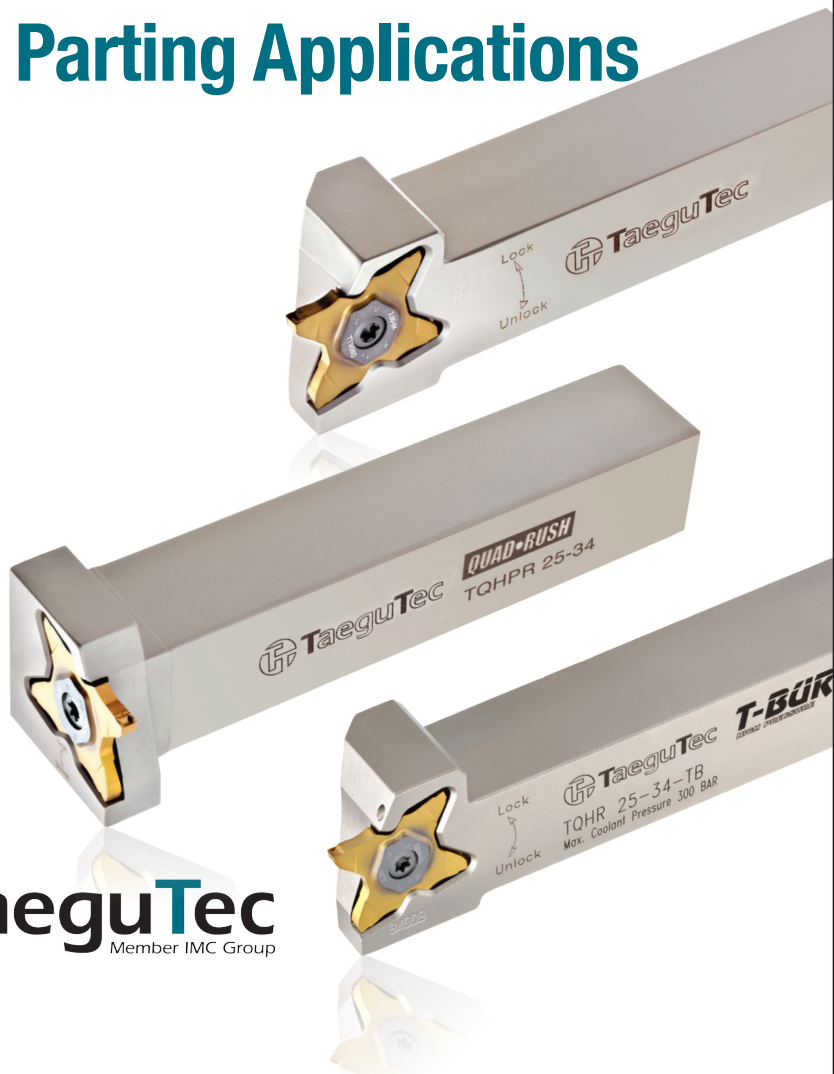
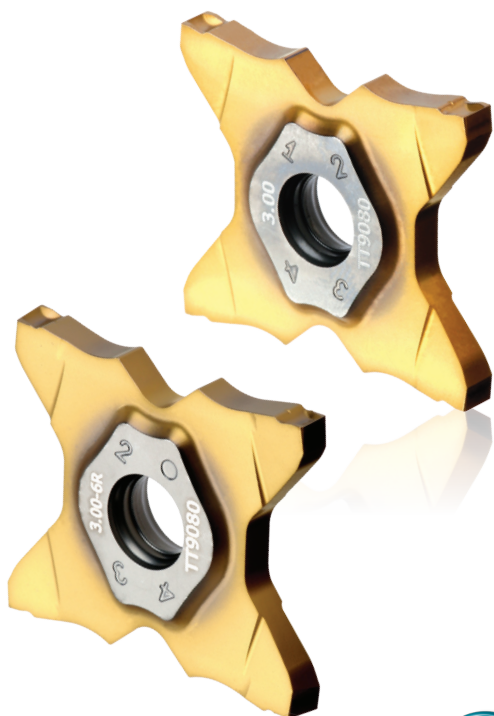


# NEW PRODUCT NEWS

## QUAD-RUSH



### New QUADRUSH 34 Inserts and Holders for Deep Grooving Parting Applications



## KEY POINT

**A larger QUADRUSH 34 line has been added to the QUADRUSH 27 line.**

The newly added **QUADRUSH 34** insert line is specifically suited for deep grooving and cutting of up to a maximum 10mm depth-of-cut compared to the existing **QUADRUSH 27** insert's shallow grooving which has a maximum 6.4mm depth-of-cut.

