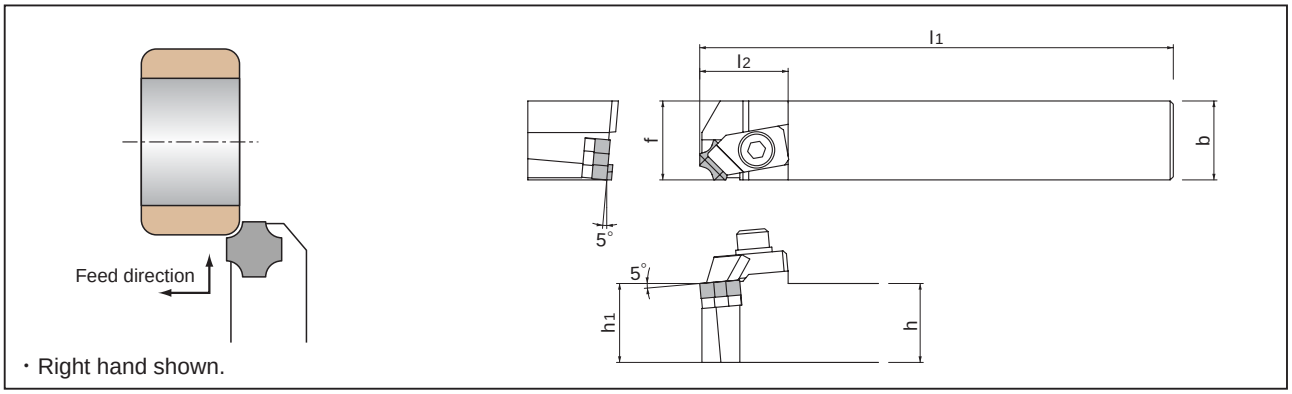
Bearing Tool

CBS···type F

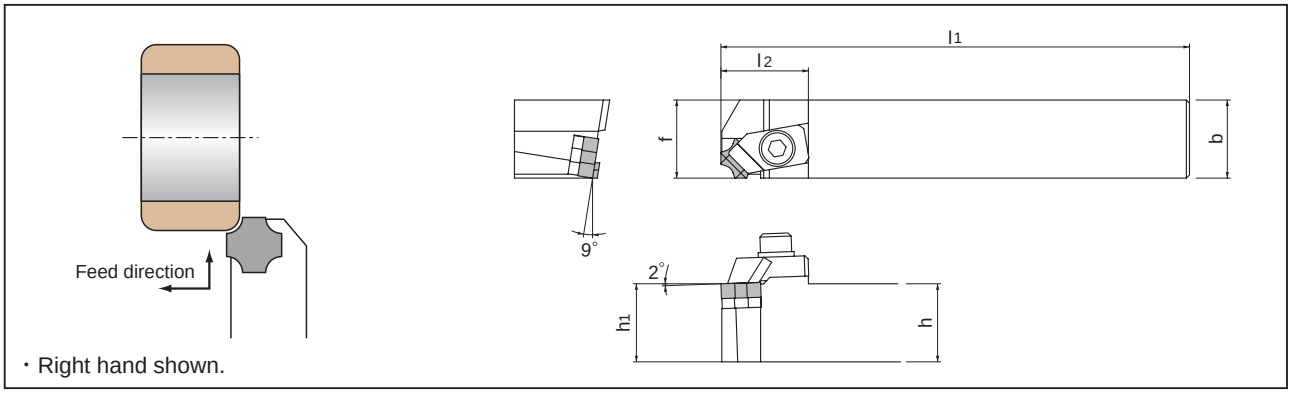


・Right hand shown.

Toolholder		Stock R	Stock L	Dimensions (mm) h/h1	b	l1	f	l2	Insert	
CBS R/L	16K32F	●	●	16	16	125	16	23	BSMF32	BSMF43
	20K43F	●	○	20	20	125	20	28	BSMF43	
	25M43F	●		25	25	150	25	28		
	25M53F	○	○	25	25	150	25	35	BSGF53	

For details of insert, please see next page.

