

# Grooving

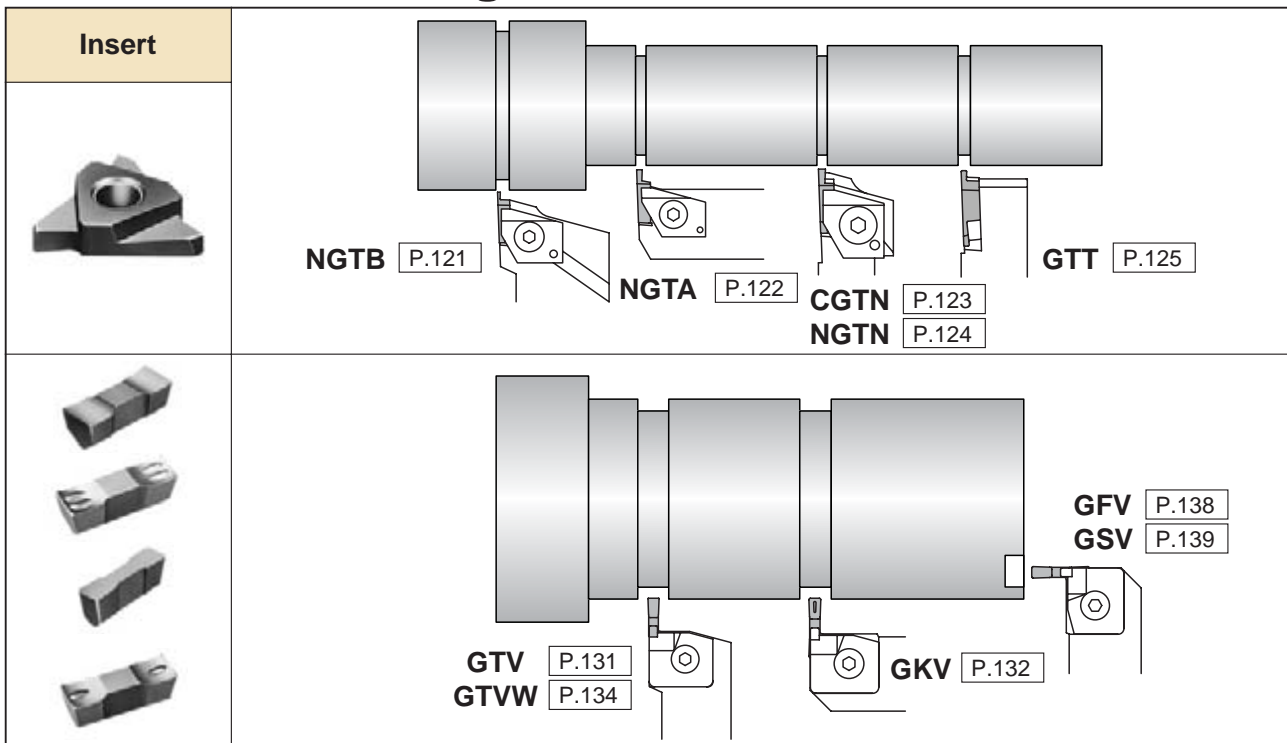


Outside Grooving P.121  
Internal Grooving P.135

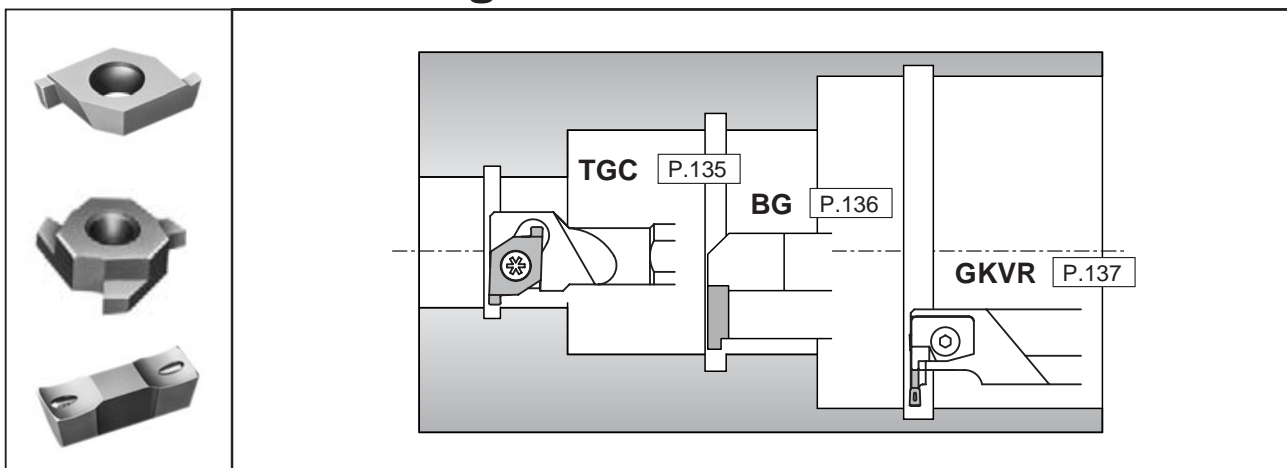
## Recommended Cutting Conditions

Insert Grade	Coated carbide				Cermet N40 · N20	
	QM3		ZM3		Cutting speed (m/min)	Feed (mm/rev)
Conditions Work piece	Cutting speed (m/min)	Feed (mm/rev)	Cutting speed (m/min)	Feed (mm/rev)		
Carbon steel Alloy steel	~ 200	~ 0.2	~ 180	~ 0.2	~ 250	~ 0.2
Stainless steel	~ 180	~ 0.15	~ 150	~ 0.15	~ 180	~ 0.15
Cast iron	~ 200	~ 0.2	~ 200	~ 0.2		

## Outside Grooving



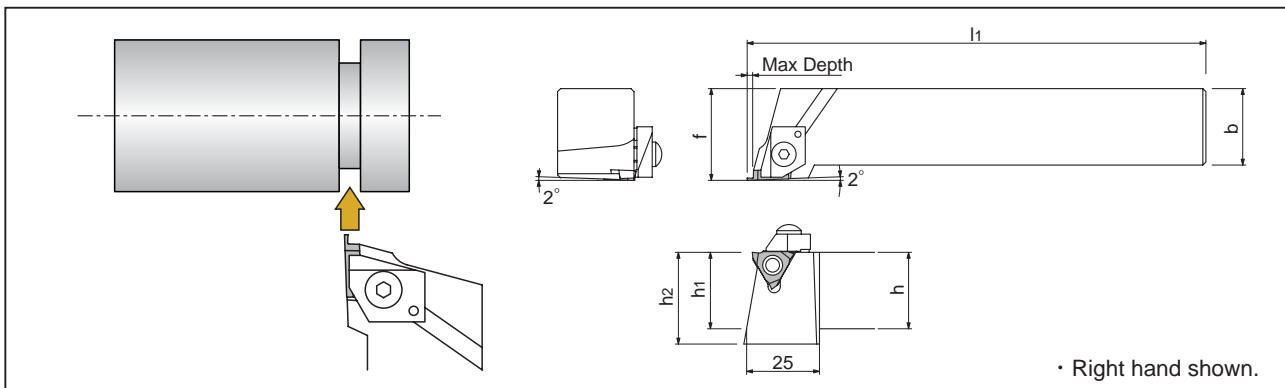
## Internal Grooving


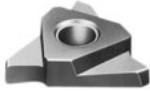


# Outside Grooving Holder









**NGTB**

**Clamp-on type**



Grooving condition		Dimensions (mm)						Insert	Item-No.	stock								
Width (mm)	Max Depth (mm)	h	b	l1	h1	h2	f			R	L							
0.30 ~ 1.45	3.0	20	20	125	20	-	25	<b>GTM..32</b>  P.126~128	NGTB <sup>R/L</sup>	202032 - 00S	●	●						
1.50 ~ 2.30										202032 - 15S	●	●						
2.50 ~ 3.00										202032 - 25S	●	○						
0.30 ~ 1.45		25	25	150	25	-	30			252532 - 00S	●	○						
1.50 ~ 2.30										252532 - 15S	●	●						
2.50 ~ 3.00										252532 - 25S	●	○						
1.45 ~ 2.49	3.5	16	16	100	16	25	20	<b>GTM..43</b>  P.129~130	NGTB <sup>R/L</sup>	161643 - 00S	○	○						
2.50 ~ 3.49	5.5									161643 - 20S	○	○						
3.50 ~ 5.50	3.5									161643 - 35S	○	○						
1.45 ~ 2.49	5.5									20	20	125	20	25	25	202043 - 00S	○	○
2.50 ~ 3.49																202043 - 20S	●	●
3.50 ~ 5.50																202043 - 35S	○	○
1.45 ~ 2.49	3.5	25	25	150	25	25	30	252543 - 00S	●	○								
2.50 ~ 3.49								252543 - 20S	●	●								
3.50 ~ 5.50								252543 - 35S	●	●								
2.50 ~ 3.49	5.5	32	25	170	32	32	30	322543 - 20S	●	●								
3.50 ~ 5.50								322543 - 35S	○	○								

