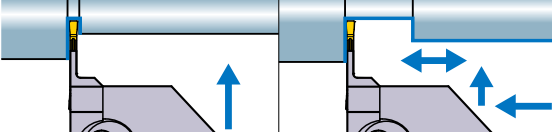


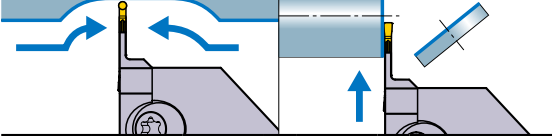
GY SERIES (EXTERNAL GROOVING PSC TYPE)

7-1 00° type holder (Inch)

Insert	GY2M ^{GS}	Insert	GY2G ^{MF}
Insert	GY2M ^{GU}	Insert	GY2M ^{MS}
Insert	GY1G ^{GS}	Insert	GY2M ^{MM}



Insert	GY2M ^{BM}	Insert	GY2M ^{GS}
		Insert	GY2M ^{GU}
		Insert	GY2M ^{R/L} ^{GM}



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.

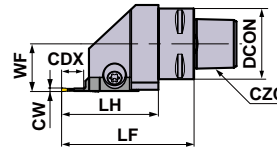


Fig. A

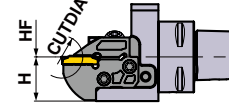
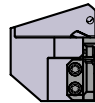


Fig. B

Right hand tool holder shown.




GROOVING

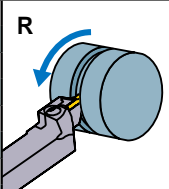
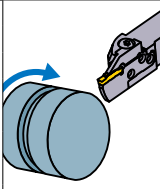
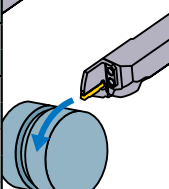
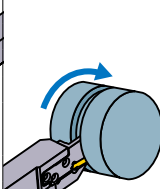
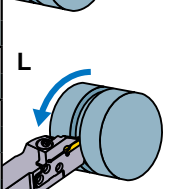
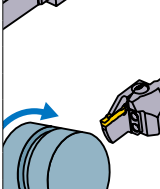
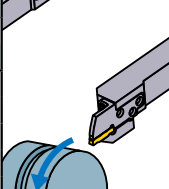
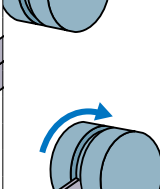
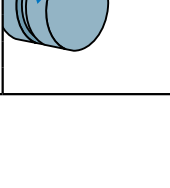
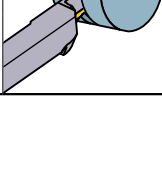




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
D	.079 .088	.236	.472	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-D06	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-D06	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-D06	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-D06	●	A	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-D06	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-D06	●	A	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-D06	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-D06	●	A	
		.394	.787	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-D10	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-D10	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-D12	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-D12	●	A	
		.472	.945	Modular	R	C5-GYHREX00-M25R	○	GYM25RA-D12	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-D12	●	A	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-D12	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-D12	●	A	
		.709 ^{*4} .787 ^{*1}	1.417 1.575 ^{*2}	Modular	R	C3-GYHRDX00-M20R	○	GYM20RB-D18	●	B	C3
					L	C3-GYHLDX00-M20L	○	GYM20LB-D18	●	B	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-D20	●	B	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-D20	●	B	
Modular	R			C5-GYHREX00-M25R	○	GYM25RA-D20	●	B	C5		
	L			C5-GYHLEX00-M25L	○	GYM25LA-D20	●	B			
Modular	R			C6-GYHRF00-M25R	○	GYM25RA-D20	●	B	C6		
	L			C6-GYHLF00-M25L	○	GYM25LA-D20	●	B			

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LDX00-M20R/L		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LEX00-M25R/L	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LEX00-M25R/L			
C6-GYHR/LF00-M25R/L			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	H	Clockwise	Anticlockwise
	1.260	2.323	1.724	.866	0	.787		
	1.260	2.323	1.724	.866	0	.787		
	1.575	2.638	1.843	1.063	0	.984		
	1.575	2.638	1.843	1.063	0	.984		
	1.969	2.638	1.843	1.378	0	1.063		
	1.969	2.638	1.843	1.378	0	1.063		
	2.480	2.835	1.961	1.772	0	1.378		
	2.480	2.835	1.961	1.772	0	1.378		
	1.260	2.559	1.961	.866	0	.787		
	1.260	2.559	1.961	.866	0	.787		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.260	2.795	2.197	.866	0	.787		
	1.260	2.795	2.197	.866	0	.787		
	1.575	3.189	2.394	1.063	0	.984		
	1.575	3.189	2.394	1.063	0	.984		
	1.969	3.189	2.394	1.378	0	1.063		
	1.969	3.189	2.394	1.378	0	1.063		
	2.480	3.386	2.512	1.772	0	1.378		
	2.480	3.386	2.512	1.772	0	1.378		

Select an Insert

Seat Size	Insert Number
D	GY○○0200/0224D○○○○-Breaker

For Grooving/Cutting off > F013, F014						
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
	CW	Neutral	Neutral	Neutral	Hand	Neutral
D	.079", 2.00mm	●	●	●	●	●

For Multifunctional Grooving > F014, F015					
Seat Size	Breaker	MF	MS	MM	BM
	CW				
D	.079", 2.00mm	●	●	●	●
	.088", 2.24mm	●			

● : Gauge insert shown dimensions

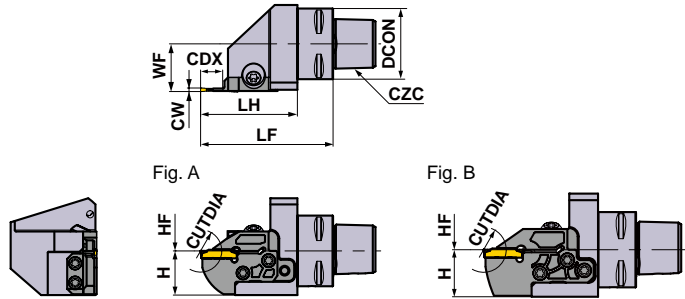
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

7-1 00° type holder (Inch)

Insert	GY2M ^{GS}	Insert	GY2G ^{MF}
Insert	GY2M ^{GU}	Insert	GY2M ^{MS}
Insert	GY1G ^{GS}	Insert	GY2M ^{MM}
Insert	GY2M ^{BM}	Insert	GY2M ^{GS}
		Insert	GY2M ^{GU}
		Insert	GY2M ^{R/L} ^{GM}

(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.






Right hand tool holder shown.

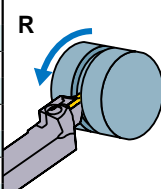
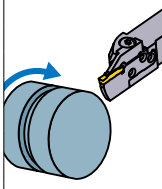
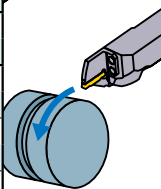
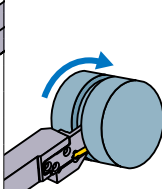
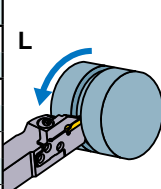
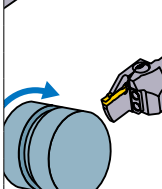
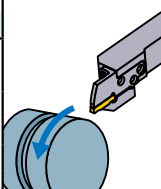
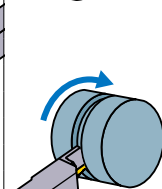
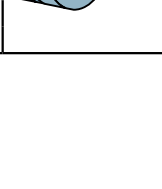
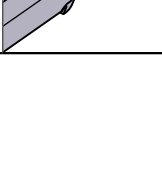




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
E	.094 .098 .108	.236	.472	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-E06	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-E06	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-E06	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-E06	●	A	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-E06	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-E06	●	A	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-E06	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-E06	●	A	
		.394	.787	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-E10	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-E10	●	A	
		.472	.945	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-E12	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-E12	●	A	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-E12	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-E12	●	A	
		.709 ^{*4}	1.417	Modular	R	C3-GYHRDX00-M20R	○	GYM20RB-E18	●	B	C3
					L	C3-GYHLDX00-M20L	○	GYM20LB-E18	●	B	
		.787 ^{*1}	1.575 ^{*2}	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-E20	●	B	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-E20	●	B	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-E20	●	B	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-E20	●	B	
Modular	R	C6-GYHRF00-M25R	○	GYM25RA-E20	●	B	C6				
	L	C6-GYHLF00-M25L	○	GYM25LA-E20	●	B					

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LDX00-M20R/L	GY06013M (Clamp Torque : 53 lbf-in)	TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LEX00-M25R/L		TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LEX00-M25R/L			
C6-GYHR/LF00-M25R/L			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	H	Clockwise	Anticlockwise
	1.260	2.323	1.724	.866	0	.787		
	1.260	2.323	1.724	.866	0	.787		
	1.575	2.638	1.843	1.063	0	.984		
	1.575	2.638	1.843	1.063	0	.984		
	1.969	2.638	1.843	1.378	0	1.063		
	1.969	2.638	1.843	1.378	0	1.063		
	2.480	2.835	1.961	1.772	0	1.378		
	2.480	2.835	1.961	1.772	0	1.378		
	1.260	2.559	1.961	.866	0	.787		
	1.260	2.559	1.961	.866	0	.787		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.260	2.795	2.197	.866	0	.787		
	1.260	2.795	2.197	.866	0	.787		
	1.575	3.189	2.394	1.063	0	.984		
	1.575	3.189	2.394	1.063	0	.984		
	1.969	3.189	2.394	1.378	0	1.063		
	1.969	3.189	2.394	1.378	0	1.063		
	2.480	3.386	2.512	1.772	0	1.378		
	2.480	3.386	2.512	1.772	0	1.378		

Select an Insert

Seat Size	Insert Number
E	GY00239/0250/0274E0000-Breaker

For Grooving/Cutting off > F013, F014						
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		Neutral	Neutral	Neutral	Hand	Neutral
E	.094", 2.39mm	●	●	●	●	●
	.098", 2.50mm	●	●	●	●	●

For Multifunctional Grooving > F014, F015					
Seat Size	Breaker	MF	MS	MM	BM
					Ball nose
E	.094", 2.39mm	●			
	.098", 2.50mm	●	●	●	●
	.108", 2.74mm	●			

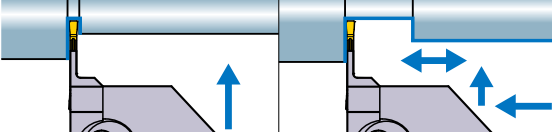
● : Gauge insert shown dimensions

GROOVING

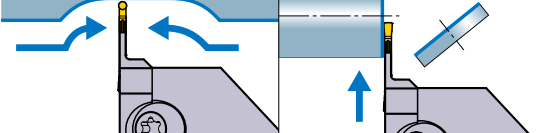
GY SERIES (EXTERNAL GROOVING PSC TYPE)

7-1 00° type holder (Inch)

Insert	GY2M ^{GS}	Insert	GY2G ^{MF}
Insert	GY2M ^{GU}	Insert	GY2M ^{MS}
Insert	GY1G ^{GF}	Insert	GY2M ^{MM}



Insert	GY2M ^{BM}	Insert	GY2M ^{GS}
		Insert	GY2M ^{GU}
		Insert	GY2M ^{R/L} ^{GM}



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.

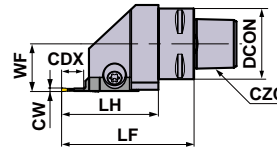


Fig. A

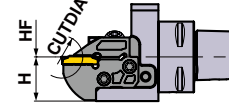
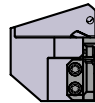


Fig. B

Right hand tool holder shown.




GROOVING

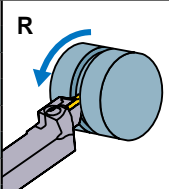
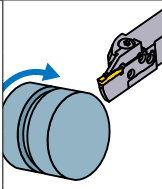
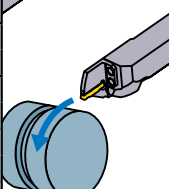
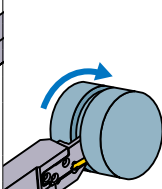
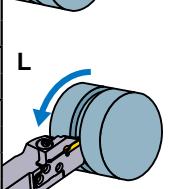
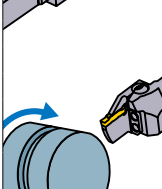
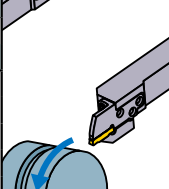
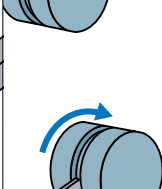
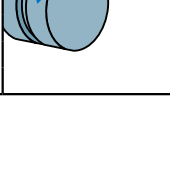
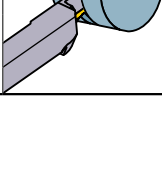




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
F	.118 .125 .128	.236	.472	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-F06	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-F06	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-F06	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-F06	●	A	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-F06	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-F06	●	A	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-F06	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-F06	●	A	
		.394	.787	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-F10	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-F10	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-F12	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-F12	●	A	
		Modular	R	C5-GYHREX00-M25R	○	GYM25RA-F12	●	A	C5		
			L	C5-GYHLEX00-M25L	○	GYM25LA-F12	●	A			
		Modular	R	C6-GYHRF00-M25R	○	GYM25RA-F12	●	A	C6		
			L	C6-GYHLF00-M25L	○	GYM25LA-F12	●	A			
		.709 ^{*4}	1.417	Modular	R	C3-GYHRDX00-M20R	○	GYM20RB-F18	●	B	C3
					L	C3-GYHLDX00-M20L	○	GYM20LB-F18	●	B	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-F20	●	B	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-F20	●	B	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-F20	●	B	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-F20	●	B	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-F20	●	B	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-F20	●	B	
.787 ^{*1}	1.575 ^{*2}	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-F20	●	B	C4		
			L	C4-GYHLEX00-M25L	○	GYM25LA-F20	●	B			
		Modular	R	C5-GYHREX00-M25R	○	GYM25RA-F20	●	B	C5		
			L	C5-GYHLEX00-M25L	○	GYM25LA-F20	●	B			
Modular	R	C6-GYHRF00-M25R	○	GYM25RA-F20	●	B	C6				
	L	C6-GYHLF00-M25L	○	GYM25LA-F20	●	B					

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LDX00-M20R/L		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LEX00-M25R/L	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LEX00-M25R/L			
C6-GYHR/LF00-M25R/L			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	H	Clockwise	Anticlockwise
	1.260	2.323	1.724	.866	0	.787		
	1.260	2.323	1.724	.866	0	.787		
	1.575	2.638	1.843	1.063	0	.984		
	1.575	2.638	1.843	1.063	0	.984		
	1.969	2.638	1.843	1.378	0	1.063		
	1.969	2.638	1.843	1.378	0	1.063		
	2.480	2.835	1.961	1.772	0	1.378		
	2.480	2.835	1.961	1.772	0	1.378		
	1.260	2.559	1.961	.866	0	.787		
	1.260	2.559	1.961	.866	0	.787		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.260	2.795	2.197	.866	0	.787		
	1.260	2.795	2.197	.866	0	.787		
	1.575	3.189	2.394	1.063	0	.984		
	1.575	3.189	2.394	1.063	0	.984		
	1.969	3.189	2.394	1.378	0	1.063		
	1.969	3.189	2.394	1.378	0	1.063		
	2.480	3.386	2.512	1.772	0	1.378		
	2.480	3.386	2.512	1.772	0	1.378		

Select an Insert

Seat Size	Insert Number
F	GY○○○0239/0250/0274E○○○○○-Breaker

		For Grooving/Cutting off > F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		Neutral	Neutral	Neutral	Hand	Neutral
CW	.118", 3.00mm	●	●	●	●	●
	.125", 3.18mm	●	●	●	●	●
F	.118", 3.00mm	●	●	●	●	●
	.125", 3.18mm	●	●	●	●	●

		For Multifunctional Grooving > F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
					Ball nose
CW	.118", 3.00mm	●	●	●	●
	RE .008"	●	●	●	●
	RE .016"	●	●	●	●
	RE .031"	●	●	●	●
	.125", 3.18mm	●	●	●	●
F	RE .008"	●	●	●	●
	RE .016"	●	●	●	●
	.128", 3.24mm	●	●	●	●

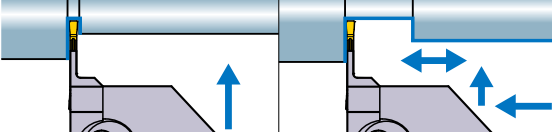
● : Gauge insert shown dimensions

GROOVING

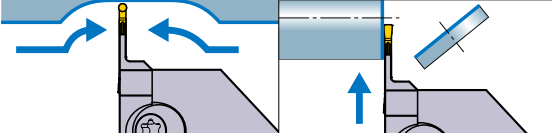
GY SERIES (EXTERNAL GROOVING PSC TYPE)

7-1 00° type holder (Inch)

Insert	GY2M ^{GS}	Insert	GY2G ^{MF}
Insert	GY2M ^{GU}	Insert	GY2M ^{MS}
Insert	GY1G ^{GF}	Insert	GY2M ^{MM}



Insert	GY2M ^{BM}	Insert	GY2M ^{GS}
		Insert	GY2M ^{GU}
		Insert	GY2M ^{R/L} ^{GM}



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.

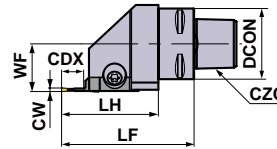


Fig. A

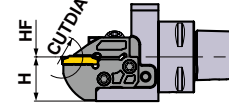
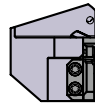


Fig. B

Right hand tool holder shown.




