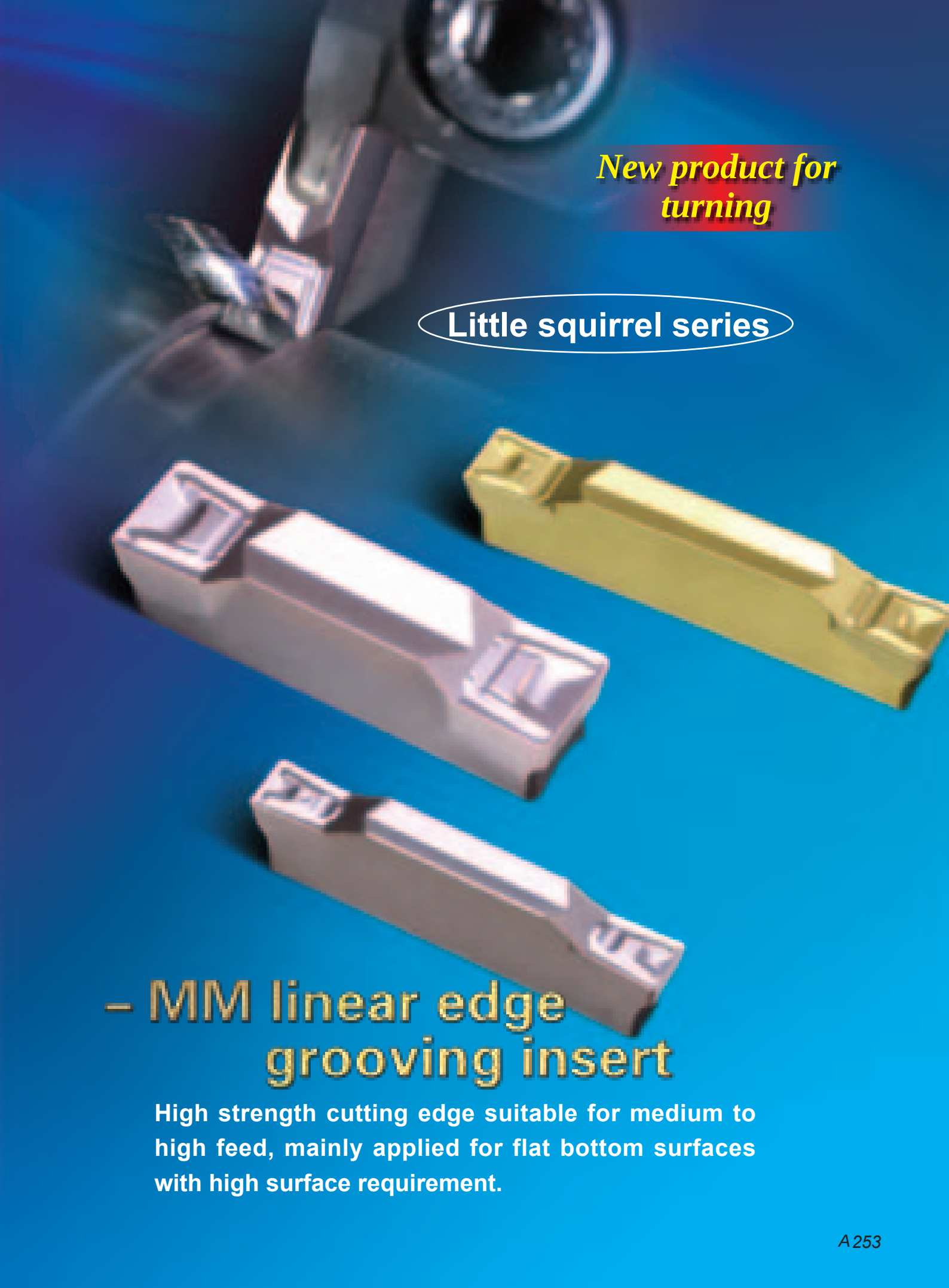
Parting and grooving tools



New product for turning

Little squirrel series

– MM linear edge grooving insert

High strength cutting edge suitable for medium to high feed, mainly applied for flat bottom surfaces with high surface requirement.

Little squirrel series

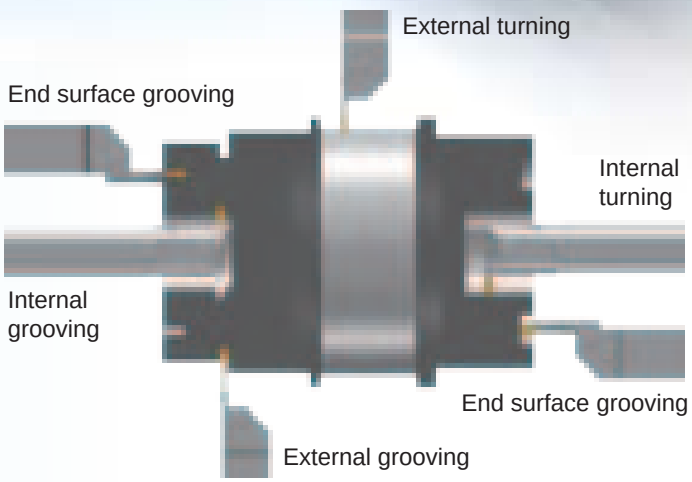
-MG Chipbreaker

Customized -MG chipbreaker series

Suitable for parting ,grooving, profile turning and turning, etc. Easy machining and unobstructed chip flow lead to improved surface quality.

Human-centered design realizes various application of one single insert, reducing number of tools needed

Inserts of the same edge with can work with corresponding tool holders to satisfy the requirements of external, internal and surface grooving and turning by using minimum numbers of inserts and tool holders, effectively reducing cost of tool storage and management.



The cutting force is reduced by 20%, and the vibration is diminished.

Unique and professional structure design of parting inserts

- A special flank structure is designed to reduce cutting resistant force by 20% and diminish vibration, which improves the surface quality.
- A special edge design requires less rigidity of machine. It can be used on low power machines.

Little squirrel series

-EG

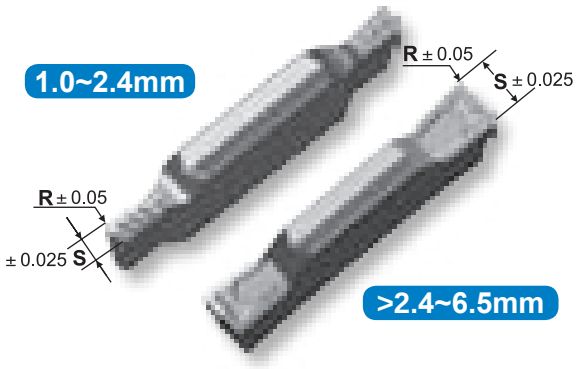
Precision grooving and profile turning inserts

Special chipbreaker design, suitable for precise grooving of low-carbon steel, stainless steel, adhesive materials and non-ferrous metal.

The tolerance of the edge width S of precise grooving and profiling inserts can reach ±0.025. Inserts can also be mounted on the corresponding specifications of original tool series.

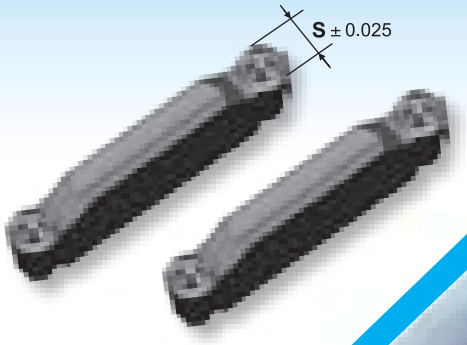
-EG Precision grooving inserts

The edge width can be anything between 1.0-6.5MM according to your requirements.



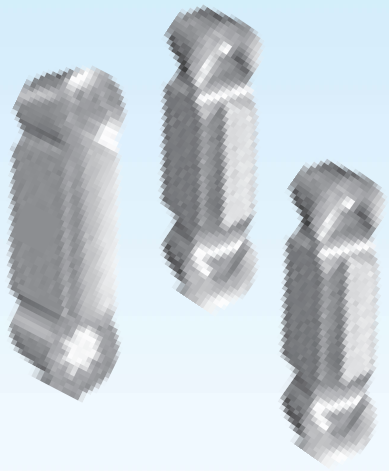
The width of the Little Squirrel series precise grooving inserts can be anything between 1.0mm to 6.5mm, which means products with any edge width or nose radius can be provided according to customers' requirements. The inserts are mainly used for precise grooving, such as sealing slot and locating slot, etc.

-EG Precision profile turning inserts



The Little Squirrel series precise profiling and turning inserts are mainly used for Precise grooving and profiling.

-LC/-LH



Profile turning inserts for Al

The special chipbreaker for aluminum profiling is designed to combine sharpness and strength of the cutting edge, effectively reducing the friction between chips and the rake face. The inserts are suitable for continuous and intermittent profiling of Al alloy.

Suitable for various machining of Al wheel boss periphery, surface and inner wall, etc.

Little squirrel series parting, grooving and profiling inserts code key

Insert applications

ZP ➤ Parting **ZT** ➤ Grooving and turning
ZR ➤ Profiling

Code of locating slot

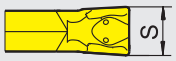
Code of locating slot	E	F	G	H	K	L
Corresponding edge width of inserts	2.5	3.0	4.0	5.0	6.0	8.0

Code of cutting edge number

S ➤ Single cutting edge **D** ➤ Double cutting edge

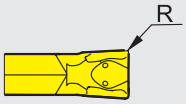
ZP G D 04 04 - M G

Cutting edge width



025=2.5mm
03=3.0mm
04=4.0mm
05=5.0mm
06=6.0mm
08=8.0mm

Nose radius



02=0.2mm
03=0.3mm
04=0.4mm
08=0.8mm

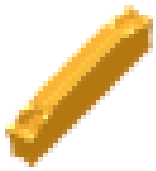
Tolerance class

M ➤ M-level tolerance
E ➤ E-level tolerance

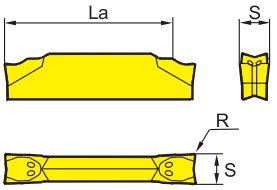
Chipbreaker code

G ➤ Curve edges universal chipbreaker, suitable for machining various materials
M ➤ linear edges universal chipbreaker, suitable for machining various materials
F ➤ Special chipbreaker

