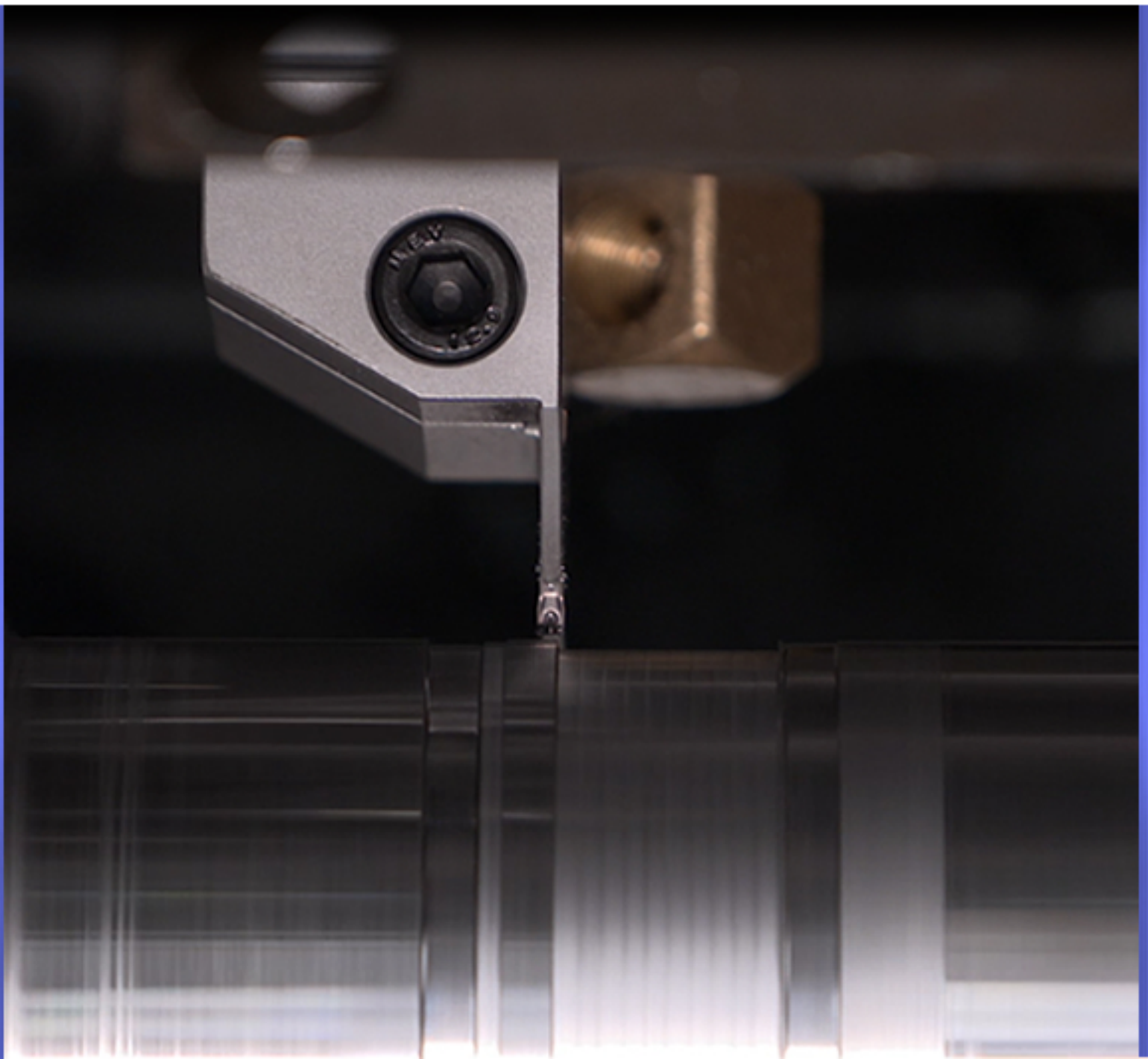

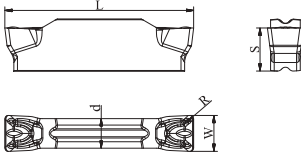
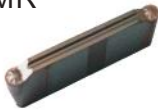
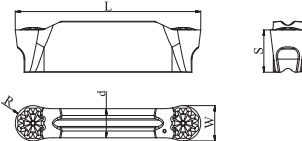



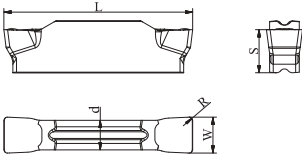
TKD SERIES

Excellent heat resistance and edge collapse resistance, enabling stable processing