GROOVING

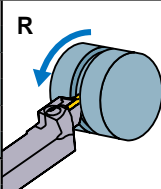
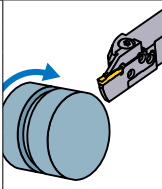
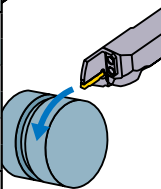
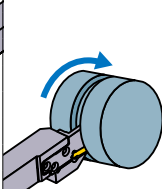
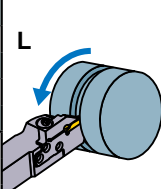
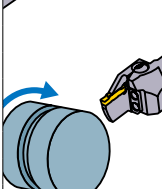
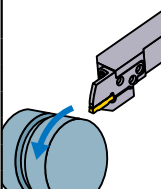
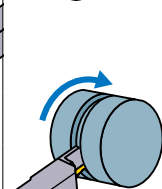
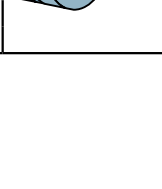
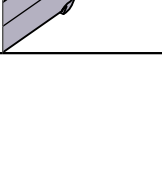




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
G	.157 .167	.315	.630	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-G08	●	A	C4
					L	C4-GYHLEX00-M25L	○	GYM25LA-G08	●	A	
				Modular	R	C5-GYHREX00-M25R	○	GYM25RA-G08	●	A	C5
					L	C5-GYHLEX00-M25L	○	GYM25LA-G08	●	A	
				Modular	R	C6-GYHRF00-M25R	○	GYM25RA-G08	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-G08	●	A	
		.472	.945	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-G12	●	A	C3
					L	C3-GYHLDX00-M20L	○	GYM20LA-G12	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-G14	●	A	C4
		L	C4-GYHLEX00-M25L		○	GYM25LA-G14	●	A			
		Modular	R		C5-GYHREX00-M25R	○	GYM25RA-G14	●	A	C5	
			L	C5-GYHLEX00-M25L	○	GYM25LA-G14	●	A			
		.551	1.102	Modular	R	C6-GYHRF00-M25R	○	GYM25RA-G14	●	A	C6
					L	C6-GYHLF00-M25L	○	GYM25LA-G14	●	A	
				Modular	R	C4-GYHREX00-M25R	○	GYM25RA-G25	●	B	C4
		L	C4-GYHLEX00-M25L		○	GYM25LA-G25	●	B			
		Modular	R		C5-GYHREX00-M25R	○	GYM25RA-G25	●	B	C5	
			L	C5-GYHLEX00-M25L	○	GYM25LA-G25	●	B			
.984 ^{*1}	1.969 ^{*2}	Modular	R	C6-GYHRF00-M25R	○	GYM25RA-G25	●	B	C6		
			L	C6-GYHLF00-M25L	○	GYM25LA-G25	●	B			
		Modular	R	C6-GYHRF00-M25R	○	GYM25RA-G25	●	B	C6		
L	C6-GYHLF00-M25L		○	GYM25LA-G25	●	B					

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LDX00-M20R/L		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LEX00-M25R/L	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LEX00-M25R/L			
C6-GYHR/LF00-M25R/L			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	H	Clockwise	Anticlockwise
	1.575	2.717	1.921	1.063	0	.984		
	1.575	2.717	1.921	1.063	0	.984		
	1.969	2.717	1.921	1.378	0	1.063		
	1.969	2.717	1.921	1.378	0	1.063		
	2.480	2.913	2.039	1.772	0	1.378		
	2.480	2.913	2.039	1.772	0	1.378		
	1.260	2.559	1.961	.866	0	.787		
	1.260	2.559	1.961	.866	0	.787		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.575	3.386	2.591	1.063	0	.984		
	1.575	3.386	2.591	1.063	0	.984		
	1.969	3.386	2.591	1.378	0	1.063		
	1.969	3.386	2.591	1.378	0	1.063		
	2.480	3.583	2.709	1.772	0	1.378		
	2.480	3.583	2.709	1.772	0	1.378		

Select an Insert

Seat Size	Insert Number
G	GY○○○0239/0250/0274E○○○○○-Breaker

		For Grooving/Cutting off > F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
	CW	Neutral	Neutral	Neutral	Hand	Neutral
G	.157", 4.00mm	●	●	●	●	●

		For Multifunctional Grooving > F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
	CW	Ball nose			
G	.157", 4.00mm				●
	RE .008"	●	●	●	
	RE .016"	●	●	●	
	RE .031"	●	●	●	
	.167", 4.24mm	●			

● : Gauge insert shown dimensions

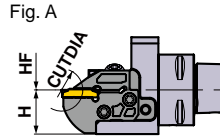
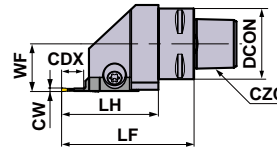
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

7-1 00° type holder (Inch)

Insert	GY2M ^{GS}	Insert	GY2G ^{MF}
Insert	GY2M ^{GU}	Insert	GY2M ^{MS}
Insert	GY1G ^{GF}	Insert	GY2M ^{MM}
Insert	GY2M ^{BM}	Insert	GY2M ^{GS}
		Insert	GY2M ^{GU}
		Insert	GY2M ^{R/L} ^{GM}

(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.






Right hand tool holder shown.

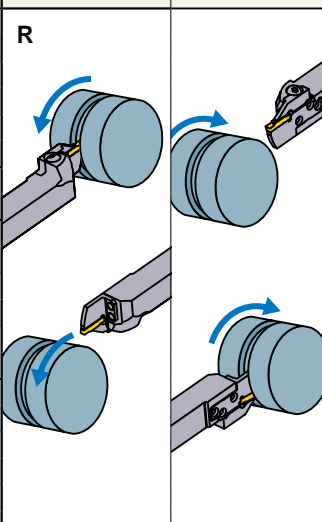
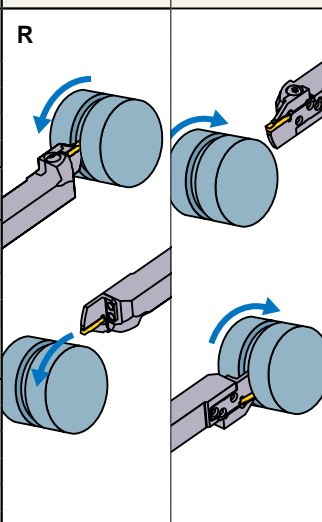
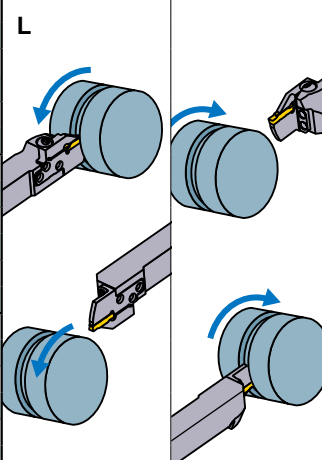
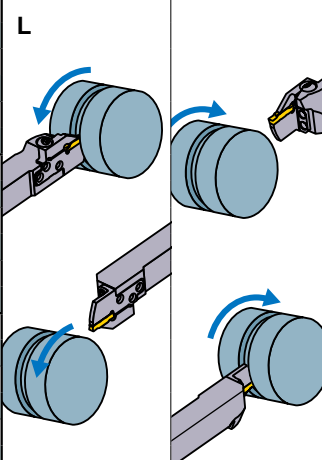
Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC				
						Holder	Stock	Modular Blade	Stock						
H	.187 .197 .206	.315	.630	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-H08	●	A	C4				
					L	C4-GYHLEX00-M25L	○	GYM25LA-H08	●	A					
				R	C5-GYHREX00-M25R	○	GYM25RA-H08	●	A	C5					
		L	C5-GYHLEX00-M25L	○	GYM25LA-H08	●	A								
		R	C6-GYHRF00-M25R	○	GYM25RA-H08	●	A	C6							
		L	C6-GYHLF00-M25L	○	GYM25LA-H08	●	A								
	.472	.945	Modular	R	C3-GYHRDX00-M20R	○	GYM20RA-H12	●	A	C3					
				L	C3-GYHLDX00-M20L	○	GYM20LA-H12	●	A						
			R	C4-GYHREX00-M25R	○	GYM25RA-H14	●	A	C4						
	L	C4-GYHLEX00-M25L	○	GYM25LA-H14	●	A									
	.551	1.102	Modular	R	C5-GYHREX00-M25R	○	GYM25RA-H14	●	A	C5					
				L	C5-GYHLEX00-M25L	○	GYM25LA-H14	●	A						
			R	C6-GYHRF00-M25R	○	GYM25RA-H14	●	A	C6						
	L	C6-GYHLF00-M25L	○	GYM25LA-H14	●	A									
	.984 ^{*1}	1.969 ^{*2}	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-H25	●	B	C4					
				L	C4-GYHLEX00-M25L	○	GYM25LA-H25	●	B						
			R	C5-GYHREX00-M25R	○	GYM25RA-H25	●	B	C5						
	L	C5-GYHLEX00-M25L	○	GYM25LA-H25	●	B									
R	L	C6-GYHRF00-M25R	C6-GYHLF00-M25L	○	GYM25RA-H25	●	B	C6							
									C4-GYHREX00-M25R	C4-GYHLEX00-M25L	○	GYM25RA-J08	●	A	C4
C6-GYHRF00-M25R	C6-GYHLF00-M25L	○	GYM25RA-J08	●	A	C6									
							.236 .248 .250	.551	1.102	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-J14	●
L	C4-GYHLEX00-M25L	○	GYM25LA-J14	●	A										
R	C5-GYHREX00-M25R	○	GYM25RA-J14	●	A	C5									
L	C5-GYHLEX00-M25L	○	GYM25LA-J14	●	A										
R	C6-GYHRF00-M25R	○	GYM25RA-J14	●	A	C6									
L	C6-GYHLF00-M25L	○	GYM25LA-J14	●	A										
.984 ^{*1}	1.969 ^{*2}	Modular	R	C4-GYHREX00-M25R	○	GYM25RA-J25	●	B	C4						
			L	C4-GYHLEX00-M25L	○	GYM25LA-J25	●	B							
		R	C5-GYHREX00-M25R	○	GYM25RA-J25	●	B	C5							
L	C5-GYHLEX00-M25L	○	GYM25LA-J25	●	B										
R	C6-GYHRF00-M25R	○	GYM25RA-J25	●	B	C6									
L	C6-GYHLF00-M25L	○	GYM25LA-J25	●	B										

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LDX00-M20R/L	GY06013M (Clamp Torque : 53 lbf-in)	TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LEX00-M25R/L		TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LEX00-M25R/L			
C6-GYHR/LF00-M25R/L			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	H	Clockwise	Anticlockwise
	1.575	2.717	1.921	1.063	0	.984		
	1.575	2.717	1.921	1.063	0	.984		
	1.969	2.717	1.921	1.378	0	1.063		
	1.969	2.717	1.921	1.378	0	1.063		
	2.480	2.913	2.039	1.772	0	1.378		
	2.480	2.913	2.039	1.772	0	1.378		
	1.260	2.559	1.961	.866	0	.787		
	1.260	2.559	1.961	.866	0	.787		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.575	3.386	2.591	1.063	0	.984		
	1.575	3.386	2.591	1.063	0	.984		
	1.969	3.386	2.591	1.378	0	1.063		
	1.969	3.386	2.591	1.378	0	1.063		
	2.480	3.583	2.709	1.772	0	1.378		
	2.480	3.583	2.709	1.772	0	1.378		
	1.575	2.717	1.921	1.063	0	.984		
	1.575	2.717	1.921	1.063	0	.984		
	1.969	2.717	1.921	1.378	0	1.063		
	1.969	2.717	1.921	1.378	0	1.063		
	2.480	2.913	2.039	1.772	0	1.378		
	2.480	2.913	2.039	1.772	0	1.378		
	1.575	2.953	2.157	1.063	0	.984		
	1.575	2.953	2.157	1.063	0	.984		
	1.969	2.953	2.157	1.378	0	1.063		
	1.969	2.953	2.157	1.378	0	1.063		
	2.480	3.150	2.276	1.772	0	1.378		
	2.480	3.150	2.276	1.772	0	1.378		
	1.575	3.386	2.591	1.063	0	.984		
	1.575	3.386	2.591	1.063	0	.984		
	1.969	3.386	2.591	1.378	0	1.063		
	1.969	3.386	2.591	1.378	0	1.063		
	2.480	3.583	2.709	1.772	0	1.378		
	2.480	3.583	2.709	1.772	0	1.378		

Select an Insert

Seat Size	Insert Number
H	GY00475/0500/0524H-Breaker
J	GY00600/0631/0635J-Breaker

For Grooving/Cutting off > F013, F014		GU	GS	GM	05-GM	GFGS
Seat Size	Breaker					
	CW	Neutral	Neutral	Neutral	Hand	Neutral
H	.187", 4.75mm	●	●	●	●	●
	.197", 5.00mm	●	●	●	●	●
J	.236", 6.00mm	●	●	●		
	.250", 6.35mm	●	●	●		

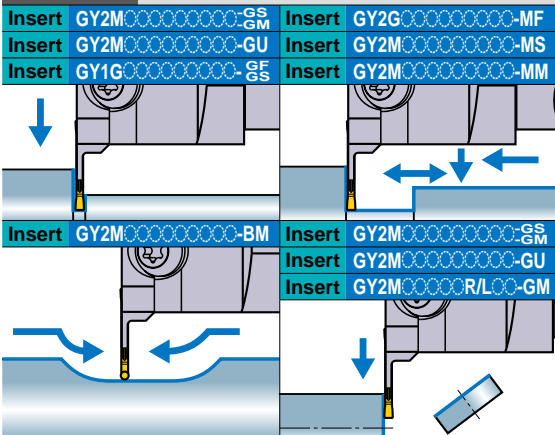
For Multifunctional Grooving > F014, F015		MF	MS	MM	BM
Seat Size	Breaker				
	CW				Ball nose
H	.187", 4.75mm				●
	RE .008"	●			
	RE .016"	●			
	RE .031"	●			
	.197", 5.00mm				●
	RE .008"	●			
J	RE .016"	●	●	●	
	RE .031"	●	●	●	
	.206", 5.24mm	●			
	.236", 6.00mm				●
	RE .008"	●			
	RE .016"	●			
J	RE .031"	●	●	●	
	.248", 6.31mm	●			
	.250", 6.35mm				●
	RE .008"	●			
	RE .016"	●			
	RE .031"	●			

● : Gauge insert shown dimensions

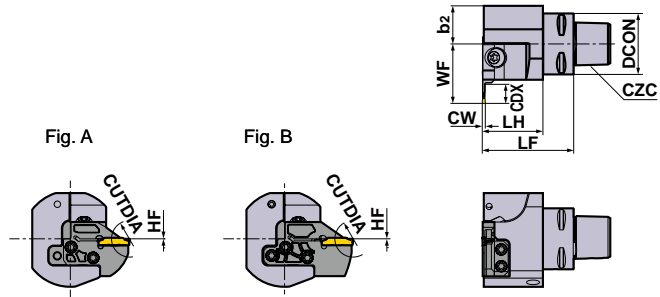
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

8-1 90° type holder (Inch)



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.



Right hand tool holder shown.




GROOVING

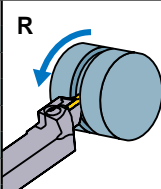
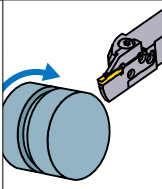
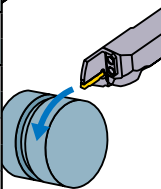
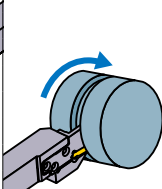
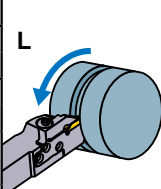
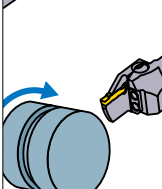
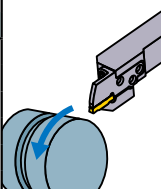
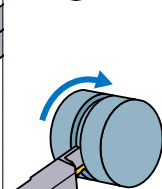
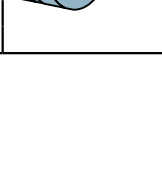
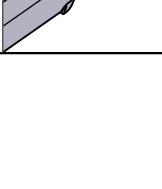




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
D	.079 .088	.236	.472	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-D06	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-D06	●	A	
				Modular	R	C4-GYHRD90-M25L	○	GYM25LA-D06	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-D06	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-D06	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-D06	●	A	
				Modular	R	C6-GYHRE90-M25L	○	GYM25LA-D06	●	A	C6
					L	C6-GYHLE90-M25R	○	GYM25RA-D06	●	A	
		.394	.787	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-D10	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-D10	●	A	
		.472	.945	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-D12	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-D12	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-D12	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-D12	●	A	
		.709 ^{*4}	1.417	Modular	R	C3-GYHRCX90-M20L	○	GYM20LB-D18	●	B	C3
					L	C3-GYHLCX90-M20R	○	GYM20RB-D18	●	B	
		.787 ^{*1}	1.575 ^{*2}	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-D20	●	B	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-D20	●	B	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-D20	●	B	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-D20	●	B	
Modular	R	C6-GYHRE90-M25L	○	GYM25LA-D20	●	B	C6				
	L	C6-GYHLE90-M25R	○	GYM25RA-D20	●	B					

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LCX90-M20L/R		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LD90-M25L/R	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LD90-M25L/R			
C6-GYHR/LE90-M25L/R			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	b2	Clockwise	Anticlockwise
	1.260	2.165	1.567	1.024	0	.787		
	1.260	2.165	1.567	1.024	0	.787		
	1.575	2.362	1.567	1.220	0	.984		
	1.575	2.362	1.567	1.220	0	.984		
	1.969	2.362	1.567	1.299	0	1.024		
	1.969	2.362	1.567	1.299	0	1.024		
	2.480	2.756	1.882	1.575	0	1.319		
	2.480	2.756	1.882	1.575	0	1.319		
	1.260	2.165	1.567	1.260	0	.787		
	1.260	2.165	1.567	1.260	0	.787		
	1.575	2.362	1.567	1.535	0	.984		
	1.575	2.362	1.567	1.535	0	.984		
	1.969	2.362	1.567	1.614	0	1.024		
	1.969	2.362	1.567	1.614	0	1.024		
	2.480	2.756	1.882	1.890	0	1.319		
	2.480	2.756	1.882	1.890	0	1.319		
	1.260	2.165	1.567	1.496	0	.787		
	1.260	2.165	1.567	1.496	0	.787		
	1.575	2.362	1.567	1.772	0	.984		
	1.575	2.362	1.567	1.772	0	.984		
	1.969	2.362	1.567	1.850	0	1.024		
	1.969	2.362	1.567	1.850	0	1.024		
	2.480	2.756	1.882	2.126	0	1.319		
	2.480	2.756	1.882	2.126	0	1.319		

Select an Insert

Seat Size	Insert Number
D	GY00200/0224D0000-Breaker

		For Grooving/Cutting off > F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		CW	Neutral	Neutral	Neutral	Hand
D	.079", 2.00mm	●	●	●	●	●

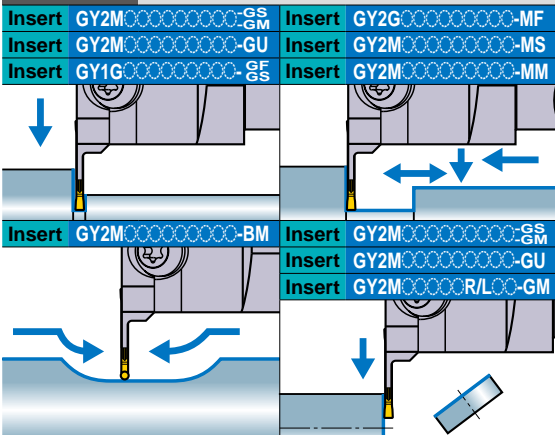
		For Multifunctional Grooving > F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
		CW			
D	.079", 2.00mm	●	●	●	●
	.088", 2.24mm	●			

● : Gauge insert shown dimensions

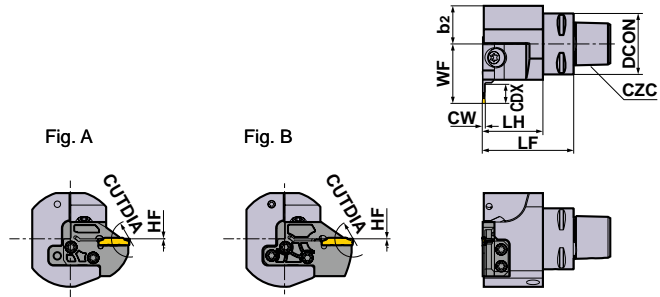
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

8-1 90° type holder (Inch)



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.






