloy Steel	60-120	0.03-0.07	0.03-0.07	0.04-0.08	0.04-0.08	0.05-0.10	0.05-0.10	0.05-0.10
M	Stainless Steel	60-110	0.03-0.07	0.03-0.07	0.04-0.08	0.04-0.08	0.05-0.10	0.05-0.10	0.05-0.10
K	Cast Iron	60-100	0.03-0.08	0.03-0.08	0.04-0.09	0.04-0.09	0.05-0.12	0.05-0.12	0.05-0.12
ISO	Workpiece material	Vc(m/min)	Turning						
			TGER/L100-200C	TGER/L225-350C	TGER/L200-280D	TGER/L250-330E(R)	TGER/L300-400D	TGER/L350-430E(R)	TGER/L450-500E(R)
			TGER/L100-200CR	TGER/L250-300CR	TGER/L150-200DR	—	TGER/L300DR	—	—
			TGER/L100-145D	TGER/L150-195D	TGER/L200-230E(R)	—	—	—	—
			TGER/L100E(R)	TGER/L150-195E(R)	—	—	—	—	—
			f(mm/r)						
P	Carbon Steel	60-140	0.03-0.08	0.03-0.08	0.04-0.09	0.04-0.09	0.05-0.10	0.05-0.10	0.05-0.10
	Alloy Steel	60-120	0.03-0.10	0.03-0.10	0.04-0.08	0.04-0.08	0.05-0.10	0.05-0.10	0.05-0.10
M	Stainless Steel	60-110	0.03-0.10	0.03-0.10	0.04-0.08	0.04-0.08	0.05-0.10	0.05-0.10	0.05-0.10
K	Cast Iron	60-100	0.03-0.08	0.03-0.08	0.04-0.09	0.04-0.09	0.05-0.10	0.05-0.10	0.05-0.10

TGER...DM Series

ISO	Workpiece Material	Vc(m/min)	Grooving			Turning		
			TGER200DM	TGER250DM	TGER300-400DM	TGER200DM	TGER250DM	TGER300-400DM
			f(mm/r)			f(mm/r)		
P	Carbon Steel	60-160	0.03-0.10	0.04-0.12	0.05-0.12	0.03-0.10	0.04-0.10	0.05-0.10
	Alloy Steel	60-140	0.03-0.10	0.04-0.12	0.05-0.12	0.03-0.10	0.04-0.10	0.05-0.10
M	Stainless Steel	60-110	0.03-0.08	0.04-0.08	0.05-0.10	0.03-0.10	0.04-0.10	0.05-0.10
K	Cast Iron	60-100	0.03-0.10	0.04-0.12	0.05-0.12	0.03-0.10	0.04-0.10	0.05-0.10

```

graph TD
    Root[Chipbreaker Type] --> InsertType[Insert Type]
    Root --> InsertSize[Insert Size]
    Root --> EdgeWidth[Edge Width]
    Root --> InsertHand[Insert Hand]
    Root --> NameOfChipbreaker[Name of Chipbreaker]
    Root --> LeadAngle[Lead Angle (PSIRR)]
    Root --> HandOfLeadAngle[Hand of Lead Angle]
    InsertHand --> RH1[R : Right-hand]
    InsertHand --> LH1[L : Left-hand]
    NameOfChipbreaker --> S[S : S Chipbreaker]
    NameOfChipbreaker --> NB[NB : Without Chipbreaker]
    HandOfLeadAngle --> RH2[R : Right-hand]
  
```

Insert Type

Insert Size

Edge Width

Insert Hand

R : Right-hand

L : Left-hand

Name of Chipbreaker

S : S Chipbreaker

NB : Without Chipbreaker

Lead Angle (PSIRR)

Hand of Lead Angle

R : Right-hand

Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
Lead Angle	Right-hand	Lead Angle	Right-hand

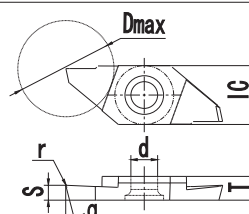
PSIRR

PSIRR

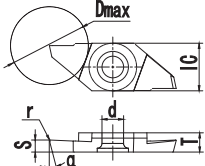
Model	IC(mm)	T(mm)	d(mm)
TTF12**	8.7	3	5
TTF16**	9.5	4	5