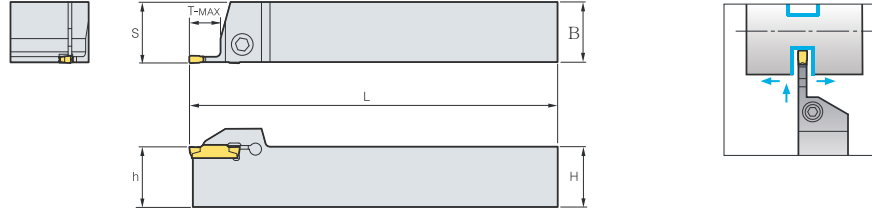
<p>TKD-MT</p> 			<table border="1"> <tr> <td>Material</td> <td colspan="2">TG4230</td> </tr> <tr> <td>Steel</td> <td>P</td> <td>●</td> </tr> <tr> <td>Stainless</td> <td>M</td> <td>●</td> </tr> <tr> <td>Cast Iron</td> <td>K</td> <td>●</td> </tr> </table>			Material	TG4230		Steel	P	●	Stainless	M	●	Cast 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												

<p>TKD-MR</p> 			<table border="1"> <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 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												

<p>TKD-AL</p> 			<table border="1"> <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

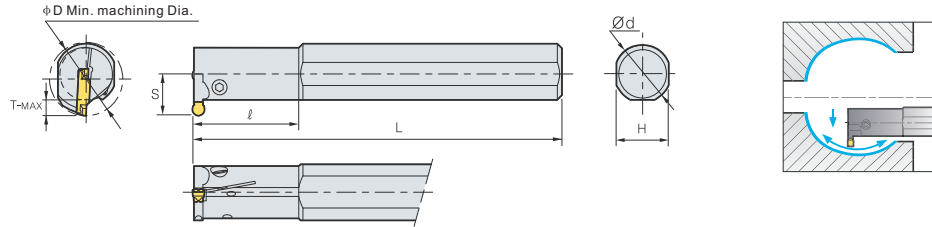
MGEHR/L



(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	TKD25 .MT TKD25 .MR	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	TKD30 .MT TKD30 .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	TKD40 .MT TKD40 .MR	LW50	LHA510
MGEHR/L1212-3.0	3	16	12	12	100	13	12		LW20	LHA210
MGEHR/L1616-3.0	3	18	16	16	100	17	16	TKD50 .MT TKD50 .MR	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	TKD60 .MT TKD60 .MR	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	TKD50 .MT TKD50 .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	TKD60 .MT TKD60 .MR	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	TKD60 .MT TKD60 .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	TKD60 .MT TKD60 .MR	LW60	LHA610
MGEHR/L2525-6.0	6	25	25	25	150	26	25		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	TKD25 .MT TKD25 .MR	HW40L	MHA0410
MGIVR/L2016-2.5	2.5	4.5	20	16	125	12.5	15	35		HW20L	MHA0210
MGIVR/L2520-2.5	2.5	4.5	25	20	150	15.1	18	45	TKD25 .MR	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	TKD30 .MR	HW60L	MHA0610
MGIVR/L2520-4.0	4	6	25	20	150	15.6	18	45		HW30L	MHA0310
MGIVR/L3125-4.0	4	6	31	25	200	18.9	23	45	TKD40 .MT TKD40 .MR	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

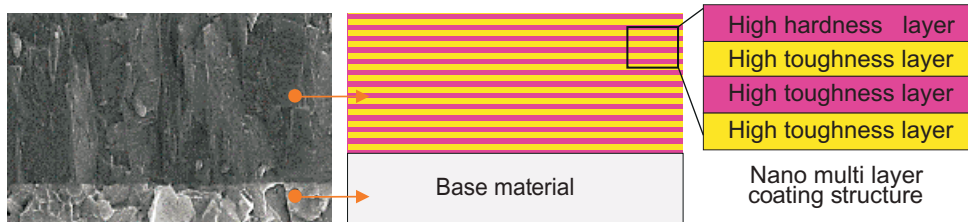
Insert
External Toolholder
Internal Toolholder
PSC Toolholder
Threading
Parting, Grooving
Miniature Tool

Coated Grade

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

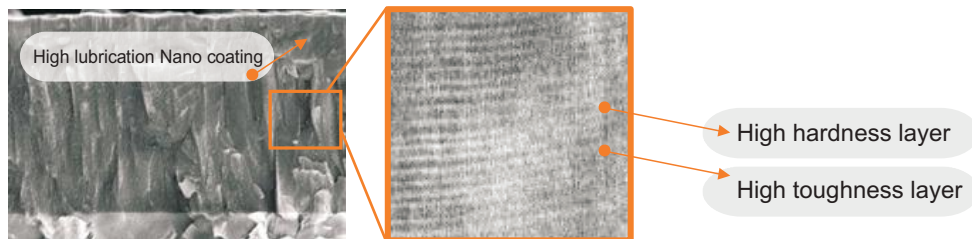
TV3025

- 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

TJ Chip Breaker

Machining type
Grooving / Turning
Parting off

Work piece
P,M,S group
M(Mold)