Right hand tool holder shown.

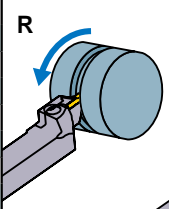
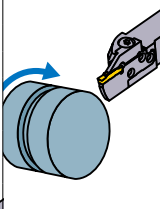
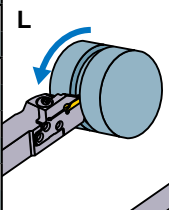
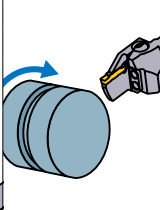
GROOVING

Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
E	.094 .098 .108	.236	.472	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-E06	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-E06	●	A	
				Modular	R	C4-GYHRD90-M25L	○	GYM25LA-E06	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-E06	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-E06	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-E06	●	A	
				Modular	R	C6-GYHRE90-M25L	○	GYM25LA-E06	●	A	C6
					L	C6-GYHLE90-M25R	○	GYM25RA-E06	●	A	
		.394	.787	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-E10	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-E10	●	A	
		.472	.945	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-E12	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-E12	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-E12	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-E12	●	A	
		.709 ^{*4}	1.417	Modular	R	C3-GYHRCX90-M20L	○	GYM20LB-E18	●	B	C3
					L	C3-GYHLCX90-M20R	○	GYM20RB-E18	●	B	
		.787 ^{*1}	1.575 ^{*2}	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-E20	●	B	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-E20	●	B	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-E20	●	B	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-E20	●	B	
		Modular	R	C6-GYHRE90-M25L	○	GYM25LA-E20	●	B	C6		
			L	C6-GYHLE90-M25R	○	GYM25RA-E20	●	B			

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS			
Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LCX90-M20L/R	GY06013M (Clamp Torque : 53 lbf-in)	TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LD90-M25L/R		TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LD90-M25L/R			
C6-GYHR/LE90-M25L/R			

	Dimensions (inch) *3						Cutting Mode			
	DCON	LF	LH	WF	HF	b2	Clockwise	Anticlockwise		
	1.260	2.165	1.567	1.024	0	.787				
	1.260	2.165	1.567	1.024	0	.787				
	1.575	2.362	1.567	1.220	0	.984				
	1.575	2.362	1.567	1.220	0	.984				
	1.969	2.362	1.567	1.299	0	1.024				
	1.969	2.362	1.567	1.299	0	1.024				
	2.480	2.756	1.882	1.575	0	1.319				
	2.480	2.756	1.882	1.575	0	1.319				
	1.260	2.165	1.567	1.260	0	.787				
	1.260	2.165	1.567	1.260	0	.787				
	1.575	2.362	1.567	1.535	0	.984				
	1.575	2.362	1.567	1.535	0	.984				
	1.969	2.362	1.567	1.614	0	1.024				
	1.969	2.362	1.567	1.614	0	1.024				
	2.480	2.756	1.882	1.890	0	1.319				
	2.480	2.756	1.882	1.890	0	1.319				
	1.260	2.165	1.567	1.496	0	.787				
	1.260	2.165	1.567	1.496	0	.787				
	1.575	2.362	1.567	1.772	0	.984				
	1.575	2.362	1.567	1.772	0	.984				
	1.969	2.362	1.567	1.850	0	1.024				
	1.969	2.362	1.567	1.850	0	1.024				
	2.480	2.756	1.882	2.126	0	1.319				
	2.480	2.756	1.882	2.126	0	1.319				

Select an Insert

Seat Size	Insert Number
E	GY○○0239/0250/0274E○○○○-Breaker

		For Grooving/Cutting off > F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		Neutral	Neutral	Neutral	Hand	Neutral
E	.094", 2.39mm	●	●	●	●	●
	.098", 2.50mm	●	●	●	●	●

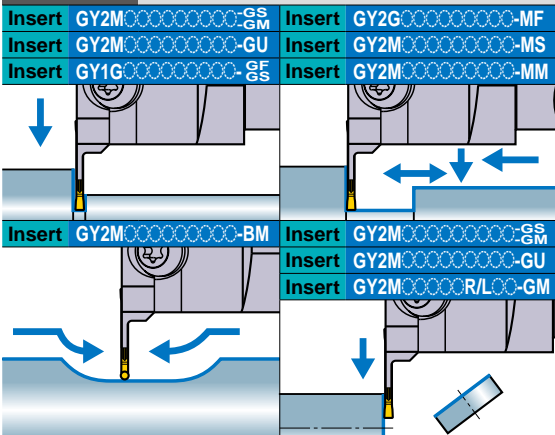
		For Multifunctional Grooving > F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
					Ball nose
E	.094", 2.39mm	●			
	.098", 2.50mm	●	●	●	●
	.108", 2.74mm	●			

● : Gauge insert shown dimensions

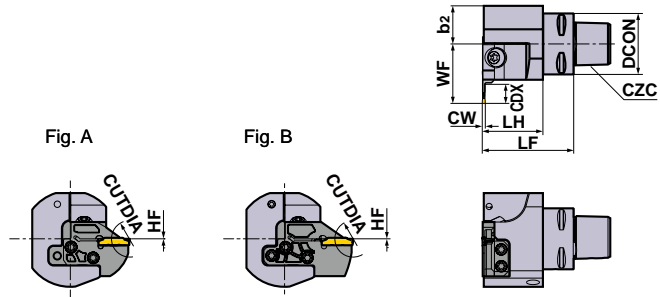
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

8-1 90° type holder (Inch)



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.



Right hand tool holder shown.




GROOVING

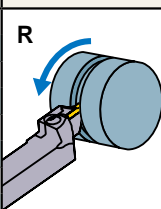
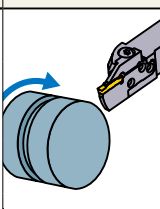
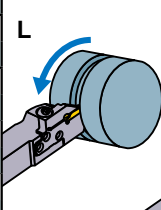
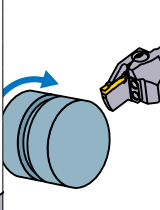
Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
F	.118 .125 .128	.236	.472	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-F06	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-F06	●	A	
				Modular	R	C4-GYHRD90-M25L	○	GYM25LA-F06	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-F06	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-F06	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-F06	●	A	
				Modular	R	C6-GYHRE90-M25L	○	GYM25LA-F06	●	A	C6
					L	C6-GYHLE90-M25R	○	GYM25RA-F06	●	A	
		.394	.787	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-F10	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-F10	●	A	
		.472	.945	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-F12	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-F12	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-F12	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-F12	●	A	
		.709 ^{*4}	1.417	Modular	R	C3-GYHRCX90-M20L	○	GYM20LB-F18	●	B	C3
					L	C3-GYHLCX90-M20R	○	GYM20RB-F18	●	B	
		.787 ^{*1}	1.575 ^{*2}	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-F20	●	B	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-F20	●	B	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-F20	●	B	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-F20	●	B	
		Modular	R	C6-GYHRE90-M25L	○	GYM25LA-F20	●	B	C6		
			L	C6-GYHLE90-M25R	○	GYM25RA-F20	●	B			

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LCX90-M20L/R		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LD90-M25L/R	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LD90-M25L/R			
C6-GYHR/LE90-M25L/R			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	b2	Clockwise	Anticlockwise
	1.260	2.165	1.567	1.024	0	.787		
	1.260	2.165	1.567	1.024	0	.787		
	1.575	2.362	1.567	1.220	0	.984		
	1.575	2.362	1.567	1.220	0	.984		
	1.969	2.362	1.567	1.299	0	1.024		
	1.969	2.362	1.567	1.299	0	1.024		
	2.480	2.756	1.882	1.575	0	1.319		
	2.480	2.756	1.882	1.575	0	1.319		
	1.260	2.165	1.567	1.260	0	.787		
	1.260	2.165	1.567	1.260	0	.787		
	1.575	2.362	1.567	1.535	0	.984		
	1.575	2.362	1.567	1.535	0	.984		
	1.969	2.362	1.567	1.614	0	1.024		
	1.969	2.362	1.567	1.614	0	1.024		
	2.480	2.756	1.882	1.890	0	1.319		
	2.480	2.756	1.882	1.890	0	1.319		
	1.260	2.165	1.567	1.496	0	.787		
	1.260	2.165	1.567	1.496	0	.787		
	1.575	2.362	1.567	1.772	0	.984		
	1.575	2.362	1.567	1.772	0	.984		
	1.969	2.362	1.567	1.850	0	1.024		
	1.969	2.362	1.567	1.850	0	1.024		
	2.480	2.756	1.882	2.126	0	1.319		
	2.480	2.756	1.882	2.126	0	1.319		

Select an Insert

Seat Size	Insert Number
F	GY00239/0250/0274E0000-Breaker

		For Grooving/Cutting off > F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		Neutral	Neutral	Neutral	Hand	Neutral
F	.118", 3.00mm	●	●	●	●	●
	.125", 3.18mm	●	●	●		●

		For Multifunctional Grooving > F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
					Ball nose
F	.118", 3.00mm				●
	RE .008"	●	●	●	
	RE .016"	●	●	●	
	RE .031"			●	
	.125", 3.18mm				●
	.128", 3.24mm	●			

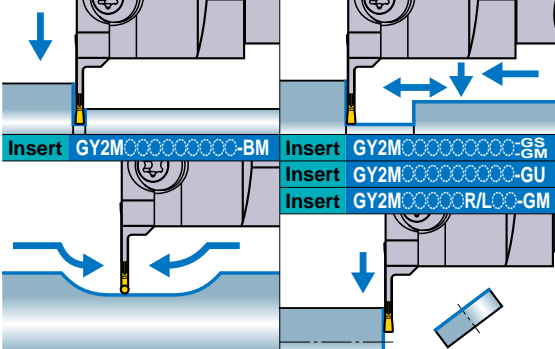
● : Gauge insert shown dimensions

GROOVING

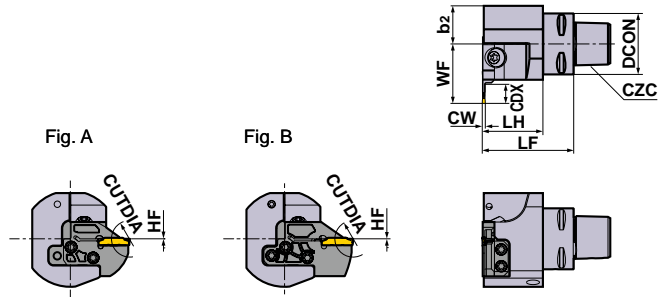
GY SERIES (EXTERNAL GROOVING PSC TYPE)

8-1 90° type holder (Inch)

Insert	GY2M ^{GS} _{GM}	Insert	GY2G ^{GS} _{MF}
Insert	GY2M ^{GS} _{GU}	Insert	GY2M ^{GS} _{MS}
Insert	GY1G ^{GS} _{GS}	Insert	GY2M ^{GS} _{MM}



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.



Right hand tool holder shown.




GROOVING

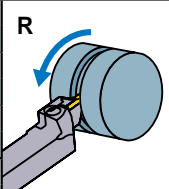
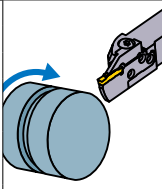
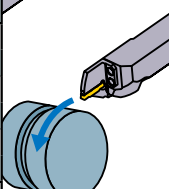
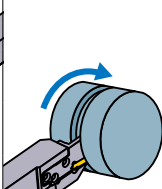
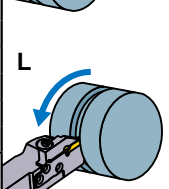
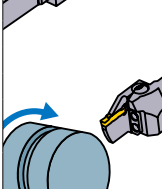
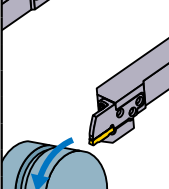
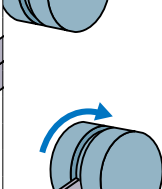
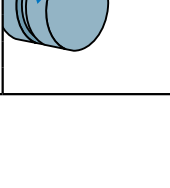
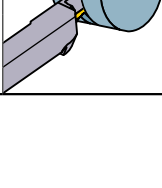




Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
G	.157 .167	.315	.630	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-G08	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-G08	●	A	
				Modular	R	C5-GYHRD90-M25L	○	GYM25LA-G08	●	A	C5
					L	C5-GYHLD90-M25R	○	GYM25RA-G08	●	A	
				Modular	R	C6-GYHRE90-M25L	○	GYM25LA-G08	●	A	C6
					L	C6-GYHLE90-M25R	○	GYM25RA-G08	●	A	
		.472	.945	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-G12	●	A	C3
					L	C3-GYHLCX90-M20R	○	GYM20RA-G12	●	A	
					.551	1.102	Modular	R	C4-GYHRD90-M25L	○	
		L	C4-GYHLD90-M25R	○				GYM25RA-G14	●	A	
		Modular	R	C5-GYHRD90-M25L			○	GYM25LA-G14	●	A	C5
			L	C5-GYHLD90-M25R	○	GYM25RA-G14	●	A			
		.984 ^{*1}	1.969 ^{*2}	Modular	R	C6-GYHRE90-M25L	○	GYM25LA-G14	●	A	C6
					L	C6-GYHLE90-M25R	○	GYM25RA-G14	●	A	
				Modular	R	C4-GYHRD90-M25L	○	GYM25LA-G25	●	B	C4
		L	C4-GYHLD90-M25R		○	GYM25RA-G25	●	B			
		Modular	R		C5-GYHRD90-M25L	○	GYM25LA-G25	●	B	C5	
			L	C5-GYHLD90-M25R	○	GYM25RA-G25	●	B			
Modular	R		C6-GYHRE90-M25L	○	GYM25LA-G25	●	B	C6			
	L	C6-GYHLE90-M25R	○	GYM25RA-G25	●	B					

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LCX90-M20L/R		TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LD90-M25L/R	GY06013M (Clamp Torque : 53 lbf-in)	TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LD90-M25L/R			
C6-GYHR/LE90-M25L/R			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	b2	Clockwise	Anticlockwise
	1.575	2.362	1.567	1.299	0	.984		
	1.575	2.362	1.567	1.299	0	.984		
	1.969	2.362	1.567	1.378	0	1.024		
	1.969	2.362	1.567	1.378	0	1.024		
	2.480	2.756	1.882	1.654	0	1.319		
	2.480	2.756	1.882	1.654	0	1.319		
	1.260	2.165	1.567	1.260	0	.787		
	1.260	2.165	1.567	1.260	0	.787		
	1.575	2.362	1.567	1.535	0	.984		
	1.575	2.362	1.567	1.535	0	.984		
	1.969	2.362	1.567	1.614	0	1.024		
	1.969	2.362	1.567	1.614	0	1.024		
	2.480	2.756	1.882	1.890	0	1.319		
	2.480	2.756	1.882	1.890	0	1.319		
	1.575	2.362	1.567	1.969	0	.984		
	1.575	2.362	1.567	1.969	0	.984		
	1.969	2.362	1.567	2.047	0	1.024		
	1.969	2.362	1.567	2.047	0	1.024		
	2.480	2.756	1.882	2.323	0	1.319		
	2.480	2.756	1.882	2.323	0	1.319		

Select an Insert

Seat Size	Insert Number
G	GY○○○0239/0250/0274E○○○○○-Breaker

For Grooving/Cutting off > F013, F014						
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
	CW	Neutral	Neutral	Neutral	Hand	Neutral
G	.157", 4.00mm	●	●	●	●	●

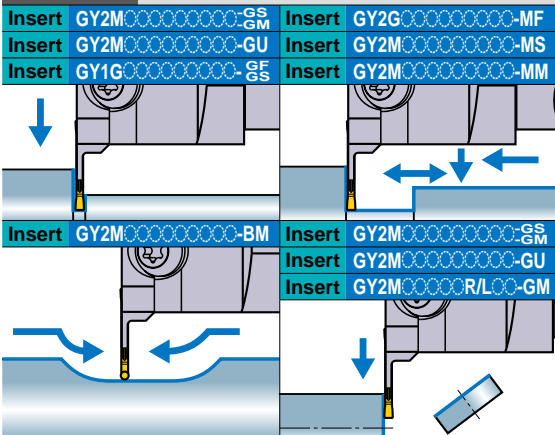
For Multifunctional Grooving > F014, F015					
Seat Size	Breaker	MF	MS	MM	BM
	CW	Ball nose			
G	.157", 4.00mm				●
	RE .008"	●	●	●	
	RE .016"	●	●	●	
	RE .031"	●	●	●	
	.167", 4.24mm	●			

● : Gauge insert shown dimensions

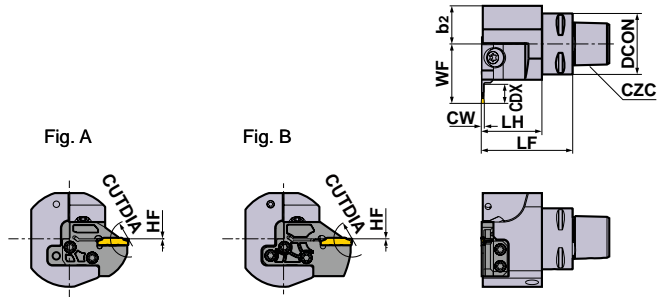
GROOVING

GY SERIES (EXTERNAL GROOVING PSC TYPE)

8-1 90° type holder (Inch)



(Note 1) For modular blades and holders, please order separately.
 (Note 2) Please use right hand modular blade for right hand holder and left hand modular blade for left hand holder.



