



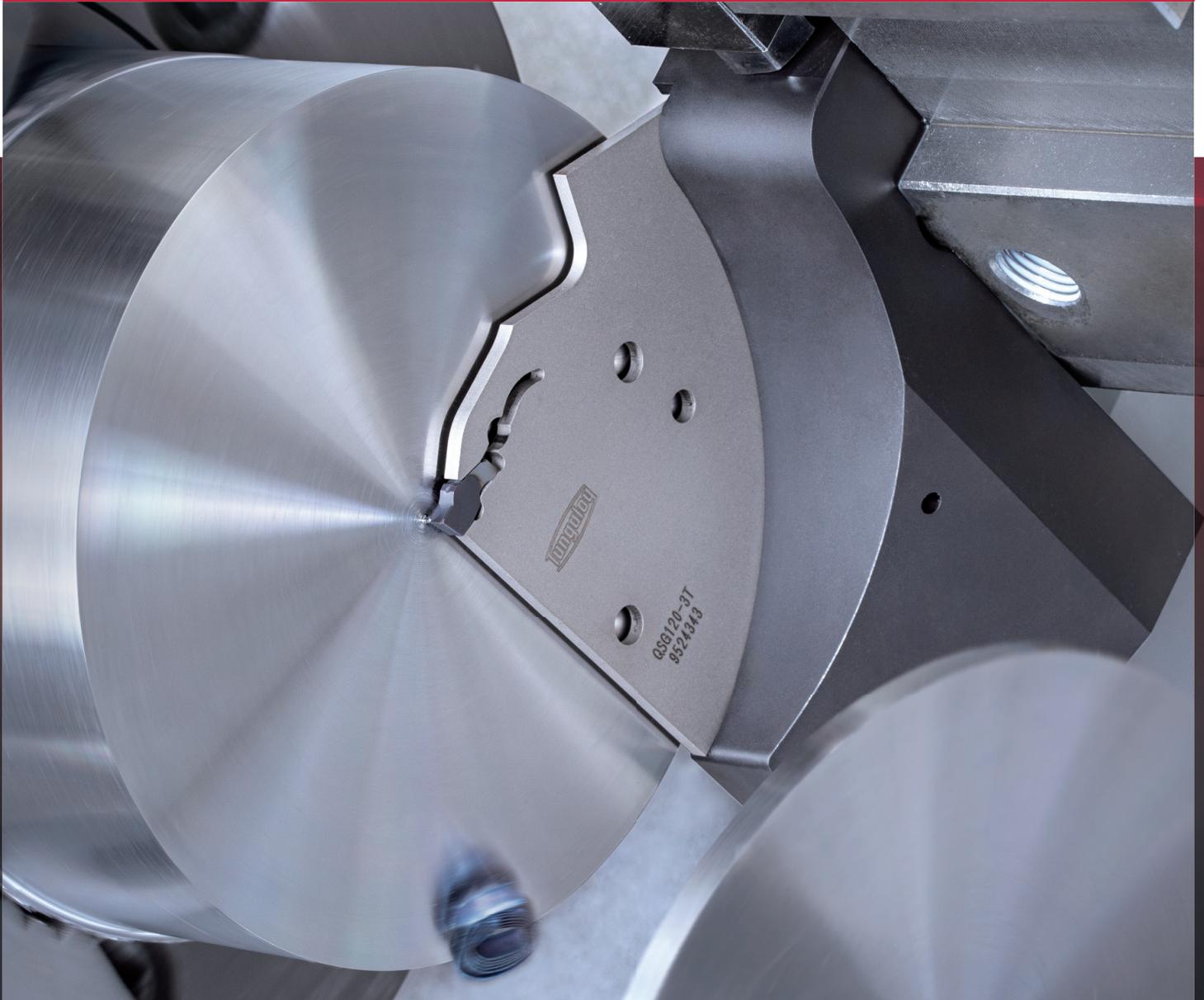
For more information

Grooving and parting-off tool

**ADD**<sup>ORCE</sup>**FCUT**

Tungaloy Report No. 543-G

# New grooving and parting-off tool series with optimally rigid self-clamping system







## ADD FORCE CUT

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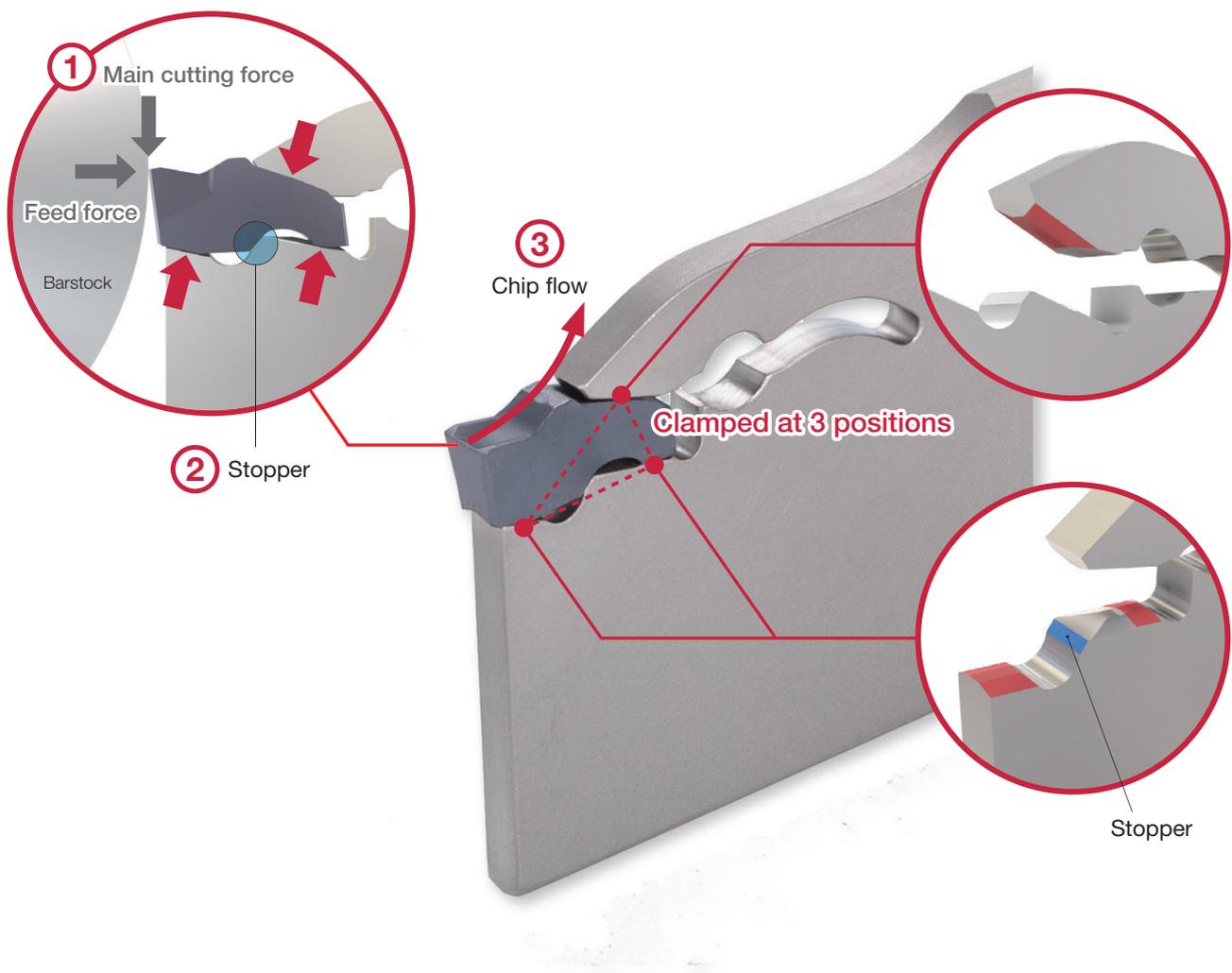


Highly rigid self-clamping system improves productivity for deep grooving and parting-off operations

## Unique, high rigidity self-clamping system

### Features

- ① The stopper supporting the insert bottom ensures secure edge position for excellent repeatability
- ② The pocket is designed to securely spring-clamp the insert with three contact faces for stability
- ③ Smooth uninterrupted chip flow is possible thanks to two variations of effective 3D chipbreakers