CBS···type B

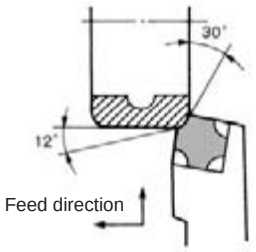


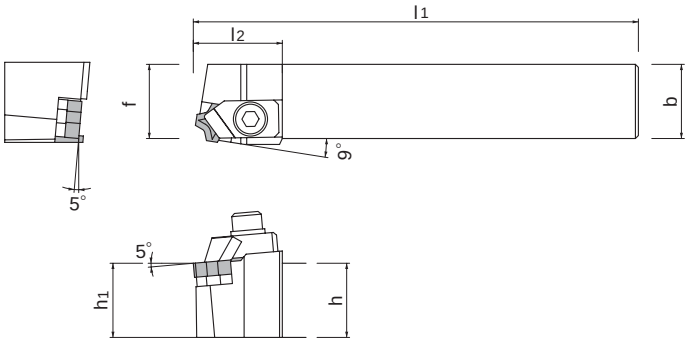
・Right hand shown.

Toolholder		Stock R	Stock L	Dimensions (mm) h/h1	b	l1	f	l2	Insert	
CBS R/L	16K32B	●	●	16	16	125	16	23	BSMF32	BSMF43
	20K43B	○	○	20	20	125	20	28	BSMF43	
	25M43B	●	●	25	25	150	25	28		
	25M53B			25	25	150	25	35	BSGF53	

For details of insert, please see next page.

CBG···type F

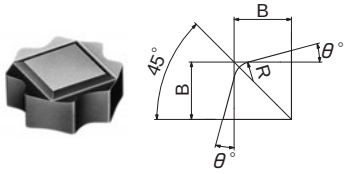
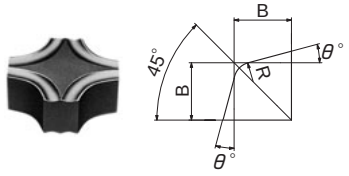




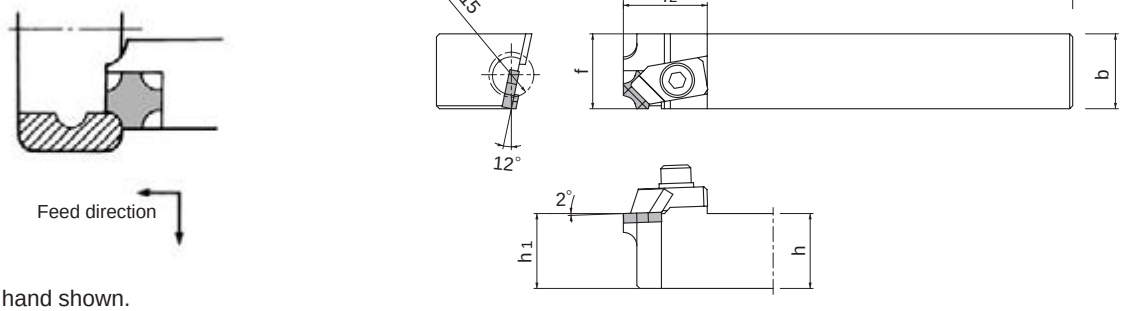
・Right hand shown.

Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
CBG R/L 20K43F	○		20	20	125	20	30	BSMF43
25M43F	●		25	25	150	25	30	

● Insert

Shape	Insert Number		Dimensions (mm)					Grade	
			R	θ	B	Inscribed circle	Thickness	T15	N40
	BSMF	3206H20EM	0.6	15°	2.0	9.525	3.18		
		3206D20EM	0.6	18°	2.0				●
	BSMF	4315H29EM	1.5	18°	2.9	12.70	4.76	○	
		4320H26EM	2.0	18°	2.6				●
		4330H33EM	3.0	18°	3.3			○	
	BSMF	4306H20EN	0.6	18°	2.0	12.70	4.76		
		4306T20EN	0.6	21°	2.0				○
		4308D34EN	0.8	15°	3.4				○
		4310H30EN	1.0	18°	3.0				●
		4310T30EN	1.0	21°	3.0				○
		4312D29EN	1.2	15°	2.9				●
		4312H29EN	1.2	18°	2.9				
		4315H29EN	1.5	18°	2.9				
		4316T35EN	1.6	21°	3.5				●
		4317D29EN	1.7	15°	2.9				●
		4317H29EN	1.7	18°	2.9				
		4320H26EN	2.0	18°	2.6				●
		4321T35EN	2.1	21°	3.5				●
		4325H37EN	2.5	18°	3.7				
		4330H37EN	3.0	18°	3.7				●
		4335H39EN	3.5	18°	3.9				●
		4340E35EN	4.0	20°	3.5				