Right hand tool holder shown.




GROOVING

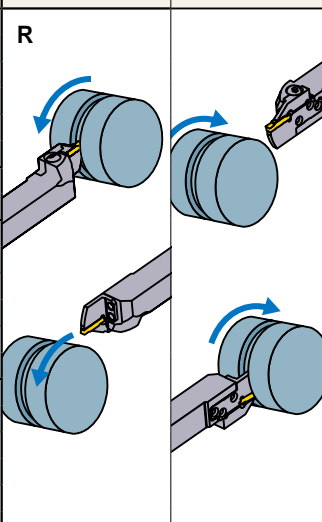
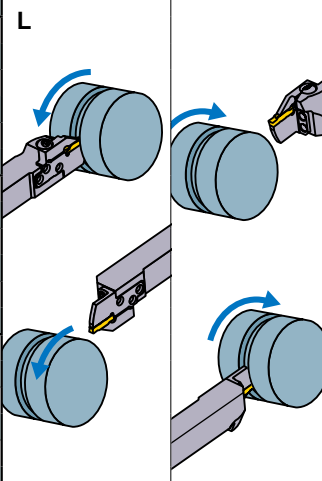
Seat Size	CW (inch)	CDX (inch)	CUTDIA (inch)	Type	Hand (R/L)	Order Number				Fig.	CZC
						Holder	Stock	Modular Blade	Stock		
H	.187 .197 .206	.315	.630	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-H08	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-H08	●	A	
				R	C5-GYHRD90-M25L	○	GYM25LA-H08	●	A	C5	
		L	C5-GYHLD90-M25R	○	GYM25RA-H08	●	A				
		R	C6-GYHRE90-M25L	○	GYM25LA-H08	●	A	C6			
		L	C6-GYHLE90-M25R	○	GYM25RA-H08	●	A				
	.472	.945	Modular	R	C3-GYHRCX90-M20L	○	GYM20LA-H12	●	A	C3	
				L	C3-GYHLCX90-M20R	○	GYM20RA-H12	●	A		
			R	C4-GYHRD90-M25L	○	GYM25LA-H14	●	A	C4		
	L	C4-GYHLD90-M25R	○	GYM25RA-H14	●	A					
	.551	1.102	Modular	R	C5-GYHRD90-M25L	○	GYM25LA-H14	●	A	C5	
				L	C5-GYHLD90-M25R	○	GYM25RA-H14	●	A		
R			C6-GYHRE90-M25L	○	GYM25LA-H14	●	A	C6			
L	C6-GYHLE90-M25R	○	GYM25RA-H14	●	A						
.984*1	1.969*2	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-H25	●	B	C4		
			L	C4-GYHLD90-M25R	○	GYM25RA-H25	●	B			
		R	C5-GYHRD90-M25L	○	GYM25LA-H25	●	B	C5			
L	C5-GYHLD90-M25R	○	GYM25RA-H25	●	B						
R	C6-GYHRE90-M25L	○	GYM25LA-H25	●	B	C6					
L	C6-GYHLE90-M25R	○	GYM25RA-H25	●	B						
J	.236 .248 .250	.315	.630	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-J08	●	A	C4
					L	C4-GYHLD90-M25R	○	GYM25RA-J08	●	A	
				R	C5-GYHRD90-M25L	○	GYM25LA-J08	●	A	C5	
		L	C5-GYHLD90-M25R	○	GYM25RA-J08	●	A				
		R	C6-GYHRE90-M25L	○	GYM25LA-J08	●	A	C6			
		L	C6-GYHLE90-M25R	○	GYM25RA-J08	●	A				
	.551	1.102	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-J14	●	A	C4	
				L	C4-GYHLD90-M25R	○	GYM25RA-J14	●	A		
			R	C5-GYHRD90-M25L	○	GYM25LA-J14	●	A	C5		
	L	C5-GYHLD90-M25R	○	GYM25RA-J14	●	A					
	R	C6-GYHRE90-M25L	○	GYM25LA-J14	●	A	C6				
	L	C6-GYHLE90-M25R	○	GYM25RA-J14	●	A					
.984*1	1.969*2	Modular	R	C4-GYHRD90-M25L	○	GYM25LA-J25	●	B	C4		
			L	C4-GYHLD90-M25R	○	GYM25RA-J25	●	B			
		R	C5-GYHRD90-M25L	○	GYM25LA-J25	●	B	C5			
L	C5-GYHLD90-M25R	○	GYM25RA-J25	●	B						
R	C6-GYHRE90-M25L	○	GYM25LA-J25	●	B	C6					
L	C6-GYHLE90-M25R	○	GYM25RA-J25	●	B						

*1 The maximum groove depth varies according to the insert used. Please refer to the maximum groove depth of inserts on pages F013 to F015.
 *2 The maximum cut off diameter (CUTDIA) varies according to the insert used. The cut off diameter is double the maximum groove depth (CDX) of inserts on pages F013 to F015.
 *3 Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and WF values may vary.
 *4 The maximum groove depth is limited by the workpiece diameter. For details, please refer to page F209.

* Wrench : ① : Clamp Screw, ② : Blade Screw

SPARE PARTS

Holder Number		 5 pcs.	
	Clamp Screw	Blade Screw	Wrench *
C3-GYHR/LCX90-M20L/R	GY06013M (Clamp Torque : 53 lbf-in)	TS407 (Clamp Torque : 31 lbf-in)	①TKY30R ②TKY15D
C4-GYHR/LD90-M25L/R		TS55 (Clamp Torque : 44 lbf-in)	①TKY30R ②TKY25D
C5-GYHR/LD90-M25L/R			
C6-GYHR/LE90-M25L/R			

	Dimensions (inch) *3						Cutting Mode	
	DCON	LF	LH	WF	HF	b2	Clockwise	Anticlockwise
	1.575	2.362	1.567	1.299	0	.984		
	1.575	2.362	1.567	1.299	0	.984		
	1.969	2.362	1.567	1.378	0	1.024		
	1.969	2.362	1.567	1.378	0	1.024		
	2.480	2.756	1.882	1.654	0	1.319		
	2.480	2.756	1.882	1.654	0	1.319		
	1.260	2.165	1.567	1.260	0	.787		
	1.260	2.165	1.567	1.260	0	.787		
	1.575	2.362	1.567	1.535	0	.984		
	1.575	2.362	1.567	1.535	0	.984		
	1.969	2.362	1.567	1.614	0	1.024		
	1.969	2.362	1.567	1.614	0	1.024		
	2.480	2.756	1.882	1.890	0	1.319		
	2.480	2.756	1.882	1.890	0	1.319		
	1.575	2.362	1.567	1.969	0	.984		
	1.575	2.362	1.567	1.969	0	.984		
	1.969	2.362	1.567	2.047	0	1.024		
	1.969	2.362	1.567	2.047	0	1.024		
	2.480	2.756	1.882	2.323	0	1.319		
	2.480	2.756	1.882	2.323	0	1.319		
	1.575	2.362	1.567	1.299	0	.984		
	1.575	2.362	1.567	1.299	0	.984		
	1.969	2.362	1.567	1.378	0	1.024		
	1.969	2.362	1.567	1.378	0	1.024		
	2.480	2.756	1.882	1.654	0	1.319		
	2.480	2.756	1.882	1.654	0	1.319		
	1.575	2.362	1.567	1.535	0	.984		
	1.575	2.362	1.567	1.535	0	.984		
	1.969	2.362	1.567	1.614	0	1.024		
	1.969	2.362	1.567	1.614	0	1.024		
	2.480	2.756	1.882	1.890	0	1.319		
	2.480	2.756	1.882	1.890	0	1.319		
	1.575	2.362	1.567	1.969	0	.984		
	1.575	2.362	1.567	1.969	0	.984		
	1.969	2.362	1.567	2.047	0	1.024		
	1.969	2.362	1.567	2.047	0	1.024		
	2.480	2.756	1.882	2.323	0	1.319		
	2.480	2.756	1.882	2.323	0	1.319		

Select an Insert

Seat Size	Insert Number
H	GY00475/0500/0524H-Breaker
J	GY00600/0631/0635J-Breaker

For Grooving/Cutting off		> F013, F014				
Seat Size	Breaker	GU	GS	GM	05-GM	GFGS
		Neutral	Neutral	Neutral	Hand	Neutral
H	.187", 4.75mm	●	●	●	●	●
	.197", 5.00mm	●	●	●	●	●
J	.236", 6.00mm	●	●	●	●	●
	.250", 6.35mm	●	●	●	●	●

For Multifunctional Grooving		> F014, F015			
Seat Size	Breaker	MF	MS	MM	BM
					Ball nose
H	.187", 4.75mm				●
	RE .008"	●			
	RE .016"	●			
	RE .031"	●			
	.197", 5.00mm	●			●
J	.206", 5.24mm	●			
	.236", 6.00mm	●			●
	RE .008"	●			
	RE .016"	●	●	●	
	RE .031"	●	●	●	
J	.248", 6.31mm	●			
	.250", 6.35mm	●			●
	RE .008"	●			
	RE .016"	●			
	RE .031"	●			

● : Gauge insert shown dimensions

GROOVING

GROOVING SYSTEM

RECOMMENDED CUTTING SPEED (SFM) [For External Grooving]

Work Material	Hardness	Grade	Cutting Speed (SFM)						
			165	330	490	655	820	985	
P Mild Steel Carbon Steel Alloy Steel	≤160HB	VP20RT		330		720			
		VP10RT		360		755			
		NX2525		295		690			
		160–280HB	VP20RT		260		590		
			VP10RT		295		620		
			MY5015		360		820		
	280HB≤	VP20RT		195		460			
		VP10RT		230		490			
		MY5015		295		690			
		NX2525		180		440			
		M Stainless Steel	≤270HB	VP20RT		195		460	
				VP10RT		230		490	
K Gray Cast Iron Ductile Cast Iron	Tensile Strength ≤300MPa	VP20RT		260		590			
		VP10RT		295		620			
		MY5015		460		985			
	Tensile Strength ≤800MPa	VP20RT		195		460			
		VP10RT		230		490			
		MY5015		295		690			
S Heat Resistant Alloy Titanium Alloy	—	VP20RT	100	195					
		VP10RT	130	230					
		RT9010	130	230					
H Hardened steel	50HRC≤	MB8025		260	395				

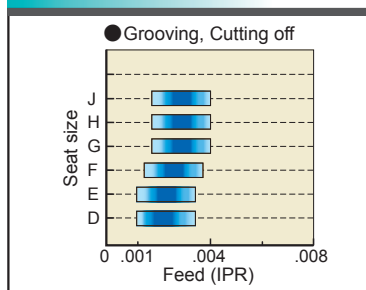
(Note 1) VP20RT is the first recommended grade for materials other than hardened steel.
 (Note 2) For VP10RT, VP20RT and MY5015, wet cutting is recommended.

RECOMMENDED CUTTING CONDITIONS [For External Grooving]

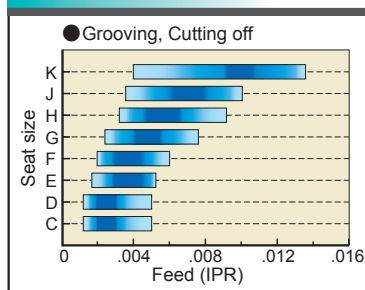
*Below are the recommended cutting conditions when using the modular type holder GYHR/L2525M00/90-M25R/L with the modular blade GYM25R/LA-○○○.

Recommended feed rate and depth of cut

GU BREAKER

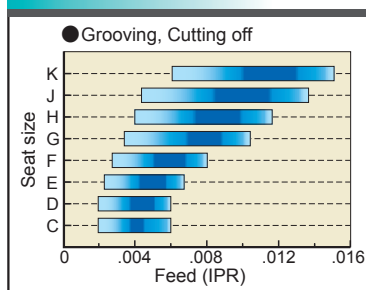


GS BREAKER

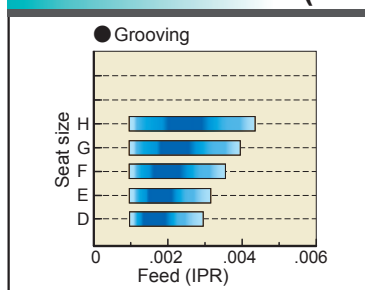


■ : 1st recommended area

GM BREAKER

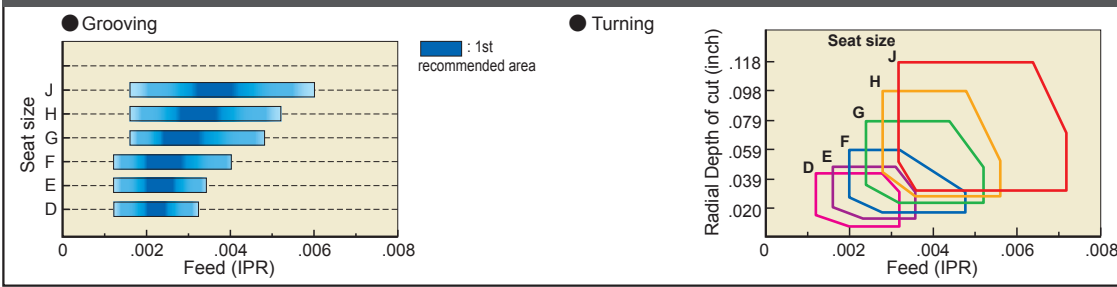


FLAT TOP GFGS (CBN)



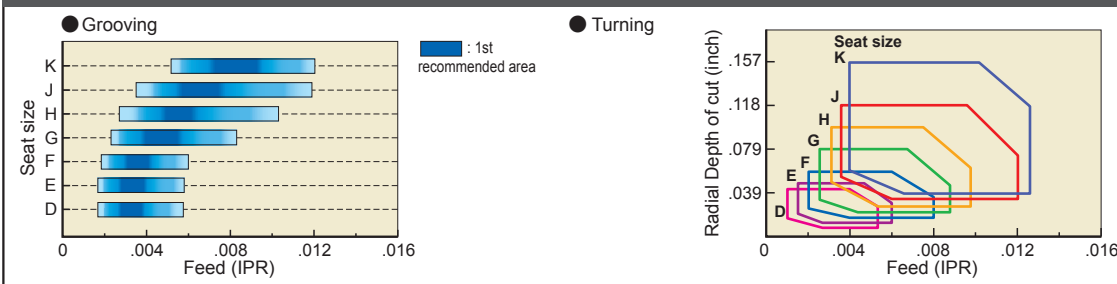
Seat Size	
Insert Width	
C	.059", 1.50mm
D	.079", 2.00mm
	.088", 2.24mm
E	.094", 2.39mm
	.098", 2.50mm
F	.108", 2.74mm
	.118", 3.00mm
G	.125", 3.18mm
	.128", 3.24mm
H	.157", 4.00mm
	.167", 4.24mm
J	.187", 4.75mm
	.197", 5.00mm
K	.206", 5.24mm
	.236", 6.00mm
L	.248", 6.31mm
	.250", 6.35mm

MF BREAKER

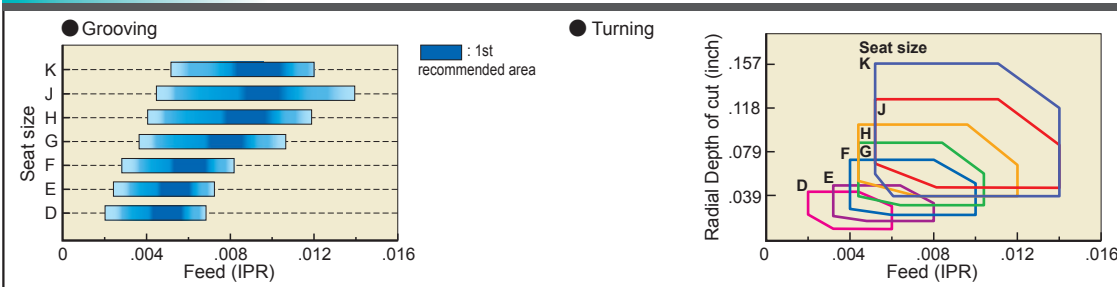


Seat Size	
Insert Width	
C	.059", 1.50mm
D	.079", 2.00mm .088", 2.24mm
E	.094", 2.39mm .098", 2.50mm .108", 2.74mm
F	.118", 3.00mm .125", 3.18mm .128", 3.24mm
G	.157", 4.00mm .167", 4.24mm
H	.187", 4.75mm .197", 5.00mm .206", 5.24mm
J	.236", 6.00mm .248", 6.31mm .250", 6.35mm
K	.315", 8.00mm

MS BREAKER



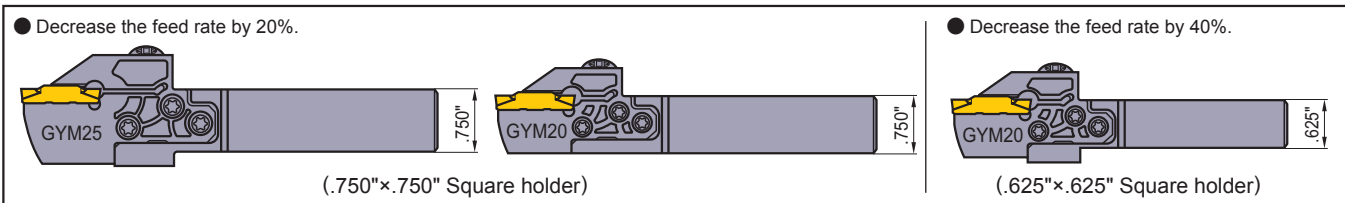
MM BREAKER



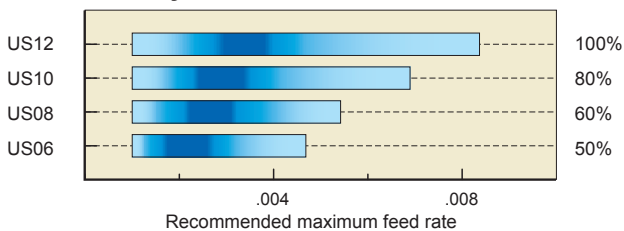
BM BREAKER



(Note) When using a combination as shown below, decrease the recommended feed rate by 20% and 40% respectively.