**TungFeed-Blade** now available for high productive deep grooving and parting operations

## Features

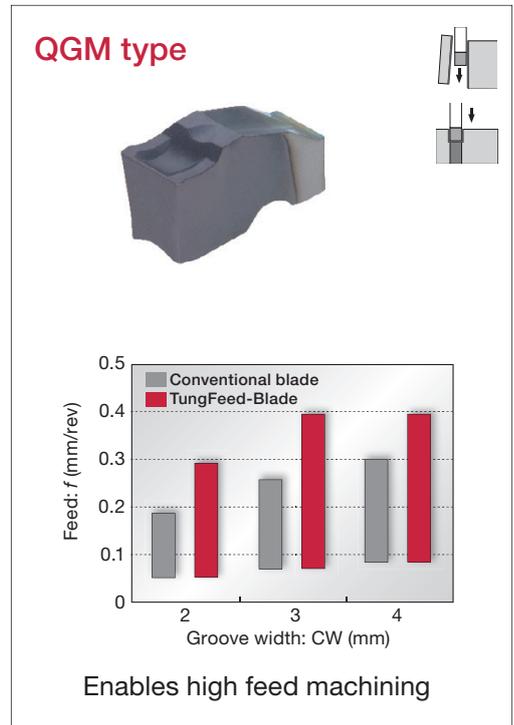
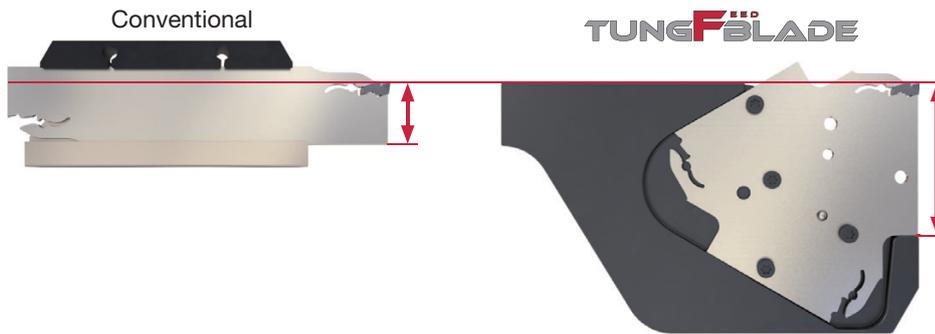
- A thick support beneath the insert allows the tool to produce grooves with high surface quality and straightness at increased feed rates
- Economical blade with three insert pockets



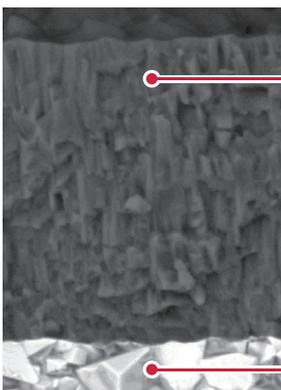
- The block is clamped by contacting two surfaces for enhanced rigidity



- With much thicker support than existing grooving blades, tool deflection and chatter are minimized even at higher feed rates



## AH7025



**AH7025 uses the latest coating technology of a nano-scale multi-layered AlTiN PVD coating with high Al content, featuring**

- Coating hardness increased by 20%
- A multi-layered coating structure impedes micro-crack propagation, reducing insert failures
- Enhanced adhesion strength between the coating and carbide substrate layer

High wear and fracture resistant carbide substrate for optimal grooving performance

## CHIPBREAKER GUIDE

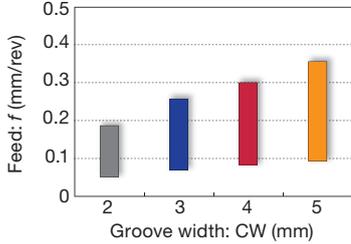
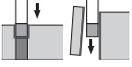
**QGM**