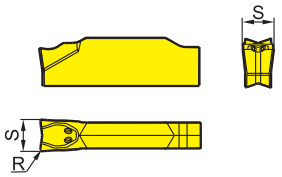
Parting inserts



Double edges



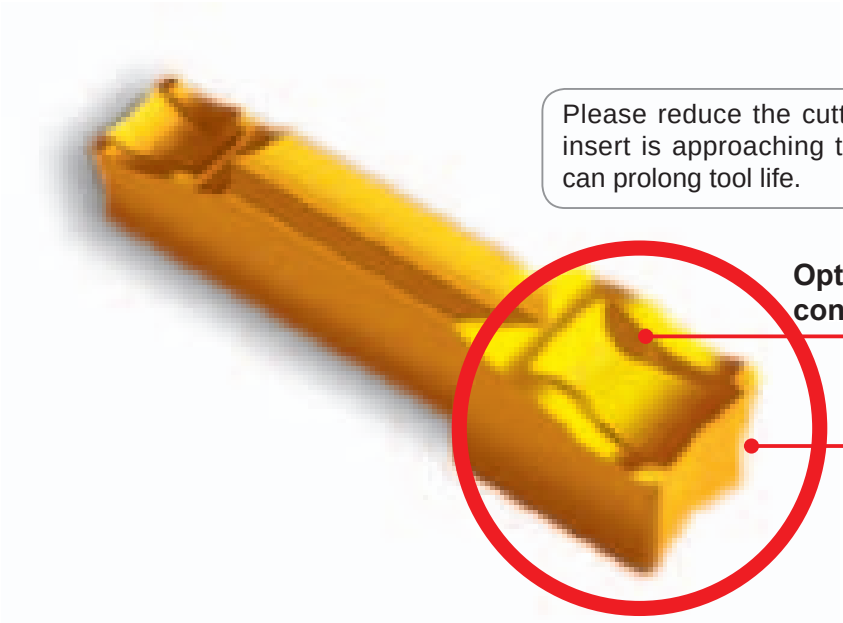
Single edge



Type		Basic dimensions(mm)			Grade				
					CVD Coating		PVD Coating		Cemented carbide
		$S^{+0.1}_{0}$	R±0.1	Cutting depth La_{max}	YBC151	YBC251	YBG205	YBG302	YD101
Double edges	ZPED02502-MG	2.5	0.2	17		○	★	★	
	ZPFD0302-MG	3.0	0.2	17		○	★	○	
	ZPGD0402-MG	4.0	0.2	22		○	★	○	
	ZPHD0503-MG	5.0	0.3	22		○	★	○	
	ZPKD0604-MG	6.0	0.4	22		○	★	○	
Single edge	ZPES02502-MG	2.5	0.2			○	★	★	
	ZPFS0302-MG	3.0	0.2			○	★	○	
	ZPGS0402-MG	4.0	0.2			○	★	○	
	ZPHS0503-MG	5.0	0.3			○	★	○	
	ZPKS0604-MG	6.0	0.4			○	★	○	

The single-edge insert is only mounted on parting blade.

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



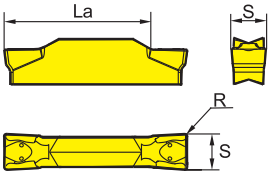
Please reduce the cutting speed by 30% when the insert is approaching the centre of workpiece. This can prolong tool life.

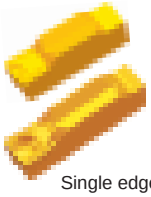
Optimal chipbreaker structure can well control chip flow and curling.

Cutting resistant force is reduced by 20% and vibration is diminished.

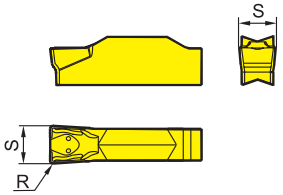
Grooving and turning inserts

Double edges



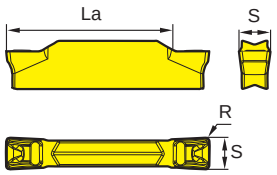


Single edge



Type		Basic dimensions(mm)			Grade					
					CVD Coating		PVD Coating			Cemented carbide
		$S^{+0.1}_{0}$	R±0.10	Cutting depth La_{max}	YBC151	YBC251	YBG202	YBG205	YBG302	YD101
Double edges	ZTED02503-MG	2.5	0.3	17	○	○	●	★	★	
	ZTFD0303-MG	3.0	0.3	17	○	○	●	★	★	
	ZTGD0404-MG	4.0	0.4	22	●	○	●	★	★	
	ZTHD0504-MG	5.0	0.4	22		○	●	★	★	
	ZTKD0608-MG	6.0	0.8	22		○	●	★	★	
Single edge	ZTHS0504-MG	5.0	0.4			○	○	★	○	
	ZTKS0608-MG	6.0	0.8			○	○	★	○	

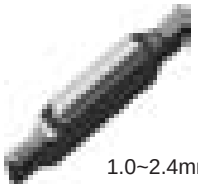
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



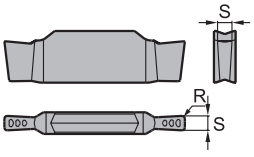
Type		Basic dimensions(mm)			Grade					
					CVD Coating		PVD Coating			Cemented carbide
		S	R±0.1	Cutting depth La_{max}	YBC151	YBC251	YBG202	YBG205	YBG302	YD101
Double edges	ZTED02503-MM	2.5±0.03	0.3	17	○	○	●	★	○	
	ZTFD0303-MM	3.0±0.03	0.3	17	○	○	●	★	○	
	ZTGD0404-MM	4.0±0.04	0.4	22	○	○	●	★	○	
	ZTHD0504-MM	5.0±0.04	0.4	22	○	○	●	★	○	
	ZTKD0608-MM	6.0±0.04	0.8	22	○	○	●	★	○	
	ZTLD0808-MM	8.0±0.05	0.8	28	○	○	●	★	○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

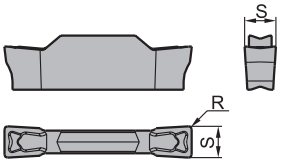
Precise grooving and turning inserts



1.0~2.4mm series



>2.4~6.5mm series



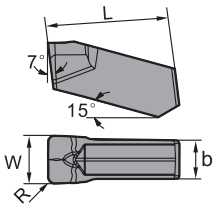
Type		Basic dimensions(mm)			Grade					
					CVD Coating		PVD Coating			Cemented carbide
		S±0.025	R(2)±0.05	Cutting depth La max	YBC151	YBC251	YBG202	YBG205	YBG302	YD101
Double edges	ZTCD□□□□□(1)-EG	1.0~1.6	See note. (2)	2.6	○	○	○	★	○	
		1.6~2.4		3.4						
	ZTED□□□□□-EG	2.4~3.0		17	○	○	○	★	○	
	ZTFD□□□□□-EG	3.0~3.8		17	○	○	○	★	○	
	ZTGD□□□□□-EG	3.8~4.8		22	○	○	○	★	○	
	ZTHD□□□□□-EG	4.8~5.8		22	○	○	○	★	○	
	ZTKD□□□□□-EG	5.8~6.5		22	○	○	○	★	○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Note: (1) □ The code here in the description is determined by edge width and nose radius requested by customers. For example, when the customer requires an edge width of 3.5mm and a nose radius of 0.3mm, the description of the insert would be ZTFD03503-EG.

(2) The nose radius range is 0.2≤R≤0.5 on request.

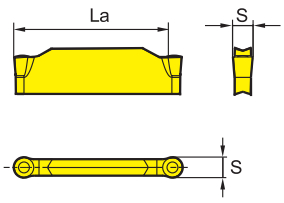
Single-edge grooving and turning inserts for machining (from semi-finishing to roughing) materials hard to be machined



Type	Basic dimensions(mm)				Grade			
					PVD Coating			Cemented carbide
	W±0.05	R±0.1	b	L	YBG102	YBG202	YBG205	YD101
ZIMF304N-NM	3	0.4	2.4	15.3	★	○	★	○
ZIMF406N-NM	4	0.6	3.2	15.3	★	○	★	○
ZIMF506N-NM	5	0.6	4	15.3	★	○	★	○
ZIMF608N-NM	6	0.8	4	15.3	★	○	★	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

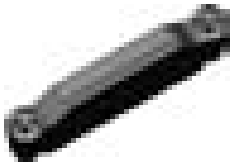
Profile turning inserts

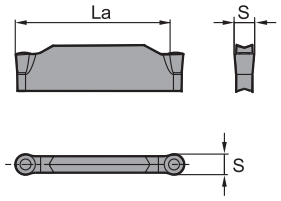


Type		Basic dimensions(mm)		Grade					
				CVD Coating		PVD Coating			Cemented carbide
		$S^{+0.1}_{0}$	Cutting depth La_{max}	YBC151	YBC251	YBG202	YBG205	YBG302	YD101
Double edges	**ZRED025-MG**	2.5	17.5		○	●	★	★	
	ZRFD03-MG	3.0	17		○	●	★	★	
	ZRGD04-MG	4.0	21		○	●	★	★	
	ZRHD05-MG	5.0	20		○	○	★	★	
	ZRKD06-MG	6.0	19		○	●	★	★	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Precision profiling inserts

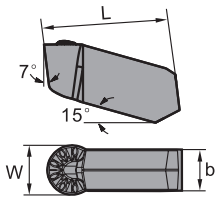




Type		Basic dimensions(mm)		Grade				
				CVD Coating		PVD Coating		Cemented carbide
		S±0.025	Cutting depth La_{max}	YBC151	YBC251	YBG202	YBG302	YD101
Double edges	ZRFD03- EG	3.0	17		○		○	
	ZRGD04- EG	4.0	21		○		○	
	ZRHD05-EG	5.0	20		○		○	
	ZRKD06-EG	6.0	19		○		○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

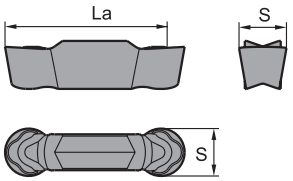
Single-edge inserts for machining materials hard to be machined



Type	Basic dimensions(mm)			Grade		
				PVD Coating		Cemented carbide
	W±0.025	b	L	YBG102	YBG202	YD101
ZIGQ3N-NM	3	2.4	15.3	★	○	○
ZIGQ4N-NM	4	3.2	15.3	★	○	○
ZIGQ5N-NM	5	4	15.3	★	○	○
ZIGQ6N-NM	6	5	15.3	★	○	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

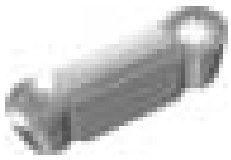
Profiling inserts for Al

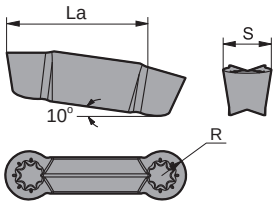


Type	Basic dimensions(mm)		Grade
	S±0.02	Cutting depth Lamax	Cemented carbide
			YD101
ZRKD06- LH	6.0	19	★
ZRLD08-LH	8.0	22	★

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Profiling inserts for Al

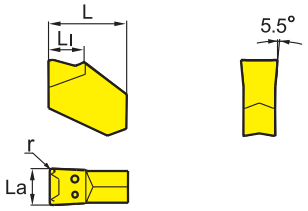




Type	Basic dimensions(mm)			Grade
	S±0.02	R	Cutting depth Lamax	Cemented carbide
				YD101
ZILD08-LC	8.0	4.0	22	●