For Swiss style lathes mono block holder

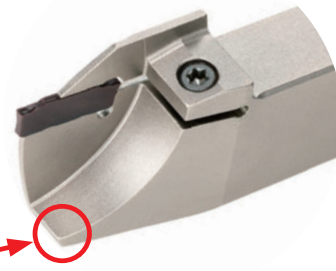
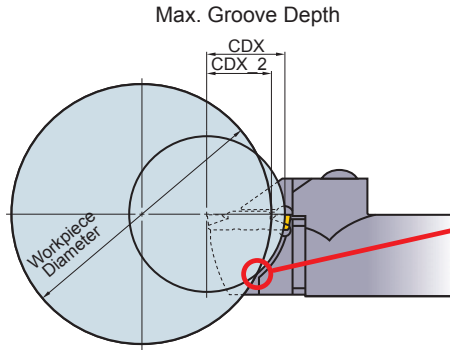


Please refer to the tables above of recommended cutting conditions for external grooving. Apply the percentage ratio shown of each shank size to the values in those tables.

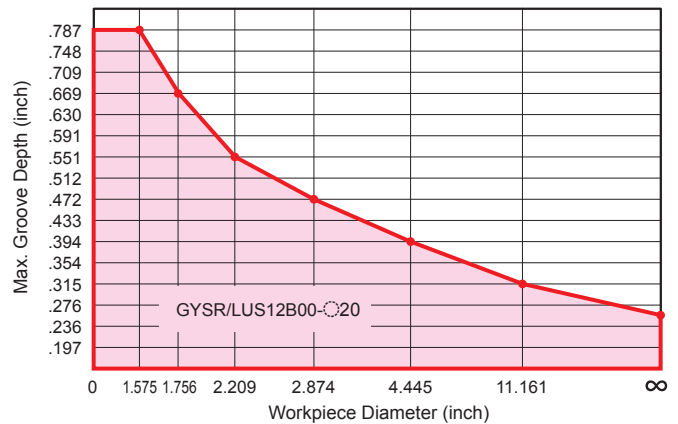
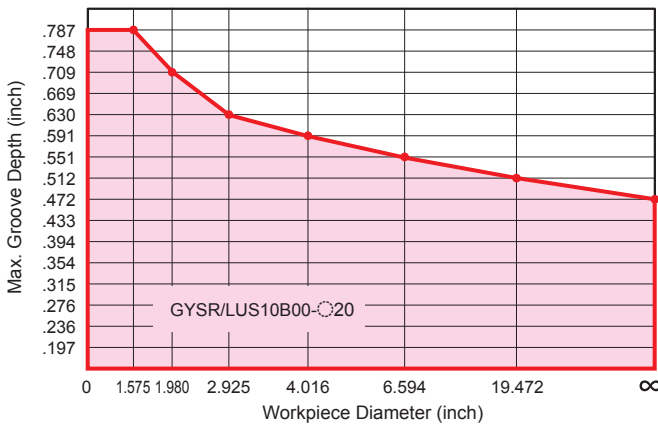
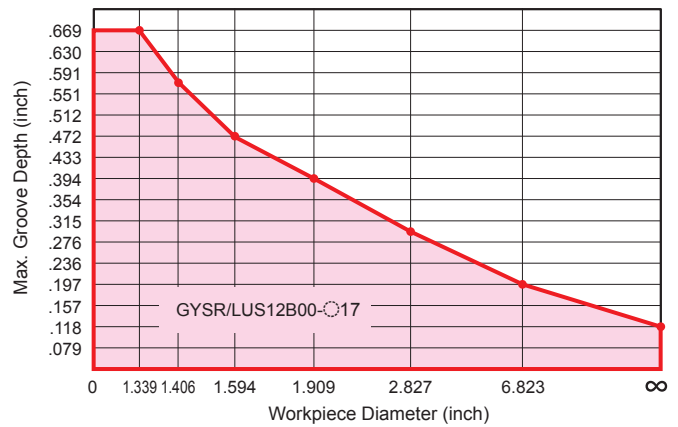
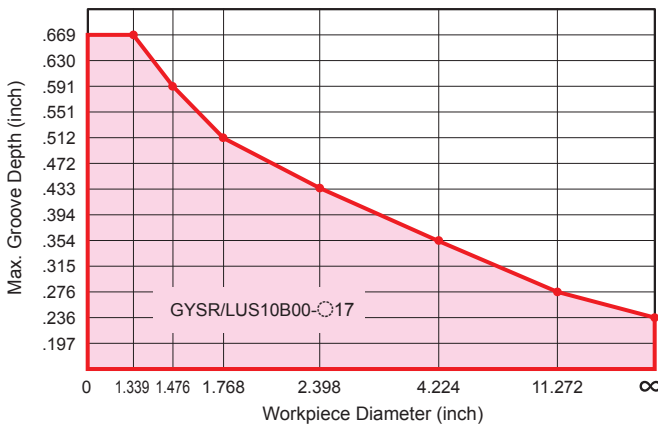
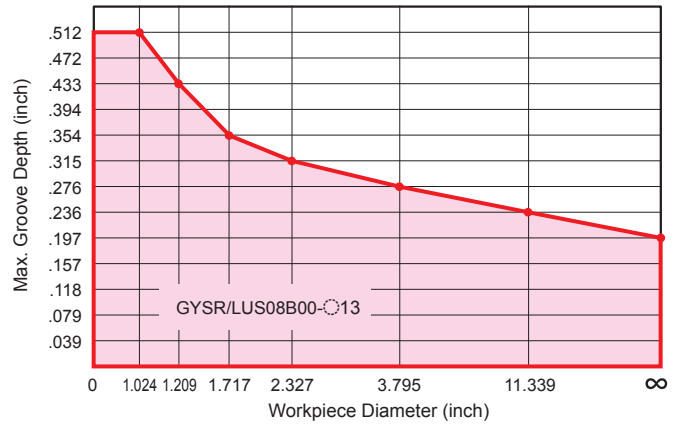
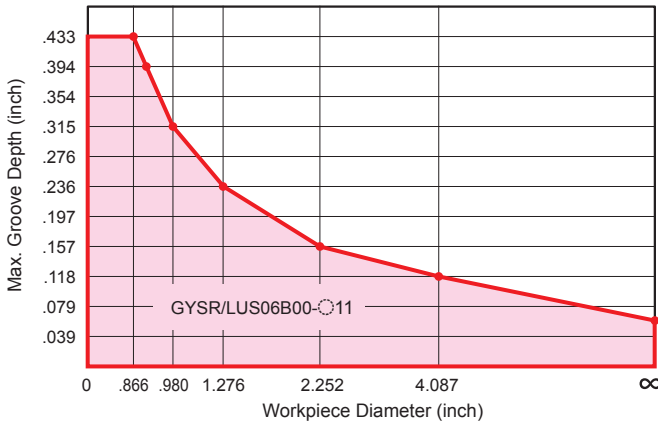
LIMITATION OF THE MAXIMUM GROOVE DEPTH [For External Grooving]

•For Swiss style lathes mono block holder

The maximum groove depth is limited by the workpiece diameter.

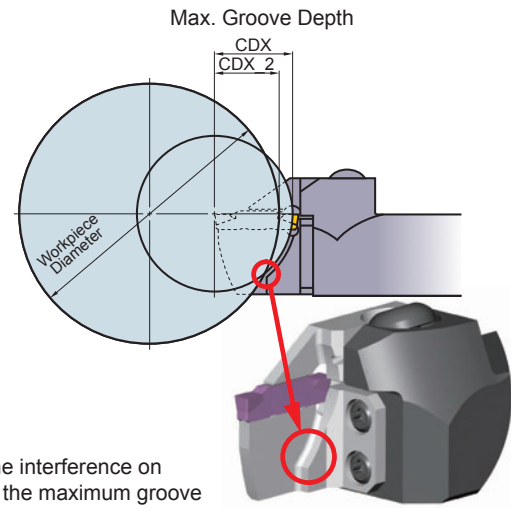
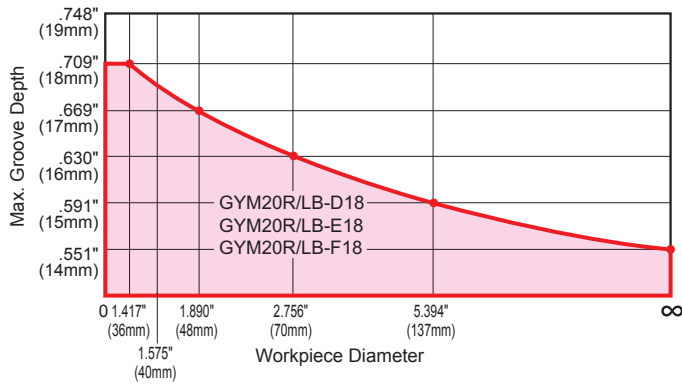


Due to the interference on this part, the maximum groove depth is limited by the workpiece diameter.



LIMITATION OF THE MAXIMUM GROOVE DEPTH [For External Grooving]

- **When using the modular blade GYM[®]OR/LA-[○][○][○][○]**
The maximum groove depth is not limited by the workpiece diameter.
- **When using the modular blade GYM[®]OR/LB-[○][○][○][○]**
The maximum groove depth is limited by the workpiece diameter.



Due to the interference on this part, the maximum groove depth is limited by the workpiece diameter.

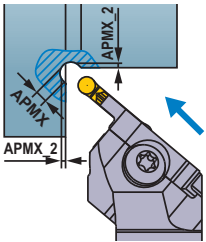
GROOVING SYSTEM

RECOMMENDED CUTTING SPEED (SFM) [For External Recessing]

Work Material	Hardness	Grade	Cutting Speed (SFM)				
			165	330	490	655	820
P Mild Steel Carbon Steel Alloy Steel	≤180HB	VP20RT		260	590		
		VP10RT		295	620		
	180–280HB	VP20RT	195	460			
		VP10RT	230	490			
		MY5015	295	690			
		NX2525	180	440			
	280–350HB	VP20RT	165	360			
		VP10RT	195	395			
MY5015		260	525				
NX2525		150	345				
M Stainless Steel	≤350HB	VP20RT	165	360			
		VP10RT	195	395			
K Gray Cast Iron Ductile Cast Iron	Tensile Strength ≤350MPa	VP20RT	195	460			
		VP10RT	230	490			
		MY5015	295	690			
	Tensile Strength ≤800MPa	VP20RT	165	360			
		VP10RT	195	395			
		MY5015	260	525			
S Titanium Alloy Heat Resistant Alloy	—	VP20RT	100	195			
		VP10RT	130	230			
	—	VP20RT	100	195			
		VP10RT	130	230			

(Note 1) VP20RT is the first recommended grade for materials other than hardened steel.
 (Note 2) For VP10RT, VP20RT and MY5015, wet cutting is recommended.

DISTANCE FROM THE WORKPIECE TO THE RECESS DEPTH

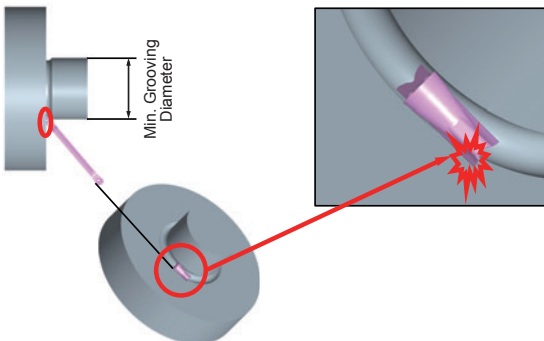


Grooving Width CW	Recessing Depth APMX	Distance workpiece to the recess depth APMX_2
.079", 2.00mm	.059", 1.50mm	.025", 0.646mm
.098", 2.50mm	.069", 1.75mm	.028", 0.720mm
.118", 3.00mm	.079", 2.00mm	.031", 0.793mm
.125", 3.18mm	.082", 2.09mm	.032", 0.819mm
.157", 4.00mm	.098", 2.50mm	.037", 0.939mm
.187", 4.75mm	.113", 2.88mm	.041", 1.049mm
.197", 5.00mm	.118", 3.00mm	.043", 1.086mm
.236", 6.00mm	.138", 3.50mm	.049", 1.232mm
.250", 6.35mm	.145", 3.68mm	.051", 1.283mm

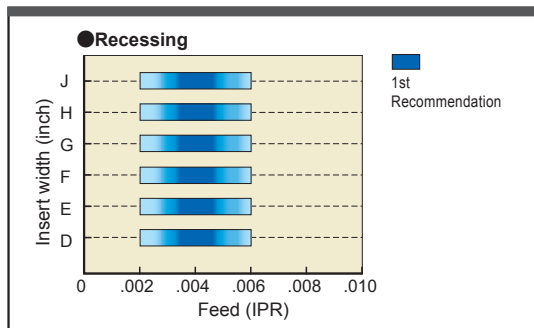
BM BREAKER

Minimum grooving diameter

Ensure the tool is suitable for the diameter being machined. Refer to the Min. Grooving Diameter as shown in the table on the first page to avoid a collision with the workpiece as shown below.



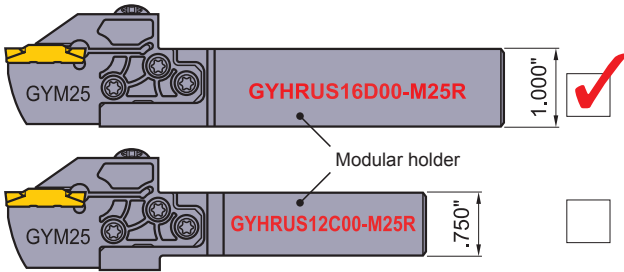
Recommended feed rate and depth of cut



Tool Selection

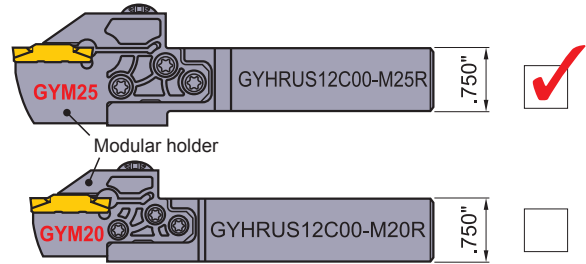
Notes when selecting the tool body

Modular holder



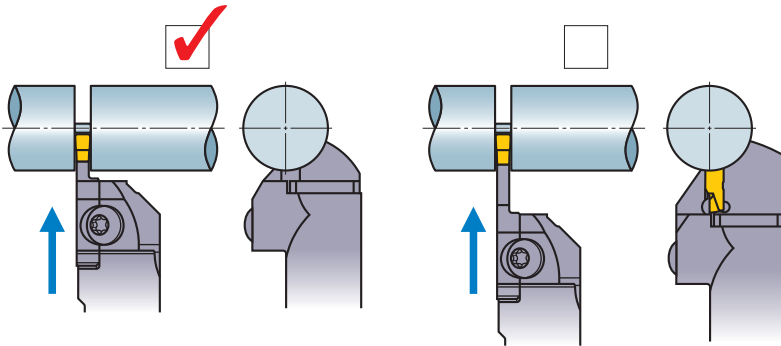
● To ensure sufficient clamping rigidity, select a modular holder with the largest possible shank size.

Modular blade (1)



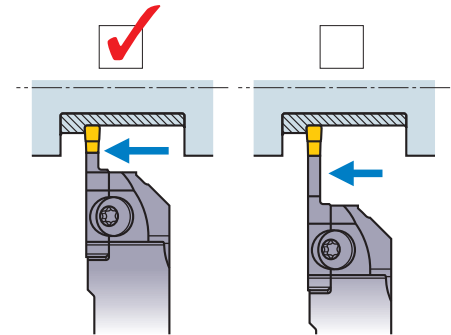
● If there is no restriction for use, select the largest modular blade for the same shank size.

Modular blade (2)



● Select the shortest possible blade suitable for the application.

Modular blade (3)

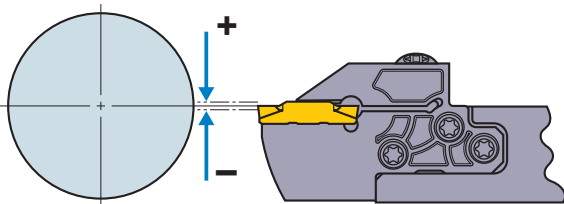


● Select the shortest possible blade suitable for the application.

✓: Recommended.

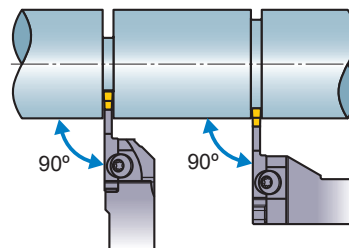
Notes when setting the tool

Setting of cutting edge height



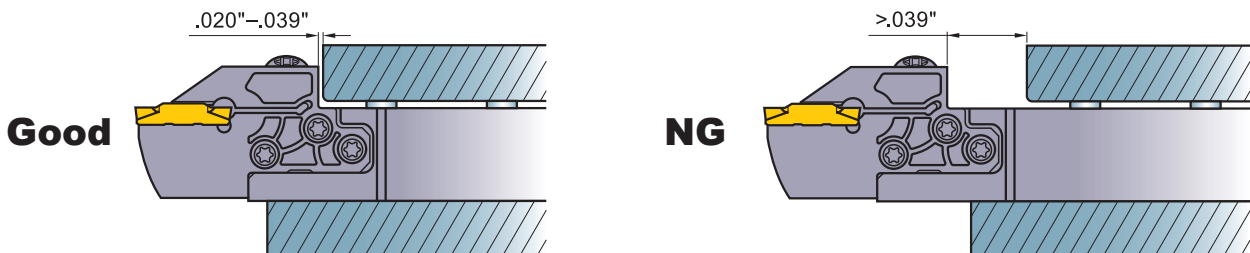
<Grooving/Cross-feed machining>
Set the cutting edge height to ± 0.004 " parallel to the central axis.
<Cutting off>
Set the cutting edge height to $0 - +0.008$ " parallel to the central axis.

Tool body setting angle



● Set the insert perpendicular to the central axis.

Overhang

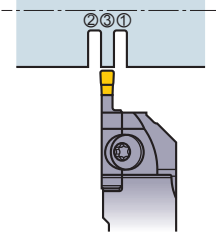


● When setting the tool, ensure that the overhang is as short as possible.