- Features : · Various machining type
- Excellent tool life
- Enhanced chip control

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

TR Chip Breaker

Machining type
Profiling / Undercut

Work piece
P,M,S group
M(Mold)

- Features : · Various machining type
- Excellent tool life
- Enhanced chip control
- Full Radius for profiling

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

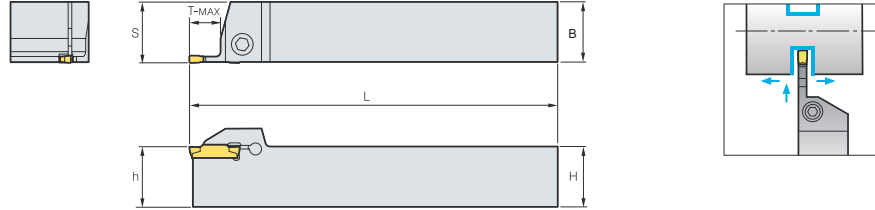
Insert
External Toolholder
Internal Toolholder
PSC Toolholder
Threading
Parting / Grooving
Miniature Tool

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

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	•	•

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

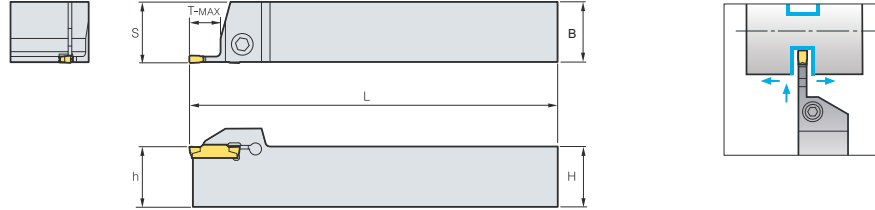


(mm)

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					
NG2EHR/L3225-T09	2	9	32	25	150	32				NW2325	TNS2325
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					
NG3EHR/L2020-T09	3	9	20	20	120	20	TNG30N..M-TJ TNG30R15M-TR	NW320	TNS320		
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					
NG3EHR/L2525-T09	3	9	25	25	150	25		NW325	TNS325		
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					
NG3EHR/L2525-T20	3	20	25	25	150	25					
NG3EHR/L3225-T09	3	9	32	25	150	32	NW3325			TNS3325	
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					
NG3EHR/L3232-T09	3	9	32	32	150	32		NW332	TNS332		
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					



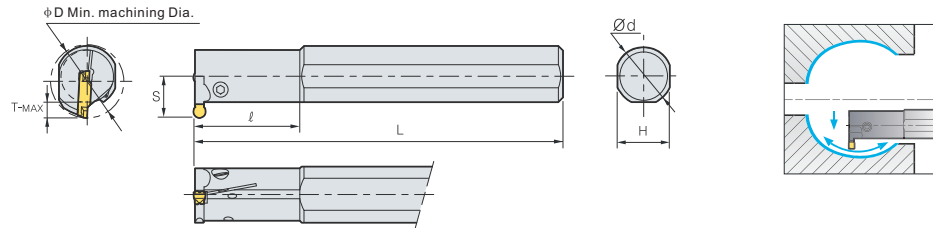
NG..EHR/L



(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		NW425	TNS425
NG4EHR/L2525-T09	4	9	25	25	150	25			
NG4EHR/L2525-T11	4	11	25	25	150	25			
NG4EHR/L2525-T13	4	13	25	25	150	25		NW4325	TNS4325
NG4EHR/L2525-T15	4	15	25	25	150	25			
NG4EHR/L3225-T09	4	9	32	25	150	32			
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		TNG50N..M-TJ TNG50R25M-TR	NW525
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			
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			
NG5EHR/L3225-T25	5	25	32	25	150	32	NW532	TNS532	
NG5EHR/L3232-T15	5	15	32	32	170	32			
NG5EHR/L3232-T20	5	20	32	32	170	32	TNG60N..M-TJ TNG60R30M-TR	NW625	TNS625
NG5EHR/L3232-T25	5	25	32	32	170	32			
NG6EHR/L2525-T15	6	15	25	25	150	25			
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			
NG6EHR/L3225-T20	6	20	32	25	150	32	NW6325	TNS6325	
NG6EHR/L3225-T25	6	25	32	25	150	32			
NG6EHR/L3232-T15	6	15	32	32	170	32			
NG6EHR/L3232-T20	6	20	32	32	170	32	NW632	TNS632	
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			
NG8EHR/L3232-T20	8	20	32	32	170	32		NW832	TNS832
NG8EHR/L3232-T25	8	25	32	32	170	32			
NG8EHR/L3232-T30	8	30	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