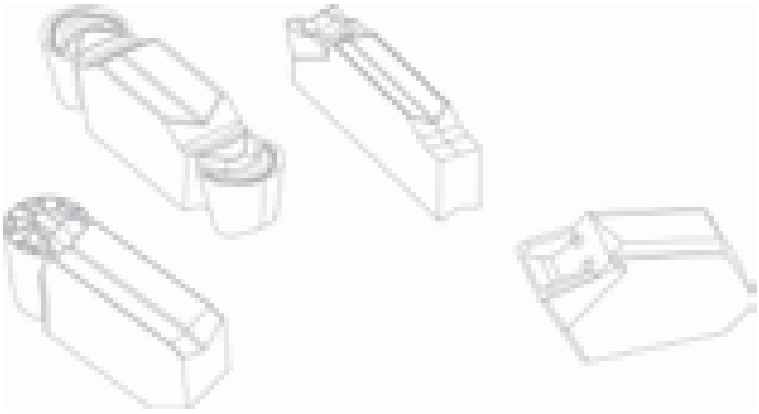
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

ZQMX series



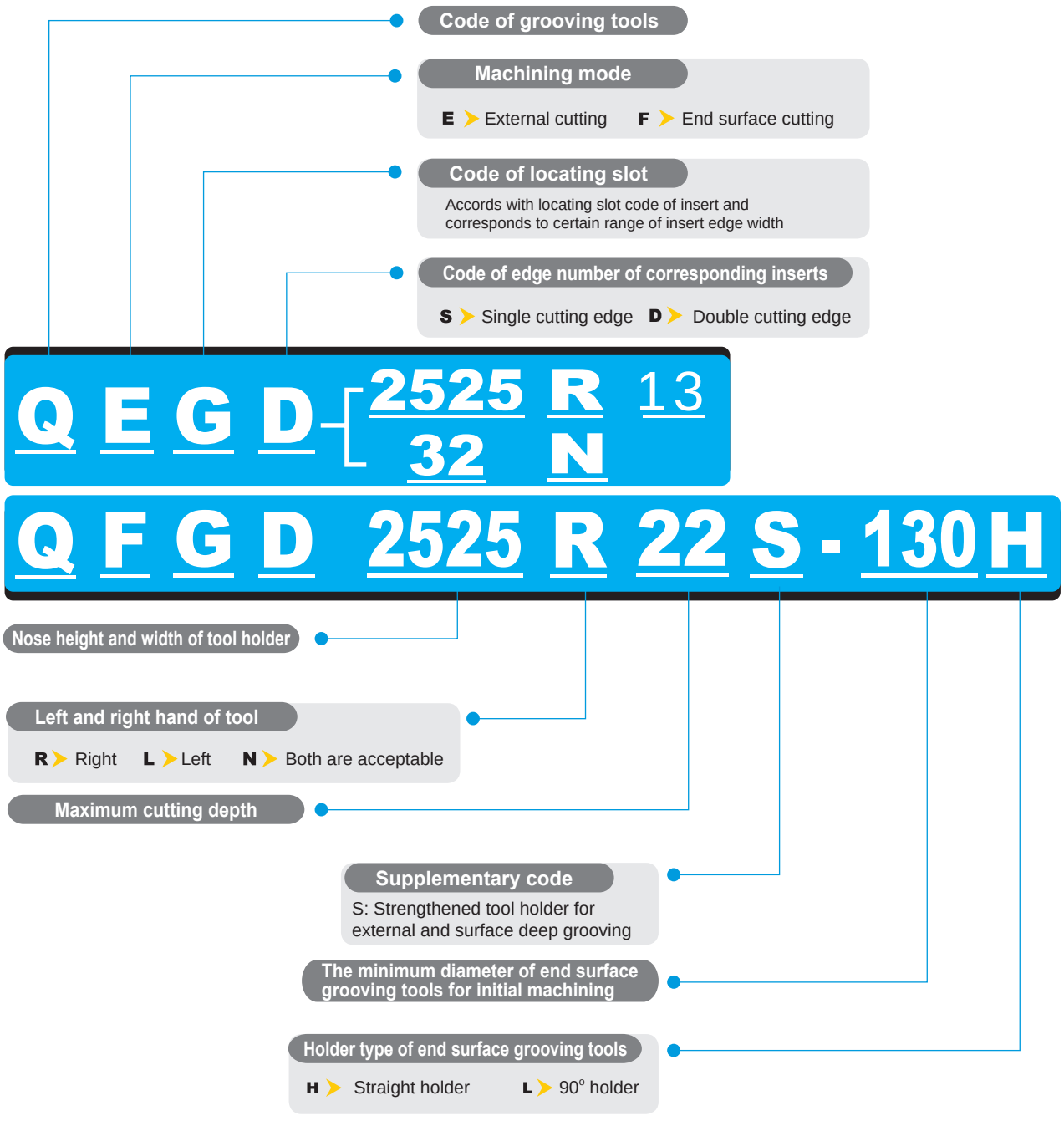
Type	Basic dimensions(mm)				Grade			
					CVD Coating	Cemented carbide		
	L1	La	r	L	YBC251	YC10	YC40	YD201
ZQMX3N11-1E	4.4	3.125	0.3	11	●	●	●	●
ZQMX4N11-1E	4.95	4.125	0.3	11	●		●	●
ZQMX5N11-1E	5	5.125	0.3	11	●		●	●
ZQMX6N11-1E	5.28	6.4	0.3	11	●		●	○
ZQMX7N11-1E	4.53	7.05	0.3	14			○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