Machining Recommendations

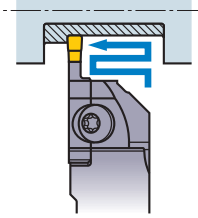
Notes on multi-functional machining (MF-MS and MM breakers)

Machining narrow grooves



- It is recommended to carry out plunging in several passes. Following the steps above makes it difficult for chips to elongate. This also improves the accuracy of workpiece wall surface.

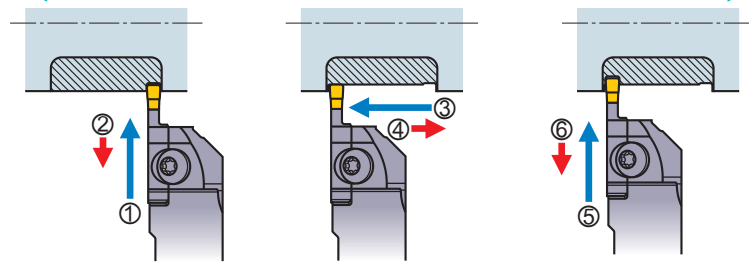
Machining wide grooves



- It is recommended that cross-feed machining is used.

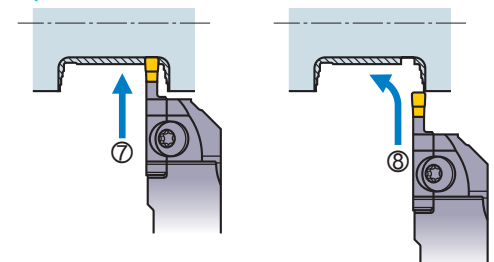
Machining wide grooves

Roughing



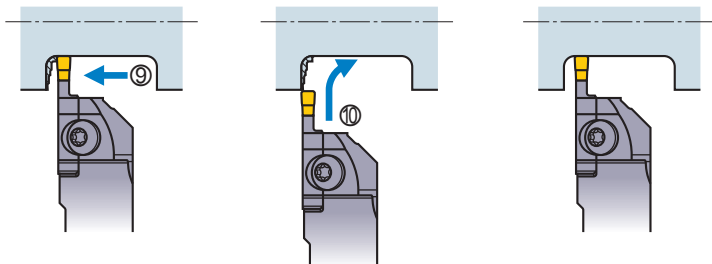
- Carry out grooving.
 - Retract the tool approx .004".
 - Carry out cross feed machining.
 - Retract the tool approx .004".
 - Carry out grooving.
 - Retract the tool approx .004".
- * Repeat the steps ①-⑥.

Finishing



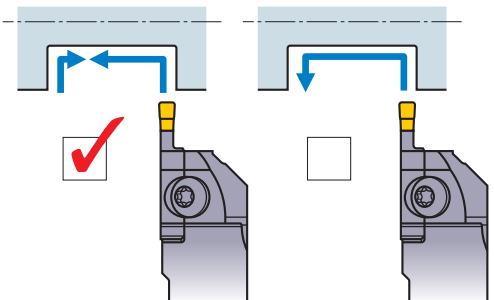
- Carry out grooving to the end point of the corner radius.
- Machining of the wall surface, corner radius and bottom face should be carried out in one process.

Finishing



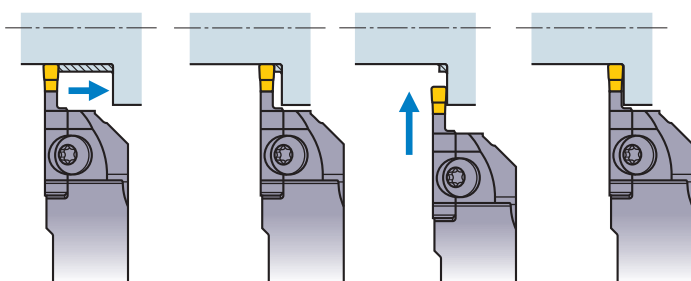
- Stop at the bottom of the corner radius.
- Machine the counter wall to the corner radius in one process.
- Finish machining.

Precautions when finishing walls



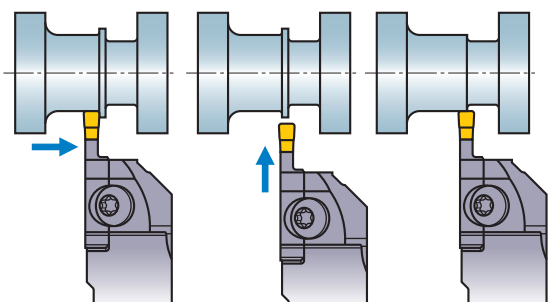
- To produce high accuracy walls using MS or MM breaker insert, do not carry out back turning. Plunging is recommended.

Wall machining



- When machining a wall, chip jamming can occur. In this case, stop cross feed machining just before the wall (at a point less than the insert width) then remove the remaining material by plunging.

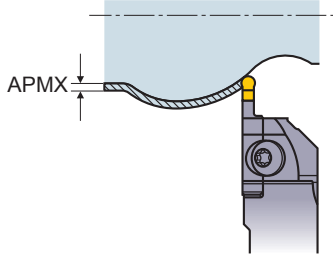
Machining of a ring section



- When a ring remains in a cross feed end process, finish cross feed machining .040"-.059" short of the end point, then remove the ring by plunging.

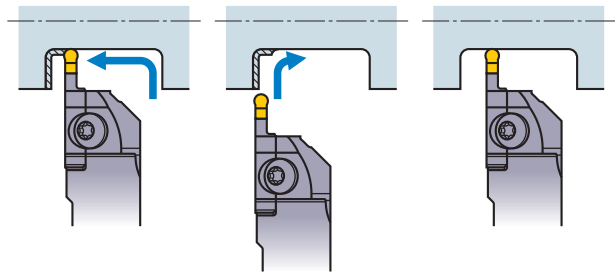
Machining Recommendations

Notes on multi-functional machining (BM breaker)



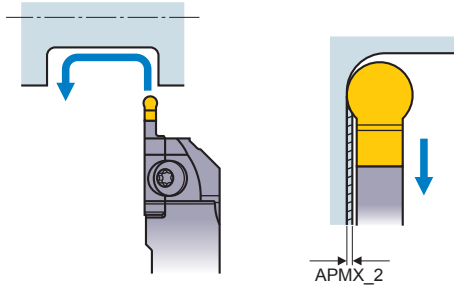
- With the BM breaker insert, 3 dimensional copying is possible. Set the depth of cut (APMX) to 40% less than the insert width.

Roughing



- Use plunging and cross-feed machining. When machining the corner, vibration is likely to occur. To avoid this, reduce the feed by 50%.

Finishing



- Carry out finishing in one process. For the depth of cut (APMX_2) when back turning, refer to the table on the right.

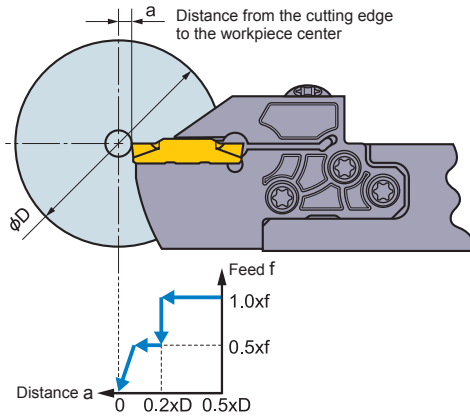
Insert	APMX_2 (inch)
GY2M0200D100N-BM	.002
GY2M0250E125N-BM	.004
GY2M0300F150N-BM	.006
GY2M0318F159N-BM	.008
GY2M0400G200N-BM	.009
GY2M0475H238N-BM	.009
GY2M0500H250N-BM	.012
GY2M0600J150N-BM	.012
GY2M0635J318N-BM	.016
GY2M0800K400N-BM	.016

Machining Recommendations

Notes for cutting off

feed

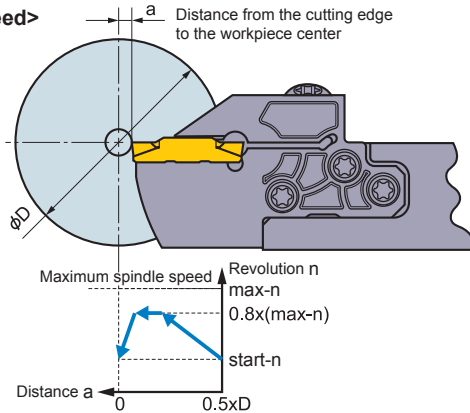
<Feed>



- When the cutting edge approaches the center, reduce the feed by 50%.
- If necessary, stop the feed prior to reaching the center of the workpiece. The part will fall off because of its own weight.

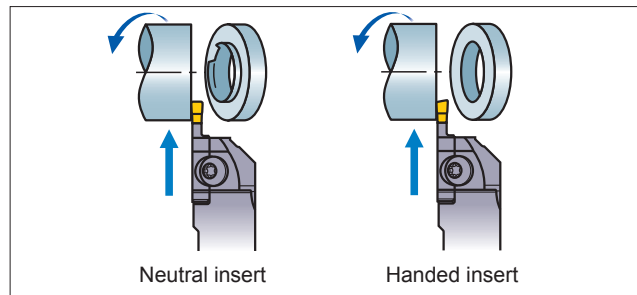
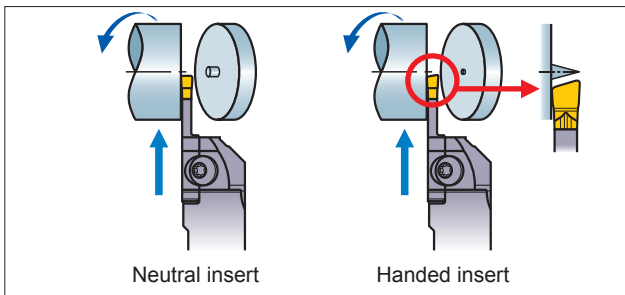
Revolution

<Spindle speed>



- When using constant cutting speed during a cutting off cycle, it is recommended to limit the spindle speed to 80% of maximum to ensure stability.
- To prevent the workpiece from being expelled, lower the spindle speed before finishing the grooving operation.

insert



- When there is a center stub on solid bar work or burrs are formed on pipe material, it is possible to decrease them by using a handed insert. With a handed insert, machining tends to be less stable when compared to using a neutral insert. Pay special attention to avoid fracturing of the cutting edge and decrease the feed when necessary.

ASSEMBLY INSTRUCTION

Assembly Procedures

A

(Ex.) GYHRUS16D00 - **M25R**
GYHR2525M00 - **M25R**

Holder

Modular Blade
(Ex.) **2** GY **M25R** A - **F 20**
GY **M25R** A - **F 12**

Long (5 holes)
Short, Medium (4 holes)

Insert
(Ex.) GY2M0300 **F 040N-MS**
GY2M0318 **F 030N-GM**

Note 1) ③ and ④ are changed by the insert size.

B

Long Modular Blade (5 holes)

Side Screws (3 screws)

B'

Short, Medium Modular Blade (4 holes)

Side Screws (2 screws)

Note 2) ① and ② should be matched. (See caption A)

C

Front Screws (2 screws)

Note 3) Please tighten the modular blade set screws in order of [Side screws] → [Front screws].

D

Note 4) Please clean the insert-seat before installing the insert.

Note 5) ③ and ④ should be matched. (See caption A)

E

Note 6) Don't tighten the insert clamp screw without installing the insert. This will prevent modular blade damage.

Note 7) The insert clamp screw is inclined. Ensure that the wrench is perpendicular to the screw tightening.

Good **NG**

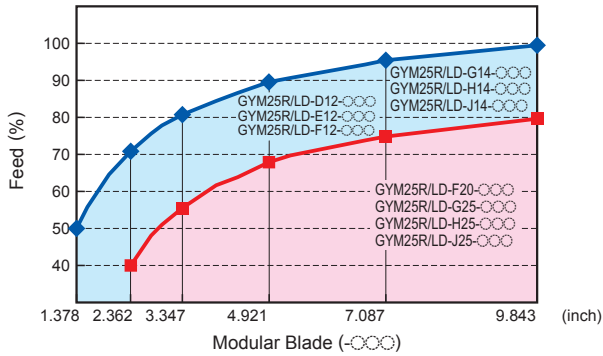
F

Assembled

GROOVING

GROOVING SYSTEM

RELATIONSHIP BETWEEN THE MODULAR BLADE AND FEED PER ROTATION [For Face Grooving]



(Note) Adjust the feed per rotation in the cutting conditions to the percentage shown in the table above.

RECOMMENDED CUTTING SPEED (SFM) [For Face Grooving]

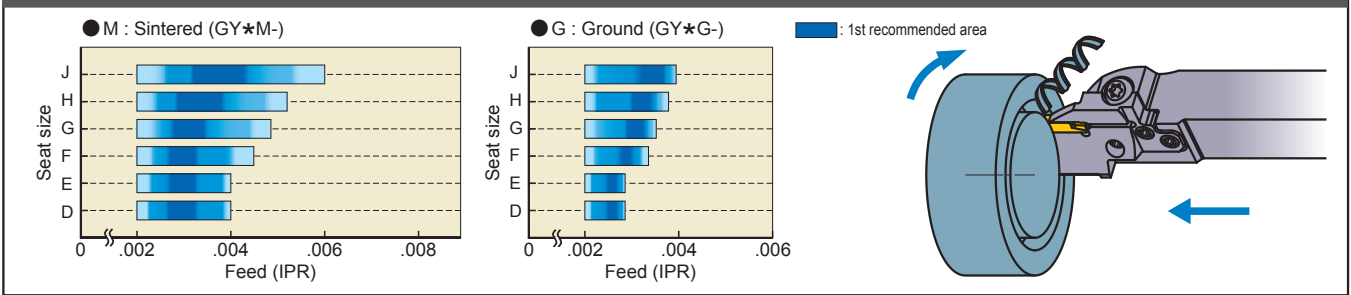
Work Material	Hardness	Grade	Cutting Speed (SFM)						
			165	330	490	655	820	985	
P Mild Steel	≤160HB	VP20RT	260		590				
		VP10RT	295		620				
		NX2525	230		560				
	Carbon Steel Alloy Steel	160–280HB	VP20RT	195		460			
			VP10RT	230		490			
			MY5015	295		690			
		280HB≤	VP20RT	165		360			
			VP10RT	195		395			
			MY5015	260		525			
M Stainless Steel	≤270HB	VP20RT	165		360				
		VP10RT	195		395				
K Gray Cast Iron	Tensile Strength ≤300MPa	VP20RT	195		460				
		VP10RT	230		490				
		MY5015	295		690				
	Ductile Cast Iron	Tensile Strength ≤800MPa	VP20RT	165		360			
			VP10RT	195		395			
			MY5015	260		525			
S Heat Resistant Alloy Titanium Alloy	—	VP20RT	100	195					
		VP10RT	130	230					
		RT9010	130	230					
H Hardened steel	50HRC≤	MB8025	195	330					

(Note 1) VP20RT is the first recommended grade for materials other than hardened steel.

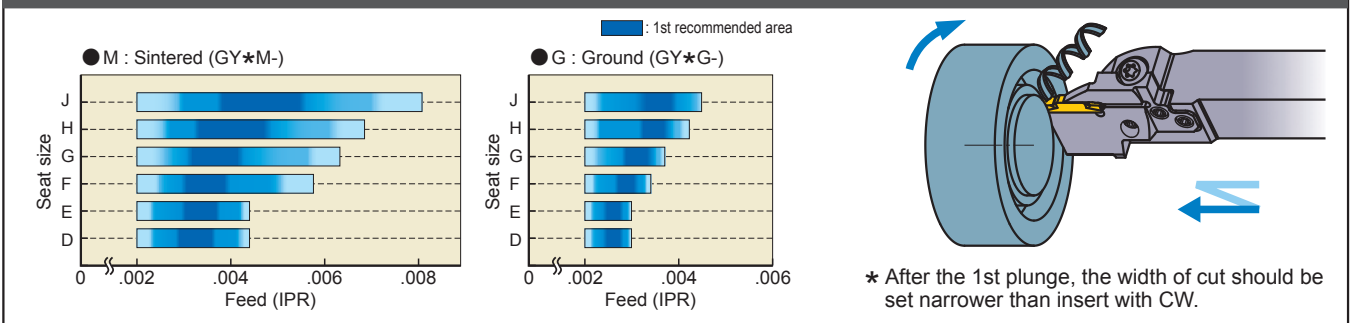
(Note 2) For VP10RT, VP20RT and MY5015, wet cutting is recommended.

RECOMMENDED CUTTING CONDITIONS [For Face Grooving]

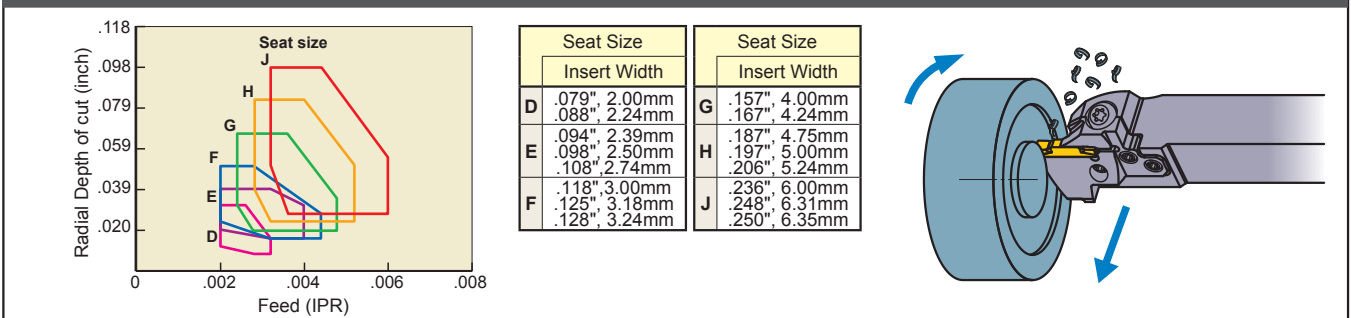
GROOVING



PLUNGING



TRAVERSE MACHING (MF BREAKER)



TRAVERSE MACHING (MM/MS BREAKER)



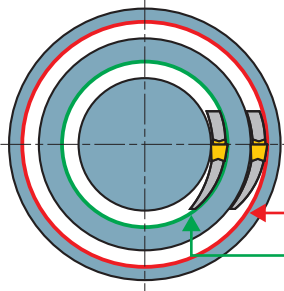
TRAVERSE MACHING (BM BREAKER)



TOOL SELECTION

Notes when selecting the tool body

Modular blade (1)

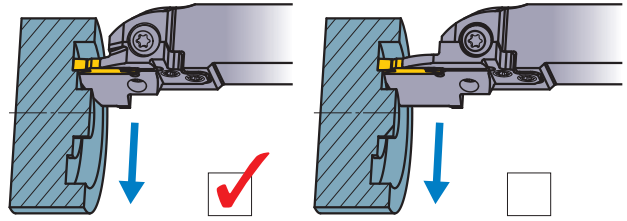


● Select a modular blade for face grooving, so that the cutting diameter at the first pass is within the range of DAXN and DAXX that are described in the table of dimensions.