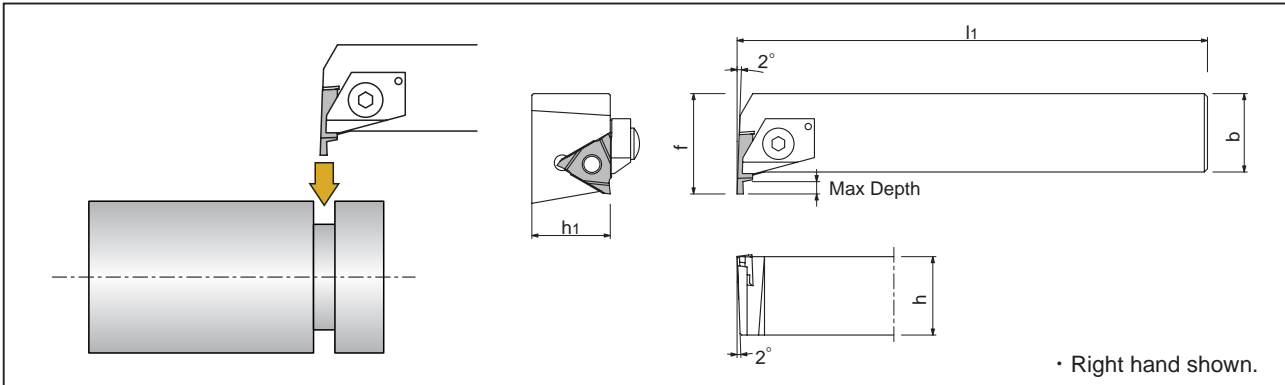
## ● Parts


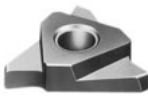
Item-No.	Clamp	Clamping screw	Spring	Wrench
NGTB <sup>R/L</sup> 202032 - 00S 202032 - 15S 202032 - 25S 252532 - 00S 252532 - 15S 252532 - 25S 161643 - 00S 161643 - 20S 161643 - 35S	 CP <sup>R/L</sup> 5	 AOS-5×25	 ASG-5	 LW-2.5
202043 - 00S 202043 - 20S 202043 - 35S 252543 - 00S 252543 - 20S 252543 - 35S 322543 - 20S 322543 - 35S	 CP <sup>R/L</sup> 6	 AOS-6×30	 ASG-6	 LW-2.5

# Outside Grooving Holder





**NGTA**

**Clamp-on type**



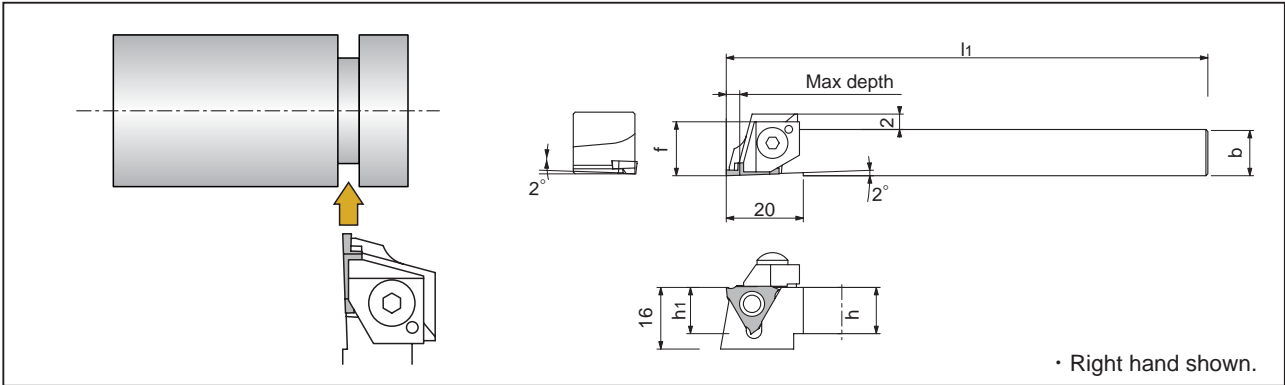
Grooving condition		Dimensions (mm)					Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	h	b	l1	h1	f			R	L
0.30 ~ 1.45	3.0	20	20	125	20	25	<b>GTM..32</b>  P.126~128	NGTA <sup>R/L</sup> 202032 - 00S  202032 - 15S  202032 - 25S	○	○
1.50 ~ 2.30										
2.50 ~ 3.00										
2.50 ~ 3.49	5.5	25	25	150	25	32	<b>GTM..43</b>  P.129~130	252543 - 20S  252543 - 35S	●	
3.50 ~ 5.50										


## ● Parts

Item-No.	Clamp	Clamping screw	Spring	Wrench
NGTA <sup>R/L</sup> 202032 - 00S  202032 - 15S  202032 - 25S	 <b>CP <sup>R/L</sup> 5</b>	 <b>AOS-5×25</b>	 <b>ASG-5</b>	 <b>LW-2.5</b>
252543 - 20S  252543 - 35S	<b>CP <sup>R/L</sup> 6</b>	<b>AOS-6×30</b>	<b>ASG-6</b>	<b>LW-2.5</b>





# CGTN

## Clamp-on type



Grooving condition		Dimensions (mm)						Insert	Item-No.		stock		
Width (mm)	Max Depth (mm)	h	b	l1	h1	f	g		R	L			
0.30 ~ 3.00	3.0	10	10	125	10	10	6	 GTM..32 P.126~128	CGTN <sup>R/L</sup>	101032K00	○	○	
1.45 ~ 3.00		10	10	125	10	10	6				101032K15	○	○
		12	12	125	12	12	4				121232K15	○	○
0.30 ~ 1.45		12	12	80	12	12	4				121232F00	○	○

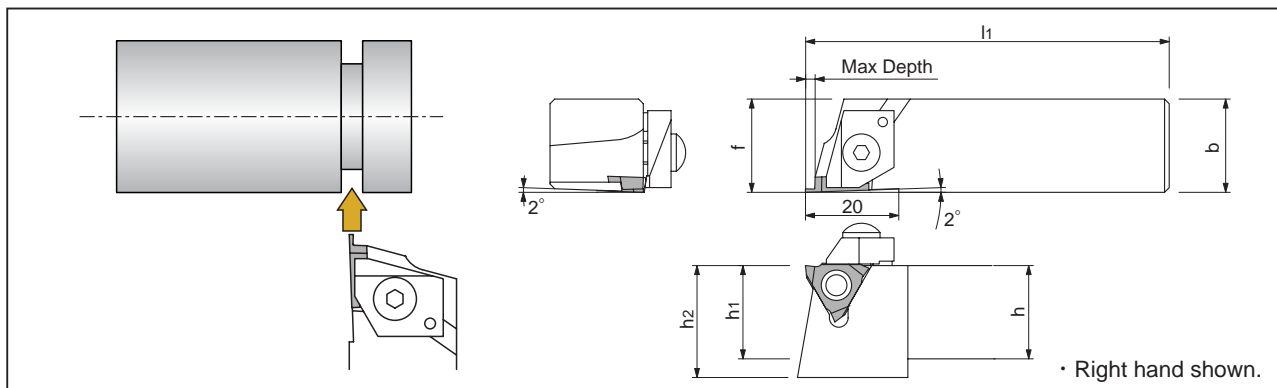
### ● Parts



Item-No.	Clamp	Clamping screw	Spring	Wrench
CGTN <sup>R/L</sup> 101032K00				
101032K15				
121232K15				
121232F00	CP <sup>R/L</sup> 5	AOS-5×25	ASG-5	LW-2.5