1st choice for grooving and parting

Smooth chip evacuation  
Well-designed edge with high strength  
CW = 2 - 5 mm

Standard feed

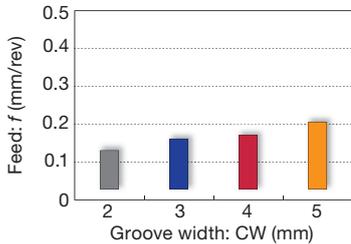
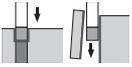
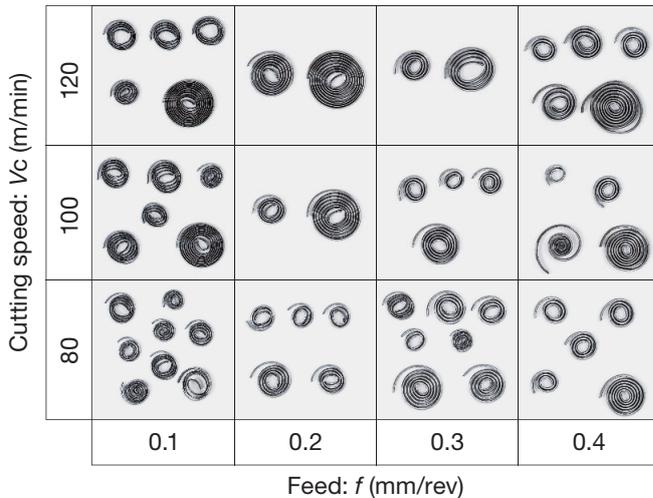
**QGS**



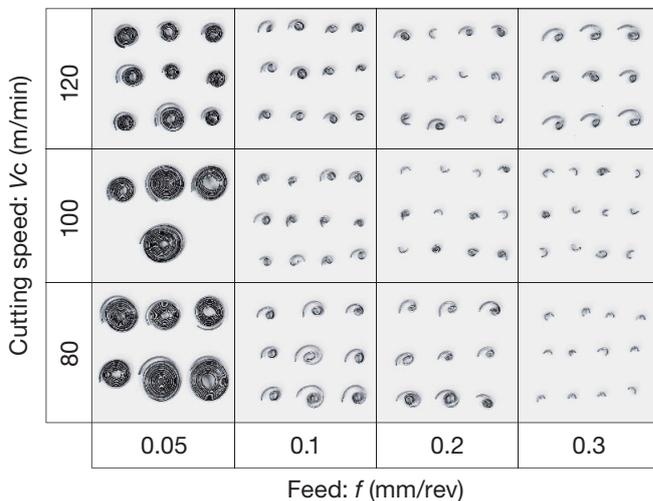
Lower cutting force and superior sharpness

Uniquely designed edge and chipbreaker  
CW = 2 - 5 mm

Standard feed

**P** Toolholder : QSER2525-3T33  
 Insert : **QGM3**-020 AH7025  
 Workpiece material: S45C / C45  
 Groove width : 3 mm  
 Coolant : Wet

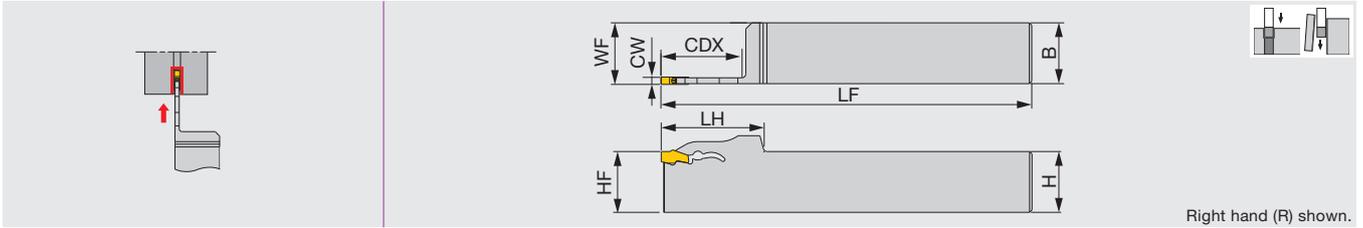


**P** Toolholder : QSER2525-3T33  
 Insert : **QGS3**-020 AH7025  
 Workpiece material: S45C / C45  
 Groove width : 3 mm  
 Coolant : Wet

## HOLDER

### QSER/L

External toolholders for grooving and parting



Designation	CW	CDX	Seat size	H	B	LF	LH	HF	WF
QSER/L2020-2T26	2	26	2	20	20	125	36	20	20.1
QSER/L2020-2T33	2	33	2	20	20	125	42	20	20.1
QSER/L2525-2T26	2	26	2	25	25	150	36	25	25.1
QSER/L2525-2T33	2	33	2	25	25	150	42	25	25.1
QSER/L2020-3T26	3	26	3	20	20	125	36	20	20.3
QSER/L2020-3T33	3	33	3	20	20	125	42	20	20.3
QSER/L2525-3T26	3	26	3	25	25	150	36	25	25.3
QSER/L2525-3T33	3	33	3	25	25	150	42	25	25.3
QSER/L2020-4T33	4	33	4	20	20	125	42	20	20.4
QSER/L2525-4T33	4	33	4	25	25	150	42	25	25.4
QSER/L2525-5T33	5	33	5	25	25	150	42	25	25.5