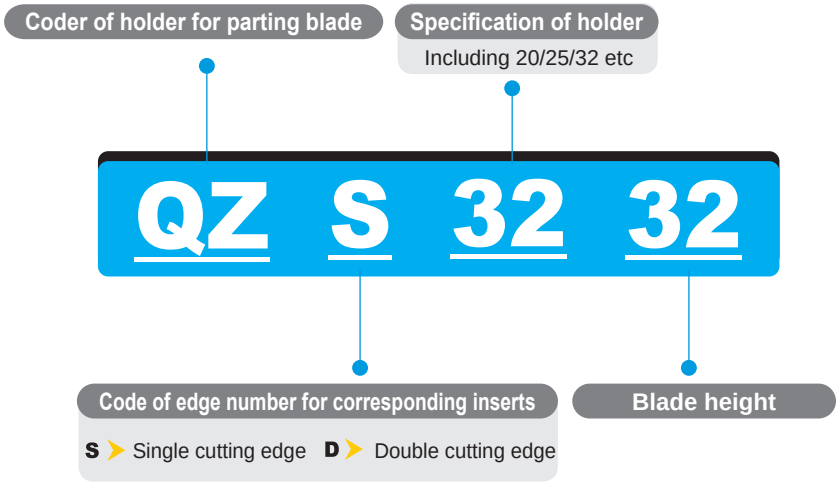


Little squirrel series parting and grooving tools code key

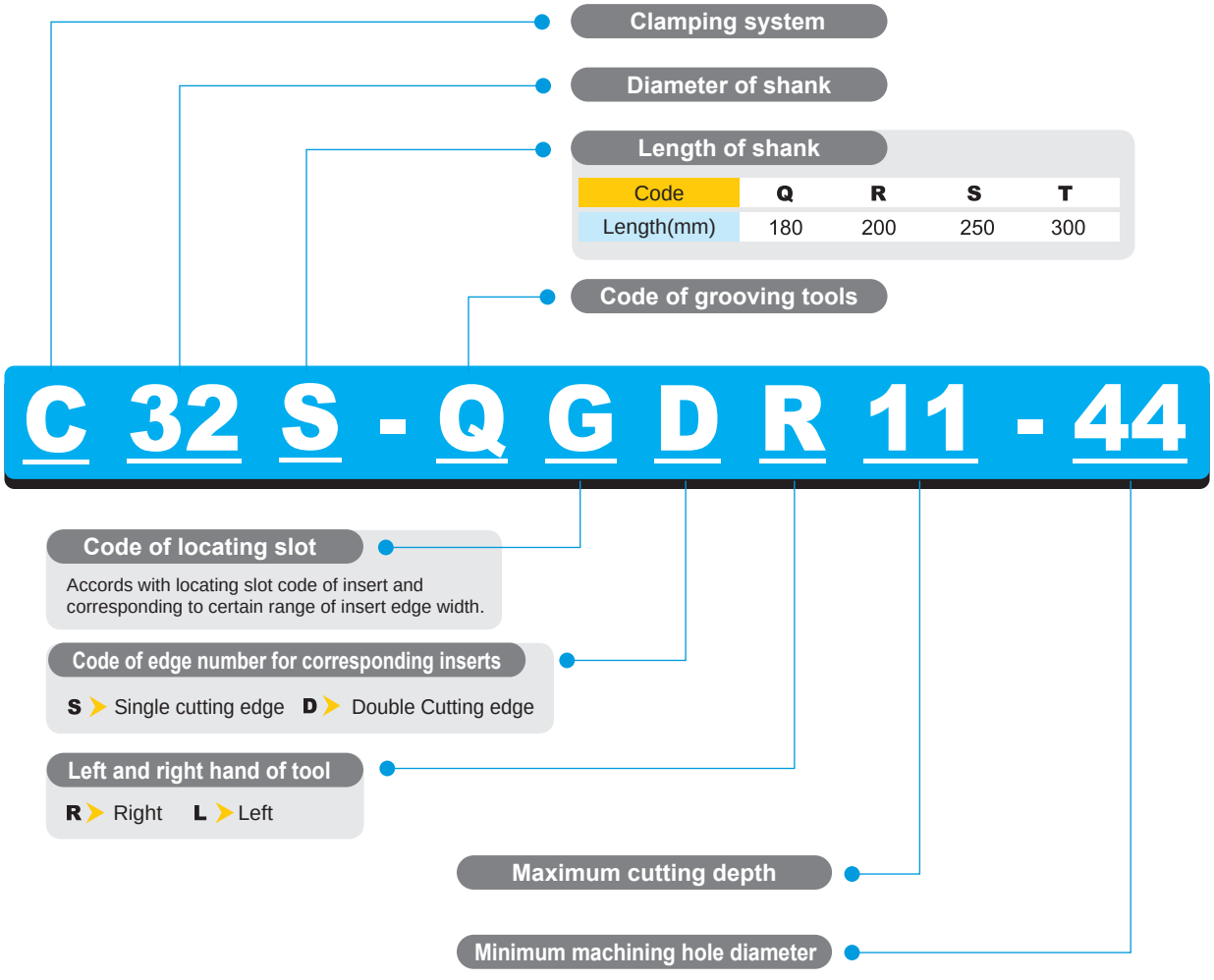
● External and surface turning



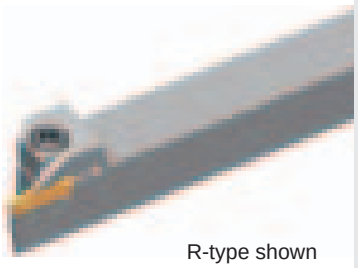
● Holder for parting blade



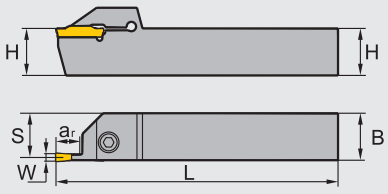
● Internal machining

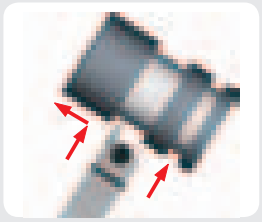


External parting, grooving and turning tools



R-type shown

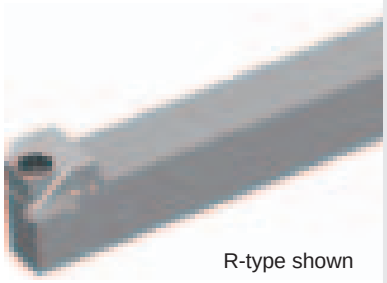




Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	a_r max			
QEED	1616R/L10	▲	▲	16×16	125	15	2.5	10	ZQED025QQ	GB70-85-M5×20	WH40L
	1616R/L17	▲	▲	16×16	125	15	2.5	17	ZQED025QQ		
	2020R/L10	▲	▲	20×20	125	19	2.5	10	ZQED025QQ	GB70-85-M6×20	WH50L
	2020R/L17	▲	▲	20×20	125	19	2.5	17	ZQED025QQ		
	2525R/L10	▲	▲	25×25	150	24	2.5	10	ZQED025QQ		
	2525R/L17	▲	▲	25×25	150	24	2.5	17	ZQED025QQ		
QEFD	1616R/L10	▲	▲	16×16	125	14.8	3	10	ZQFD03QQ	GB70-85-M5×20	WH40L
	1616R/L17	▲	▲	16×16	125	14.8	3	17	ZQFD03QQ		
	2020R/L10	▲	▲	20×20	125	18.8	3	10	ZQFD03QQ	GB70-85-M6×20	WH50L
	2020R/L17	▲	▲	20×20	125	18.8	3	17	ZQFD03QQ		
	2525R/L10	▲	▲	25×25	150	23.8	3	10	ZQFD03QQ		
	2525R/L17	▲	▲	25×25	150	23.8	3	17	ZQFD03QQ		
QEGD	2020R/L13	▲	▲	20×20	140	18.5	4	13	ZQGD04QQ	GB70-85-M6×20	WH50L
	2020R/L22	▲	▲	20×20	140	18.5	4	22	ZQGD04QQ		
	2525R/L13	▲	▲	25×25	150	23.5	4	13	ZQGD04QQ		
	2525R/L22	▲	▲	25×25	150	23.5	4	22	ZQGD04QQ		
	3232R/L13	▲	▲	32×32	170	30.5	4	13	ZQGD04QQ		
	3232R/L22	▲	▲	32×32	170	30.5	4	22	ZQGD04QQ		
QEHD	2525R/L13	▲	▲	25×25	150	23	5	13	ZQHD05QQ	GB70-85-M6×20	WH50L
	2525R/L22	▲	▲	25×25	150	23	5	22	ZQHD05QQ		
QEHS	2525N30	▲	▲	25×25	150	12.5	5	30	ZQHS05QQ		
QEHD	3232R/L13	▲	▲	32×32	170	30	5	13	ZQHD05QQ		
	3232R/L22	▲	▲	32×32	170	30	5	22	ZQHD05QQ		
QEHS	3232N30	▲	▲	32×32	170	16	5	30	ZQHS05QQ		
QEKD	2525R/L13	▲	▲	25×25	150	22.6	6	13	ZQKD06QQ	GB70-85-M6×20	WH50L
	2525R/L22	▲	▲	25×25	150	22.6	6	22	ZQKD06QQ		
QEKS	2525N30	▲	▲	25×25	150	12.5	6	30	ZQKS06QQ		
QEKD	3232R/L13	▲	▲	32×32	170	29.6	6	13	ZQKD06QQ		
	3232R/L22	▲	▲	32×32	170	29.6	6	22	ZQKD06QQ		
QEKS	3232N30	▲	▲	32×32	170	16	6	30	ZQKS06QQ		
QELD	2525R/L16	▲	▲	25×25	150	22	8	16	ZTLD0808-MM	GB70-85-M6×20	WH50L
	2525R/L25	▲	▲	25×25	150	22	8	25	ZTLD0808-MM	GB70-85-M6×20	WH50L
	3232R/L28	▲	▲	32×32	170	29	8	28	ZTLD0808-MM	GB70-85-M8×30	WH60L

▲Stock available △Make-to-order

Precision grooving and turning tools



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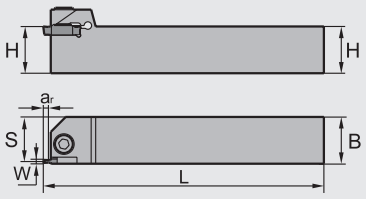
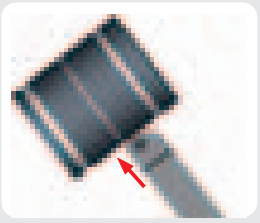
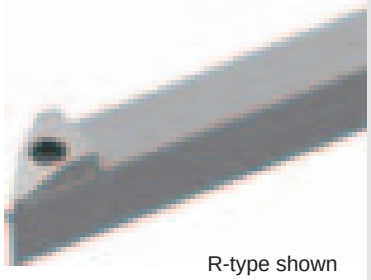




Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	a_r max			
QECD	1616R/L025	△	△	16×16	125	14.75		2.5	ZTCD□□□□□-EG	GB70-85-M5×20	WH40L
	2020R/L025	▲	△	20×20	125	18.75				GB70-85-M6×20	WH50L
	2525R/L025	▲	△	25×25	150	23.75					

▲Stock available △Make-to-order

External recess and profiling turning tools



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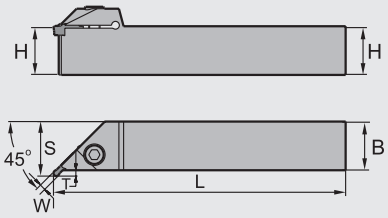
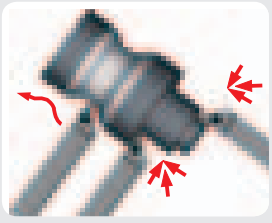
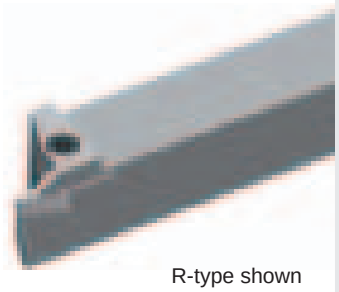




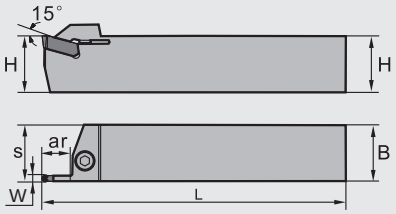
Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	a_r max			
QXFD	2020R/L03-45	△	△	20×20	125	23	3.0	3.0	ZR(T)FD03-EG ZR(T)FD03-MG	GB70-85-M6×20	WH50L
	2525R/L03-45	△	△	25×25	150	28					
	3232R/L03-45	△	△	32×32	170	35					
QXGD	2020R/L03-45	△	△	20×20	125	23	4.0	3.0	ZR(T)GD04-EG ZR(T)GD04-MG		
	2525R/L03-45	△	△	25×25	150	28					
	3232R/L03-45	△	△	32×32	170	35					
QXHD	2020R/L04-45	△	△	20×20	125	24	5.0	4.0	ZR(T)HD05-EG ZR(T)HD05-MG		
	2525R/L04-45	△	△	25×25	150	29					
	3232R/L04-45	△	△	32×32	170	36					
QXKD	2020R/L04-45	△	△	20×20	125	24	6.0	4.0	ZR(T)KD06-EG ZR(T)KD06-MG		
	2525R/L04-45	△	△	25×25	150	29					
	3232R/L04-45	△	△	32×32	170	36					

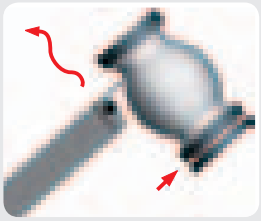
▲Stock available △Make-to-order

External grooving tools for materials hard to be machined



R-type shown

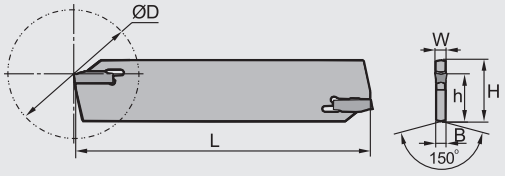


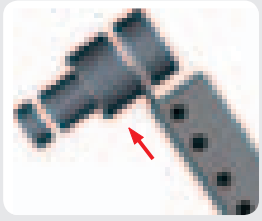


Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max			
QEFS	2525R/L12-3N	△	△	25×25	150	25.3	3	12	ZIGQ3N-NM ZIMF304N-NM	GB70-85-M6×20	WH50L
	3232R/L22-3N	△	△	32×32	170	32.3	3	22			
QEGS	2525R/L12-4N	△	△	25×25	150	25.3	4	12	ZIGQ4N-NM ZIMF406N-NM		
	3232R/L22-4N	△	△	32×32	170	32.3	4	22			
QEHS	2525R/L12-5N	△	△	25×25	150	25.4	5	12	ZIGQ5N-NM ZIMF506N-NM		
	3232R/L22-5N	△	△	32×32	170	32.4	5	22			
QEKS	2525R/L12-6N	△	△	25×25	150	25.4	6	12	ZIGQ6N-NM ZIMF608N-NM		
	3232R/L22-6N	△	△	32×32	170	32.4	6	22			

▲Stock available △Make-to-order

Blade for external parting

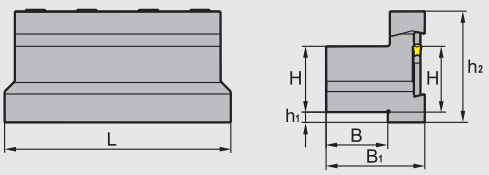




Type	Stock	Basic dimensions(mm)						Applicable inserts	Wrench
		L	H	h	B	W	ØDmax (Maximum parting diameter)		
QEES26N	▲	110	26	19	2	2.5	60	ZPES02502-MG	W50RL
QEFS26N	▲	110	26	19	2.4	3	60	ZPFS0302-MG	
QEGS26N	▲	110	26	19	3.2	4	70	ZPGS0402-MG	
QEHS26N	▲	110	26	19	4	5	70	ZPHS0503-MG	
QEKS26N	▲	110	26	19	5	6	70	ZPKS0604-MG	
QEES32N	▲	150	32	24.6	2	2.5	100	ZPES02502-MG	
QEFS32N	▲	150	32	24.6	2.4	3	100	ZPFS0302-MG	
QEGS32N	▲	150	32	24.6	3.2	4	120	ZPGS0402-MG	
QEHS32N	▲	150	32	24.6	4	5	120	ZPHS0503-MG	
QEKS32N	▲	150	32	24.6	5	6	120	ZPKS0604-MG	

▲Stock available △Make-to-order

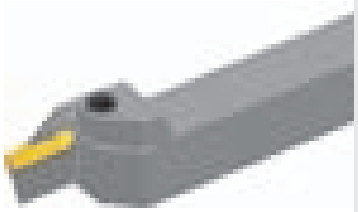
Holder for blade used for external parting