# Outside Grooving Holder





**NGTN**

**Clamp-on type**



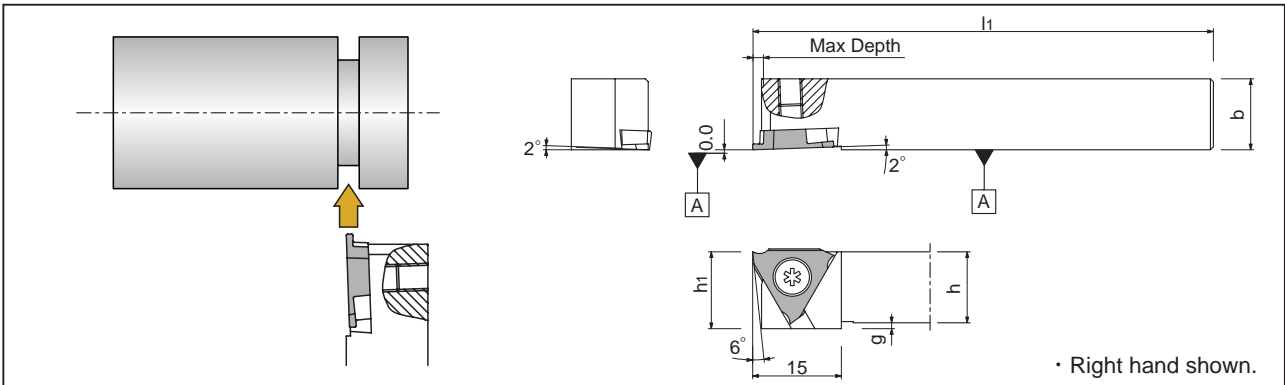
Grooving condition		Dimensions (mm)						Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	h	b	l1	h1	h2	f			R	L
0.30 ~ 1.45	3.0	16	16	78	16	-	16	<b>GTM..32</b>  P.126~128	NGTN <sup>R/L</sup> 161632 - 00  161632 - 15  161632 - 25	●	●
1.50 ~ 3.00										●	●
2.50 ~ 3.00										●	●
1.45 ~ 2.49	3.5	16	16	100	16	25	20	<b>GTM..43</b>  P.129~130	161643 - 00S  161643 - 20S  161643 - 35S	●	○
2.50 ~ 3.49	●									○	
3.50 ~ 5.50	●									○	


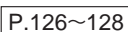
## ● Parts

Item-No.	Clamp	Clamping screw	Spring	Wrench
NGTN <sup>R/L</sup> 161632 - 00 161632 - 15 161632 - 25 161643 - 00S 161643 - 20S 161643 - 35S	 <b>CP <sup>R/L</sup> 5</b>	 <b>AOS-5×25</b>	 <b>ASG-5</b>	 <b>LW-2.5</b>



# GTT

## Screw-on type



Grooving condition		Dimensions (mm)					Insert	Item-No.	stock			
Width (mm)	Max Depth (mm)	h	b	l1	h1	g			R	L		
0.30 ~ 1.45	2.0	8	8	80	8	5		<b>GTT<sup>R/L</sup> 08F00</b> <b>10F00</b> <b>12F00</b> <b>10F15</b> <b>10F25</b> <b>08K00</b> <b>10K00</b> <b>12K00</b> <b>10K15</b> <b>10K25</b> <b>16K00</b>	○	○		
		10	10		10	3			●	○		
		12	12		12	1			●	○		
1.45 ~ 3.00	3.0	10	10	120	10	3			○	○		
2.50 ~ 3.00		10	10		10	3			○	○		
0.30 ~ 1.45	2.0	8	8		8	5				<b>08K00</b> <b>10K00</b> <b>12K00</b> <b>10K15</b> <b>10K25</b> <b>16K00</b>	○	○
		10	10		10	3					●	○
		12	12		12	1					●	○
1.45 ~ 3.00	3.0	10	10		10	3					●	○
2.50 ~ 3.00		10	10	10	3	○					○	
0.30 ~ 1.45	2.0	10	10	16	0	○					○	

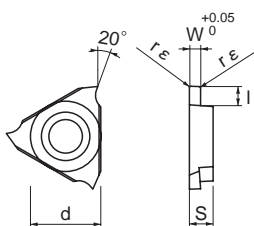
## Parts

Item-No.	Clamping screw	Wrench
GTT <sup>R/L</sup> 08F00 10F00 12F00 10F15 10F25 08K00 10K00 12K00 10K15 10K25 16K00	 <b>LR-S-4×10PW</b>	 <b>LLR×15S</b>

# GTM..32 type Outside Grooving Inserts

## Type U

Width tolerance  $W \begin{matrix} +0.05 \\ 0 \end{matrix}$

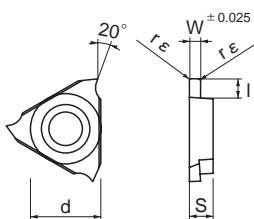


Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade													
Width (mm)	Max Depth (mm)	l	rε	d	s		ZM3		KM3											
							R	L	R	L										
0.30	0.3	0.6	0.03	9.525	3.18	GTMH 32030 <sup>R/L</sup> U	○	○	○	○										
0.50	0.9	1.2	0.05				GTMH 32050 <sup>R/L</sup> U	●	●	●	●									
0.75	1.6	2.0						GTMH 32075 <sup>R/L</sup> U	●		●	●								
0.80									GTMH 32080 <sup>R/L</sup> U	○	○	●	●							
0.95										GTMH 32095 <sup>R/L</sup> U	○	○	●	●						
1.00											GTMH 32100 <sup>R/L</sup> U	●	○	●	●					
1.03												GTMH 32103 <sup>R/L</sup> U	○							
1.25	GTMH 32125 <sup>R/L</sup> U	●											○	●	●					
1.45		2.7											3.0	GTMH 32145 <sup>R/L</sup> U	●	○	●	●		
1.50															GTMH 32150 <sup>R/L</sup> U	○	○	●	●	
1.75																GTMH 32175 <sup>R/L</sup> U	○	○	●	●
2.00			GTMH 32200 <sup>R/L</sup> U														●	●	●	●
2.50																	GTMH 32250 <sup>R/L</sup> U	●	○	●

## Type E

Width tolerance  $W \begin{matrix} \pm 0.025 \end{matrix}$



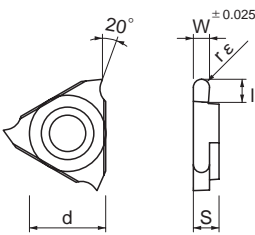
Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade											
Width (mm)	Max Depth (mm)	l	rε	d	s		ZM3											
							R	L										
0.33	0.3	0.6	0.03	9.525	3.18	GTMH 32033 <sup>R/L</sup> E	●	○										
0.43	0.9	1.2	0.05				GTMH 32043 <sup>R/L</sup> E	●	○									
0.53	1.6	2.0						GTMH 32053 <sup>R/L</sup> E	●	○								
0.75									GTMH 32075 <sup>R/L</sup> E	●	○							
0.95										GTMH 32095 <sup>R/L</sup> E	●	○						
1.00											GTMH 32100 <sup>R/L</sup> E	●	○					
1.20												GTMH 32120 <sup>R/L</sup> E	○	○				
1.40	GTMH 32140 <sup>R/L</sup> E	○											○					
1.50		2.7											3.0	GTMH 32150 <sup>R/L</sup> E	○	○		
1.80															GTMH 32180 <sup>R/L</sup> E	○	○	
2.00																GTMH 32200 <sup>R/L</sup> E	○	○
2.25			GTMH 32225 <sup>R/L</sup> E														○	○
2.50																	GTMH 32250 <sup>R/L</sup> E	○
2.75		GTMH 32275 <sup>R/L</sup> E											○					○
3.00													GTMH 32300 <sup>R/L</sup> E					●
1.00				1.6	2.0	GTMH 32100 <sup>R/L</sup> E01												○
1.20							GTMH 32120 <sup>R/L</sup> E01											○
1.50				2.7	3.0			GTMH 32150 <sup>R/L</sup> E01										●
1.50									GTMH 32200 <sup>R/L</sup> E01									●