DAXX (Max.)

DAXN (Min.)

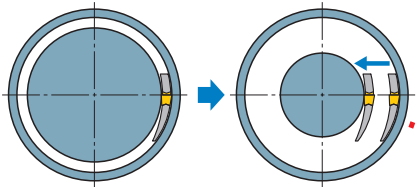
Modular blade (2)



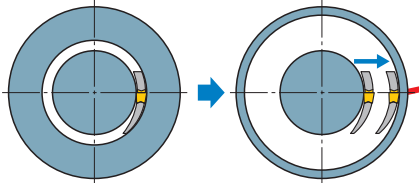
● Select the shortest possible blade suitable for the application.

Modular blade (3)

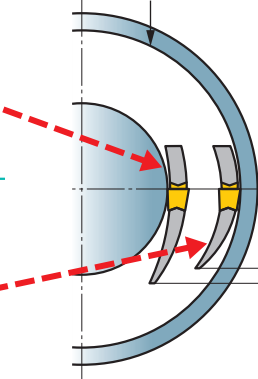
Good



NG



The maximum cutting diameter



● Select the largest size blade within the maximum cutting diameter of the workpiece.

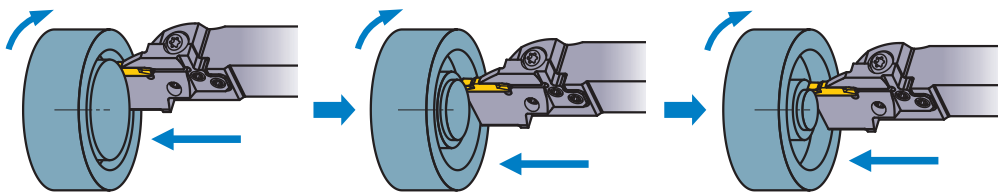
● Machine from the outer diameter towards the center.



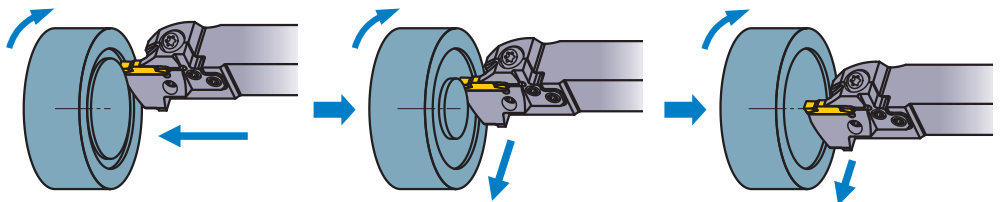
● Increased machining stability and rigidity is possible if a modular blade with the largest possible back metal is used.

● At first, machine the maximum cutting diameter, there is no restriction in the cutting diameter on the remaining process.

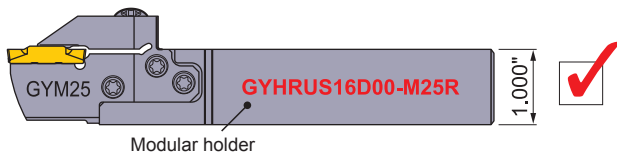
● When plunging in several passes.



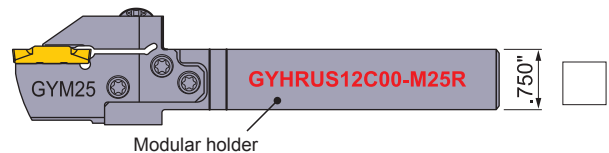
● When combining plunging and infeed machining.



Modular holder



Modular holder

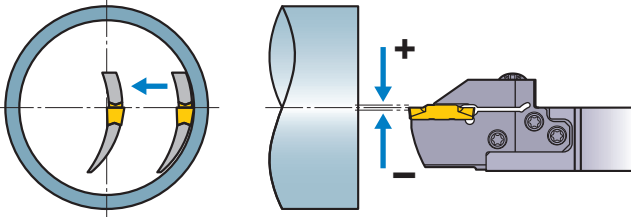


Modular holder

● To ensure sufficient clamping rigidity, select a modular holder with the largest possible shank size.

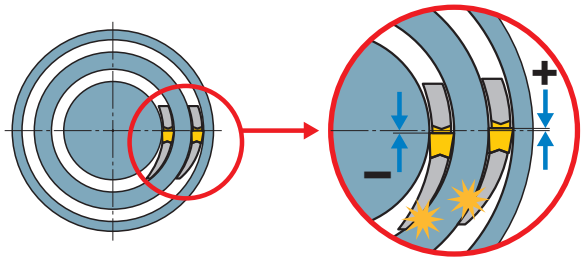
Notes when setting the tool

Setting the cutting edge height



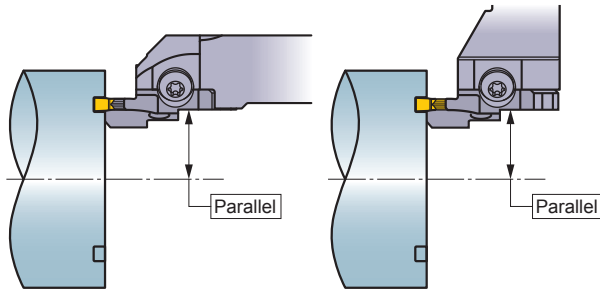
- Set the cutting edge height to $\pm .004$ " parallel to the central axis.
- Cutting edge center height check should be done by traverse machining towards the center with a very small depth of cut and ensure that an even surface and no material remains at the center point afterwards.

When interfering the wall of groove and the Modular blade



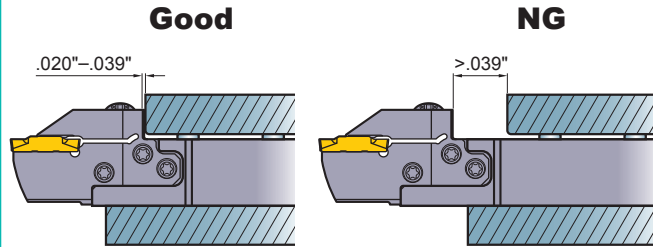
- If interference occurs even when the correct blade is used, the cutting edge height could be incorrect.
 - When interference occurs on the inner side of the blade, the cutting edge height is set too high.
 - When interference occurs on the outer side of the blade, the cutting edge height is set too low.

Setting the tool



- Set the insert parallel to the central axis.

Tool overhang



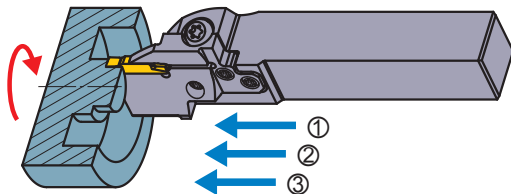
- When setting the tool, ensure that the overhang is as short as possible.

MACHINING RECOMMENDATIONS

Notes when face grooving (1)

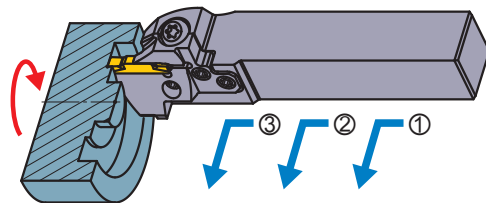
- Always machine from the outer diameter towards the center.

Machining narrow grooves



- Plunging in several passes is recommended.

Machining wide grooves

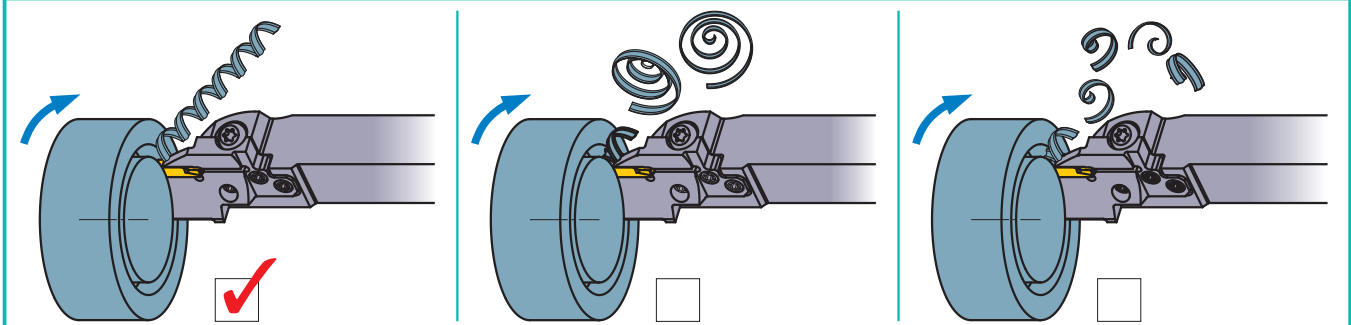


- Cross feed machining is recommended.

MACHINING RECOMMENDATIONS

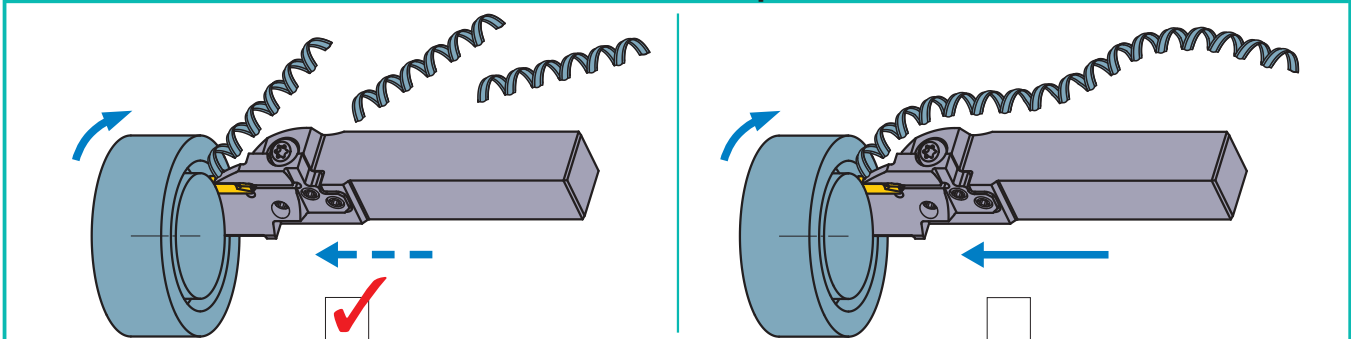
● Notes when face grooving (2)

Notes on the first pass (1)



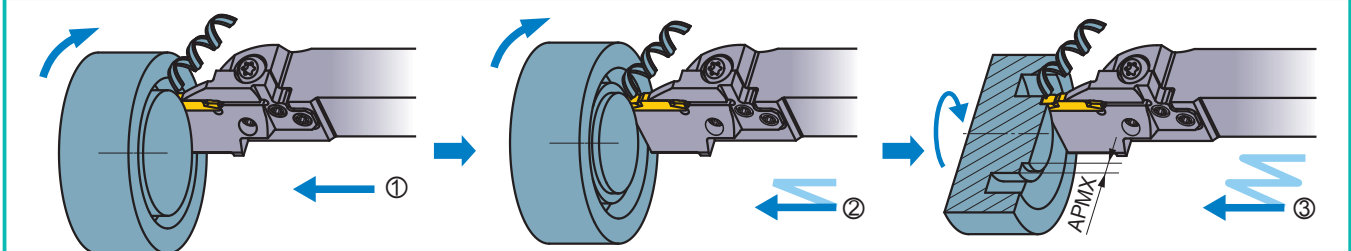
- During the first face grooving pass it is difficult to disperse broken chips and can lead to problems such as a chipped insert. Maintain longer chips that disperse easily by decreasing the feed per rotation.

Notes on the first pass (2)



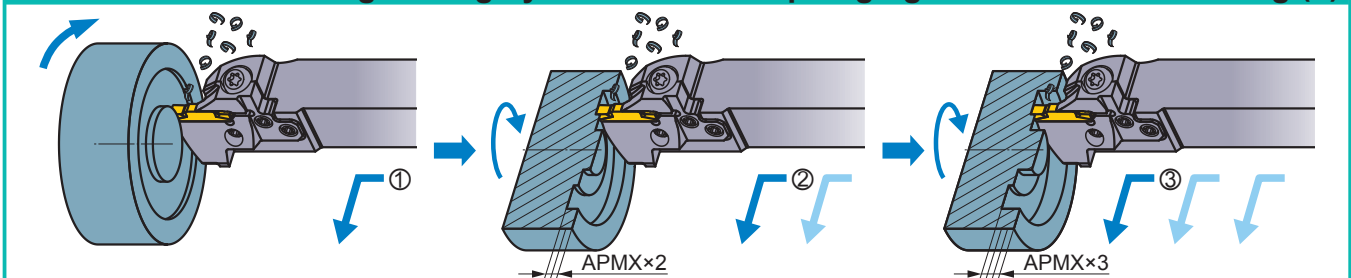
- When chips become too long, use peck feed to break them into a suitable length.

Notes when wide face grooving by plunging in several passes.



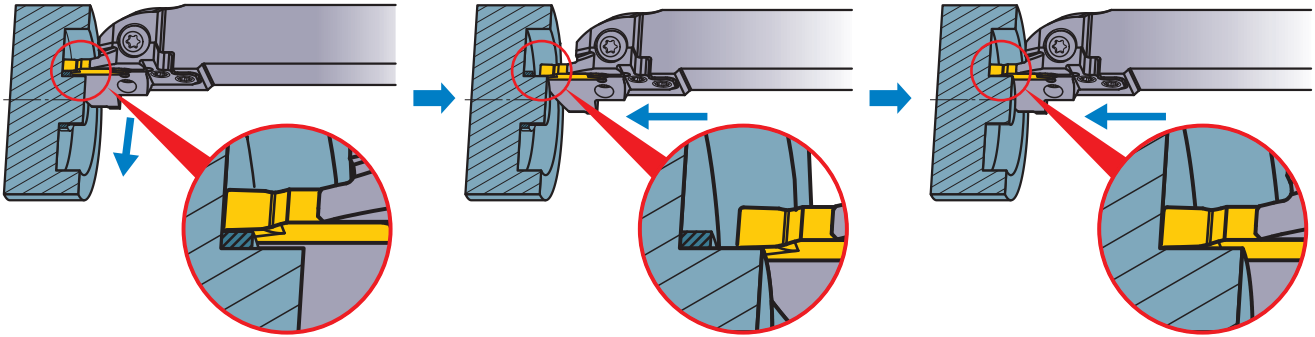
- When machining a face groove in several passes, machine from the outer diameter towards the center so that space for discharging chips is created to prevent insert damage caused by chip jamming.
- Plunging width of cut is recommended to be set at 60 - 80% of the insert width. This enhances the effect of the chipbreaker by enlarging the width of the groove to improve chip dispersal.

Notes when wide face grooving by combination of plunging and traverse machining (1)



- When face groove machining by using plunge feed and traverse machining, always machine from the outer diameter towards the center to disperse chips outward to avoid chip jamming problems.
- Set the depth of cut within 40% of the insert width.

Notes when wide face grooving by combination of plunging and traverse machining (2)



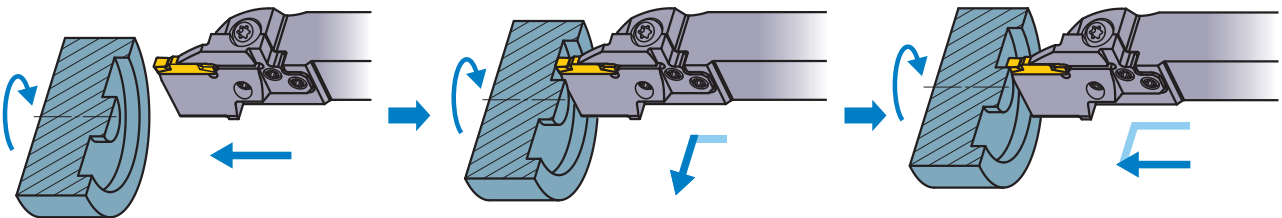
- When infeed machining at the bottom of deep groove, chips may interfere on the cutting edge near the center wall. In such cases, stop infeed machining just before the center wall (at a point less than the insert width) then remove the remaining material by plunging.

Notes when copying (BM Breaker)



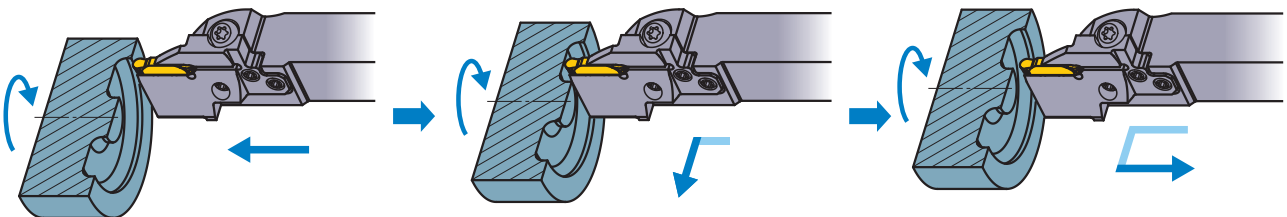
- With the BM breaker insert, 3 dimensional copying is possible. Set the depth of cut (APMX_2) to 30% of the insert width.

Finishing (1)

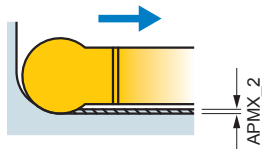


- When finish cutting, machine continuously from the outer wall to the bottom of the groove, then finally plunge cut the center wall.

Finishing (2) (BM Breaker)



- Carry out finishing in one process. For the depth of cut (APMX_2) when back turning, refer to the table on the right.