The new inserts cover a wide variety of materials and cutting conditions due to their enhanced fastening design and high rigidity insert geometry. Available as a C type chip breaker, it provides excellent machining and surface roughness on workpiece surfaces that produce a straight, flat bottom surface after grooving. Further, the new line can be used in higher feed conditions, which improves customer productivity.

Precise ground inserts are available in a range of 1.5mm-4.0mm widths, with an ultra-fine base substrate and multi-nano PVD coating for excellent tool life at high cutting speeds.

They are available in various shank sizes for general and perpendicular integral type holders and includes **T-BURST** holders with high-pressure internal coolant up to 340 bar.

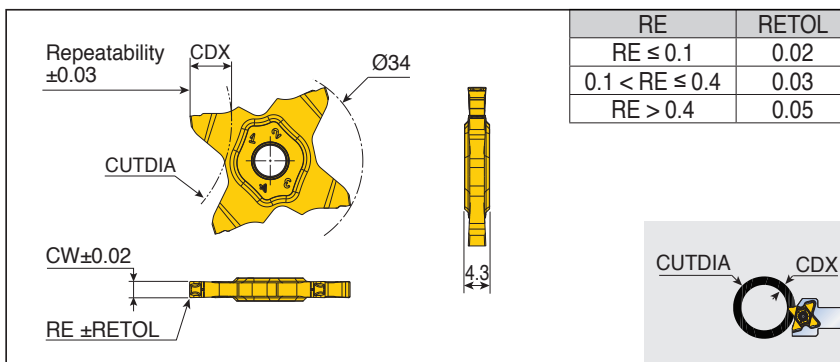
**QUADRUSH 34** inserts provide a wider range of solutions for deep grooving and parting applications.

### Features

- Deep grooving and parting up to 10mm
- Capable of cutting up to 20mm diameter solid bars
- Inserts width range: 1.5-4.0mm
- Four cutting corners for improved economy
- Unique chip breaker shape for excellent chip control
- Chip breaker's straight design enables flat bottom face machining
- Excellent chip evacuation specifically in medium to high feed applications

# TQC 34

## Parting and grooving insert



RE	RETOL
RE ≤ 0.1	0.02
0.1 < RE ≤ 0.4	0.03
RE > 0.4	0.05

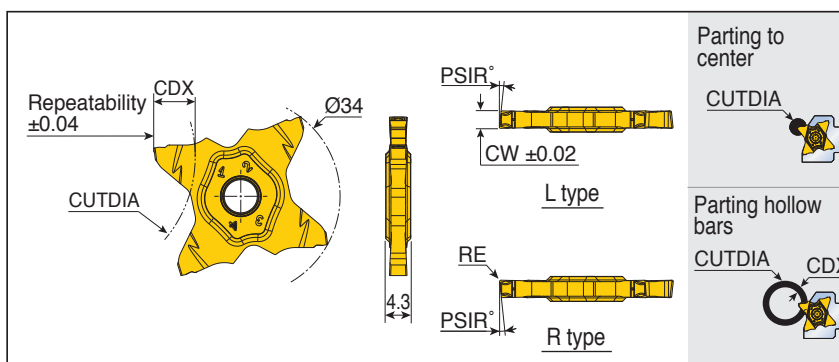
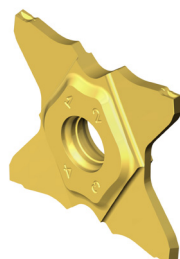
Designation	Feed (mm/rev)	CW	RE	CDX	CUTDIA							Grade
					CDX≤4.0	CDX≤5.0	CDX≤6.0	CDX≤7.0	CDX≤8.0	CDX≤9.0	CDX≤10.0	
<b>TQC 34-1.50-0.15</b>	0.05-0.12	1.50	0.15	9.0	N.L.	400	190	125	90	40	-	•
<b>34-2.00-0.20</b>	0.05-0.18	2.00	0.20	9.0	N.L.	400	190	125	90	40	-	•
<b>34-2.30-0.20</b>	0.05-0.18	2.30	0.20	9.0	N.L.	400	190	125	90	45	-	•
<b>34-2.47-0.20</b>	0.05-0.18	2.47	0.20	10.0	N.L.	400	190	125	90	45	20	•
<b>34-2.50-0.20</b>	0.05-0.21	2.50	0.20	10.0	N.L.	400	190	125	90	45	20	•
<b>34-2.70-0.10</b>	0.05-0.21	2.70	0.10	10.0	N.L.	400	190	125	90	45	20	•
<b>34-3.00-0.20</b>	0.05-0.25	3.00	0.20	10.0	N.L.	400	190	125	90	50	20	•
<b>34-3.00-0.40</b>	0.05-0.25	3.00	0.40	10.0	N.L.	400	190	125	90	50	20	•
<b>34-3.18-0.20</b>	0.05-0.25	3.18	0.20	10.0	N.L.	400	190	125	90	50	20	•
<b>34-3.50-0.25</b>	0.07-0.30	3.50	0.25	10.0	N.L.	400	190	125	90	50	20	•
<b>34-4.00-0.30</b>	0.07-0.30	4.00	0.30	10.0	N.L.	400	190	125	90	50	20	•