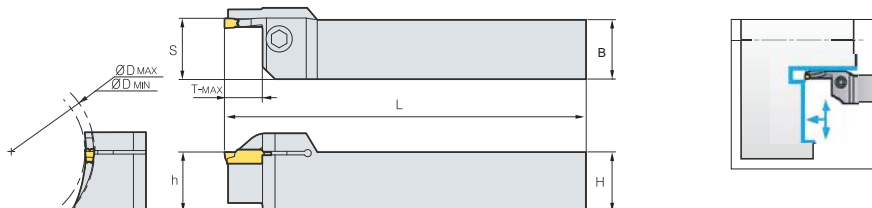
PSC Toolholder

Threading

Parting, Grooving

Miniature Tool

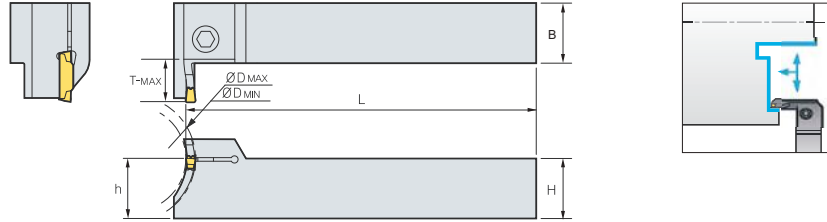
NG..TR/L



(mm)

Order No.	Dimension (mm)									Insert	Wrench 	Screw
	W	T-MAX	H	B	L	S	h	D MIN	D MAX			
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/L25-029040-T10	3	10	25	25	150	25.5	25	29	40		NTW325	TNTS325
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/L20-028042-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			
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	NTW425	TNTS425	
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			
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	TNG50N..M-TJ TNG50R25M-TR	NTW520	TNTS520
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			
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		NTW525	TNTS525
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			
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			
NG3VR/L25-024035-T10	3	10	25	25	150	25	24	35		NVW325	TNVS325
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			
NG3VR/L25-054085-T15	3	15	25	25	150	25	54	85			
NG4VR/L20-032050-T15	4	15	20	20	150	20	32	50	TNG40N..M-TJ TNG40R20M-TR	NVW420	TNVS420
NG4VR/L20-042060-T15	4	15	20	20	150	20	42	60			
NG4VR/L20-052085-T15	4	15	20	20	150	20	52	85			
NG4VR/L25-022040-T12	4	12	25	25	150	25	22	40		NVW425	TNVS425
NG4VR/L25-032050-T15	4	15	25	25	150	25	32	50			
NG4VR/L25-042060-T15	4	15	25	25	150	25	42	60			
NG4VR/L25-052085-T15	4	15	25	25	150	25	52	85			
NG5VR/L20-050080-T20	5	20	20	20	150	20	50	80	TNG50N..M-TJ TNG50R25M-TR	NVW520	TNVS520
NG5VR/L20-070110-T20	5	20	20	20	150	20	70	110			
NG5VR/L20-100150-T20	5	20	20	20	150	20	100	150			
NG5VR/L20-140200-T20	5	20	20	20	150	20	140	200			
NG5VR/L25-050080-T20	5	20	25	25	150	25	50	80		NVW525	TNVS525
NG5VR/L25-070110-T20	5	20	25	25	150	25	70	110			
NG5VR/L25-100150-T20	5	20	25	25	150	25	100	150			
NG5VR/L25-140200-T20	5	20	25	25	150	25	140	200			
NG6VR/L25-048085-T20	6	20	25	25	150	25	48	85	TNG60N..M-TJ TNG60R30M-TR	NVW625	TNVS625
NG6VR/L25-073150-T20	6	20	25	25	150	25	73	150			
NG6VR/L25-138250-T20	6	20	25	25	150	25	138	250			