CBU···type B Minimum machining diameter ϕ15

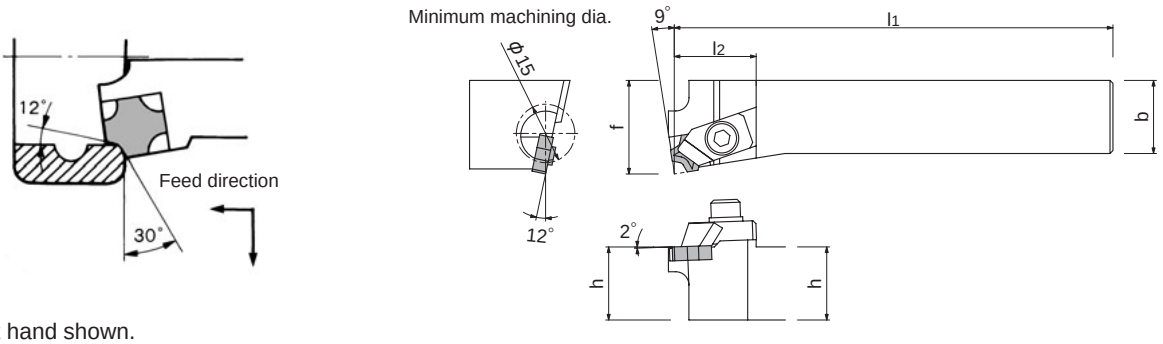


・Right hand shown.

Toolholder		Stock R	Stock L	Dimensions (mm) h/h1	b	l1	f	l2	Insert
CBU R/L	20K42B	○		20	20	125	20	28	BSMF42
	25M42B	●	●	25	25	150	25	28	

For details of insert, please see next page.

CBN···type B Minimum machining diameter ϕ15

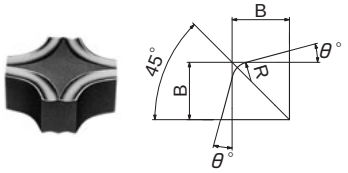


・Right hand shown.

Toolholder		Stock R	Stock L	Dimensions (mm) h/h1	b	l1	f	l2	Insert
CBN R/L	20K42B	●		20	20	125	25	28	BSMF42
	25M42B			25	25	150	32	28	

For details of insert, please see next page.

Inserts

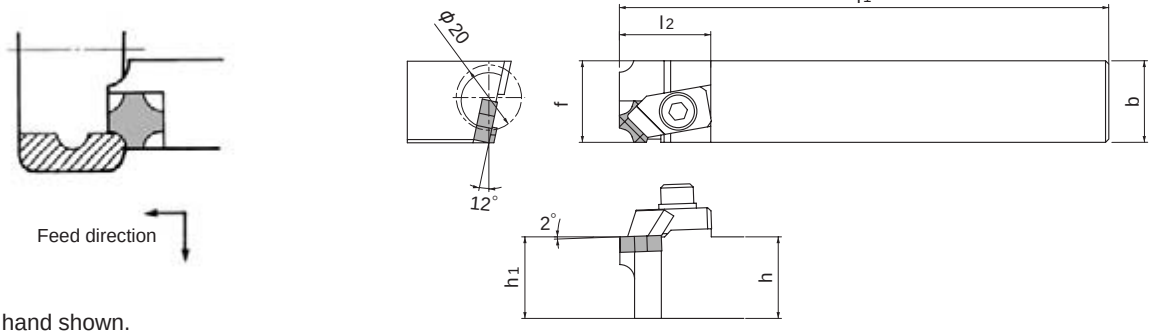
Shape	Insert Number	Dimensions (mm)					Grade	
		R	θ	B	Inscribed circle	Thickness	T15	N40
	BSMF 4206T20EN	0.6	21°	2.0	12.70	3.18		
	4210T30EN	1.0	21°	3.0				
	4216T35EN	1.6	21°	3.5				
	4221T35EN	2.1	21°	3.5				●

