

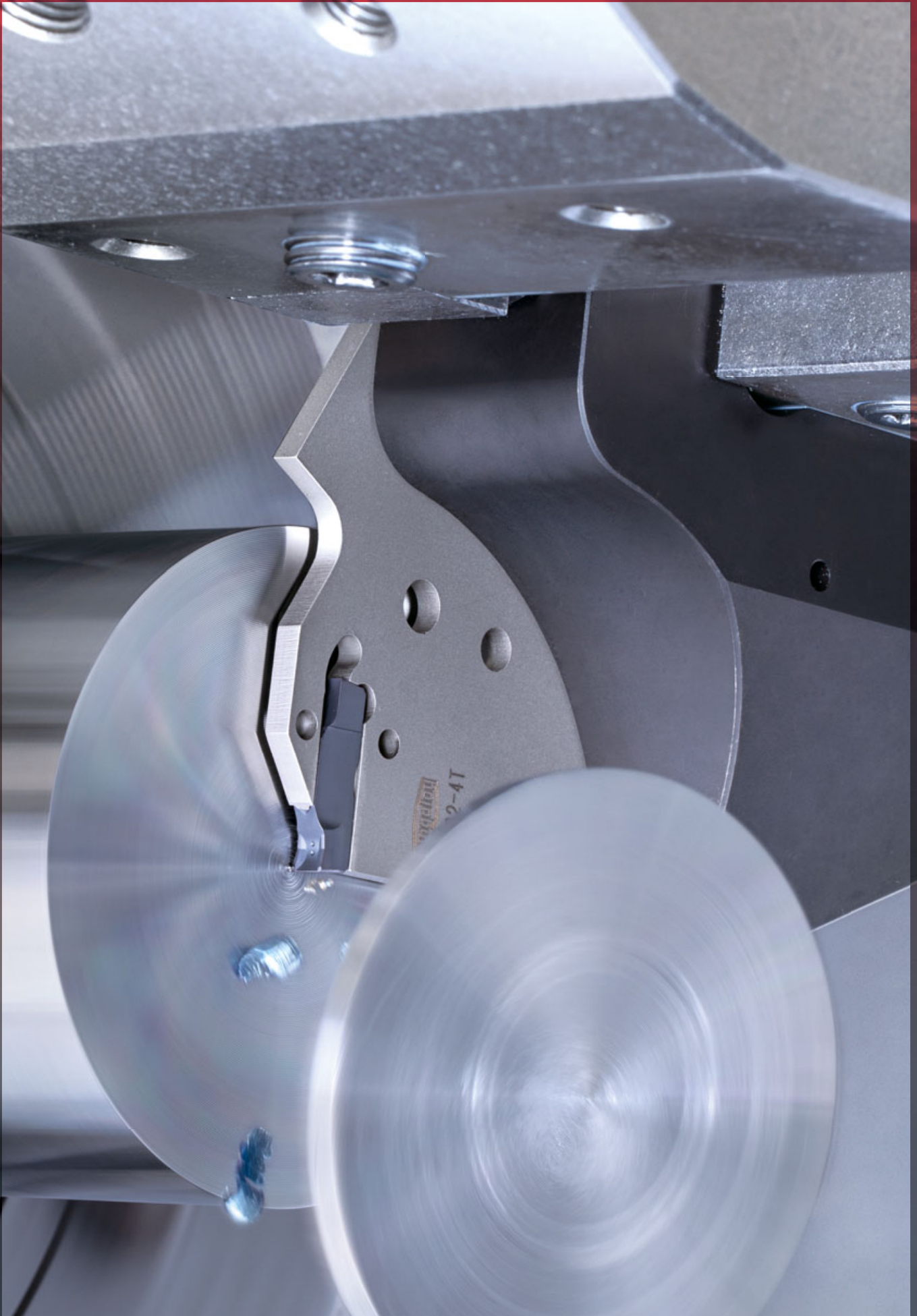
Grooving and parting-off tool

TUNG^{FEED}**FBLADE**

Tungaloy Report No. 559-G

High-efficiency parting and grooving tool series





INDUSTRY 4.0
FEED the SPEED!