## Type E

Width tolerance  $W \pm 0.025$  Full radius grooving type

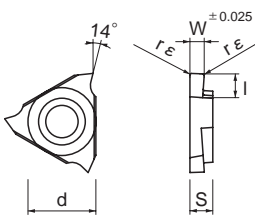


Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade		
Width (mm)	Max Depth (mm)	l	rε	d	s		ZM3		
1	1.6	2.0	0.5	9.525	3.2	GTMH 32100RE05			
2	2.7	3.0	1.0						○
3			1.5						●

## Type VT

Width tolerance  $W \pm 0.025$  For grooving and turning operation



Right hand shown

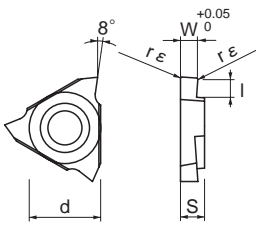
Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		VM1	
							R	L
0.33	0.3	0.6	0.00	9.53	3.18	GTMH 32033 <sup>R/L</sup> VT	○	
0.43	0.9	1.2					○	
0.53	1.6	2.0					○	
0.65							○	●
0.75							○	●
0.80							○	
0.85							○	
0.95							○	
1.00							○	
1.10	○							
1.20	○							
1.30	○							
1.45	○							
1.50	2.7	3.0	○					
2.00			○					

# GTM..32 type Outside Grooving Inserts

## Cermet Insert

Width tolerance  $W \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$

Moulded chipbreaker



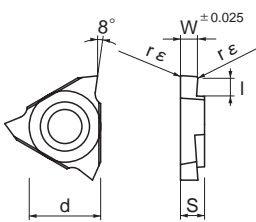
Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		N40	
							R	L
0.75	1.6	2.0	0.1	9.525	3.18	GTM	32075 <sup>R/L</sup> 01	●
0.95							32095 <sup>R/L</sup> 01	●
1.00							32100 <sup>R/L</sup> 01	●
1.25							32125 <sup>R/L</sup> 01	
1.45	2.7	3.0	0.2	9.525	3.18		32145 <sup>R/L</sup>	○
1.50							32150 <sup>R/L</sup>	○
1.75							32175 <sup>R/L</sup>	
2.00							32200 <sup>R/L</sup>	○
2.30							32230 <sup>R/L</sup>	○
2.50							32250 <sup>R/L</sup>	○
3.00							32300 <sup>R/L</sup>	○

## Cermet Insert

Width tolerance  $W \begin{smallmatrix} \pm 0.025 \end{smallmatrix}$

Moulded chipbreaker

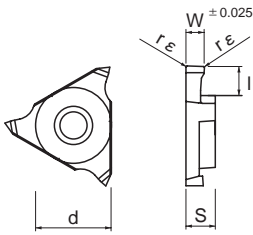
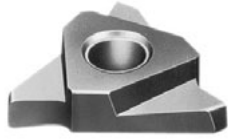


Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		N20	
							R	L
0.75	1.6	2.0	0.1	9.53	3.18	GTM	32075 <sup>R/L</sup> 01	
0.95			32095 <sup>R/L</sup> 01					
1.00			32100 <sup>R/L</sup> 01					
1.00			32100 <sup>R/L</sup>				●	○
1.25	2.7	3.0	0.1	9.53	3.18		32125 <sup>R/L</sup> 01	○
1.45			32145 <sup>R/L</sup>				●	●
1.50			32150 <sup>R/L</sup>				●	○
1.75			32175 <sup>R/L</sup>				○	
2.00			32200 <sup>R/L</sup>				●	●
2.30			32230 <sup>R/L</sup>				○	●
2.50			32250 <sup>R/L</sup>				●	●
3.00			32300 <sup>R/L</sup>				●	●

## Carbide Insert

Width tolerance  $W \pm 0.025$  For grooving and turning operation

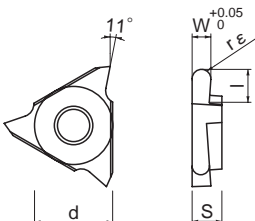
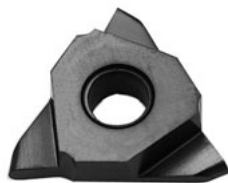


Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		QM3	
							R	L
1.45	2.8	3.5	0.2	12.7	4.76	GTMT 43145 <sup>R/L</sup>	○	○
1.50							○	○
1.75							○	○
1.85							○	○
2.00							○	○
2.30							○	○
2.50	4.4	5.5	0.3	12.7	5.76	GTMT 43250 <sup>R/L</sup>	○	●
2.65							○	○
2.80							○	○
3.00							○	○
3.30							○	○
3.50			○				○	
4.00			○				○	
4.30			○				○	
4.50			○				○	
5.00			○				○	
5.50	○	○						

## Full Radius grooving

Width tolerance  $W \begin{matrix} +0.05 \\ 0 \end{matrix}$



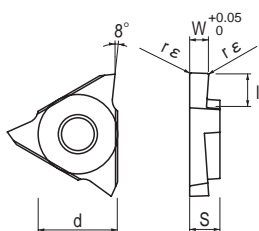
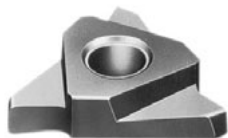
Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade
Width (mm)	Max Depth (mm)	l	rε	d	s		QM3
2.00	2.8	3.5	1.00	12.7	4.76	GTMA 43200R10R	○
3.00	4.4	5.5	1.50				○
4.00			2.00				○

## N40 Cermet Insert

Width tolerance  $W \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$

Moulded chipbreaker



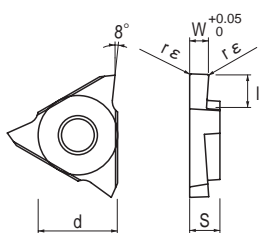
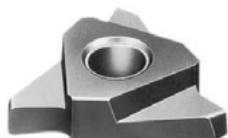
Right hand shown

Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		N40	
							R	L
2.00	2.8	3.5	0.2	12.7	4.76	GTM 43200 <sup>R/L</sup>	<input type="radio"/>	<input type="radio"/>
2.30							<input type="radio"/>	<input checked="" type="radio"/>
2.50	4.4	5.5					<input type="radio"/>	<input type="radio"/>
3.00							<input type="radio"/>	<input type="radio"/>
4.00							<input checked="" type="radio"/>	<input type="radio"/>
4.50							<input type="radio"/>	<input type="radio"/>

## N20 Cermet Insert

Width tolerance  $W \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$

Moulded chipbreaker



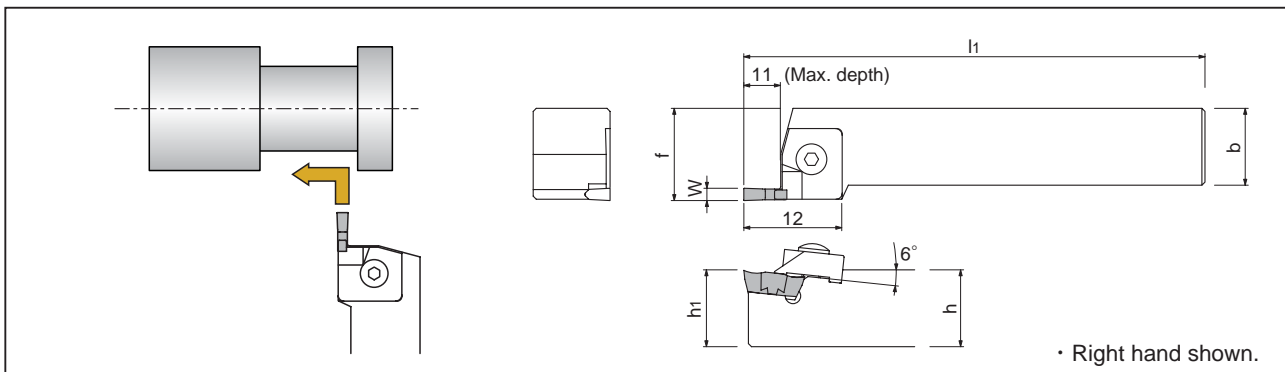
Right hand shown





Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rε	d	s		N20	
							R	L
2.00	2.8	3.5	0.2	12.7	4.76	GTMA 43200 <sup>R/L</sup>	<input checked="" type="radio"/>	<input type="radio"/>
2.30							<input type="radio"/>	<input type="radio"/>
2.50	4.4	5.5					<input type="radio"/>	<input checked="" type="radio"/>
2.65							<input type="radio"/>	<input type="radio"/>
2.80							<input type="radio"/>	<input type="radio"/>
3.00							<input checked="" type="radio"/>	<input checked="" type="radio"/>
3.30	<input type="radio"/>	<input type="radio"/>						
3.50	<input type="radio"/>	<input type="radio"/>						
4.00	<input checked="" type="radio"/>	<input type="radio"/>						
4.30	<input type="radio"/>	<input type="radio"/>						
4.50	<input type="radio"/>	<input type="radio"/>						