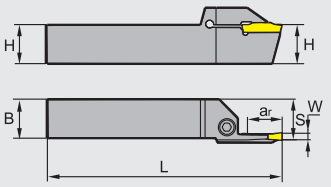
Type	Stock	Basic dimensions(mm)						Clamp	Screw	Wrench
		L	H	h_1	h_2	B	B_1			
QZS2026	▲	86	20	10	46.6	19	38	QZC26	GB70-85-M6×20	WH50L
QZS2526	▲	86	25	5	46.6	23	42	QZC26		
QZS3226	▲	86	30	3	51.6	30	48	QZC26		
QZS2032	▲	110	20	13	50	19	38	QZC32		
QZS2532	▲	110	25	8	50	23	42	QZC32		
QZS3232	▲	110	32	5	54	30	48	QZC32		

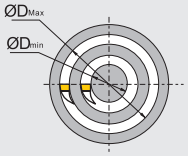
▲Stock available △Make-to-order

End surface grooving and turning tools



L-type shown



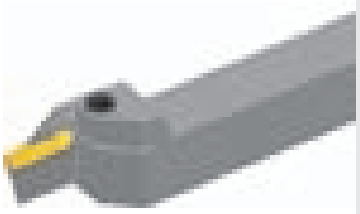


Diameter range of entering

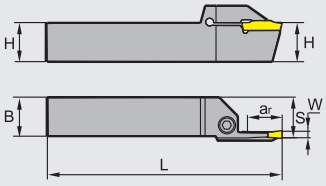
Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max	ØD (min-max)			
QFFD	2020R/L7-48H	▲	▲	20×20	150	21	3	7	48-66	ZTFD0303-□□	GB70-85-M6×20	WH50L
	2020R/L10-48H	▲	▲	20×20	150	21	3	10	48-66			
	2525R/L10-48H	▲	▲	25×25	150	26	3	10	48-66			
	2525R/L17-48H	▲	▲	25×25	150	26	3	17	48-66			
	2020R/L7-60H	△	△	20×20	150	21	3	7	60-80			
	2020R/L10-60H	△	△	20×20	150	21	3	10	60-80			
	2525R/L10-60H	▲	▲	25×25	150	26	3	10	60-80			
	2525R/L17-60H	▲	▲	25×25	150	26	3	17	60-80			
	2020R/L7-74H	△	△	20×20	150	21	3	7	74-110			
	2020R/L10-74H	△	▲	20×20	150	21	3	10	74-110			
	2525R/L10-74H	▲	▲	25×25	150	26	3	10	74-110			
	2525R/L17-74H	▲	▲	25×25	150	26	3	17	74-110			
	2020R/L7-100H	△	△	20×20	150	21	3	7	100-150			
	2020R/L10-100H	△	△	20×20	150	21	3	10	100-150			
	2525R/L10-100H	▲	▲	25×25	150	26	3	10	100-150			
	2525R/L17-100H	▲	▲	25×25	150	26	3	17	100-150			
QFGD	2020R/L10-52H	△	△	20×20	150	21	4	10	52-72	ZTGD0404-□□		
	2525R/L13-52H	▲	▲	25×25	150	26	4	13	52-72			
	2020R/L15-52H	△	△	20×20	150	21	4	15	52-72			
	2525R/L22-52H	▲	▲	25×25	150	26	4	22	52-72			
	2020R/L10-64H	△	▲	20×20	150	21	4	10	64-100			
	2525R/L13-64H	▲	▲	25×25	150	26	4	13	64-100			
	2020R/L15-64H	△	△	20×20	150	21	4	15	64-100			
	2525R/L22-64H	▲	▲	25×25	150	26	4	22	64-100			
	2020R/L10-90H	△	△	20×20	150	21	4	10	90-140			
	2525R/L13-90H	▲	▲	25×25	150	26	4	13	90-140			
	2020R/L15-90H	△	△	20×20	150	21	4	15	90-140			
	2525R/L22-90H	▲	▲	25×25	150	26	4	22	90-140			
	2020R/L10-130H	△	△	20×20	150	21	4	10	130-230			
	2525R/L13-130H	▲	▲	25×25	150	26	4	13	130-230			
	2020R/L15-130H	△	△	20×20	150	21	4	15	130-230			
	2525R/L22-130H	▲	▲	25×25	150	26	4	22	130-230			

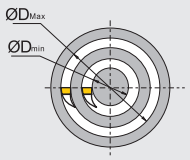
▲Stock available △Make-to-order

End surface grooving and turning tools

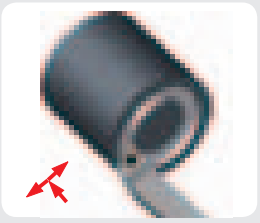


L-type shown





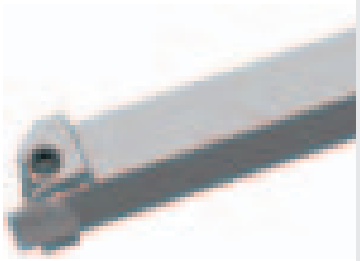
Diameter range of entering



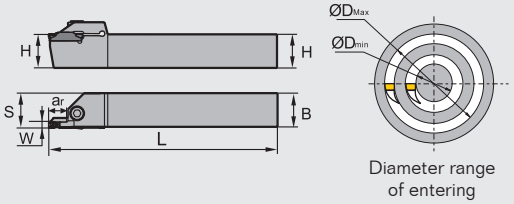
Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max	ØD (min-max)			
QFHD	**2525R/L13-58H**	▲	▲	25×25	150	26	5	13	58-96	ZTHD0504-□□	GB70-85-M6×20	WH50L
	2525R/L22-58H	▲	▲	25×25	150	26	5	22	58-96			
	2525R/L13-86H	△	▲	25×25	150	26	5	13	86-140			
	2525R/L22-86H	▲	▲	25×25	150	26	5	22	86-140			
	2525R/L13-130H	▲	▲	25×25	150	26	5	13	130-200			
	2525R/L22-130H	▲	▲	25×25	150	26	5	22	130-200			
	2525R/L13-185H	▲	▲	25×25	150	26	5	13	185-400			
	2525R/L22-185H	▲	▲	25×25	150	26	5	22	185-400			
QFHS	**2525R/L30-185H**	△	△	25×25	150	26	5	30	185-400	ZTHS0504-MG		
QFKD	**2525R/L13-60H**	▲	▲	25×25	150	26	6	13	60-100	ZTKD0608-□□	GB70-85-M6×20	WH50L
	2525R/L22-60H	▲	▲	25×25	150	26	6	22	60-100			
	2525R/L13-88H	△	▲	25×25	150	26	6	13	88-180			
	2525R/L22-88H	▲	▲	25×25	150	26	6	22	88-180			
	2525R/L13-160H	▲	▲	25×25	150	26	6	13	160-400			
	2525R/L22-160H	▲	▲	25×25	150	26	6	22	160-400			
QFKS	**2525R/L30-160H**	△	△	25×25	150	26	6	30	160-400	ZTKS0608-MG		
QFLD	**2525R/L25-75H**	▲	▲	25×25	150	27	8	25	75-150	ZTLD0808-MM	GB70-85-M6×20	WH50L
	2525R/L25-140H	▲	▲	25×25	150	27	8	25	140-400	ZTLD0808-MM	GB70-85-M6×20	WH50L
	3232R/L28-140H	▲	▲	32×32	170	30	8	28	140-400	ZTLD0808-MM	GB70-85-M8×30	WH60L

▲Stock available △Make-to-order

End surface grooving and turning tools



RR-type shown

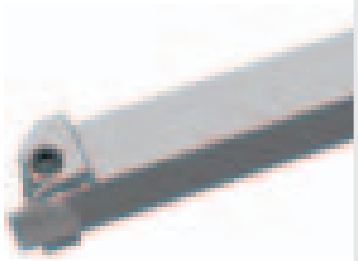


Diameter range of entering

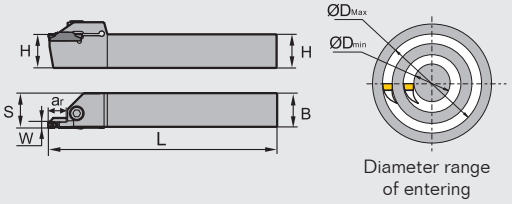
Type		Stock	Basic dimensions(mm)						Applicable inserts	Screw	Wrench
			H×B	L	S	W	ar max	ØD (min-max)			
QFFD	2020RR7-48H	△	20×20	150	21	3	7	48-66	ZTFD0303-□□	GB70-85-M6×20	WH50L
	2020RR10-48H	△	20×20	150	21	3	10	48-66			
	2525RR10-48H	△	25×25	150	26	3	10	48-66			
	2525RR17-48H	△	25×25	150	26	3	17	48-66			
	2020RR7-60H	△	20×20	150	21	3	7	60-80			
	2020RR10-60H	△	20×20	150	21	3	10	60-80			
	2525RR10-60H	△	25×25	150	26	3	10	60-80			
	2525RR17-60H	△	25×25	150	26	3	17	60-80			
	2020RR7-74H	△	20×20	150	21	3	7	74-110			
	2020RR10-74H	△	20×20	150	21	3	10	74-110			
	2525RR10-74H	△	25×25	150	26	3	10	74-110			
	2525RR17-74H	△	25×25	150	26	3	17	74-110			
	2020RR7-100H	△	20×20	150	21	3	7	100-150			
	2020RR10-100H	△	20×20	150	21	3	10	100-150			
	2525RR10-100H	△	25×25	150	26	3	10	100-150			
	2525RR17-100H	△	25×25	150	26	3	17	100-150			
QFGD	2020RR10-52H	△	20×20	150	21	4	10	52-72	ZTGD0404-□□		
	2020RR15-52H	△	20×20	150	26	4	15	52-72			
	2525RR13-52H	△	25×25	150	21	4	13	52-72			
	2525RR22-52H	△	25×25	150	26	4	22	52-72			
	2020RR10-64H	△	20×20	150	21	4	10	64-100			
	2020RR15-64H	△	20×20	150	26	4	15	64-100			
	2525RR13-64H	△	25×25	150	21	4	13	64-100			
	2525RR22-64H	△	25×25	150	26	4	22	64-100			
	2020RR10-90H	△	20×20	150	21	4	10	90-140			
	2020RR15-90H	△	20×20	150	26	4	15	90-140			
	2525RR13-90H	△	25×25	150	21	4	13	90-140			
	2525RR22-90H	△	25×25	150	26	4	22	90-140			
	2020RR10-130H	△	20×20	150	21	4	10	130-230			
	2020RR15-130H	△	20×20	150	26	4	15	130-230			
	2525RR13-130H	△	25×25	150	21	4	13	130-230			
	2525RR22-130H	△	25×25	150	26	4	22	130-230			