TUNG^{FEED}BLADE

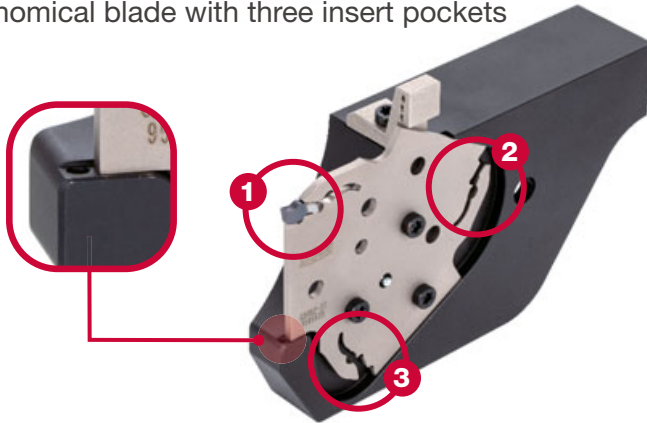


Rigid parting and grooving tool series
for high efficiency machining

Exceptional stability and productivity

■ New high rigidity toolholder

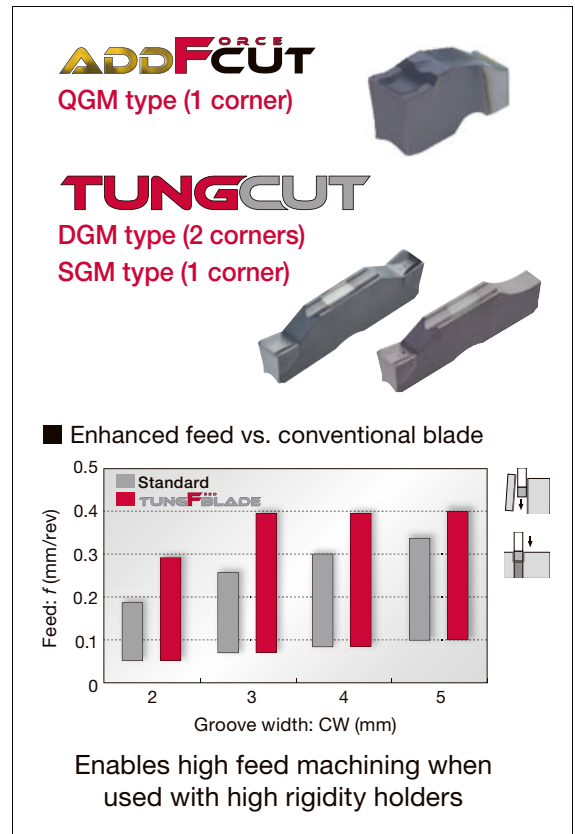
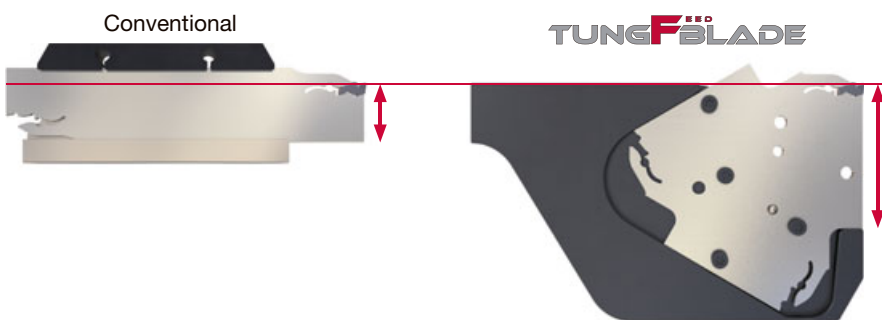
- A thick support beneath the insert allows the tool to produce grooves with high surface quality and straightness at increased feed rates
- Economical blade with three insert pockets



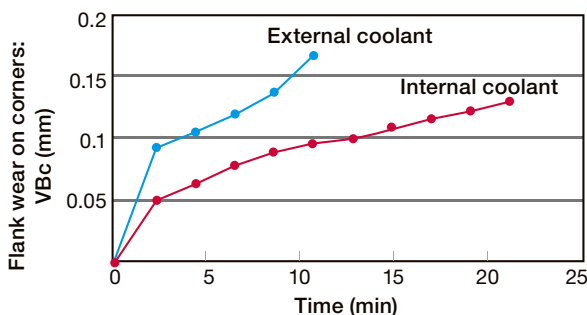
- The block is clamped by contacting two surfaces for enhanced rigidity