# Outside Grooving Holder





**GTV**

**Clamp-on type**



Grooving condition		Dimensions (mm)							Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	w	h	b	l1	h1	f	l2			R	L
3.00 ~ 3.50	11.0	3.0	16	16	100	16	20	25	 <b>GEV</b>	<b>GTV<sup>R/L</sup> 16 - 3N</b>	●	
3.00 ~ 3.50		3.0	20	20	125	20	25	32		<b>20 - 3N</b>	●	●
3.00 ~ 3.90		3.0	25	25	150	25	30	32		<b>25 - 3N</b>	●	●
4.00 ~ 5.90		4.0	16	16	100	18	20	25	 <b>GTV</b>	<b>16 - 4N</b>	●	●
4.00 ~ 5.90		4.0								<b>20 - 4N</b>	●	●
6.00 ~ 7.90		6.0	20	20	125	20	25	32	 <b>GVMB</b>	<b>20 - 6</b>	●	
8.00 ~ 9.00		8.0								<b>20 - 8</b>	●	
4.00 ~ 5.90		4.0								<b>25 - 4N</b>	●	●
6.00 ~ 7.90		6.0	25	25	150	25	30	32	 <b>GVMN GVGN</b>	<b>25 - 6</b>	●	●
8.00 ~ 9.00		8.0								<b>25 - 8</b>	●	
4.00 ~ 5.90		4.0								<b>32A - 4N</b>	●	●
6.00 ~ 7.90		6.0	32	25	170	32	30	32		<b>32A - 6</b>	●	●
8.00 ~ 9.00		8.0								<b>32A - 8</b>	●	●

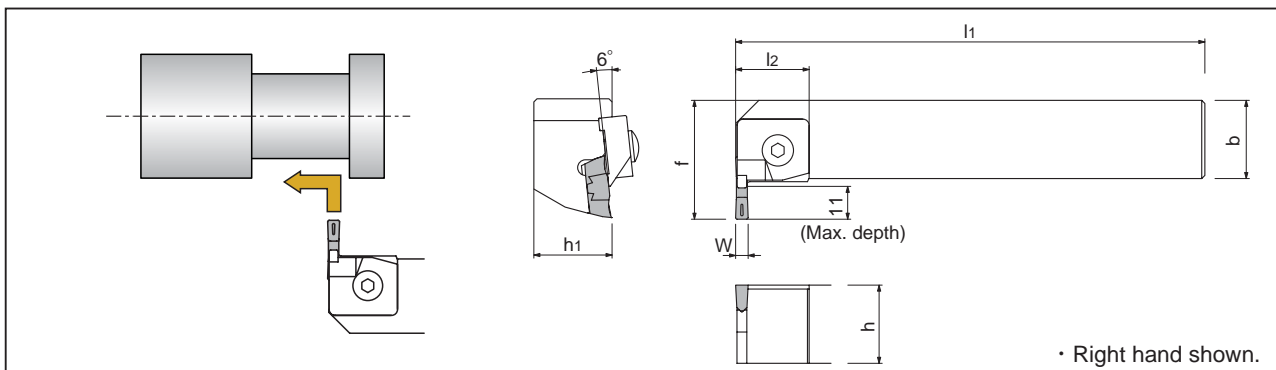
## ● Parts





Toolholder	Clamp	Clamping screw	Spring	Wrench
<b>GTV<sup>R/L</sup> 16 - 3N</b>	 <b>CV<sup>R/L</sup> 3N</b> <hr/> <b>CV<sup>R/L</sup> 4N</b> <hr/> <b>CV<sup>R/L</sup> 6</b> <hr/> <b>CV<sup>R/L</sup> 8</b> <hr/> <b>CV<sup>R/L</sup> 4N</b> <hr/> <b>CV<sup>R/L</sup> 6</b> <hr/> <b>CV<sup>R/L</sup> 8</b> <hr/> <b>CV<sup>R/L</sup> 4N</b> <hr/> <b>CV<sup>R/L</sup> 6</b> <hr/> <b>CV<sup>R/L</sup> 8</b>	  <b>AOB-6C</b>	  <b>ASG-6</b>	  <b>LW-4</b>
<b>20 - 3N</b>				
<b>25 - 3N</b>				
<b>16 - 4N</b>				
<b>20 - 4N</b>				
<b>20 - 6</b>				
<b>20 - 8</b>				
<b>25 - 4N</b>				
<b>25 - 6</b>				
<b>25 - 8</b>				
<b>32A4N</b>				
<b>32A6</b>				
<b>32A8</b>				

# Outside Grooving Holder





**GKV**

**Clamp-on type**



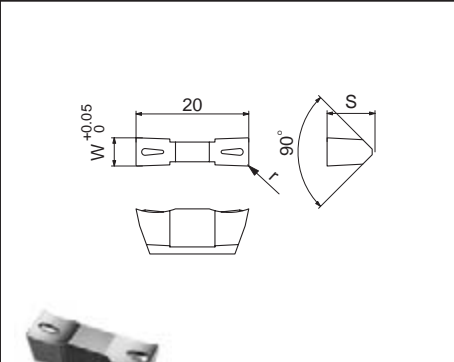
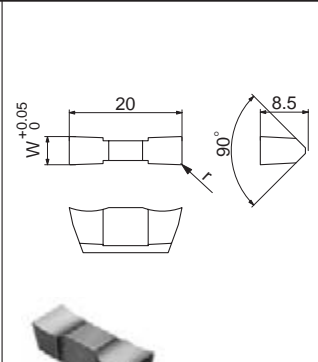
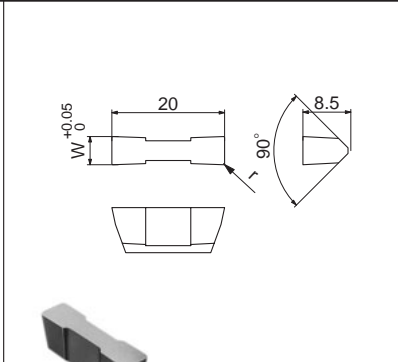
Grooving condition		Dimensions (mm)							Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	w	h	b	l1	h1	f	l2			R	L
4.00 ~ 5.90	11.0	4.0	20	20	125	20	23.5	33	 <b>GEV</b>	<b>GKV<sup>R/L</sup> 20 - 4N</b>	●	○
6.00 ~ 7.90		6.0									○	
8.00 ~ 9.00		8.0										
4.00 ~ 5.90		4.0	25	25	150	25	23.5	38	 <b>GTV</b>   <b>GVMB</b>   <b>GVMN</b> <b>GVGN</b> P.133	<b>25 - 4N</b>	●	○
6.00 ~ 7.90		6.0									○	
8.00 ~ 9.00		7.0										○

## ● Parts

Toolholder	Clamp	Clamping screw	Spring	Wrench	
<b>GKV<sup>R/L</sup> 20 - 4N</b>	 <b>CV<sup>R/L</sup> 4N</b>				
<b>20 - 6</b>					<b>CV<sup>R/L</sup> 6</b>
<b>20 - 8</b>					<b>CV<sup>R/L</sup> 8</b>
<b>25 - 4N</b>	<b>CV<sup>R/L</sup> 4N</b>	<b>AOB-6C</b>	<b>ASG-6</b>	<b>LW-4</b>	
<b>25 - 6</b>	<b>CV<sup>R/L</sup> 6</b>				
<b>25 - 8</b>	<b>CV<sup>R/L</sup> 8</b>				