▲Stock available △Make-to-order

End surface grooving and turning tools



RR-type shown

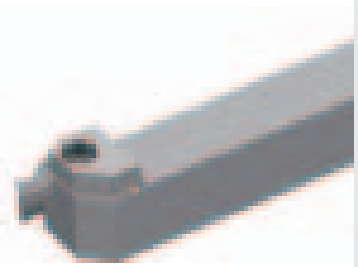


Diameter range of entering

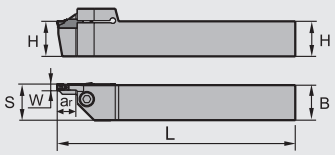
Type		Stock	Basic dimensions(mm)						Applicable inserts	Screw	Wrench
			H×B	L	S	W	ar max	ØD (min-max)			
QFHD	2525RR13-58H	△	25×25	150	26	5	13	58-96	ZTHD0504-□□	GB70-85-M6×20	WH50L
	2525RR22-58H	△	25×25	150	26	5	22	58-96			
	2525RR13-86H	△	25×25	150	26	5	13	86-140			
	2525RR22-86H	△	25×25	150	26	5	22	86-140			
	2525RR13-130H	△	25×25	150	26	5	13	130-200			
	2525RR22-130H	△	25×25	150	26	5	22	130-200			
	2525RR13-185H	△	25×25	150	26	5	13	185-400			
	2525RR22-185H	△	25×25	150	26	5	22	185-400			
QFHS	2525RR30-185H	△	25×25	150	26	5	30	185-400	ZTHS0504-MG		
QFKD	2525RR13-60H	△	25×25	150	26	6	13	60-100	ZTKD0608-□□	GB70-85-M6×20	WH50L
	2525RR22-60H	△	25×25	150	26	6	22	60-100			
	2525RR13-88H	△	25×25	150	26	6	13	88-180			
	2525RR22-88H	△	25×25	150	26	6	22	88-180			
	2525RR13-160H	△	25×25	150	26	6	13	160-400			
	2525RR22-160H	△	25×25	150	26	6	22	160-400			
QFKS	2525RR30-160H	△	25×25	150	26	6	30	160-400	ZTKS0608-MG		

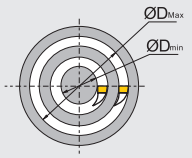
▲Stock available △Make-to-order

End surface grooving and turning tools



LL-type shown



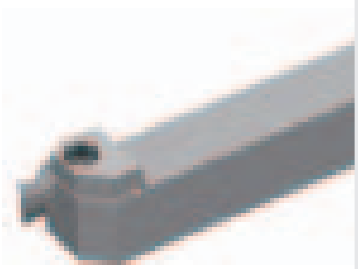


Diameter range of entering

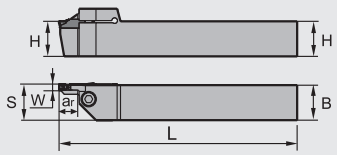
Type		Stock	Basic dimensions(mm)						Applicable inserts	Screw	Wrench
			H×B	L	S	W	ar max	ØD (min-max)			
QFFD	2020LL7-48H	△	20×20	150	21	3	7	48-66	ZTFD0303-□□	GB70-85-M6×20	WH50L
	2020LL10-48H	△	20×20	150	21	3	10	48-66			
	2525LL10-48H	△	25×25	150	26	3	10	48-66			
	2525LL17-48H	△	25×25	150	26	3	17	48-66			
	2020LL7-60H	△	20×20	150	21	3	7	60-80			
	2020LL10-60H	△	20×20	150	21	3	10	60-80			
	2525LL10-60H	△	25×25	150	26	3	10	60-80			
	2525LL17-60H	△	25×25	150	26	3	17	60-80			
	2020LL7-74H	△	20×20	150	21	3	7	74-110			
	2020LL10-74H	△	20×20	150	21	3	10	74-110			
	2525LL10-74H	△	25×25	150	26	3	10	74-110			
	2525LL17-74H	△	25×25	150	26	3	17	74-110			
	2020LL7-100H	△	20×20	150	21	3	7	100-150			
	2020LL10-100H	△	20×20	150	21	3	10	100-150			
	2525LL10-100H	△	25×25	150	26	3	10	100-150			
	2525LL17-100H	△	25×25	150	26	3	17	100-150			
QFGD	2020LL10-52H	△	20×20	150	21	4	10	52-72	ZTGD0404-□□		
	2020LL15-52H	△	20×20	150	26	4	15	52-72			
	2525LL13-52H	△	25×25	150	21	4	13	52-72			
	2525LL22-52H	△	25×25	150	26	4	22	52-72			
	2020LL10-64H	△	20×20	150	21	4	10	64-100			
	2020LL15-64H	△	20×20	150	26	4	15	64-100			
	2525LL13-64H	△	25×25	150	21	4	13	64-100			
	2525LL22-64H	△	25×25	150	26	4	22	64-100			
	2020LL10-90H	△	20×20	150	21	4	10	90-140			
	2020LL15-90H	△	20×20	150	26	4	15	90-140			
	2525LL13-90H	△	25×25	150	21	4	13	90-140			
	2525LL22-90H	△	25×25	150	26	4	22	90-140			
	2020LL10-130H	△	20×20	150	21	4	10	130-230			
	2020LL15-130H	△	20×20	150	26	4	15	130-230			
	2525LL13-130H	△	25×25	150	21	4	13	130-230			
	2525LL22-130H	△	25×25	150	26	4	22	130-230			

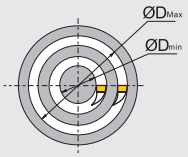
▲Stock available △Make-to-order

End surface grooving and turning tools



LL-type shown

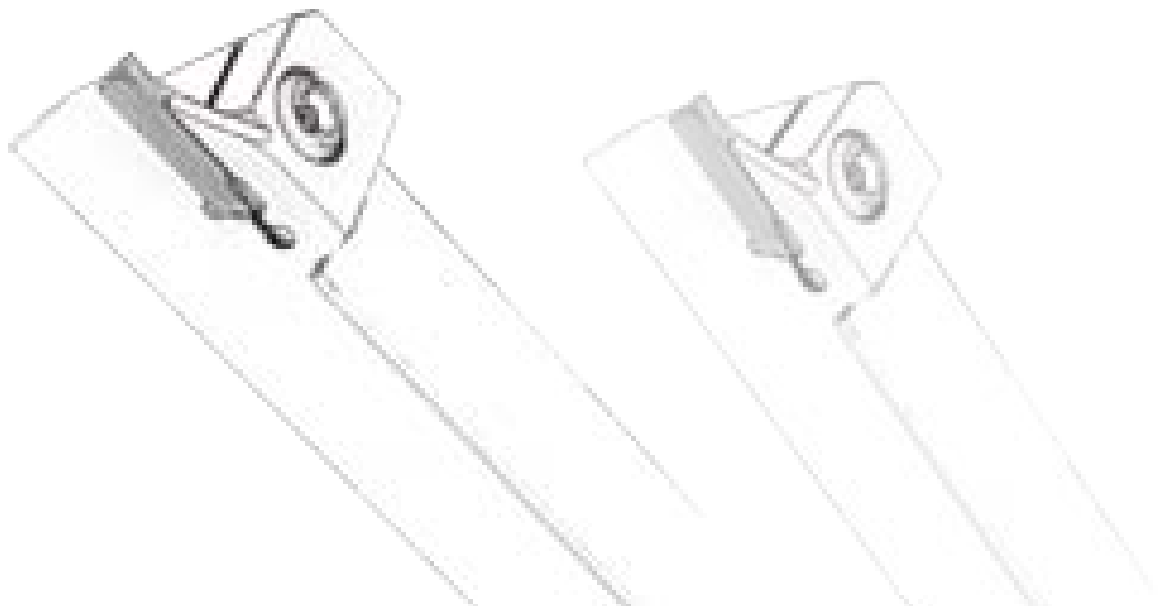




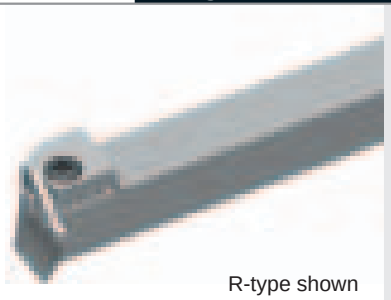
Diameter range of entering

Type		Stock	Basic dimensions(mm)						Applicable inserts	Screw	Wrench
			H×B	L	S	W	ar max	ØD (min-max)			
QFHD	2525LL13-58H	△	25×25	150	26	5	13	58-96	ZTHD0504-□□	GB70-85-M6×20	WH50L
	2525LL22-58H	△	25×25	150	26	5	22	58-96			
	2525LL13-86H	△	25×25	150	26	5	13	86-140			
	2525LL22-86H	△	25×25	150	26	5	22	86-140			
	2525LL13-130H	△	25×25	150	26	5	13	130-200			
	2525LL22-130H	△	25×25	150	26	5	22	130-200			
	2525LL13-185H	△	25×25	150	26	5	13	185-400			
	2525LL22-185H	△	25×25	150	26	5	22	185-400			
QFHS	2525LL30-185H	△	25×25	150	26	5	30	185-400	ZTHS0504-MG		
QFKD	2525LL13-60H	△	25×25	150	26	6	13	60-100	ZTKD0608-□□	GB70-85-M6×20	WH50L
	2525LL22-60H	△	25×25	150	26	6	22	60-100			
	2525LL13-88H	△	25×25	150	26	6	13	88-180			
	2525LL22-88H	△	25×25	150	26	6	22	88-180			
	2525LL13-160H	△	25×25	150	26	6	13	160-400			
	2525LL22-160H	△	25×25	150	26	6	22	160-400			
QFKS	2525LL30-160H	△	25×25	150	26	6	30	160-400	ZTKS0608-MG		