Parts

Parts / Toolholder	Clamp	Shim sheet	Clamping screw	Retaining screw	Washer	Wrench
						
CBS R/L 16K32	CB R/L 3	ABS32	CS0520	M2 X 6	WS-5	LW-4
CBS R/L 20K43 CBS R/L 25M43	CB R/L 4	ABS42	CS0625	M3 X 8	WS-6	LW-5
CBS R/L 25M53	CB R/L 5	ABS52	CS0625	M4 X 10	WS-6	LW-5
CBG R/L 20K43F CBG R/L 25M43F	CB R/L 4	ABS42	CS0625	M3 X 8	WS-6	LW-5
CBU R/L 20K42B CBU R/L 25M42B	CB R/L 4		CS0625		WS-6	LW-5
CBN R/L 20K42B CBN R/L 25M42B						

CBU···type B

Minimum machining diameter ϕ20



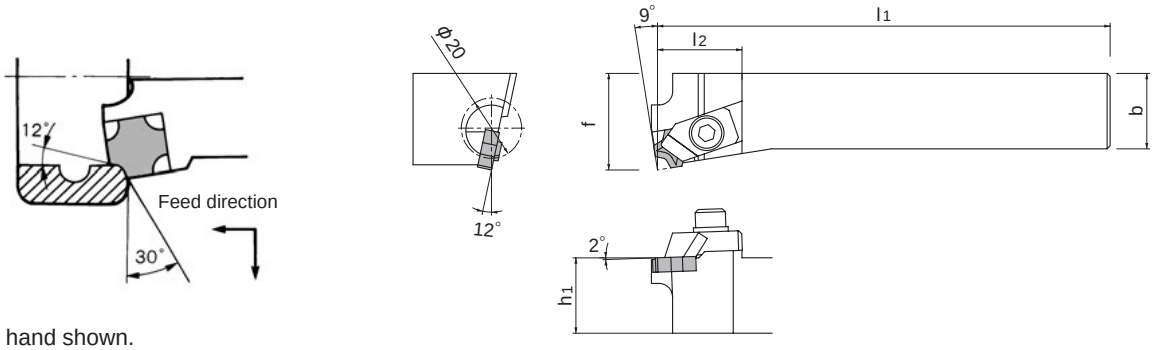
・Right hand shown.

Toolholder		Stock		Dimensions (mm)					Insert	
		R	L	h/h1	b	l1	f	l2		
CBU R/L	20K43B	●	●	20	20	125	20	20	BSMF43	BSMF43
	25M43B	●	●	25	25	150	25	25		

For details of insert, please see next page.

CBN···type B

Minimum machining diameter ϕ20

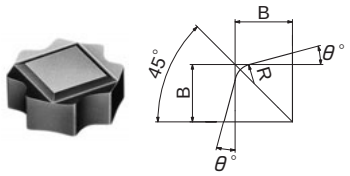
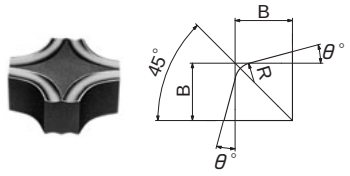


・Right hand shown.

Toolholder		Stock		Dimensions (mm)					Insert
		R	L	h/h1	b	l1	f	l2	
CBN R/L	20K43B	●		20	20	125	25	28	BSMF43
	25M43B	○		25	25	150	32	28	

For details of insert, please see next page.

Insert

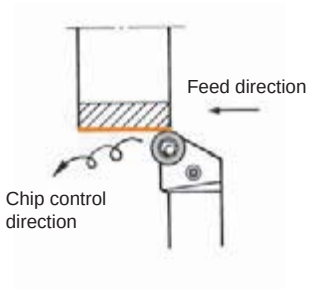
Shape	Insert Number	Dimensions (mm)					Grade	
		R	θ	B	Inscribed circle	Thickness	T15	N40
	BSMF 3206H20EM	0.6	15°	2.0	9.525	3.18		○
	3206D20EM	0.6	18°	2.0				●
	BSMF 4315H29EM	1.5	18°	2.9			○	
	4320H26EM	2.0	18°	2.6	12.70	4.76		●
	4330H33EM	3.0	18°	3.3			○	
	BSMF 4306H20EN	0.6	18°	2.0				
	4306T20EN	0.6	21°	2.0				○
	4308D34EN	0.8	15°	3.4				○
	4310H30EN	1.0	18°	3.0				●
	4310T30EN	1.0	21°	3.0				○
	4312D29EN	1.2	15°	2.9				●
	4312H29EN	1.2	18°	2.9				
	4315H29EN	1.5	18°	2.9				
	4316T35EN	1.6	21°	3.5	12.70	4.76		●
	4317D29EN	1.7	15°	2.9				●
	4317H29EN	1.7	18°	2.9				
	4320H26EN	2.0	18°	2.6				●
	4321T35EN	2.1	21°	3.5				●
	4325H37EN	2.5	18°	3.7				
	4330H37EN	3.0	18°	3.7				●
	4335H39EN	3.5	18°	3.9				●
	4340E35EN	4.0	20°	3.5				