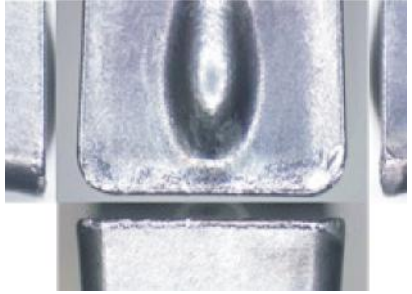
TNG Series Standard Cutting Conditions

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



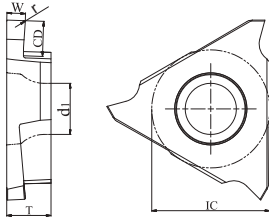
Applications

Insert	Workpiece name	Aerospace parts (COMP AFT INNER)	Workpiece material	Inconel 718
	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)		
External Toolholder	Division	TOTIME		Competitor(T)
	Tool life/ Wear image (7min)			
Internal Toolholder	Status comparison	Normal wear		Lots of chipping at edge
PSC Toolholder	Result	Wear and damage comparison → Better wear resistance performance than competitor		

Threading	Workpiece name	Automobile parts (turbocharger housing)	Workpiece material	1.4837
	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)		
Parting , Grooving	Division	TOTIME		Competitor(T)
	Tool life/ Wear image			
Miniature Tool	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		

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		0.1	9.525	3.18	4.4	●	○
GB3200R/L -010	2.00		2.5	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		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	4.0	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		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	5.0	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	●	○

GB

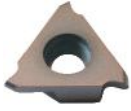
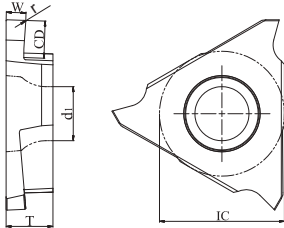


Material	TG4230	
Steel	P	●
Stainless	M	●
Cast Iron	K	●

● : Stock ○ : Non-Stock

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

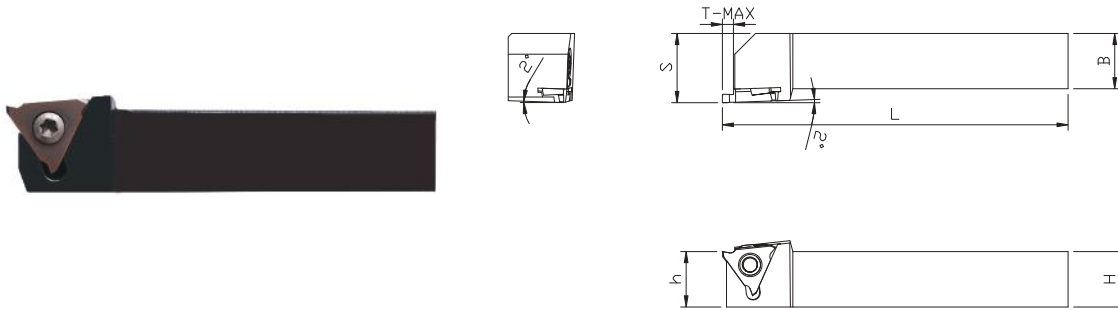
Insert
 External Toolholder
 Internal Toolholder
 PSC Toolholder
 Threading
 Parting, Grooving
 Miniature Tool



GBR					<table border="1"> <tr> <th>Material</th> <th colspan="2">TG4230</th> </tr> <tr> <td>Steel</td> <td style="background-color: #00aaff; color: white;">P</td> <td>●</td> </tr> <tr> <td>Stainless</td> <td style="background-color: #ffff00; color: black;">M</td> <td>●</td> </tr> <tr> <td>Cast Iron</td> <td style="background-color: #ff0000; color: white;">K</td> <td>●</td> </tr> </table>		Material	TG4230		Steel	P	●	Stainless	M	●	Cast Iron	K	●
	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

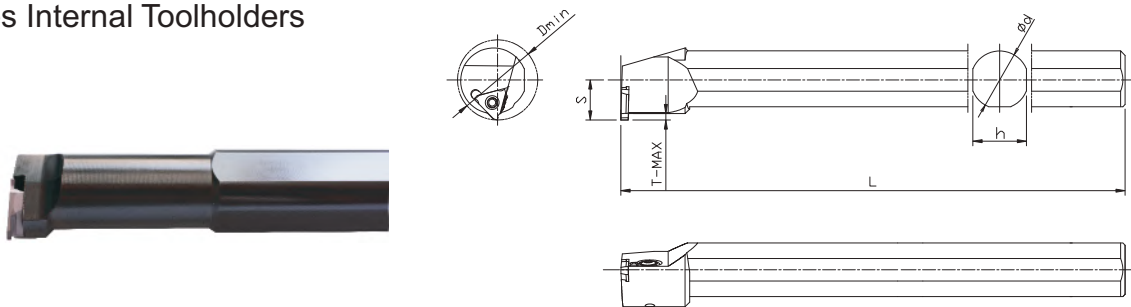
ISO	Workpiece Material	Vc(m/min)	Grooving					Turning				
			Edge Width (mm)					Edge Width (mm)				
			0.75-1.00	1.20-2.00	2.50-3.00	3.30-4.00	4.30	0.75-1.00	1.20-2.00	2.50-3.00	3.30-4.00	4.30
			f(mm/min)					f(mm/min)				
P	Carbon Steel	80-200	0.03-0.08	0.04-0.09	0.05-0.10	0.05-0.12	0.05-0.12	—	0.04-0.09	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