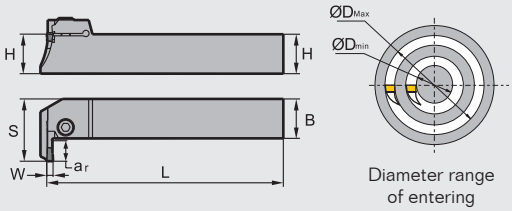
▲Stock available △Make-to-order



L type tools for surface grooving and turning



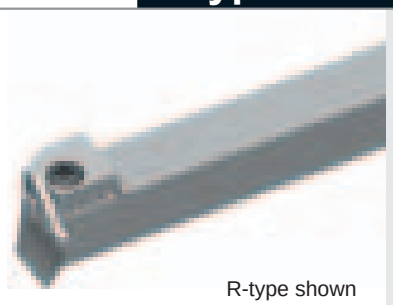
R-type shown



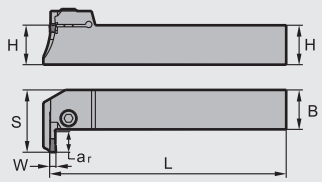
Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max	ØD (min-max)			
QFFD	2020R/L7-48L	△	△	20×20	150	28.5	3	7	48-66	ZTFD0303-□□	GB70-85-M6×20	WH50L
	2020R/L10-48L	△	△	20×20	150	31.5	3	10	48-66			
	2525R/L10-48L	▲	▲	25×25	150	36.5	3	10	48-66			
	2525R/L17-48L	△	△	25×25	150	43.5	3	17	48-66			
	2020R/L7-60L	△	△	20×20	150	28.5	3	7	60-80			
	2020R/L10-60L	△	△	20×20	150	31.5	3	10	60-80			
	2525R/L10-60L	▲	▲	25×25	150	36.5	3	10	60-80			
	2525R/L17-60L	△	△	25×25	150	43.5	3	17	60-80			
	2020R/L7-74L	△	△	20×20	150	28.5	3	7	74-110			
	2020R/L10-74L	△	△	20×20	150	31.5	3	10	74-110			
	2525R/L10-74L	▲	▲	25×25	150	36.5	3	10	74-110			
	2525R/L17-74L	△	△	25×25	150	43.5	3	17	74-110			
	2020R/L7-100L	△	△	20×20	150	28.5	3	7	100-150			
	2020R/L10-100L	△	△	20×20	150	31.5	3	10	100-150			
	2525R/L10-100L	▲	▲	25×25	150	36.5	3	10	100-150			
	2525R/L17-100L	△	△	25×25	150	43.5	3	17	100-150			
QFGD	2020R/L10-52L	△	△	20×20	150	31.5	4	10	52-72	ZTGD0404-□□		
	2525R/L13-52L	▲	△	25×25	150	39.5	4	13	52-72			
	2020R/L15-52L	△	△	20×20	150	36.5	4	15	52-72			
	2525R/L22-52L	△	△	25×25	150	48.5	4	22	52-72			
	2020R/L10-64L	△	△	20×20	150	31.5	4	10	64-100			
	2525R/L13-64L	△	△	25×25	150	39.5	4	13	64-100			
	2020R/L15-64L	△	△	20×20	150	36.5	4	15	64-100			
	2525R/L22-64L	△	△	25×25	150	48.5	4	22	64-100			
	2020R/L10-90L	△	△	20×20	150	31.5	4	10	90-140			
	2525R/L13-90L	△	△	25×25	150	39.5	4	13	90-140			
	2020R/L15-90L	△	△	20×20	150	36.5	4	15	90-140			
	2525R/L22-90L	▲	△	25×25	150	48.5	4	22	90-140			
	2020R/L10-130L	△	△	20×20	150	31.5	4	10	130-230			
	2525R/L13-130L	△	△	25×25	150	39.5	4	13	130-230			
	2020R/L15-130L	△	△	20×20	150	36.5	4	15	130-230			
	2525R/L22-130L	▲	▲	25×25	150	48.5	4	22	130-230			

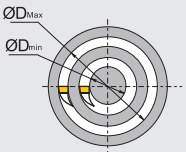
▲Stock available △Make-to-order

L type tools for surface grooving and turning

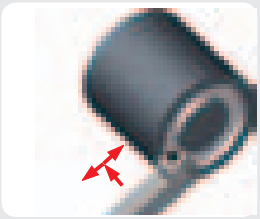


R-type shown





Diameter range of entering

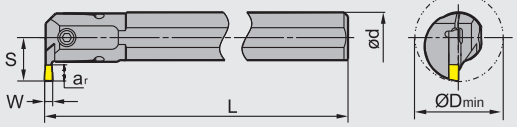


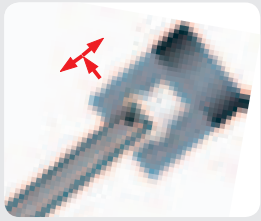
Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max	ØD (min-max)			
QFHD	2525R/L13-58L	△	△	25×25	150	39.5	5	13	58-96	ZTHD0504-□□	GB70-85-M6×20	WH50L
	2525R/L22-58L	△	△	25×25	150	48.5	5	22	58-96			
	2525R/L13-86L	△	△	25×25	150	39.5	5	13	86-140			
	2525R/L22-86L	△	△	25×25	150	48.5	5	22	86-140			
	2525R/L13-130L	△	△	25×25	150	39.5	5	13	130-200			
	2525R/L22-130L	△	△	25×25	150	48.5	5	22	130-200			
	2525R/L13-185L	△	△	25×25	150	39.5	5	13	185-400			
	2525R/L22-185L	▲	△	25×25	150	48.5	5	22	185-400			
QFHS	2525R/L30-185L	△	△	25×25	150	56.5	5	30	185-400	ZTHS0504-MG		
QFKD	2525R/L13-60L	▲	▲	25×25	150	39.5	6	13	60-100	ZTKD0608-□□	GB70-85-M6×20	WH50L
	2525R/L22-60L	▲	▲	25×25	150	48.5	6	22	60-100			
	2525R/L13-88L	△	▲	25×25	150	39.5	6	13	88-180			
	2525R/L22-88L	▲	▲	25×25	150	48.5	6	22	88-180			

▲Stock available △Make-to-order

Internal grooving and turning tools

R-type shown

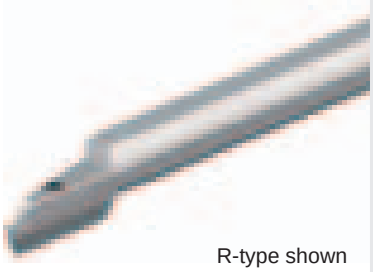




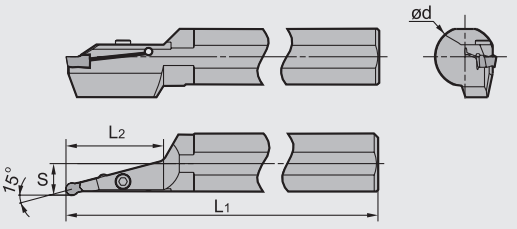
Type	Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
	R	L	ød	L	S	W	ar max	ØDmin			
C20Q-QEDR/L05-27	▲	▲	20	180	15.2	2.5	5	27	ZTED025□□ ZRED025□□	GB70-85-M4×12	WH30L
C25R-QEDR/L07-33	▲	▲	25	200	20.3	2.5	7	33		GB70-85-M5×16	WH40L
C32S-QEDR/L09-42	▲	▲	32	250	25.3	2.5	9	42		GB70-85-M5×20	
C20Q-QFDR/L05-27	▲	▲	20	180	15.2	3	5	27	ZTFD03□□ ZRFD03□□	GB70-85-M4×12	WH30L
C25R-QFDR/L07-33	▲	▲	25	200	20.3	3	7	33		GB70-85-M5×16	WH40L
C32S-QFDR/L09-42	▲	▲	32	250	25.3	3	9	42		GB70-85-M5×20	
C25R-QGDR/L08-35	▲	▲	25	200	21.5	4	8	35	ZTGD04□□ ZRGD04□□	GB70-85-M5×16	WH40L
C32S-QGDR/L11-44	▲	▲	32	250	27.5	4	11	44		GB70-85-M6×20	WH50L
C40T-QGDR/L13-54	▲	▲	40	300	33.5	4	13	54		GB70-85-M6×20	
C25R-QHDR/L08-35	▲	▲	25	200	21.5	5	8	35	ZTHD05□□ ZRHD05□□	GB70-85-M5×16	WH40L
C32S-QHDR/L11-44	▲	▲	32	250	27.5	5	11	44		GB70-85-M6×20	WH50L
C40T-QHDR/L13-54	▲	▲	40	300	33.5	5	13	54		GB70-85-M6×20	
C25R-QKDR/L08-35	▲	▲	25	200	21.5	6	8	35	ZTKD06□□ ZRKD06□□	GB70-85-M5×16	WH40L
C32S-QKDR/L11-44	▲	▲	32	250	27.5	6	11	44		GB70-85-M6×20	WH50L
C40T-QKDR/L13-54	▲	▲	40	300	33.5	6	13	54		GB70-85-M6×20	

▲Stock available △Make-to-order

Profile turning tools for Al



R-type shown

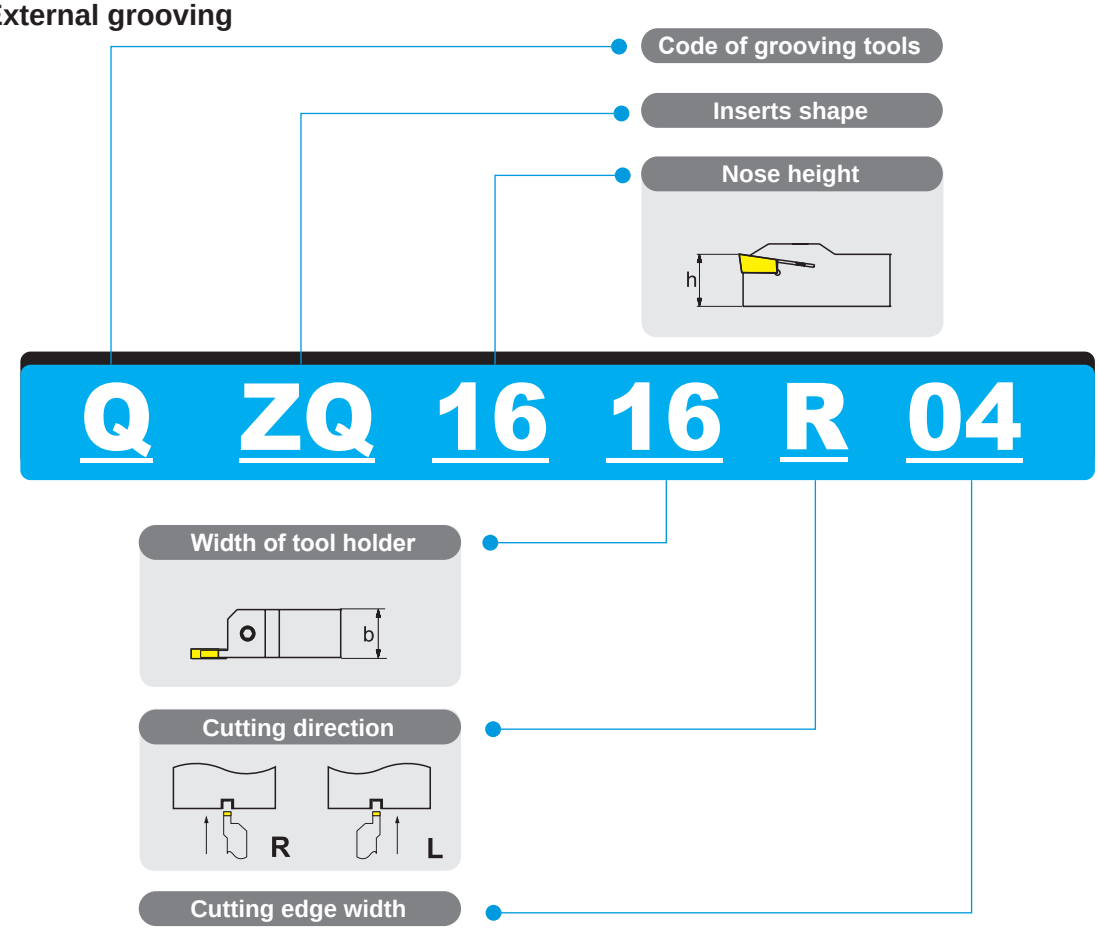


Type	Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
	R	L	ØD (Minimum machining diameter)	ød	S	L_1	L_2			
C40X-QLDR/L65-15A	▲	▲	160	40	21	320	65	ZRLD08-LH	GB70-85-M6×20	WH50L
C40X-QLDR/L80-15A	▲	△	160	40	21	320	80	ZRLD08-LH		
C40X-QKDR/L60-15A	△	△	160	40	20	320	60	ZRKD06-LH		
C40X-QKDR/L75-15A	△	△	160	40	20	320	75	ZRKD06-LH		