#### SPARE PARTS

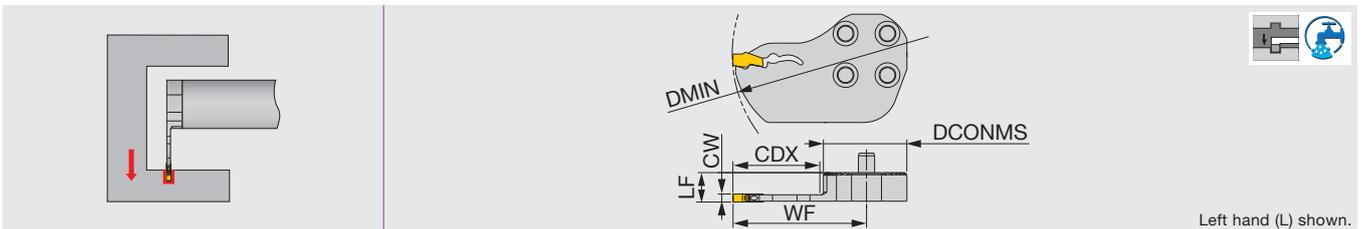
Designation	Wrench
QSER/L...	QL-39

## MODULAR HEAD

### S-QSIR/L-H

**BOREMEISTER**

Exchangeable boring head, for internal grooving



Designation	CW	CDX	DMIN	DCONMS	Seat size	LF	WF	Shank
S25-QSIR/L2T26D550-H	2	26	55	25	2	8.5	40.1	D25
S25-QSIR/L3T26D550-H	3	26	55	25	3	9	40.1	D25
S32-QSIR/L3T32D700-H	3	32	70	32	3	11	49.6	D32
S32-QSIR/L4T32D700-H	4	32	70	32	4	11.5	49.6	D32

Please refer to the BoreMeister Tungaloy Report (TR517) for shank information that is applicable to the head.

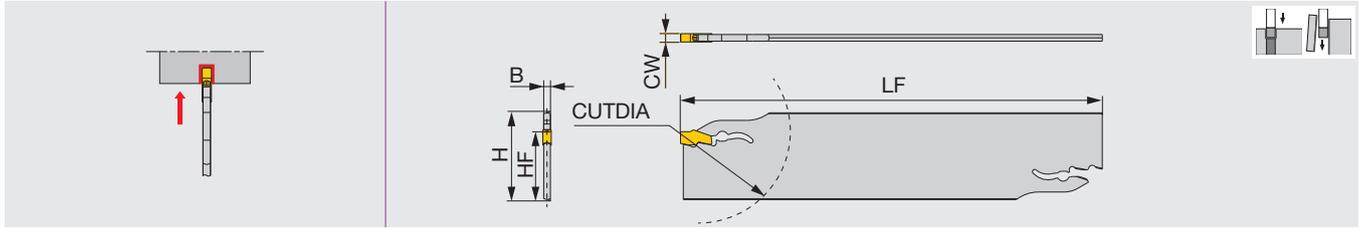
#### SPARE PARTS

Designation	Wrench
S**-QSIR/L...	QL-39

## BLADE

### QSP

Blades for external deep grooving and parting



Designation	CW	CUTDIA	Seat size	H	B	LF	HF
QSP26-2D	2	52	2	26	1.8	150	21.4
QSP32-2D	2	66	2	32	1.8	150	24.8
QSP26-3D	3	75	3	26	2.4	150	21.4
QSP32-3D	3	120	3	32	2.4	150	24.8
QSP26-4D	4	80	4	26	3.2	150	21.4
QSP32-4D	4	120	4	32	3.2	150	24.9
QSP32-5D	5	120	5	32	4	150	24.9