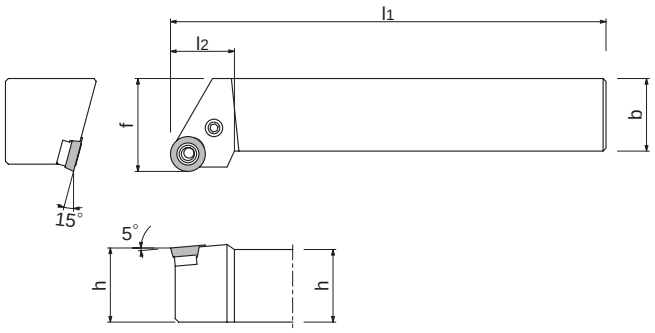
Parts

Parts / Toolholder	Clamp	Shim	Clamping screw	Shim screw	Washer	Wrench
						
CBU R/L 20K43B 25M43B	CB R/L 4		CS0625		WS-6	LW-5
CBN R/L 20K43B 25M43B						

PRGP···type F

・It is designed so that the chips are thrown in the **SAME** direction as the tool's feed.





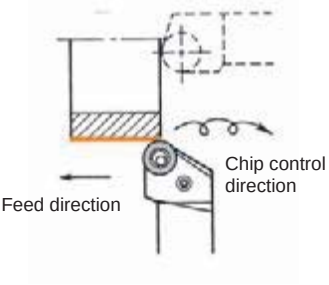
・Right hand shown.

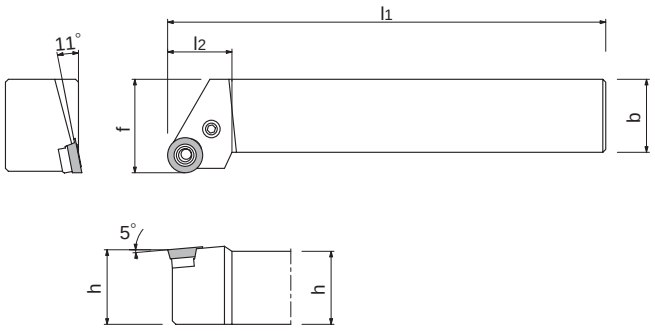
Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
PRGP R/L 20K1203F			20	20	125	25	22	RPMT1604M0GB
25M1203F			25	25	150	32	22	RPMT2004M0GB

For details of insert, please see P187.

PRGP···type B

・It is designed so that the chips are thrown in the **OPPOSITE** direction as the tool's feed.





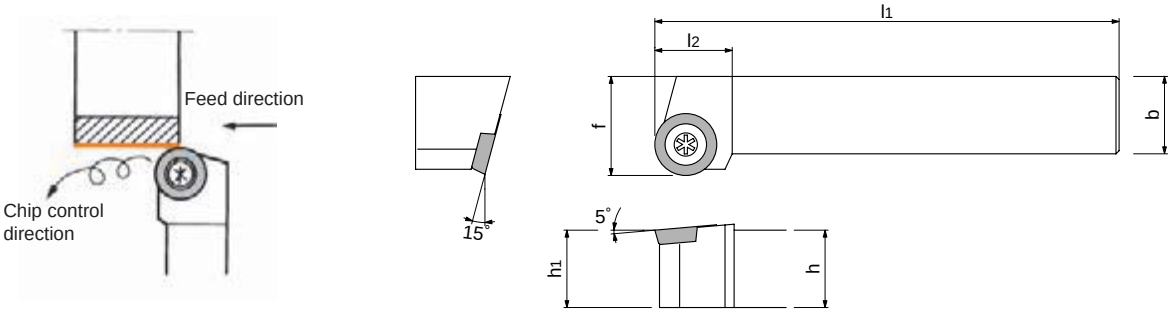
・Right hand shown.

Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
PRGP R/L 20K1203B			20	20	125	25	22	RPMX1203MGB
25M1203B			25	25	150	32	22	

For details of insert, please see P187.

SRG···type F

・It is designed so that the chips are thrown in the **SAME** direction as the tool's feed.



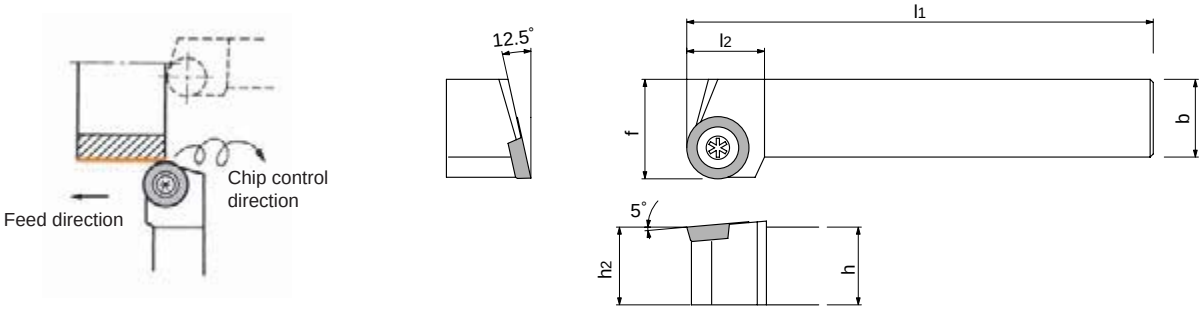
・Right hand shown.

Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
SRG R/L 20K16F	○	○	20	20	125	20	20	RPMT1604M0GB
25M20F	●		25	25	150	25	25	RPMT2004M0GB

For details of insert, please see P187.

SRG···type B

・It is designed so that the chips are thrown in the **OPPOSITE** direction as the tool's feed.



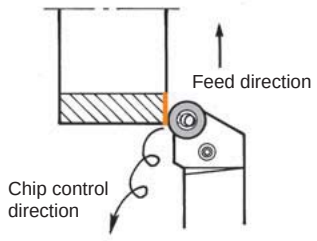
・Right hand shown.

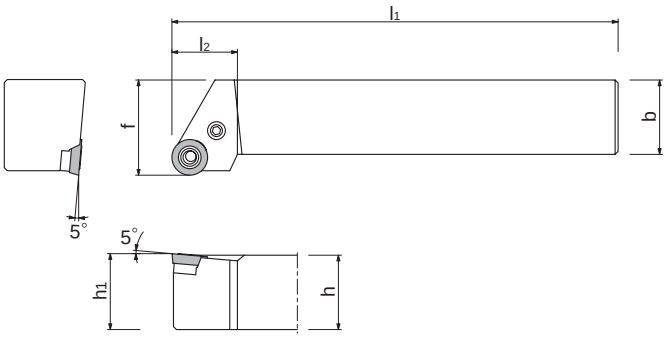
Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
SRG R/L 20K16B	●		20	20	125	25	20	RPMT1604M0GB
25M20B	●		25	25	150	32	25	RPMT2004M0GB

For details of insert, please see P187.

PRFP···type B

・It is designed so that the chips are thrown in the **OPPOSITE** direction as the tool's feed.





・Right hand shown.

Toolholder	Stock		Dimensions (mm)					Insert
	R	L	h/h1	b	l1	f	l2	
PRFP R/L 20K1203B	●		20	20	125	25	22	RPMX1203MGB
25M1203B	●		25	25	150	32	22	