• N.L. = No limit

• Standard items

# TQC 34

## Parting insert

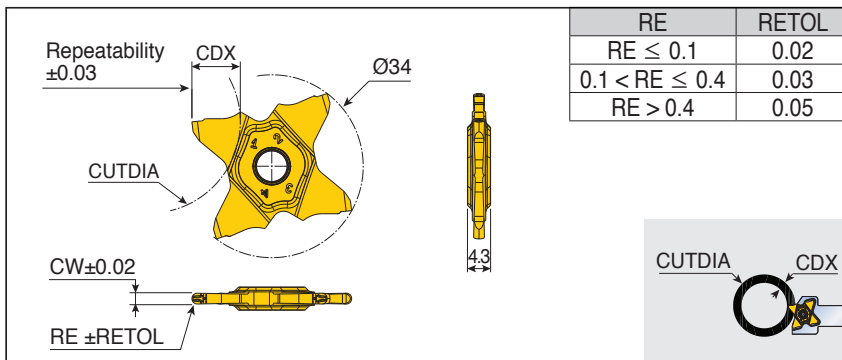


Designation	Feed (mm/rev)	CW	RE	PSIR°	Parting to center		Parting hollow bars		Grade
					CUTDIA	CDX	CUTDIA		
<b>TQC 34-1.50-8R/L</b>	0.03-0.10	1.50	0.07	8	18.5	9	40	●	
<b>34-2.00-6R/L</b>	0.03-0.15	2.00	0.10	6	18.5	9	40	●	
<b>34-2.00-15R/L</b>	0.03-0.15	2.00	0.10	15	18.5	9	40	●	
<b>34-3.00-6R/L</b>	0.03-0.18	3.00	0.20	6	20.0	10	20	●	

●: Standard items

# TQC 34

## Full radius insert



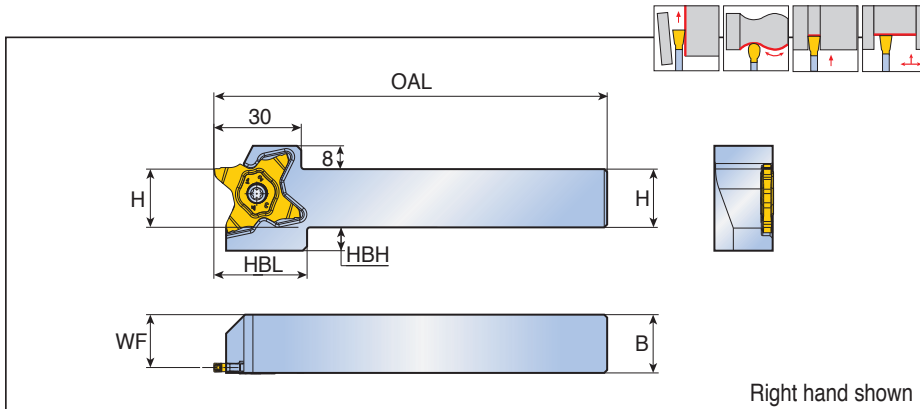
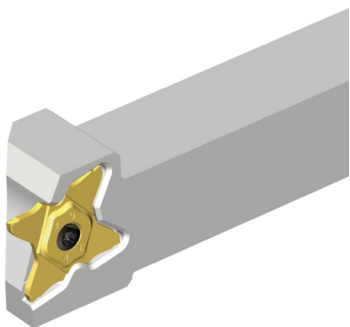
RE	RETOL
RE ≤ 0.1	0.02
0.1 < RE ≤ 0.4	0.03
RE > 0.4	0.05