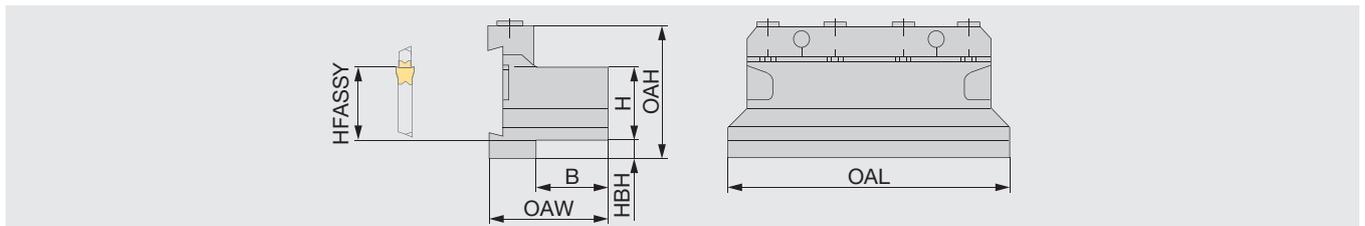
### SPARE PARTS

Designation	Wrench
QSP...	QL-39

## TOOL BLOCK

### CTBU

Tool block for QSP blades



Designation	H	B	OAL	HFASSY	HBH	OAH	OAW	Blade (Optional)
CTBU20-26	20	21	86	20	9	43	38	QSP26...
CTBU25-26	25	23	110	25	5	45	43	QSP26...
CTBU20-32	20	19	100	20	13	50	38	QSP32...
CTBU25-32	25	23	110	25	8	50	42	QSP32...
CTBU32-32	32	29	110	32	5	54	48	QSP32...

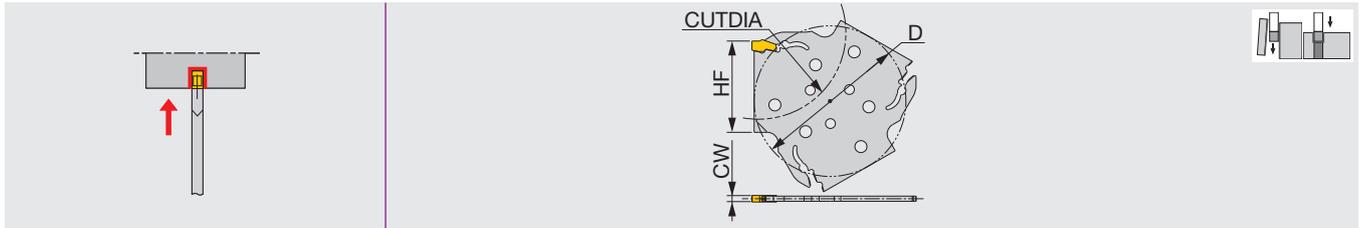
### SPARE PARTS

Designation	Clamp	Clamping screw	Wrench
CTBU20-26	CT-86	CM6X30-S	P-5
CTBU25-26	CT-105	CM6X30-S	P-5
CTBU20-32	CT-100	CM6X30-S	P-5
CTBU25-32	CT-110	CM6X30-S	P-5
CTBU32-32	CT-110	CM6X30-S	P-5

## BLADE

### QSG

Parting-off and external grooving blade



Designation	CW	Seat size	CUTDIA	HF	D
QSG52-2T	2	2	52	27	48.3
QSG82-2T	2	2	82	42	69.3
QSG52-3T	3	3	52	27	48.3
QSG82-3T	3	3	82	42	69.3
QSG120-3T	3	3	120	61	88
QSG52-4T	4	4	52	27	69.3
QSG82-4T	4	4	82	42	69.3
QSG120-4T	4	4	120	61	88
QSG120-5T	5	5	120	61	88