Insert

Shape	Insert Number	Dimension (mm)		Grade
		d	S	N40
	RPMX1203M0GB	12.0	3.18	●

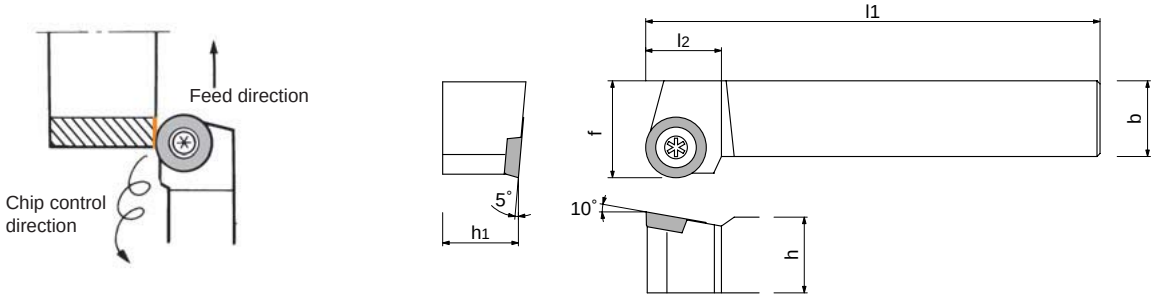
Note) The taper of the countersink differs in shape between the RPMX and the RPMT. Use the RPMX for the lever-lock type.

Parts

Parts / Toolholder	Shim	Lever	Clamping screw	Spring	Wrench
					
PRGP R/L 20K1203F 25M1203F	ELSR42C	LCL4C	LCS3	LSP3	LW-2.5
PRGP R/L 20K1203B 25M1203B					
PRFP R/L 20K1203B 25M1203B					

SRF···type B

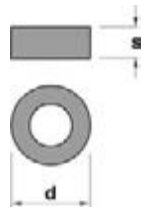
・It is designed so that the chips are thrown in the **OPPOSITE** direction as the tool's feed.



・Right hand shown.

Toolholder		Stock		Dimensions (mm)					Insert
		R	L	h/h1	b	l1	f	l2	
SRF R/L	20K16B			20	20	125	25	20	RPMT1604M0GB
	25M20B	●		25	25	150	32	25	RPMT2004M0GB

Insert

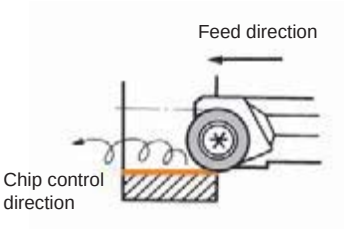


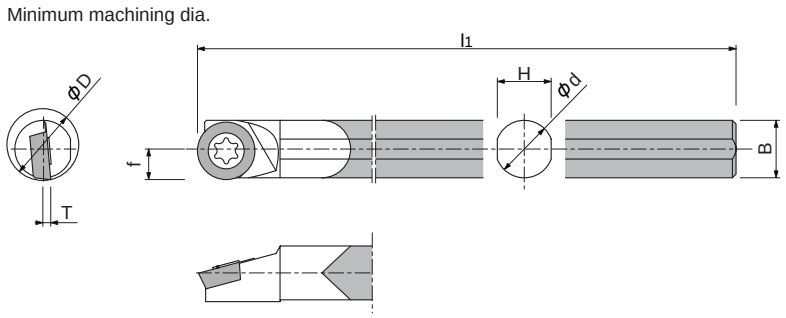
Shape	Insert Number	Dimension (mm)		Grade
		d	S	N40
	RPMT 1604M0GB	16.0	4.76	●
	2004M0GB	20.0	4.76	●

Parts

Parts / Toolholder		Clamping screw	Wrench
			
SRG R/L	20K16F	LRIS-5 X 10	LLR-28S
	25M20F		
	20K16B		
	25M20B		
SRF R/L	20K16B		
	25M20B		

C (Carbide Shank)



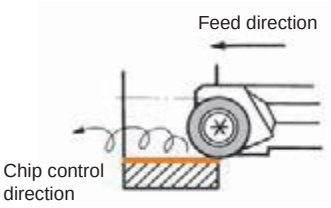


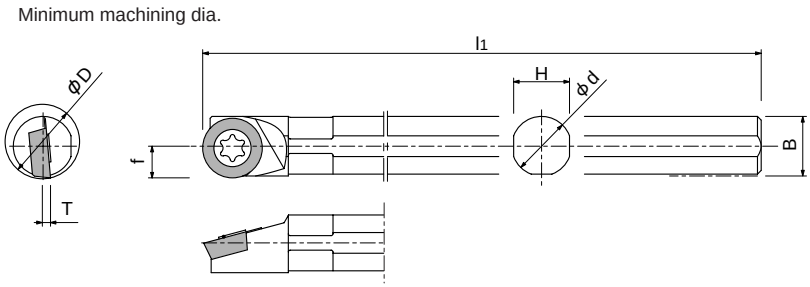
・Right hand shown. Note) Only the holders marked"＊"below are 11mm in effective machining depth.