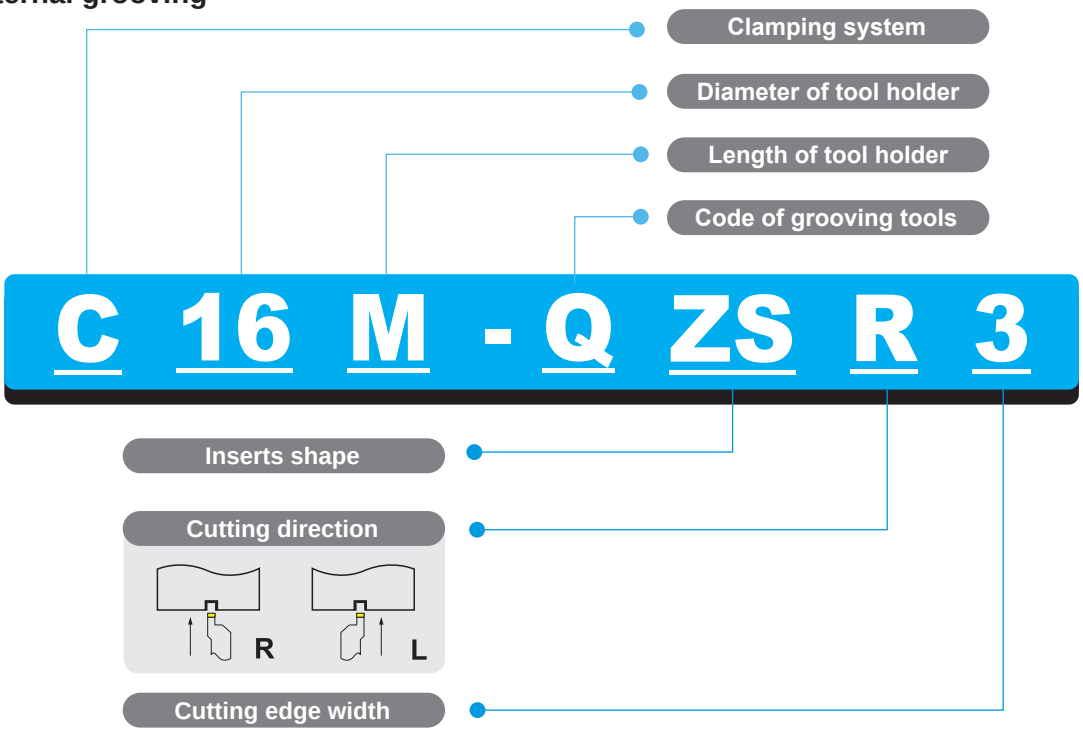
▲Stock available △Make-to-order

Parting and grooving tools code key

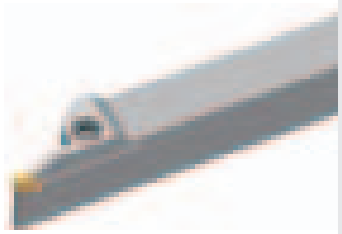
● External grooving



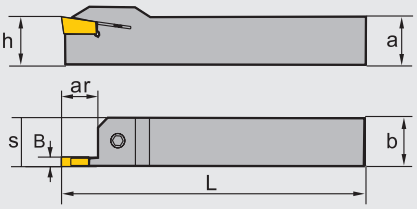
● Internal grooving

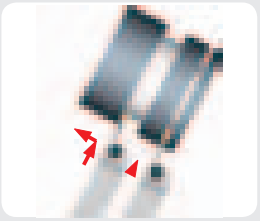


External parting and grooving tools: QZQ series



R-type shown



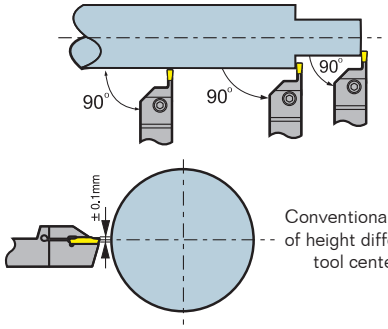


Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	a=h	b	L	S	B	$a_{r\,max}$			
QZQ	**1616R/L03**	▲	▲	16	16	100	16.4	3	16	ZQMX3N11-IE	GB70-85-M5×16	WH40L
	1616R/L04	▲	▲	16	16	100	16.4	4	18	ZQMX4N11-IE		
	2020R/L03	▲	▲	20	20	125	20.4	3	20	ZQMX3N11-IE	GB70-85-M6×20	WH50L
	2020R/L04	▲	▲	20	20	125	20.4	4	20	ZQMX4N11-IE		
	2525R/L03	▲	▲	25	25	150	25.4	3	20	ZQMX3N11-IE		
	2525R/L04	▲	▲	25	25	150	25.4	4	20	ZQMX4N11-IE		
	2525R/L05	▲	▲	25	25	150	25.4	5	25	ZQMX5N11-IE		
	2525R/L06	▲	▲	25	25	150	25.7	6	32	ZQMX6N11-IE		
	3225R/L03	▲	▲	32	25	170	25.4	3	25	ZQMX3N11-IE		
	3225R/L04	▲	▲	32	25	170	25.4	4	25	ZQMX4N11-IE		
	3225R/L05	▲	▲	32	25	170	25.4	5	25	ZQMX5N11-IE		
	3225R/L06	▲	▲	32	25	170	25.7	6	35	ZQMX6N11-IE		

▲Stock available △Make-to-order

Center height control of parting and grooving tools

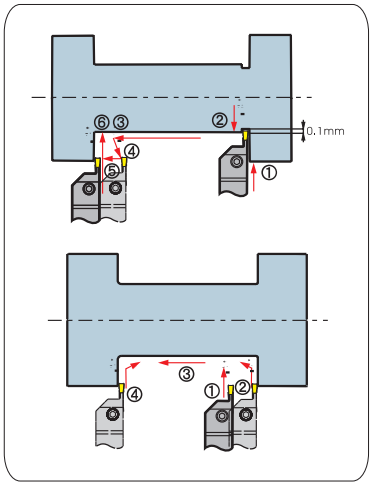
- No matter which parting or grooving tools you select, the ideal surface quality is only achieved by ensuring that insert is vertical from the center line of workpiece, which can also effectively reduce vibration during machining.
- The height tolerance between insert edge bottom and the center height of workpiece should be remained in ±0.1mm, especially for lever parting and grooving workpieces with small diameter. This can improve tool life, reduce cutting resistant force, and diminish burrs.



Conventional diagram of height difference of tool center line

Parting

- When the insert is approaching the center of workpiece, the cutting speed should be reduced by 30%, which is good for improving life and surface quality.
- As long as conditions allow, try to shorten the overhang of tools as much as possible to ensure good stability.

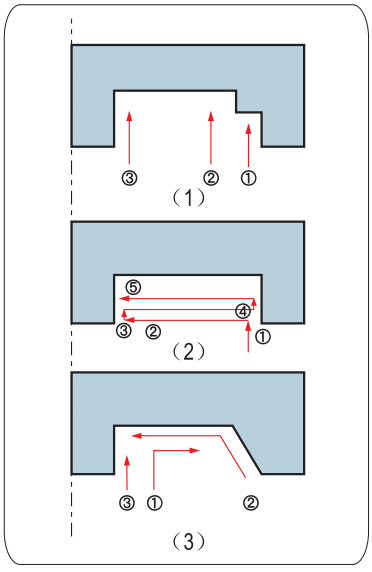


External grooving, turning and profiling

- In-feed sequence: When cutting depth>0.5mm, radial in-feed (Max. cutting depth can be 0.75×insert edge width S) → radial out-feed about 0.1mm → axial in-feed →flank out-feed → axial in-feed → radial machining to required depth.
- When finishing, adopt the sequence shown in the diagram. It can reduce vibration caused by the friction between tools and chips.

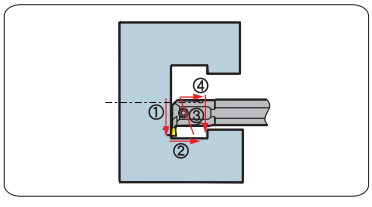
Surface grooving and turning

- Finishing (Multi-slot cutting)
  Cut inwards from Max. diameter. Inserts offset to inward flange when retracting, as is shown in diagram (1).
- Recess turning
  Axial turning depth should not exceed 0.75×S (cutting edge width).
  If slot width is larger than slot depth, it is recommended to adopt recess turning, as is shown in diagram (2).
  If slot depth is larger than slot depth, it is recommended to adopt multi-slot cutting.
- Finish machining
  First finish bottom and external diameter fringe, then finish the internal diameter to required size, as is shown in diagram (3).



Internal grooving and turning

- To facilitate chip flow, always feed along the direction of moving from the deepest in the hole to outside.



Application information of parting and grooving

The cutting parameters recommended are suitable for wet machining.

Insert size	Recommended feed rate(mm/r)					
Insert width(mm)	Parting	Grooving	Grooving(-MM)	Turning	Turning(-MM)	Profiling
2.5	0.05-0.15	0.05-0.15	0.05-0.2	0.05-0.15	0.05-0.2	0.05-0.15
3	0.05-0.15	0.05-0.15	0.05-0.2	0.07-0.15	0.07-0.2	0.1-0.2
4	0.05-0.2	0.05-0.2	0.05-0.25	0.07-0.25	0.07-0.3	0.1-0.2
5	0.07-0.2	0.07-0.22	0.07-0.25	0.1-0.25	0.1-0.3	0.15-0.3
6	0.1-0.3	0.07-0.25	0.07-0.3	0.1-0.3	0.1-0.35	0.15-0.3
8			0.1-0.4		0.15-0.45	

Workpiece material		Hardness	YBG302	YBG202 YBG205	YBC151	YBC251	YD101	YD201	YBG102	YC10	YC40
P	Carbon steel	125≤HB≤170	120-260	150-280	140-280	150-280				130-280	110-260
	Low alloy steel	180≤HB≤275	80-175	110-200	100-240	110-200				90-200	70-175
	High alloy steel	180≤HB≤325	80-160	110-190	100-220	110-190				90-190	70-160
	Cast steel	180≤HB≤250	75-140	100-170	80-160	100-170				80-170	60-140
M	Ferrite, Martensite	200≤HB≤300	70-170	100-200		100-200				80-200	60-170
	Austenite	180≤HB≤300	80-200	110-220		110-220				90-220	70-200
K	Malleable cast iron	130≤HB≤230	100-200	130-220				90-160			
	Grey cast iron	180≤HB≤220	90-170	120-200				80-140			
	Nodular cast iron	160≤HB≤250	80-150	110-180				60-140			
N	Al alloy	--					200-400				
S	High temperature alloy	≤400					20-50		30-60		

The cutting parameters recommended are suitable for wet machining.
Advice: internal machining and end machining, The cutting speed should be reduced by 30%-40%.