Insert	APMX_2 (inch)
GY2M0200D100N-BM	.004
GY2M0250E125N-BM	
GY2M0300F150N-BM	
GY2M0318F159N-BM	
GY2M0400G200N-BM	.006
GY2M0475H238N-BM	.008
GY2M0500H250N-BM	
GY2M0600J150N-BM	.010
GY2M0635J318N-BM	

ASSEMBLY INSTRUCTION

● Assembly procedure

A

(b) Wrench
(d) Wrench

Holder

(a) Insert clamp screw x 1pc.

(c) Modular blade set screw x 5pcs.

(Ex.) GYHR2525M00 - **M25R**

Modular Blade

(Ex.) **②**
GY **M25R** D - **F** 20-060
GY **M25R** D - **F** 12-060

Long Medium

Insert

(Ex.) GY2M0300 **F** 040N-MS
GY2M0318 **F** 030N-GM

Note 1) ③ and ④ are changed by the insert size.

B

Side screws (3 screws)

Long modular blade (5 holes)

Note 2) ① and ② should be matched. (See caption A)

C

Front screws (2 screws)

Note 3) Please tighten the modular blade set screws in order of [Side screws] → [Front screws].

D

Note 4) Please clean the insert-seat before installing the insert.

Note 5) ③ and ④ should be matched. (See caption A)

E

Note 6) Don't tighten the insert clamp screw without installing the insert. Modular blade might be damaged.

Note 7) The insert clamp screw is inclined. Ensure that the wrench is perpendicular to the screw tightening.

Good **NG**

F

Assembled

GROOVING

Memo

A series of horizontal dashed lines for writing, spanning the width of the page.

GROOVING SYSTEM

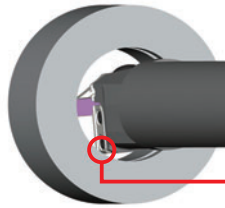
LIMITATION OF THE MAXIMUM GROOVE DEPTH [For Internal Grooving]

•When using the mono block type

The maximum groove depth is not limited by the cutting diameter.

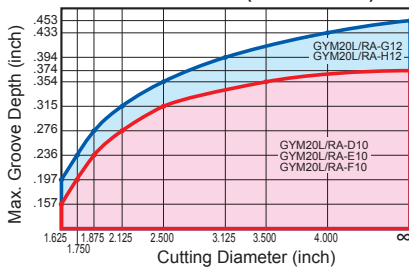
•When using the modular blade type

The maximum groove depth is limited by the cutting diameter.

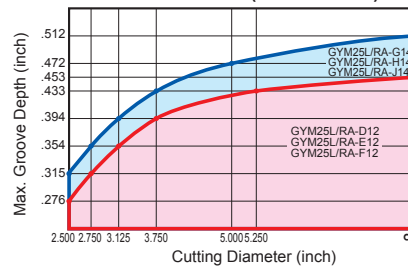


Due to interference of this part, the maximum groove depth is limited by the cutting diameter.

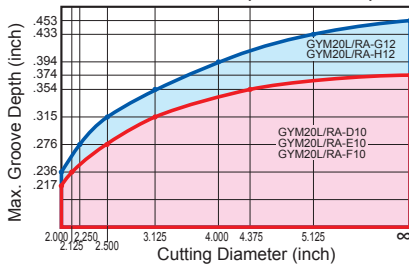
Shank Diameter=1.250inch (GYM20 Blade)



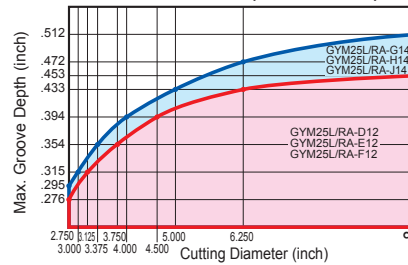
Shank Diameter=1.500inch (GYM25 Blade)



Shank Diameter=1.500inch (GYM20 Blade)



Shank Diameter=2.000inch (GYM25 Blade)



GROOVING

RECOMMENDED CUTTING SPEED (SFM) [For Internal Grooving]

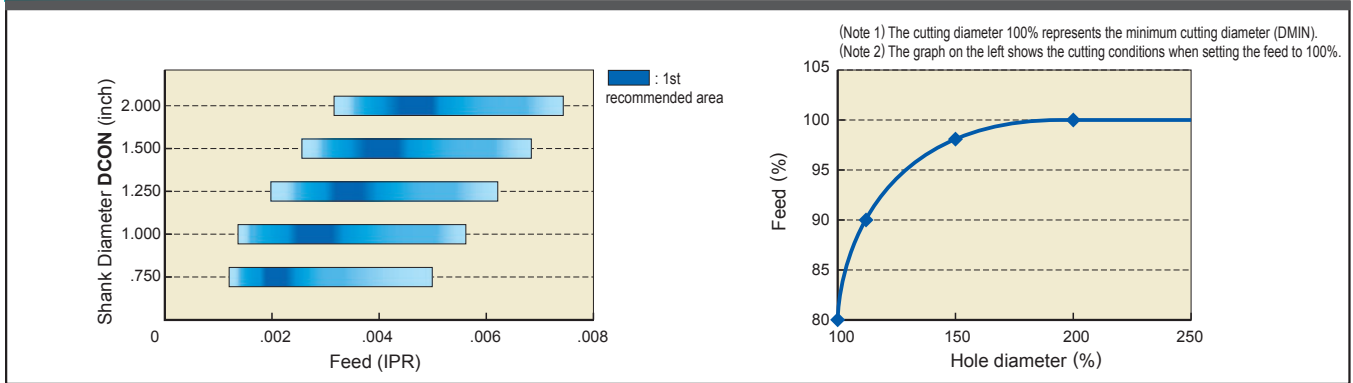
Work Material	Hardness	Grade	Cutting Speed (SFM)							
			165	330	490	655	820	985		
P Mild Steel Carbon Steel Alloy Steel	≤160HB	VP20RT		260	590					
		VP10RT		295	620					
		NX2525		230	560					
	160-280HB	VP20RT		195	460					
		VP10RT		230	490					
		MY5015		295	690					
		NX2525		180	440					
		280HB≤	VP20RT		165	360				
			VP10RT		195	395				
	MY5015			260	525					
	NX2525		150	345						
		M Stainless Steel	VP20RT		165	360				
VP10RT			195	395						
K Gray Cast Iron Ductile Cast Iron	Tensile Strength ≤300MPa		VP20RT		195	460				
		VP10RT		230	490					
		MY5015		295	690					
	Tensile Strength ≤800MPa	VP20RT		165	360					
		VP10RT		195	395					
		MY5015		260	525					
S Heat Resistant Alloy Titanium Alloy	VP20RT		100	195						
	VP10RT		130	230						
	RT9010		130	230						
H Hardened steel	50HRC≤	MB8025		195	330					

(Note 1) VP20RT is the first recommended grade for materials other than hardened steel.

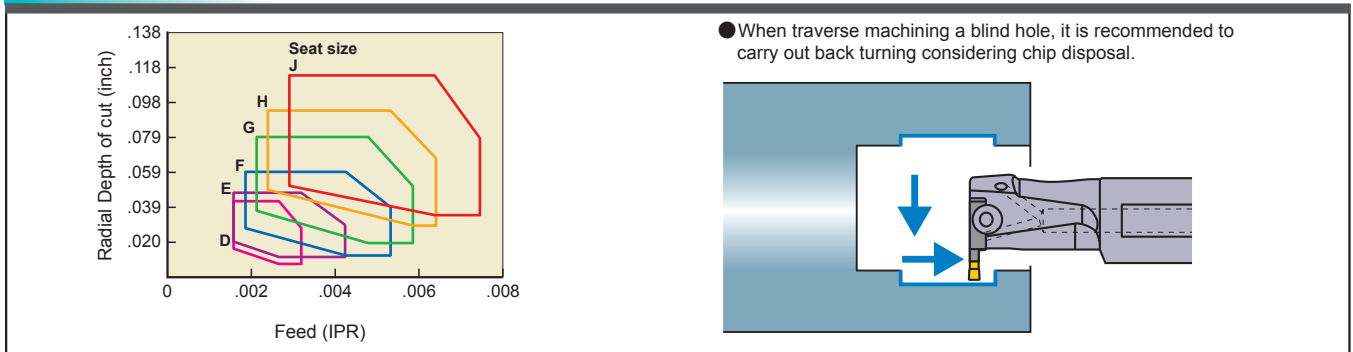
(Note 2) For VP10RT, VP20RT and MY5015, wet cutting is recommended.

RECOMMENDED CUTTING CONDITIONS [For Internal Grooving]

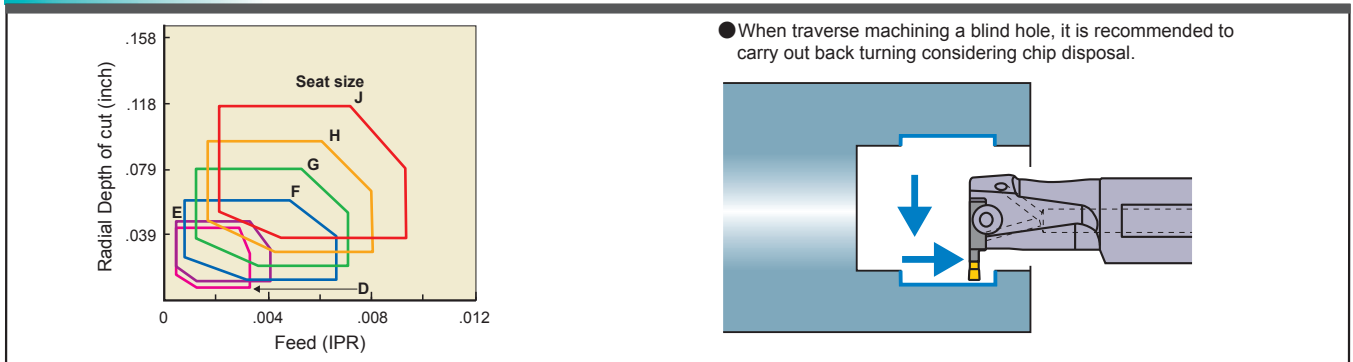
GROOVING



TRAVERSE MACHING (MF BREAKER)

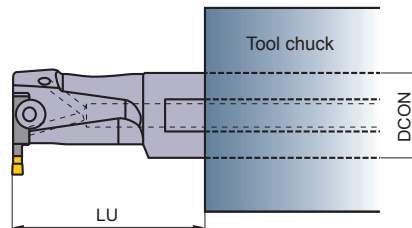


TRAVERSE MACHING (MM/MS BREAKER)



(Note) The above cutting conditions are for when using the tool overhang (LU) 1.6-2.0 times larger than the shank diameter (DCON). (L/D=1.6-2.0)
 When using L/D larger than 2.0, reduce the cutting conditions.

Seat Size	Insert Width	
	D	.079", 2.00mm .088", 2.24mm
E	.094", 2.39mm .098", 2.50mm .108", 2.74mm	
F	.118", 3.00mm .125", 3.18mm .128", 3.24mm	
G	.157", 4.00mm .167", 4.24mm	
H	.187", 4.75mm .197", 5.00mm .206", 5.24mm	
J	.236", 6.00mm .248", 6.31mm .250", 6.35mm	



RECOMMENDATIONS FOR INTERNAL GROOVING

Notes when selecting the tool body



Holder

● When the overhang is the same, select a holder with the largest possible shank size to ensure sufficient clamping rigidity.

Modular blade (1)

● For a $\phi 1.5"$ & $\phi 40\text{mm}$ shank holder, if there is no restriction for use, select a holder suitable for GYM25 blade.

Modular blade (2)

	
GYM20R/LA-○○○	GYM25R/LA-○○○
GYM20R/LA-D10	GYM25R/LA-D12
GYM20R/LA-E10	GYM25R/LA-E12
GYM20R/LA-F10	GYM25R/LA-F12
GYM20R/LA-G12	GYM25R/LA-G14
GYM20R/LA-H12	GYM25R/LA-H14
	GYM25R/LA-J14

● For an internal holder, select a modular blade listed above.

Notes when setting the tool

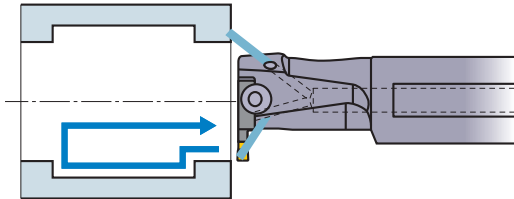
Over hang

● The maximum groove depth is limited to the dimension LDRED. When machining with longer overhangs, refer to the dimension F2 of the tool used.

● Notes on multi-function machining (MS and MM breakers)

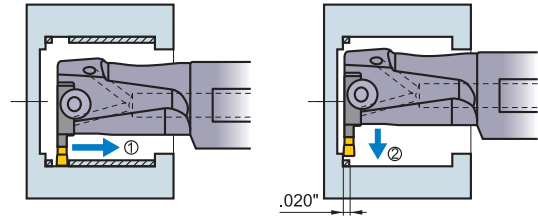
For internal grooving, the machining methods for external grooving (F212 – F213) can be used, but please note the following precautions.

Coolant



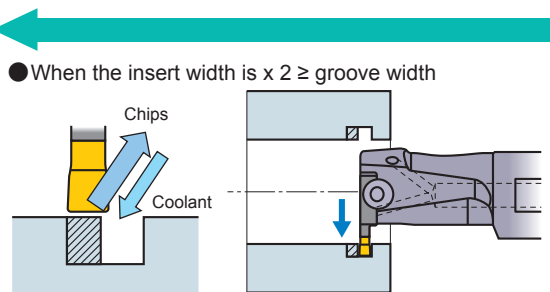
- Supply large amounts of coolant for effective chip disposal during cutting. Maintain supply until the tool has been retracted completely for improved chip disposal.

Machining blind holes



- As continuous chips tend to elongate at the back of the bore, the above operation is recommended. The recommended width of cut for ② is .020 inch.

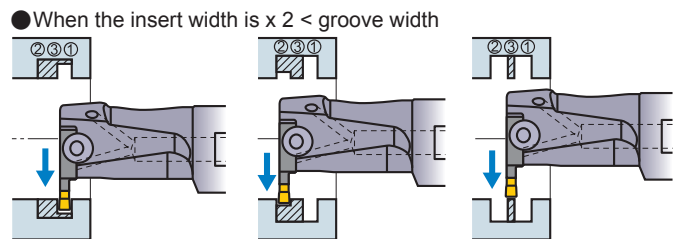
Machining Wide Grooves



- When the insert width is $x 2 \geq$ groove width

- When the depth of cut is shallower than the insert width, continuous chips are usually produced. When plunging in several passes, it is recommended to carry out machining in the steps above. This ensures that coolant reaches the cutting edge and chips are easily discharged.

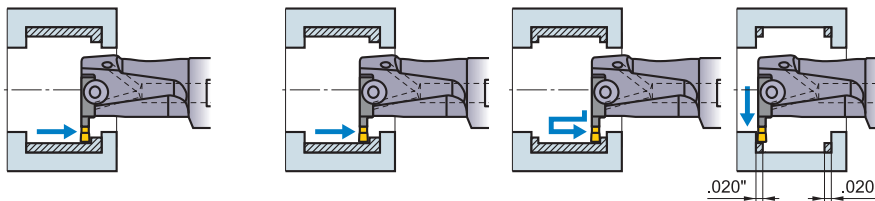
Grooving



- When the insert width is $x 2 <$ groove width

- When the groove depth is larger than the insert width, carry out plunging in the steps above to break up chips efficiently.

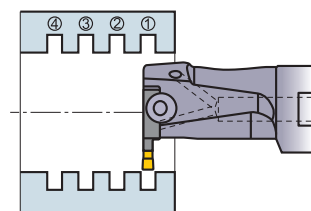
Turning



- When chip breaking and disposal are especially important, cross-feed machining is recommended.

- Wide face grooving when the corner R of the workpiece is equal to the corner R of the insert, machine as shown above. (When corner R of the workpiece is larger than corner R of the insert, refer to the description of external wide grooving.)
- If the groove depth exceeds a given level, chips may elongate at the wall. In such a case, increase the feed and carry out machining as shown above.

Machining instruction



- It is recommended to carry out grooving from the front end of the workpiece. This reduces workpiece deflection.

ASSEMBLY INSTRUCTION

A

(a) Insert clamp screw x 1pc.

Modular Holder

(b) Wrench

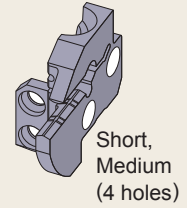
(d) Wrench

(c) Modular blade set screw x 4pcs.

(Ex.) GYDLUS24M90D - **M20R**
GYDLUS32P90F - **M25R**

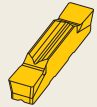
Modular Blade

(Ex.) GY **M20R** A - **F 10**
GY **M25R** A - **F 12**



Insert

(Ex.) GY2M0300 **F 040N-MS**
GY2M0318 **F 030N-GM**



Note 1) ③ and ④ are changed by the insert size.

B

2 side screws

C

Note 2)

Please tighten the modular blade set screws in order of [Side screws] → [Front screws].

2 front screws

D

Note 3)
Please clean the insert-seat before installing the insert.

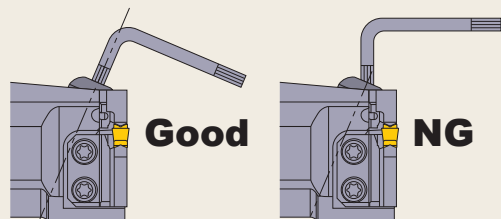
E

Note 4)

Don't tighten the insert clamp screw without installing the insert.
This will prevent modular blade damage.

F

Assembled



Note 5)

The insert clamp screw is inclined.
Ensure that the wrench is perpendicular to the screw tightening.

INSERT INSTALLATION

A

(a) Insert clamp screw x 1pc.

(b) Wrench

Holder

Insert

(Ex.)
 GY2M0300 **F**^①040N - MS
 GY2M0318 **F**030N - GM

(Ex.) GYAL○○○○90○ - **F**^②06

Note 1) ① and ② are changed by the insert size.

B

Note 2)
Please clean the insert-seat before installing the insert.

C

Note 3)
Don't tighten the insert clamp screw without installing the insert. This will prevent modular blade damage.

D

Assembled

Note 4)
The insert clamp screw is inclined. Ensure that the wrench is perpendicular to the screw tightening.

GROOVING