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



■ Coolant through tool block design reduces cutting edge wear



Parting-off

P SCM440 / 42CrMo4

Toolholder : QSG82-2T/ CHTBR2525-82
(External coolant)
: QSG82-2T/ CHTBR2525-82-CHP
(Internal coolant)

Insert : QGM2-020 AH7025

Cutting speed : $V_c = 120$ m/min

Feed : $f = 0.2$ mm/rev

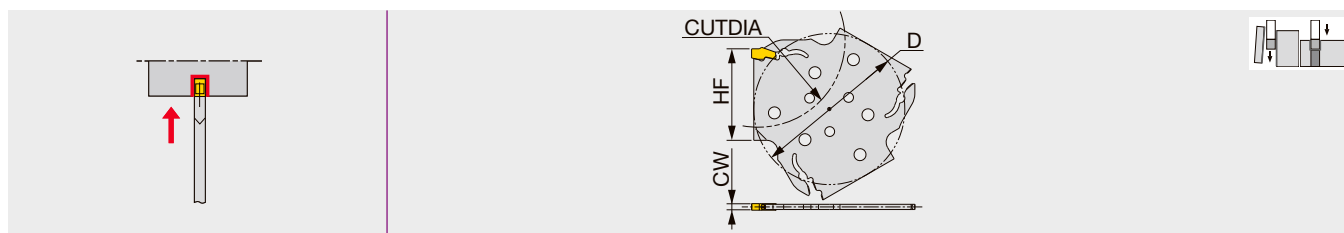
Groove width : $CW = 2$ mm

BLADE

QSG

ADDFORCECUT

Parting-off and external grooving blade for AddForceCut inserts



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

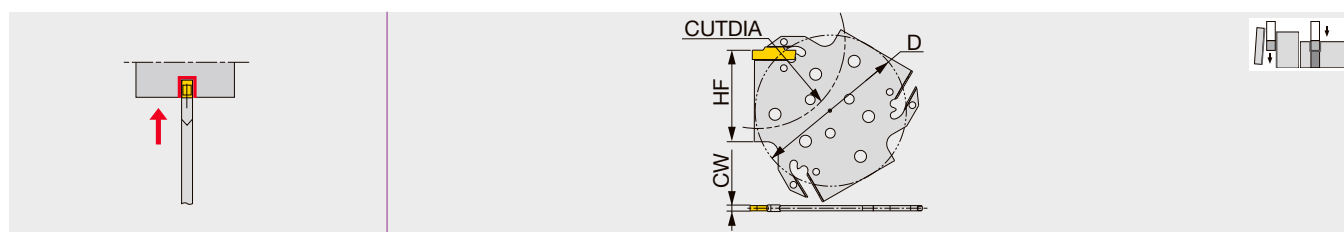
Related Items



CHGP

TUNGCUT

Parting-off and external grooving blade for TungCut inserts



Designation	CW	Seat size	CUTDIA	HF	D
CHGP52-2T	2	2	52	27	48.3
CHGP52-3T	3	3	52	27	48.3
CHGP82-3T	3	3	82	42	69.3
CHGP82-4T	4	4	82	42	69.3

When depth is deeper than insert length - 1.5 mm, 1 corner type is recommended.