Designation	Feed (mm/rev)	CW	RE	CDX	CUTDIA							Grade
					CDX≤4.0	CDX≤5.0	CDX≤6.0	CDX≤7.0	CDX≤8.0	CDX≤9.0	CDX≤10.0	
<b>TQC 34-2.00-1.00</b>	0.05-0.11	2.00	1.00	9.0	N.L.	400	190	125	90	40	-	●
<b>34-2.39-1.20</b>	0.05-0.11	2.39	1.20	10.0	N.L.	400	190	125	90	45	20	●
<b>34-3.00-1.50</b>	0.06-0.12	3.00	1.50	10.0	N.L.	400	190	125	90	50	20	●

• N.L. = No limit ●: Standard items



# TQHR/L-34

## Integral shank toolholders



Designation	Dimension (mm)						Insert
	H	B	WF	OAL	HBL	HBH	
<b>TQHR/L 16-34</b>	16	16	14.2	135	32	12	TQC 34
<b>20-34</b>	20	20	18.2	135	32	8	
<b>25-34</b>	25	25	23.2	135	32	3	
<b>32-34</b>	32	32	30.2	135	-	-	

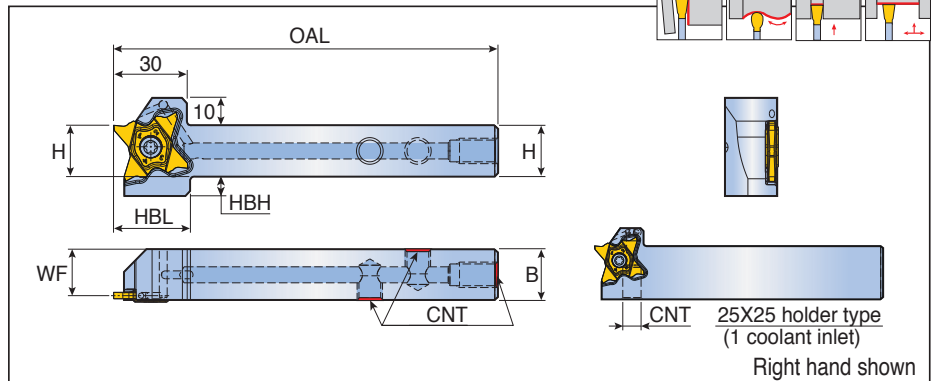
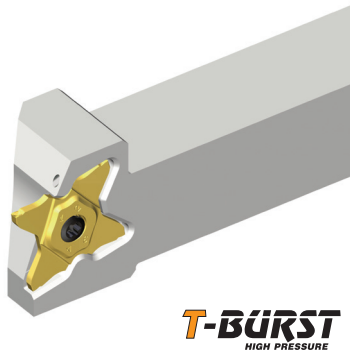
## Spare parts

Designation	Screw	Wrench		
	<b>TQHR/L-34</b>	 TS 50125I <sup>(1)</sup> TS 50125IL <sup>(2)</sup>	 T 10/20	

• (1) For left holder, (2) For right holder

# TQHR/L-34-TB





Grooving and turning with channels for high pressure coolant



Designation	Dimension (mm)						CNT	Insert
	H	B	WF	OAL	HBL	HBH		
<b>TQHR/L 16-34-TB</b>	16	16	14.2	135	32	12	UNF 5/16	TQC 34
<b>20-34-TB</b>	20	20	18.2	135	32	8	G 1/8	
<b>25-34-TB</b>	25	25	23.2	135	32	3	G 1/8	

	70 bar flow rate (ℓ/min)	100 bar flow rate (ℓ/min)	140 bar flow rate (ℓ/min)
<b>TQHR/L -34-TB</b>	9-11	11-13	12-14