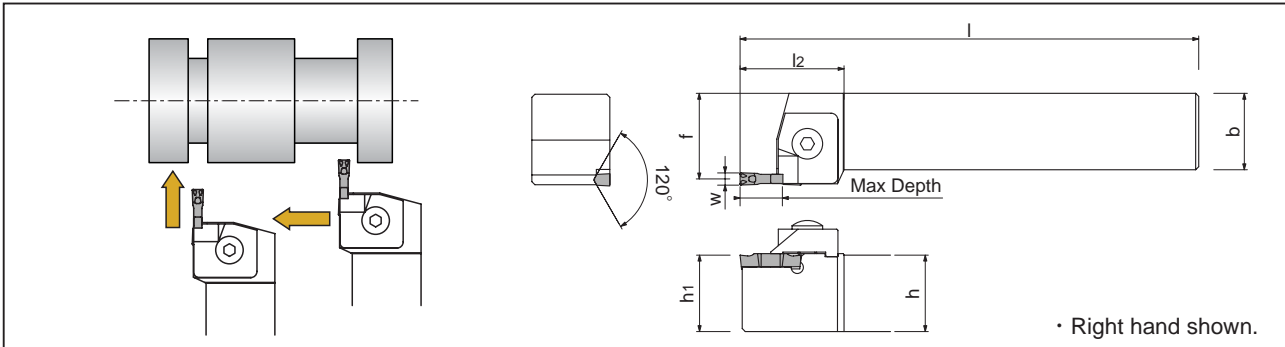
# Outside Grooving Insert

## ● Insert

Width (mm)												
	GEV	s	rE	Grade		GVMB	rE	Grade	GVMN / GVGN	rE	Grade	
				N40	QM3					N20	HC2	
3.00	300N	5.2	0.2	●	●				300N	0.2		
	300N04		0.4		●				300N04	0.4		●
3.50	350N	5.2	0.2						350N	0.2		
	350N04		0.4		●				350N04	0.4		
4.00	400N	8.5	0.2	●	●	20400N			400N	0.2	○	●
	400N04		0.4	●	●				400N04	0.4		●
4.50	450N	8.5	0.2			20450N			450N	0.2		
	450N04		0.4		●				450N04	0.4		
5.00	500N	8.5	0.2	●	●	20500N			500N	0.2	○	
	500N04		0.4		●				500N04	0.4		●
5.50	550N	8.5	0.2	●		20550N			550N	0.2	○	
	550N04		0.4		●				550N04	0.4		
6.00	600N	8.5	0.2	●	●	20600N			600N	0.2	○	●
	600N04		0.4	●	●				600N04	0.4		●
6.50	650N	8.5	0.2			20650N	0.2		650N	0.2	○	
	650N04		0.4		●				650N04	0.4		
7.00	700N	8.5	0.2			20700N			700N	0.2	○	
	700N04		0.4		●				700N04	0.4		
7.50	750N	8.5	0.2	●		20750N			750N	0.2	○	
	750N04		0.4		●				750N04	0.4		
8.00	800N	8.5	0.2	●		20800N			800N	0.2	○	●
	800N04		0.4		●				800N04	0.4		
9.00	900N	8.5	0.2			20900N			900N	0.2		●
	900N04		0.4						900N04	0.4		

# Outside Grooving Holder

## GTVW Clamp-on type

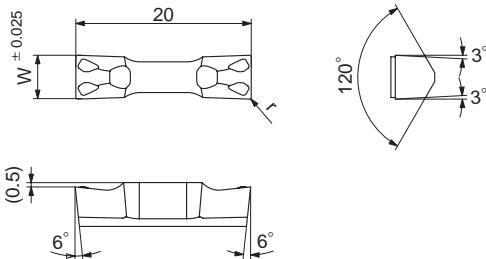


Grooving condition		Dimensions (mm)						Insert	Item-No.	stock		
Width (mm)	Max Depth (mm)	h	b	l	h1	f	l2			R	L	
3.0	8.0	20	20	125	20	23.5	34	GVW300	GTVW <sup>R/L</sup> 20 - 3	●	○	
		25	25	150	25	28				○	○	
4.0 5.0	8.0	20	20	125	16	23.5		GVW400 GVW500		20 - 4	●	○
		25	25	150	20	28				25 - 4	○	○
6.0	8.0	20	20	125	16	27		GVW600		20 - 6	○	○
		25	25	150	20					25 - 6	○	○

## Parts

Toolholder	Clamp	Clamping screw	Spring	Wrench	
GTVW <sup>R/L</sup> 20 - 3	CV <sup>R/L</sup> 3N				
25 - 3					CV <sup>R/L</sup> 4N
20 - 4					CV <sup>R/L</sup> 6
25 - 4		AOB-6C	ASG-6	LW-4	
20 - 5					
25 - 5					

## Insert



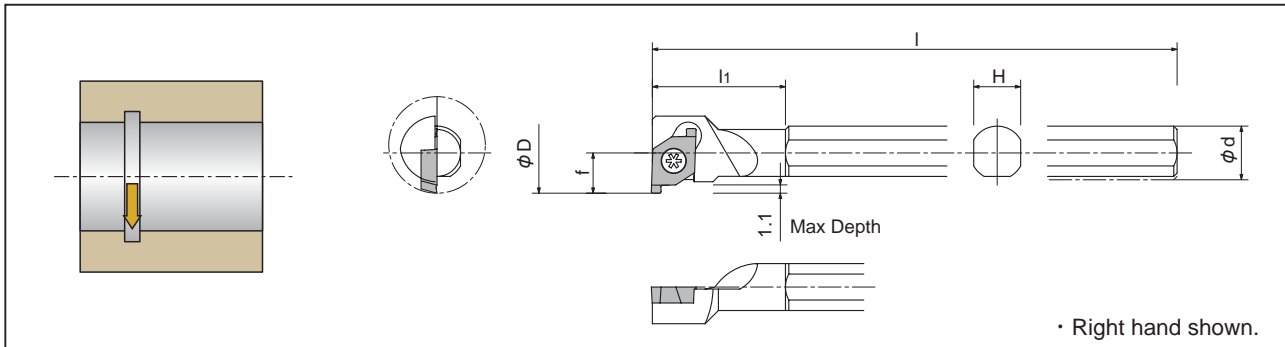
Toolholder	W	rε	QM3
GVW300N02	3.0	0.2	●
300N04		0.4	●
400N02	4.0	0.2	●
400N04		0.4	●
500N02	5.0	0.2	●
500N04		0.4	●
600N02	6.0	0.2	●
600N04		0.4	●

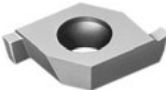


# Internal Grooving Holder

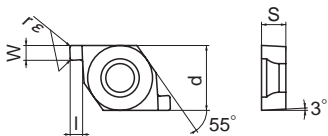
**TGC**

**Screw-on type**





Grooving condition		Dimensions (mm)					Insert	Item-No.	stock	
$\phi D$ (mm)	Max Depth (mm)	$\phi d$	H	l	$l_1$	f			R	L
12	1.1	8.0	16	16	100	16	<b>GDW..</b> 	TGC 10Z08H029R		
14		10.0	20	20	125	20		10Z10K030R		

## GDW Insert



Grooving condition		Dimensions (mm)				Item-No.	KM3	ZM3
Width (mm)	Max Depth (mm)	l	$r\epsilon$	d	s		L	L
0.75	1.1	1.2	0.2	6.35	2.38	GDW 07075L	○	
0.95						07095L	○	
1						07100L	○	
1.45						07145L	●	

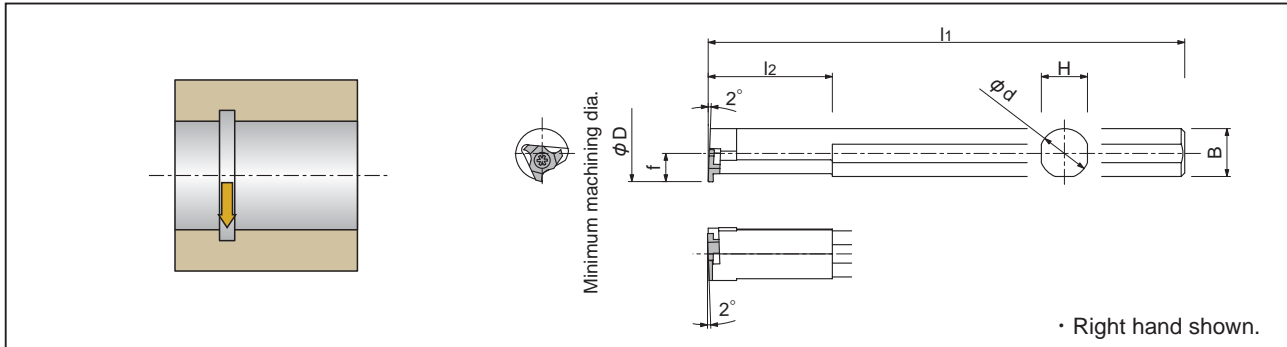
## ● Parts

Toolholder	Clamp	Wrench
TGC 10Z08H029R	 <b>LRIS×2.5×7</b>	 <b>RLR-15S</b>
10Z10K030R		