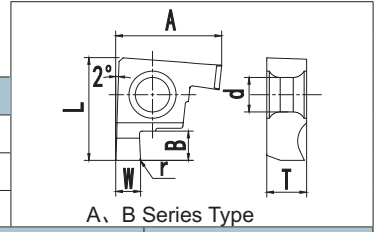
Order No.	Dimension (mm)						Insert	Wrench 	Screw 
	T-MAX	Dmin	Φd	L	S	h			
GBIR/L2620Q3	3.0	26	20	180	13	18	GB3...	TT15P	SI60M
GBIR/L3525R4	4.5	35	25	200	17.5	23	GB4/GBR4...	TT20P	SI60M

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

TGE Series Inserts for Grooving

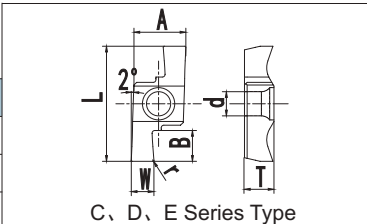


Model	A(mm)	L(mm)	T (mm)	d (mm)	Material Recommended	Grade	TG1225
TGER**-A	6.69	6.50	2.58	2.5	● Good recommendation	Stainless	M ●
TGER**-B	8.46	8.20	3.18	2.7		Cast Iron	K ●
TGER**-C	5.80	11.48	4.05	2.8			
TGER**-D	6.80	16.44	5.05	3.4			
TGER**-E	9.54	21.66	5.55	4.4			

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	
	TGER080-B	TGEL080-B	0.80	1.8	0.05	SIGER/L1010B-EH SIGER/L1010B-WH SIGER/L1210B-EH
	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	
	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	SIGER/L1412C-EH SIGER/L1612C-EH SIGER/L1616C-EH
	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 Material Recommended	Grade		TG1225
TGER**-B	8.46	8.20	3.18	2.7		Steel		P ●
TGER**-C	5.80	11.48	4.05	2.8		Stainless		M ●
TGER**-D	6.80	16.44	5.05	3.4		Cast Iron		K ●
TGER**-E	9.54	21.66	5.55	4.4				
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



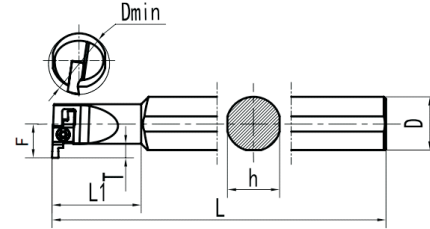
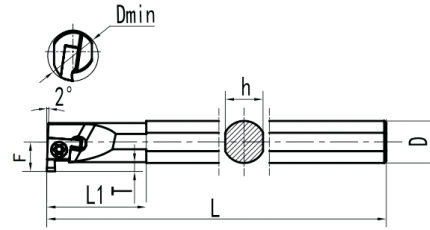
TGE Series Inserts for Grooving

Model	A(mm)	L(mm)	T (mm)	d (mm)	Material Recommended	Grade	TG1225	● Good recommendation								
TGER**-A	6.69	6.5	2.58	2.5						Steel	P	●				
TGER**-B	8.46	8.2	3.18	2.7												
TGER**-C	5.8	11.48	4.05	2.8										Stainless	M	●
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	
	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	SIGER/L2525E-EH SIGER/L3232E-EH SIGER/L4032E-EH
	TGER250-125ER	TGEL250-125ER	2.5	5.5	1.25	
	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		



TGE Series Inserts for Face Grooving

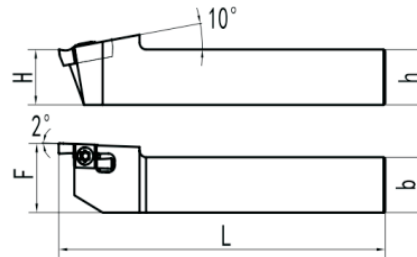
Model	A(mm)	L(mm)	T (mm)	d (mm)		
TGER**-D	6.8	16.44	5.05	3.4	● Good recommendation	
					Material Recommended	Grade TG1225
						Steel P ●
						Stainless M ●
						Cast Iron K ●