● Good recommendation

Material Recommended	Grade	TG1225	
	Steel	P	●
	Stainless	M	●
	Cast Iron	K	●

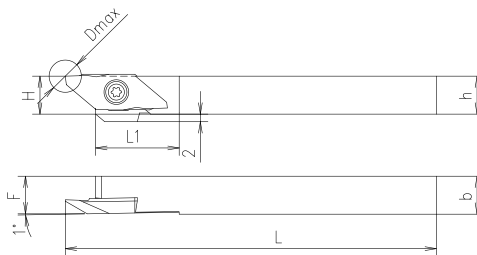


Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

Model	IC(mm)	T (mm)	d(mm)	● Good recommendation			
TTF12**	8.7	3	5	Material Recommended	Grade	TG1225	
TTF16**	9.5	4	5		Steel	P ●	
					Stainless	M ●	
					Cast Iron	K ●	
Insert	Order No.		Dimensions (mm)				Toolholders
	Right hand	Left hand	W	α	Dmax	r	
	TTF16R100-NB	TTF16L100-NB	1.0	0	16	0.08	KTKFR/L1010K-16 KTKFR/L1212K-16 KTKFR/L1212M-16 KTKFR/L1616M-16 KTKFR/L2020M-16 KTKFR/L2525M-16
	TTF16R150-NB	TTF16L150-NB	1.5	0	16	0.10	
	TTF16R200-NB	TTF16L200-NB	2.0	0	16	0.10	
	TTF16R250-NB	TTF16L250-NB	2.5	0	16	0.10	
	TTF16R300-NB	TTF16L300-NB	3.0	0	16	0.15	
	TTF16R100-NB-20R	TTF16L100-NB-20R	1.0	20	16	0.08	
	TTF16R150-NB-20R	TTF16L150-NB-20R	1.5	20	16	0.10	
	TTF16R200-NB-20R	TTF16L200-NB-20R	2.0	20	16	0.10	
	TTF16R250-NB-20R	TTF16L250-NB-20R	2.5	20	16	0.10	
	TTF16R300-NB-20R	TTF16L300-NB-20R	3.0	20	16	0.15	

Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

TTF Series Toolholders for Parting-off

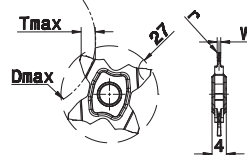


Order No.	Insert	Dimensions (mm)							Insert Screw	Torx Key
		h	b	H	F	L	Dmax	L1		
KTKFR1010K-12	TTF12R**	10	10	10	10	125	12	15	L60M410	T15
KTKFR1212K-12		12	12	12	12			150		
KTKFR1212M-12		12	12	12	12					
KTKFR1616M-12		16	16	16	16					
KTKFR2020M-12		20	20	20	20					
KTKFR2525M-12		25	25	25	25					
KTKFR1010K-16	TTF16R**	10	10	10	10	125	16	20	L60M410	T15
KTKFR1212K-16		12	12	12	12			150		
KTKFR1212M-16		12	12	12	12					
KTKFR1616M-16		16	16	16	16					
KTKFR2020M-16		20	20	20	20					
KTKFR2525M-16		25	25	25	25					
KTKFL1010K-12	TTF12L**	10	10	10	10	125	12	15	L60M410	T15
KTKFL1212K-12		12	12	12	12			150		
KTKFL1212M-12		12	12	12	12					
KTKFL1616M-12		16	16	16	16					
KTKFL2020M-12		20	20	20	20					
KTKFL2525M-12		25	25	25	25					
KTKFL1010K-16	TTF16L**	10	10	10	10	125	16	20	L60M410	T15
KTKFL1212K-16		12	12	12	12			150		
KTKFL1212M-16		12	12	12	12					
KTKFL1616M-16		16	16	16	16					
KTKFL2020M-16		20	20	20	20					
KTKFL2525M-16		25	25	25	25					