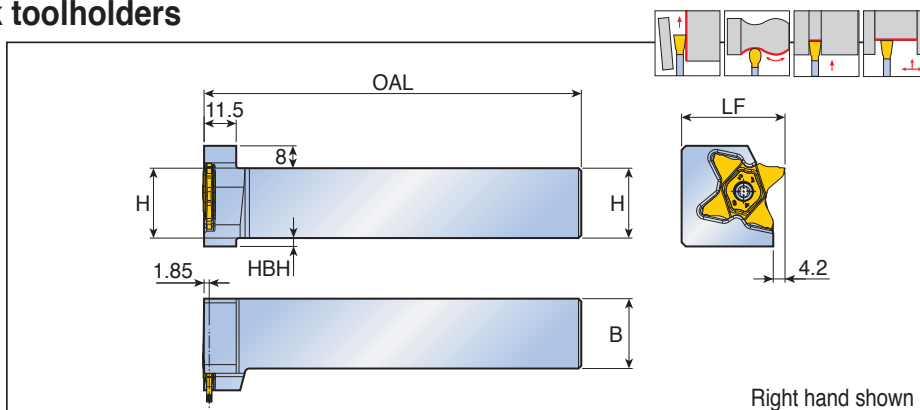
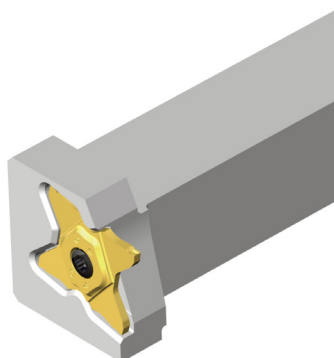
## Spare parts

Designation	Screw	Wrench	Plug	Wrench for plug
<b>TQHR/L 16-34-TB</b>				
<b>TQHR/L 20-34-TB</b>	TS 50125I <sup>(1)</sup> TS 50125IL <sup>(2)</sup>	T 10/20	PLG 5/16 UNF	L-W 5/32
<b>TQHR/L 25-34-TB</b>		T 10/20	PLG G1/8-L6.5	L-W 5
		T 10/20	-	-

• (1) For left holder, (2) For right holder



# TQHPR/L-34

## Perpendicular integral shank toolholders



Designation	Dimension (mm)					Insert
	H	B	OAL	LF	HBH	
<b>TQHPR/L 20-34</b>	20	20	135	32	8	TQC 34
<b>25-34</b>	25	25	135	37	3	

### Spare parts

Designation	Screw	Wrench		
	<b>TQHPR/L-34</b>	 TS 50125I <sup>(1)</sup> TS 50125IL <sup>(2)</sup>	 T 10/20	

• (1) For right holder, (2) For left holder



# Recommended Cutting Conditions

## QUADRUSH

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc(m/min)		
						TT9080		
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1	110-200	
		>=0.25%C	Annealed	650	190	2	100-180	
		<0.55%C	Quenched and tempered	850	250	3	70-160	
		>=0.55%C	Annealed	750	220	4	80-180	
			Quenched and tempered	1000	300	5	60-140	
	Low alloy steel and cast steel (Less than 5% of alloying elements)		Annealed		600	200	6	80-180
					930	275	7	70-140
			Quenched and tempered		1000	300	8	60-110
					1200	350	9	40-100
	High alloy steel, cast steel and tool steel		Annealed	680	200	10	50-110	
Quenched and tempered			1100	325	11	40-100		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	60-140		
		Martensitic	820	240	13	120-180		
		Austenitic	600	180	14	70-140		
K	Gray cast iron (GG)	Ferritic		160	15	120-180		
		Pearlitic		250	16	70-140		
	Cast iron nodular (GGG)	Ferritic		180	17	70-130		
		Pearlitic		260	18	60-115		
	Malleable cast iron	Ferritic		130	19	60-70		
		Pearlitic		230	20	80-170		
N	Aluminum - Wrought alloy	Not cureable		60	21	100-365		
		Cured		100	22	80-220		
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23	200-400	
			Cured		90	24	200-280	
	>12% Si	High temp.		130	25	200-280		
		Free cutting		110	26	80-255		
	Copper alloys	Brass		90	27	80-255		
		Electrolytic copper		100	28	80-255		
	Non-metallic	Duroplastics, fiber plastics			29	80-250		
		Hard rubber			30	80-250		
S	High temp. alloys	Fe based	Annealed		200	31	30-60	
			Cured		280	32	25-40	
		Ni or Co based	Annealed		250	33	25-35	
			Cured		350	34	15-25	
			Cast		320	35	15-30	
	Titanium, Ti alloys		Rm 400		36	70-150		
		Alpha+beta alloys cured	Rm 1050		37	25-50		
H	Hardened steel	Hardened		55HRC	38	45-60		
		Hardened		60HRC	39	45-60		
	Chilled cast iron	Cast		400	40	45-60		
	Cast iron nodular	Hardened		55HRC	41	45-60		

■ Steel 
 ■ Stainless steel 
 ■ Cast iron 
 ■ Nonferrous 
 ■ High temp. alloys 
 ■ Hardened steel

• Feed rate: Neutral: 0.05-0.18 mm/rev, Handed: Reduce 20% feed rate