DM Series Type

DM...R Series Type

Insert	Order No.	External Dia. of the Groove	Dimensions (mm)			Toolholders
			W	B	r	
	TGER200DM10-D	>10mm	2.0	3.5	0.20	SEGEL1010K-D SEGEL1212K-D SEGEL1616H-D SEGEL2020K-D SEGEL2525M-D
	TGER250DM15-D	>15mm	2.5	4.5	0.20	
	TGER300DM15-D	>15mm	3.0	4.5	0.20	
	TGER400DM15-D	>15mm	4.0	4.5	0.20	
	TGER200DM10R100-D	>10mm	2.0	3.5	1.00	
	TGER250DM15R125-D	>15mm	2.5	4.5	1.25	
	TGER300DM15R150-D	>15mm	3.0	4.5	1.50	
	TGER400DM15R200-D	>15mm	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

Insert

External Toolholder

Internal Toolholder

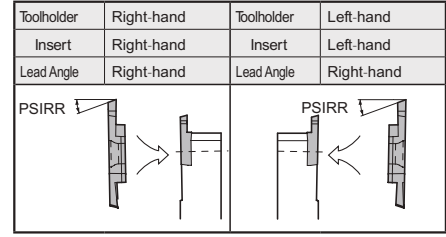
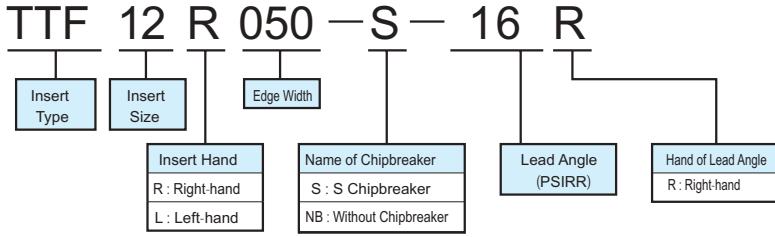
PSC Toolholder

Threading

Parting , Grooving

Miniature Tool

◆ Inserts Identification System

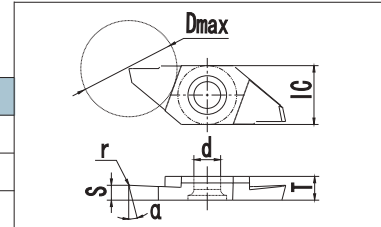


TTF Series Inserts for Parting-off

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 ●



Insert	Order No.		Dimensions (mm)				Toolholders
	Right hand	Left hand	W	α	Dmax	r	
	TTF12R050-S	TTF12L050-S	0.5	0	5	0.05	KTKFR/L1010K-12 KTKFR/L1212K-12 KTKFR/L1212M-12 KTKFR/L1616M-12 KTKFR/L2020M-12 KTKFR/L2525M-12
	TTF12R070-S	TTF12L070-S	0.7	0	8	0.05	
	TTF12R100-S	TTF12L100-S	1.0	0	12	0.08	
	TTF12R150-S	TTF12L150-S	1.5	0	12	0.08	
	TTF12R200-S	TTF12L200-S	2.0	0	12	0.08	
	TTF12R050-S-16R	TTF12L050-S-16R	0.5	16	5	0.05	
	TTF12R070-S-16R	TTF12L070-S-16R	0.7	16	8	0.05	
	TTF12R100-S-16R	TTF12L100-S-16R	1.0	16	12	0.08	
	TTF12R150-S-16R	TTF12L150-S-16R	1.5	16	12	0.08	
	TTF12R200-S-16R	TTF12L200-S-16R	2.0	16	12	0.08	
	TTF12R050-NB	TTF12L050-NB	0.5	0	5	0.05	KTKFR/L1010K-16 KTKFR/L1212K-16 KTKFR/L1212M-16 KTKFR/L1616M-16 KTKFR/L2020M-16 KTKFR/L2525M-16
	TTF12R070-NB	TTF12L070-NB	0.7	0	8	0.05	
	TTF12R100-NB	TTF12L100-NB	1.0	0	12	0.08	
	TTF12R150-NB	TTF12L150-NB	1.5	0	12	0.08	
	TTF12R200-NB	TTF12L200-NB	2.0	0	12	0.08	
	TTF12R050-NB-20R	TTF12L050-NB-20R	0.5	20	5	0.05	
	TTF12R070-NB-20R	TTF12L070-NB-20R	0.7	20	8	0.05	
	TTF12R100-NB-20R	TFK12L100-NB-20R	1.0	20	12	0.08	
	TTF12R150-NB-20R	TTF12L150-NB-20R	1.5	20	12	0.08	
	TTF12R200-NB-20R	TTF12L200-NB-20R	2.0	20	12	0.08	
	TTF16R100-S	TTF16L100-S	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-S	TTF16L150-S	1.5	0	16	0.10	
	TTF16R200-S	TTF16L200-S	2.0	0	16	0.10	
	TTF16R250-S	TTF16L250-S	2.5	0	16	0.10	
	TTF16R300-S	TTF16L300-S	3.0	0	16	0.15	
	TTF16R100-S-16R	TTF16L100-S-16R	1.0	16	16	0.08	
	TTF16R150-S-16R	TTF16L150-S-16R	1.5	16	16	0.10	
	TTF16R200-S-16R	TTF16L200-S-16R	2.0	16	16	0.10	
	TTF16R250-S-16R	TTF16L250-S-16R	2.5	16	16	0.10	
	TTF16R300-S-16R	TTF16L300-S-16R	3.0	16	16	0.15	