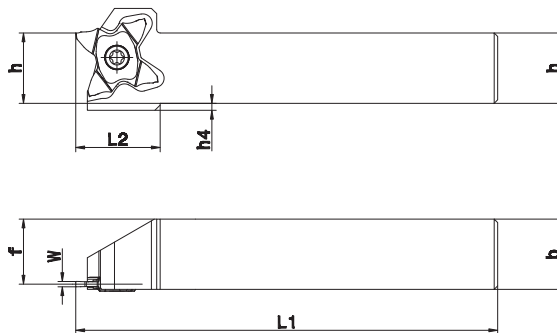
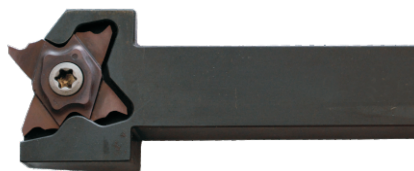
TTF Series Standard Cutting Conditions

ISO	Workpiece Material	Vc(m/min)	TTF12					TTF16				
			Edge Width (mm)					Edge Width (mm)				
			0.5	0.7	1.0	1.5	2.0	1.0	1.5	2.0	2.5	3.0
			f(mm/r)					f(mm/r)				
P	Carbon Steel	70-150	0.01-0.02	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.04	0.01-0.06	0.02-0.07	0.02-0.07	0.02-0.07	0.02-0.08
	Alloy Steel	70-150	0.01-0.02	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.04	0.01-0.06	0.02-0.07	0.02-0.07	0.02-0.07	0.02-0.08
M	Stainless Steel	60-120	0.01-0.02	0.01-0.02	0.01-0.02	0.01-0.02	0.01-0.02	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.04	0.01-0.05
K	Cast Iron	50-100	0.01-0.03	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.07	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08

TTS27 Series for Inserts

		● Good recommendation														
Material Recommended	Grade	TG1230	TG1330													
		Steel	P	●	●											
		Stainless	M	●	●											
		Cast Iron	K	●	●											
Insert	Order No.	Dimensions (mm)													Toolholder	
		W	r	Tmax	Dmax											
					T≤3.0	T≤3.5	T≤4.0	T≤4.5	T≤5.0	T≤5.5	T≤5.7	T≤6.0	T≤6.2	T≤6.4		
	TTS27-1.00-0.10	1.0	0.1	3.5	∞	600	—	—	—	—	—	—	—	—	TQHR. . -27	
	TTS27-1.50-0.20	1.5	0.2	5.7	∞	600	280	180	130	50	35	—	—	—		
	TTS27-2.00-0.20	2.0	0.2	6.4	∞	600	280	180	130	105	85	60	50	30		
	TTS27-2.50-0.20	2.5	0.2	5.7	∞	600	280	180	130	50	35	—	—	—		
	TTS27-3.00-0.20	3.0	0.2	6.4	∞	600	280	180	135	105	95	85	78	55		

TTS27 Series for Toolholders



Order No.	Insert	Dimensions (mm)							Insert Screw	Torx Key
		h	b	W	f	l1	l2	h4		
TQHR10-27	TTS27-**	10	10	0.5 ≤ W ≤ 3.0	8.5	120	24	9	BFTX5012	TRX20
TQHR12-27		12	12	0.5 ≤ W ≤ 3.0	10.5	120	24	8		
TQHR16-27		16	16	0.5 ≤ W ≤ 3.0	14.5	120	24	6		
TQHR20-27		20	20	0.5 ≤ W ≤ 3.0	18.5	120	24	2		
TQHR25-27		25	25	0.5 ≤ W ≤ 3.0	23.5	135	-	-		

TTS27 Series Standard Cutting Conditions

ISO	Workpiece Material		Vc(m/min)
P	Non-Alloy steel	<0.25%C	110-200
		0.25%C- 0.55%C	70-180
		≥ 0.55%C	60-180
	Low Alloy Steel		80-180
	High Alloy Steel		60-140
M	Martensitic Stainless Steel		120-180
	Austenitic Stainless Steel		70-140
K	Grey Cast Iron		70-180
	Ductile Cast Iron		60-130
N	Cast Aluminum Alloy		200-400
	Aluminum Alloy		300-700
	Copper Alloy		80-300
S	Heat-resistance Alloy		10-50
	Titanium Alloy		25-60
H	Hardened Alloy	45-50 HRC	40-50
		51-55 HRC	30-50