# Internal Grooving Holder

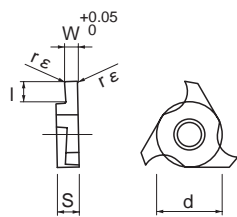
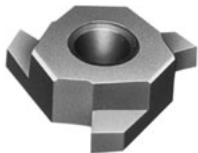
**BG**

**Screw-on type**



Grooving condition		Dimensions (mm)						Insert	Item-No.	stock	
$\phi D$ (mm)	Max Depth (mm)	$\phi d$	H	B	l1	l2	f			R	L
10	1.1	8	7	7.5	125	20	5	GTG10..	BG <sup>R/L</sup> 8	●	●
12		10	9	9.5	150	25	6			●	●
14	2	12	11	11.5	180	30	7	GTG14..	12	●	●
16		14	13	13.5	180	35	8			●	●
20	3	16	15	15.5	200	40	10	GTG20..	16	●	●
25		18	19	19.5	200	40	12			○	○



## GTG Insert



Right hand shown

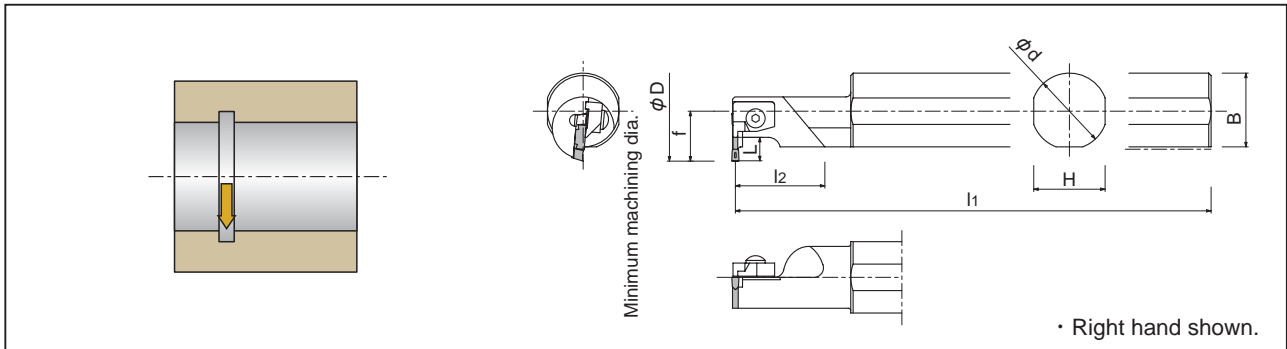
Grooving condition		Dimensions (mm)				Item-No.	Grade	
Width (mm)	Max Depth (mm)	l	rE	d	s		N20	ZM3
0.75	1.1	1.2	0.05	5.56	3.18	GTG 10075FL00	●	●
1			0.2			10100FL00	●	●
1.25			0.05			10125L	●	●
1.45			0.1			10145L	○	●
1.5			0.05			10150FL00	●	●
2			0.1			10200FL01	●	●
1	2.0	2.2	0.05	7.94	3.18	14100FL00	●	●
1.45			0.2			14145L	○	●
1.5			0.05			14145FL00	●	●
1.75			0.2			14175L	○	●
2			0.1			14200FL01	●	●
1.75			0.2			20175L	○	●
2	3.0	3.2	0.2	9.53	3.18	20200L	○	●
2			0.2			20200L	○	●


## ● Parts

Toolholder	Clamp	Wrench
BG <sup>R/L</sup> 8	 LR - S - 2.5×6.8	RLR - 15S
10		 LR - S - 3×7.8
12		
14		
16		
20		

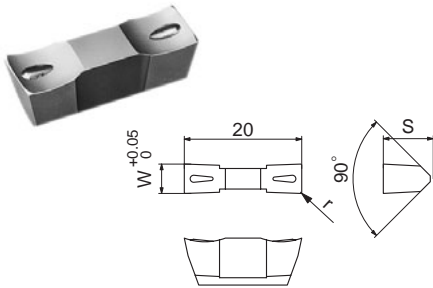
# GKV

## Clamp-on type







Grooving condition		Dimensions (mm)							Insert	Toolholder	stock	
$\phi D$ (mm)	Max Depth (mm)	$\phi d$	H	B	$l_1$	$l_2$	f	L			R	L
30	5	32	30	31	200	20	21	5.5		GKV <sup>R/L</sup> 3230 - 3	○	
40	7.5	32	30	31	250	20	23	7.5		GKV 3240 - 3	○	
50	9.5	40	38	39	300	35	29	9.5		GKV 4055 - 3	○	

# GEV Insert



Width (mm)	Dimensions (mm)		Item-No.	N40	QM3
	S	rε			
3	5.2	0.2	GEV 300N	●	●
		0.4	300N04		●
3.5	5.2	0.2	350N	○	
		0.4	350N04		●

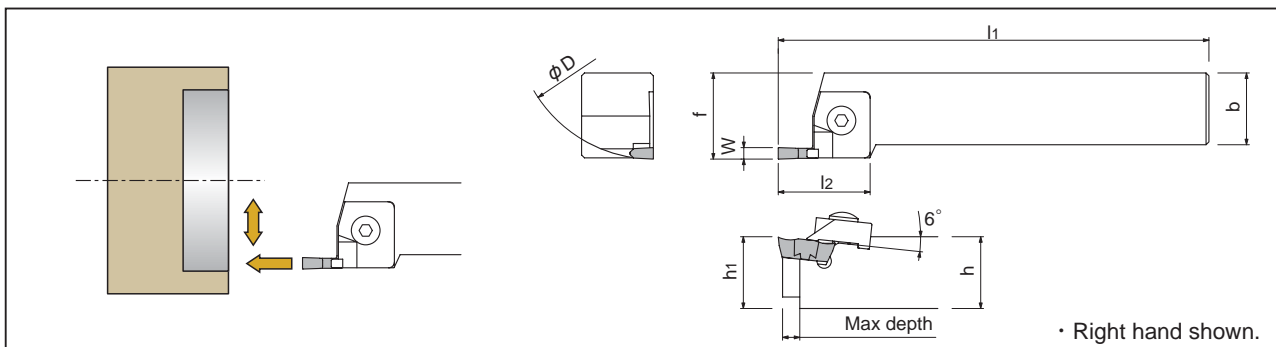
## ● Parts


Toolholder	Clamp	Clamping screw	Spring	Wrench
GEVW 300N	 CV <sup>R/L</sup> 35N	 AOB - 5C	 ASG - 5	 LW - 3
300N04				
350N				
350N04				

# Outside Grooving Holder

**GFV**

**Clamp-on type**

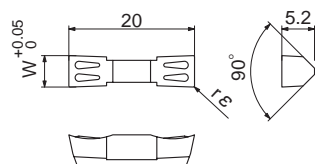


Grooving condition		Dimensions (mm)							Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	$\phi D$	H	b	l1	h1	l2	f			R	L
6	6.0	38	20	20	125	20	32	25		GFV <sup>R/L</sup> 20 - 6	<input type="radio"/>	<input checked="" type="radio"/>
6		38	25	25	150	25	32	30			25 - 6	<input checked="" type="radio"/>





## GFV Insert



Insert	W	r $\epsilon$	N40	QM3
GFV 600 N	6.0	0.15	<input type="radio"/>	<input type="radio"/>
600 N04		0.4	<input type="radio"/>	<input type="radio"/>