SPARE PARTS

Designation	Wrench (Optional)
CHGP...	CRW33

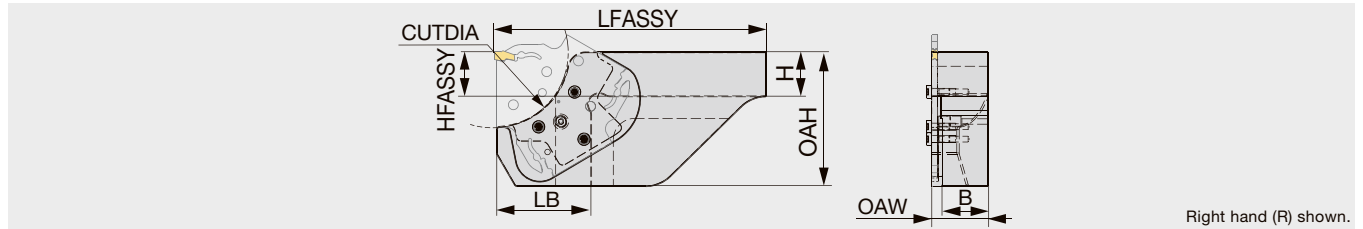
Related Items



TOOL BLOCK

CHTBR/L

Tool block for QSG/CHGP blade



Designation	CUTDIA	H	B	LFASSY	HFASSY	OAH	OAW	LB	Blade
CHTBR/L2020-52	52	20	20.5	100	20	50	26.5	37	QSG52 / CHGP52
CHTBR/L2525-52	52	25	25.5	125	25	50	31.5	37	QSG52 / CHGP52
CHTBR/L2020-82	82	20	20.5	140	20	75	26.5	53	QSG82 / CHGP82
CHTBR/L2525-82	82	25	25.5	150	25	75	31.5	53	QSG82 / CHGP82
CHTBR/L2525-120	120	25	25.5	165	25	100	31.5	67	QSG120
CHTBR/L3232-120	120	32	32.5	165	32	100	38.5	67	QSG120

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

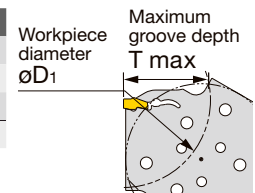
Designation	Clamping screw	Grip	Torx bit
CHTBR/L...	SR ISO 14580 M4X10	SW6-SD	BLDT20/S7

Maximum groove depth (T max) as function of workpiece diameter (ϕD_1)

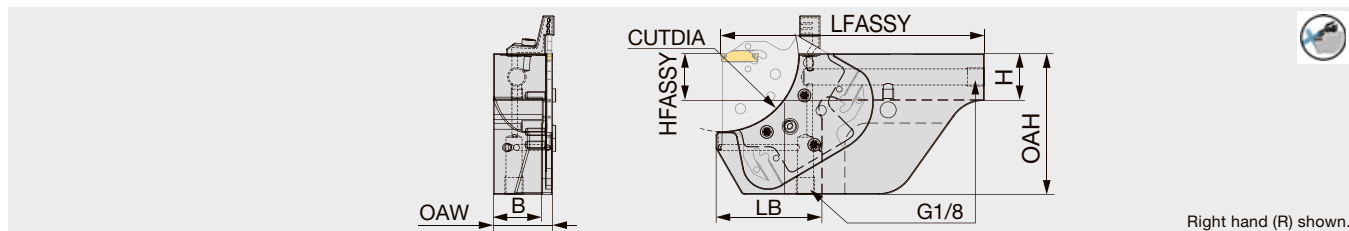
Designation				øD ₁															
CHTBR/L****-52	53	54	55	56	58	60	62	65	68	72	78	84	92	102	115	133	159	198	
CHTBR/L****-82	104	108	112	116	121	127	134	142	151	162	176	192	212	237	270	313	375	468	
CHTBR/L****-120	205	214	224	235	247	261	278	297	319	345	376	414	462	522	601	709	865	1112	
T max	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	

Designation				øD ₁											
CHTBR/L****-82	83	84	84	85	86	87	89	90	92	94	96	98	101		
CHTBR/L****-120	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				øD ₁													
CHTBR/L****-120	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



Tool block for QSG/CHGP blade, with high pressure coolant capability



Right hand (R) shown.

Designation	CUTDIA	H	B	LFASSY	HFASSY	OAH	OAW	LB	Blade
CHTBR/L2020-52-CHP	52	20	20.5	100	20	50	26.5	40.5	QSG52 / CHGP52
CHTBR/L2525-52-CHP	52	25	25.5	123	25	50	31.5	40.5	QSG52 / CHGP52
CHTBR/L2020-82-CHP	82	20	20.5	126	20	75	26.5	56.5	QSG82 / CHGP82
CHTBR/L2525-82-CHP	82	25	25.5	139	25	75	31.5	56.5	QSG82 / CHGP82
CHTBR/L2525-120-CHP	120	25	25.5	158	25	100	31.5	75.5	QSG120
CHTBR/L3232-120-CHP	120	32	32.5	173	32	100	38.5	75.5	QSG120

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

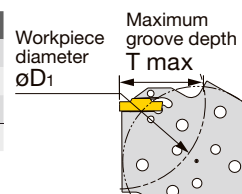
Designation	Clamping screw	Grip	Torx bit	Coolant plug	Nozzle	O-ring
CHTBR***-CHP	SR ISO 14580 M4X10	SW6-SD	BLDT20/S7	PLUGG1/8-6.5TL360	CNZHR20	ORSS-0454.5X1.0NBR70
CHTBL***-CHP	SR ISO 14580 M4X10	SW6-SD	BLDT20/S7	PLUGG1/8-6.5TL360	CNZHL20	ORSS-0454.5X1.0NBR70