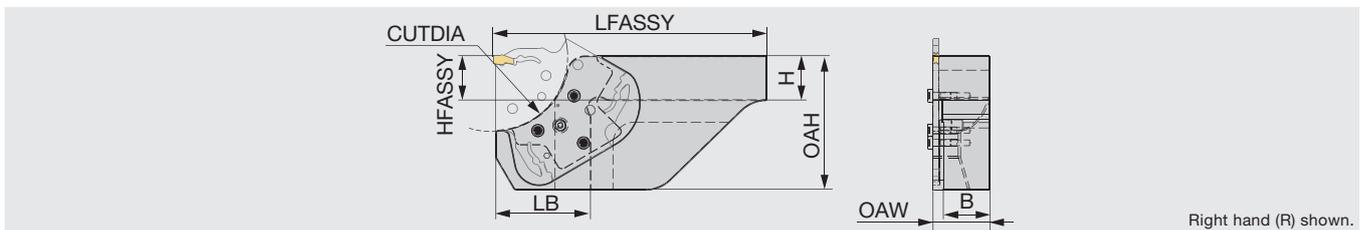
### SPARE PARTS

Designation	Wrench
QSG...	QL-39

## TOOL BLOCK

### CHTBR/L

Tool block for QSG blade

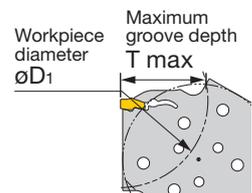


Designation	CUTDIA	H	B	LFASSY	HFASSY	OAH	OAW	LB
CHTBR/L2020-52	52	20	20.5	100	20	50	26.5	37
CHTBR/L2525-52	52	25	25.5	125	25	50	31.5	37
CHTBR/L2020-82	82	20	20.5	140	20	75	26.5	53
CHTBR/L2525-82	82	25	25.5	150	25	75	31.5	53
CHTBR/L2525-120	120	25	25.5	165	25	100	31.5	67
CHTBR/L3232-120	120	32	32.5	165	32	100	38.5	67

The blade clamping screw heads protrude out for as much as 3.1 mm over the insert cutting edge point. Maintain the clearance from the chucking device to avoid interference.

### SPARE PARTS

Designation	Clamping screw	Grip	Torx bit
CHTBR/L...	SR-ISO14580M4X10	SW6-SD	BLDT20/S7



### Maximum groove depth (T max) as function of workpiece diameter (øD1)

Designation	øD1																		
CHTBR/L****-D52	53	54	55	56	58	60	62	65	68	72	78	84	92	102	115	133	159	198	
CHTBR/L****-D82	104	108	112	116	121	127	134	142	151	162	176	192	212	237	270	313	375	468	
CHTBR/L****-D120	205	214	224	235	247	261	278	297	319	345	376	414	462	522	601	709	865	1112	
T max	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	

Designation	øD1												
CHTBR/L****-D82	83	84	84	85	86	87	89	90	92	94	96	98	101
CHTBR/L****-D120	144	147	150	153	156	160	164	168	173	178	184	190	197
T max	34	33	32	31	30	29	28	27	26	25	24	23	22

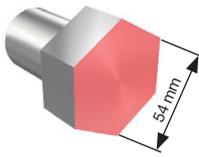
Designation	øD1																
CHTBR/L****-D120	121	122	123	124	125	126	127	128	129	130	131	133	134	136	138	140	142
T max	55	52	50	48	47	46	45	44	43	42	41	40	39	38	37	36	35



## STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Grade	Cutting speed Vc (m/min)
<b>P</b>	Steels C45, 34CrMo4, etc.	< 300 HB	AH7025	50 - 180
<b>M</b>	Stainless steel X10CrNiS18-9, etc.	< 200 HB	AH7025	50 - 120
<b>K</b>	Gray cast iron GG25, 250, etc.	-	AH7025	50 - 180
	Ductile cast irons GGG45, 450-10S, etc.	-	AH7025	50 - 120
<b>S</b>	Superalloys Inconel718, etc.	< HRC 40	AH7025	20 - 60
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	AH7025	20 - 80

## PRACTICAL EXAMPLES

Workpiece type	Bolt parts	Ring
Toolholder	QSG82-3T / CHTBL2525-82	QSER2525-5T33
Insert	QGS3-020	QGS5-030
Grade	AH7025	AH7025
Workpiece material	SUS304 / X5CrNi18-9  <b>M</b>	SM490 / S355J2  <b>P</b>
Cutting conditions	Grooving width (mm)	3
	Grooving depth (mm)	27
	Cutting speed : Vc (m/min)	70
	Feed : f (mm/rev)	0.15
	Machining	Parting off
Coolant	Wet	Wet
Results	 <p><b>TungFeed-Blade</b> doubled tool life, while also increasing feed rate 5 times when used with the high rigidity CHTBL holder.</p>	 <p><b>AddForceCut</b> improved chip control and chip evacuation when compared to existing tools, and also doubled the feed rate.</p>

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