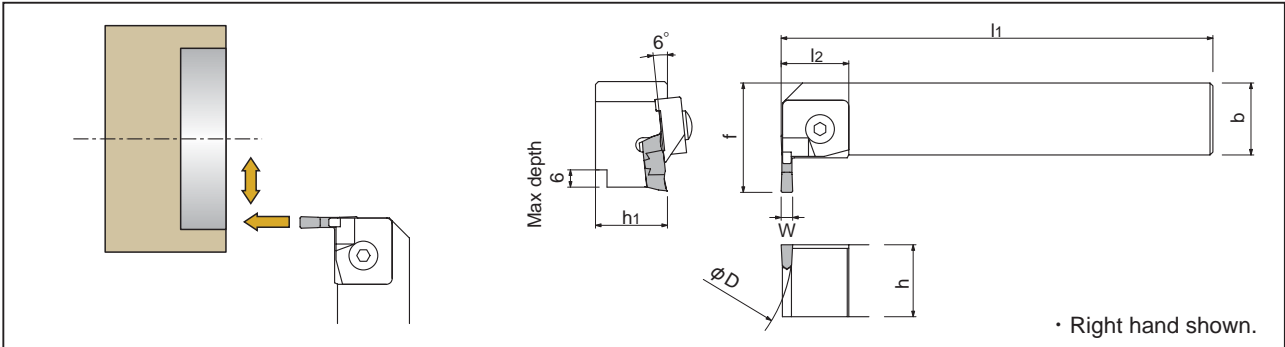



## ● Parts

Toolholder	Clamp	Clamping screw	Spring	Wrench
GFV <sup>R/L</sup> 20 - 6	 CV <sup>R/L</sup> 6	 AOB - 6C	 ASG - 6	 LW - 4
25 - 6				

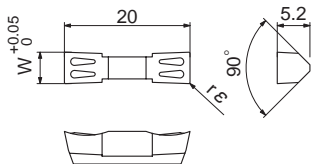
# GSV

## Clamp-on type







Grooving condition		Dimensions (mm)							Insert	Item-No.	stock	
Width (mm)	Max Depth (mm)	φD	H	b	l1	h1	l2	f			R	L
6	6.0	38	20	20	125	20	23.5	33		GSV <sup>R/L</sup> 20 - 6	○	○
6		38	25	25	150	25	23.5	38			●	○

# GFV Insert

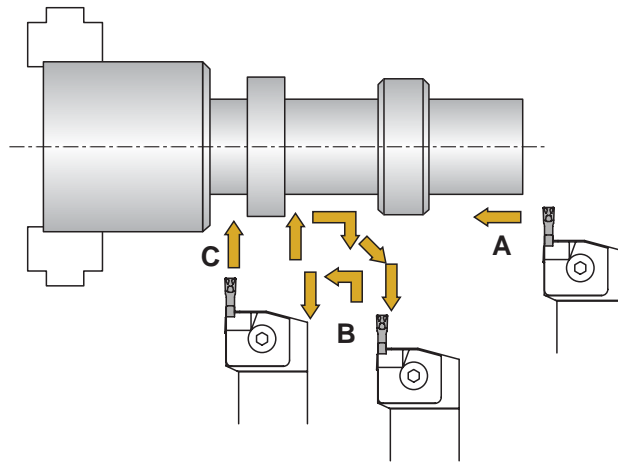


Insert	W	rε	N40	QM3
GFV 600 N	6.0	0.15	○	○
600 N04		0.4	○	○

## ● Parts

Toolholder	Clamp	Clamping screw	Spring	Wrench
GFV <sup>R/L</sup> 20 - 6	 CV <sup>R/L</sup> 6	 AOB - 6C	 ASG - 6	 LW - 4
25 - 6				

## ● GT Tool Applications

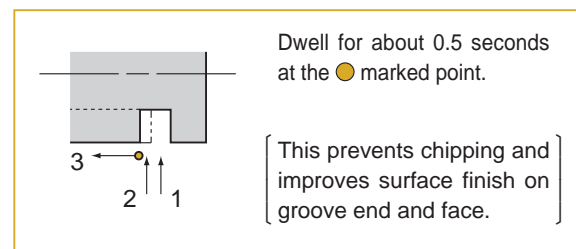


Note : For operation A and B, use of stronger insert (6mm wide) is recommended.

## ● Recommended Cutting Conditions

		A	B	C
		Outside Turning	Outside Turning	Outside Turning
Cutting speed (m/min)		50 ~ 150	50 ~ 150	50 ~ 150
Insert grade	Insert width	Feed × Max. depth of cut	(Max depth of cut, max feed)	Feedrate (mm/rev)
Cutting speed (m/min)	4mm	0.45	(3mm、0.15mm/rev)	0.05 ~ 0.15
	6mm	0.60	(3mm、0.2mm/rev)	0.05 ~ 0.15
Insert grade : QM3				
Cutting speed (m/min)		50 ~ 200	50 ~ 200	50 ~ 200
Insert grade	Insert width	Feed × Max. depth of cut	(Max depth of cut, max feed)	Feedrate (mm/rev)
QM3	4mm	0.70	(3mm、0.3mm/rev)	0.1 ~ 0.3
	6mm	1.00	(4mm、0.3mm/rev)	0.1 ~ 0.3

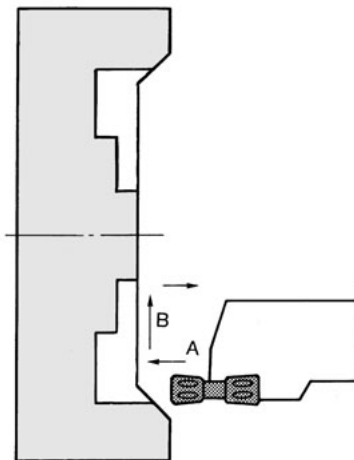
- In the case of side turning after grooving, it is recommended to groove twice, and to dwell for about 0.5 seconds in order to prevent the insert from breaking before side turning after the second groove.
- In case of grooving, it is recommended to make a step feeding in order to get better chip control.



Note : The recommended cutting conditions for GT tools, turning and, facing is based on alloy steel work material.

As the cutting condition varies depending on the workpiece material, it is recommended to establish the cutting condition to 80% of the optimum cutting conditions and then increase gradually.

## ● GFV / GSV Tool Applications

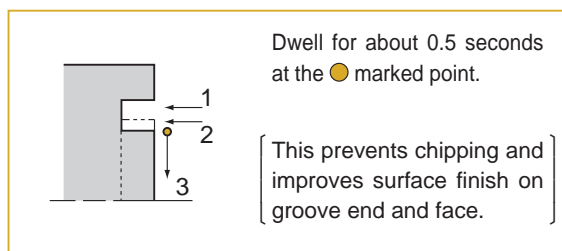


Note : It is recommended to feed from outside to the center as shown above for facing in order to prevent insert from breakage.

## ● Recommended Cutting Conditions

			B	A
			Side turning	Grooving
Cutting speed (m/min)			50 ~ 150	50 ~ 150
Insert grade	Insert width	Directions	Feed × Max. depth of cut (Max depth of cut, max feed)	Feedrate (mm/rev)
N40	6mm	Center to OD	0.5 (2mm、0.25mm/rev)	0.05 ~ 0.15
		OD to center	0.6 (3mm、0.2mm/rev)	0.05 ~ 0.15
Insert grade : QM3				
Cutting speed (m/min)			50 ~ 200	50 ~ 200
Insert grade	Insert width	Directions	Feed × Max. depth of cut (Max depth of cut, max feed)	Feedrate (mm/rev)
QM3	6mm	Center to OD	0.5 (2mm、0.25mm/rev)	0.1 ~ 0.3
		OD to center	0.6 (2mm、0.2mm/rev)	0.1 ~ 0.3

- In the case of side turning after grooving, it is recommended to groove twice, and to dwell for about 0.5 seconds in order to prevent the insert from breaking before side turning after the second groove.
- In case of side turning after grooving, it is recommended to make a step feeding in order to get better chip control.



## ● Reference Data

### ① Grooving and facing

Perform grooving with  $\phi$  38 or more (see figure right) and then facing either to the center or to OD side.

### ② Facing from center to outside

In case of end facing as shown on the right, since GFV / GSV tools do not work from outside to center on  $\phi$  38 or less perform facing from center to out side on this case.