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

Designation	øD1																	
CHTBR/L***-52-CHP	52	53	53	54	55	56	58	59	61	64	67	70	74	79	86	94	104	118
CHTBR/L***-82-CHP	97	100	103	106	109	113	118	123	129	136	144	153	164	178	194	214	239	272
CHTBR/L***-120-CHP	181	187	194	202	210	219	230	241	255	270	288	308	332	361	395	438	491	560
T max	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4

Designation	øD1												
CHTBR/L***-82-CHP	83	83	84	84	85	86	87	88	89	90	92	93	95
CHTBR/L***-120-CHP	137	139	141	143	146	149	152	155	158	165	166	171	176
T max	34	33	32	31	30	29	28	27	26	25	24	23	22

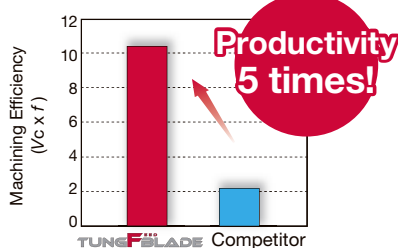
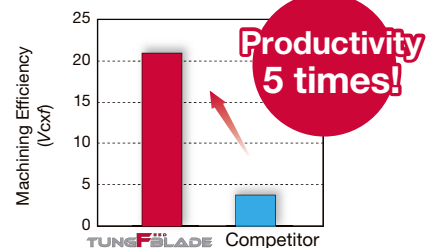
Designation	øD1													
CHTBR/L***-120-CHP	120	121	122	123	124	125	126	127	128	130	131	132	134	135
T max	55	52	48	47	45	44	42	41	40	39	38	37	36	35



STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (m/min)
P	Steel S45C, SCM435, etc. C45, 34CrMo4, etc.	< 300 HB	First choice	AH7025, AH725	50 - 180
		< 300 HB	Wear resistance	T9225, AH8005	80 - 300
		< 300 HB	Impact resistance	AH6235, GH130	50 - 120
		< 300 HB	Surface quality	NS9530	80 - 220
M	Stainless steel SUS303, SUS304, etc. X10CrNiS18-9, X5CrNi18-9, etc.	< 200 HB	First choice	AH7025, AH725	50 - 120
		< 200 HB	Wear resistance	AH8005	50 - 120
		< 200 HB	Impact resistance	AH6235, GH130	50 - 120
K	Grey cast iron FC250, etc. 250, etc.	-	First choice	T515, AH8005	50 - 180
		-	Impact resistance	AH6235, GH130	50 - 180
	Ductile cast iron FCD450, etc. 450-10S, etc.	-	First choice	T515, AH8005	50 - 120
		-	Impact resistance	AH6235, GH130	50 - 120
N	Aluminum alloys Si < 12%	-	First choice	TH10	100 - 500
		-	First choice	KS05F	100 - 600
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH8005	20 - 80
		< HRC 40	Impact resistance	AH7025, AH725	20 - 60
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	KS05F	20 - 80
		< HRC 40	Impact resistance	AH7025, AH725	20 - 80
H	Hardened steel SCM435, SUJ2, etc. 34CrMo4, B1, etc.	> HRC 50	First choice	BXA20, BX360	80 - 150

PRACTICAL EXAMPLES

Workpiece type		Bolt parts	Rotary shaft parts
Toolholder		CHGP82-4T / CHTBR2525-82	QSG52-3T / CHTBR2020-52-CHP
Insert		SGS4-030	QGM3-020
Grade		AH7025	AH7025
Workpiece material		S45C / C45	SUS304 / X5CrNi18-9
		 P	 M
Cutting conditions	Grooving width : CW (mm)	4	3
	Cutting speed : Vc (m/min)	70	70
	Feed : f (mm/rev)	0.15	0.3
	Cutting edge depth : CDX (mm)	25	25
	Machining	Parting off	Parting off
	Coolant	Wet	Wet
Results		 TungFeed-Blade doubled tool life, while also increasing feed rate 5 times when used with high rigidity CHTBR holder.	 High rigidity toolholder allowed 5 times higher feed rate. In addition, coolant-through system and optimal coolant delivery helped reduce the cutting edge wear, providing 3 times tool life increase.



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