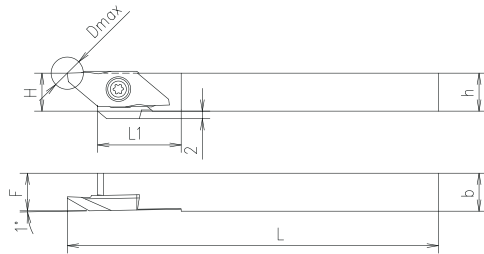
Right-hand Insert for Right-hand Toolholder
Left-hand Insert for Left-hand Toolholder

Model	IC (mm)	T (mm)	d (mm)	● Good recommendation			
				Material Recommended	Grade	TG1225	
TTF12**	8.7	3	5	Material Recommended	Steel	P ●	
TTF16**	9.5	4	5		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					
KTKFR1212M-12		12	12	12	12					
KTKFR1616M-12		16	16	16	16	150		—		
KTKFR2020M-12		20	20	20	20					
KTKFR2525M-12		25	25	25	25					
KTKFR1010K-16	TTF16R**	10	10	10	10		125	16	20	L60M410
KTKFR1212K-16		12	12	12	12					
KTKFR1212M-16		12	12	12	12					
KTKFR1616M-16		16	16	16	16	150	—			
KTKFR2020M-16		20	20	20	20					
KTKFR2525M-16		25	25	25	25					
KTKFL1010K-12	TTF12L**	10	10	10	10		125	12	15	L60M410
KTKFL1212K-12		12	12	12	12					
KTKFL1212M-12		12	12	12	12					
KTKFL1616M-12		16	16	16	16	150	—			
KTKFL2020M-12		20	20	20	20					
KTKFL2525M-12		25	25	25	25					
KTKFL1010K-16	TTF16L**	10	10	10	10		125	16	20	L60M410
KTKFL1212K-16		12	12	12	12					
KTKFL1212M-16		12	12	12	12					
KTKFL1616M-16		16	16	16	16	150	—			
KTKFL2020M-16		20	20	20	20					
KTKFL2525M-16		25	25	25	25					


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

TTF Series Standard Cutting Conditions

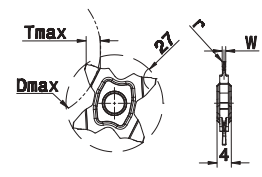
ISO	Workpiece Material	Vc(m/min)	TTF12					TTF16				
			Edge Width (mm)					Edge Width (mm)				
			0.5	0.7	1.0	1.5	2.0	1.0	1.5	2.0	2.5	3.0
			f(mm/r)					f(mm/r)				
P	Carbon Steel	70-150	0.01-0.02	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.04	0.01-0.06	0.02-0.07	0.02-0.07	0.02-0.07	0.02-0.08
	Alloy Steel	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

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

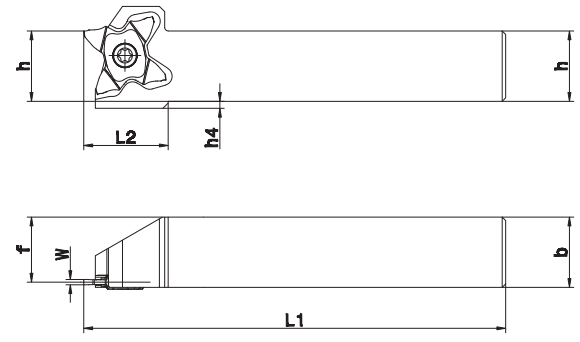
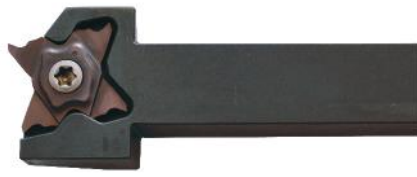
TTS27 Series for Inserts

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		

Material Recommended	Good recommendation		
	Grade	TG1230	TG1330
	Steel	P	●
	Stainless	M	●
Cast Iron	K	●	



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



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