Toolholder	Stock		Dimensions (mm)						Insert	
	R	L	φd	H	B	l1	f	T	φD	
*C08K-SRC R/L 06F	●		8	7	7.5	125	4.0	1.0	8	RPMT 0602M0GB
C08K-SRC R/L 08F		●	8	7	7.5	125	4.5	0.8	10	0802M0GB
C10M-SRC R/L 10F	●		10	9	9.5	150	5.5	1.2	12	10T2M0GB
C12M-SRC R/L 12F	●		12	11	11.5	150	6.5	1.5	15	1203M0GB

・It is designed so that the chips are thrown in the **SAME** direction as the tool's feed.

S (Steel Shank)



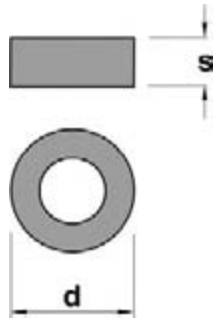


・Right hand shown.

Toolholder	Stock		Dimensions (mm)						Insert	
	R	L	φd	H	B	l1	f	T	φD	
S08K-SRC R/L 08F	●		8	7	7.5	125	4.5	0.3	10	RPMT 0802M0GB
S10M-SRC R/L 10F	●		10	9	9.5	150	5.5	1.2	12	10T2M0GB
S12M-SRC R/L 12F	●		12	11	11.5	150	6.5	1.5	15	1203M0GB
S16Q-SR R/L 16F	●		16	15	15.5	180	8.5	2.0	20	1604M0GB
S20Q-SRC R/L 20F	●		20	19	19.5	180	10.5	2.0	25	2004M0GB
S25Q-SRC R/L 20F			25	24	24.5	180	13.0	2.0	30	2004M0GB

For details of insert, please see next page.

Insert



Shape	Insert Number	Dimension (mm)		Grade
		d	S	N40
	RPMT 0602M0GB	6.0	2.38	●
	0802M0GB	6.0	2.38	●
	10T2M0GB	10.0	2.78	●
	1203M0GB	12.0	3.18	●
	1604M0GB	16.0	4.76	●
	2004M0GB	20.0	4.76	●

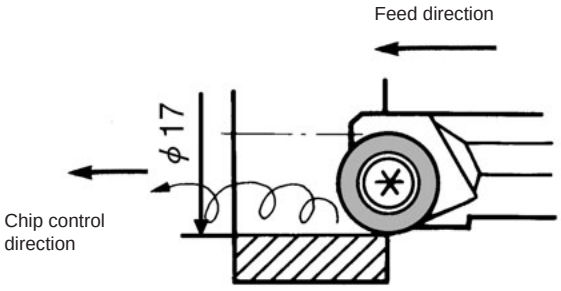
Parts

Carbide Shank	Steel Shank	Clamping screw	Wrench	
			RLR- 	LLR- 
C08K-SRC$^{R}_{L}$06F	S08K-SRC$^{R}_{L}$08F	LRIS-2.2×6	RLR-13S	
C08K-SRC$^{R}_{L}$08F	S10M-SRC$^{R}_{L}$10F	LRIS-3×6	RLR-20S	
C10M-SPC$^{R}_{L}$10F	S12M-SRC$^{R}_{L}$12F	LRIS-4×6	LLR-25S	
C12M-SRC$^{R}_{L}$12F	S16Q-SRC$^{R}_{L}$16F	LRIS-4×8	LLR-25S	
	S20Q-SRC$^{R}_{L}$20F	LRIS-5×10	LLR-28S	
	S25Q-SRC$^{R}_{L}$20F	LRIS-5×10	LLR-28S	

Application Examples of N40 GB Chipbreakers

Tool shape		Current tool	NTK
Insert	Shape	SPMR090308	RPMT1203M0GB
	Grade	Carbide	N40
Cutting condition	Cutting speed V (m/min)	45	65
	Feed f (mm/rev)	0.23	1.2
	Depth of cut d (mm)	0.7	0.7
	Coolant	DRY	DRY
Tool life (pcs)		2000	3000

Part Name	Bearing
Work Material	100 Cr6



Comment: It has been possible to extend life to 1.5 times that of the carbide tool. It has also been possible to increase the feed rate to 5 times and thus to improve machining efficiency significantly.