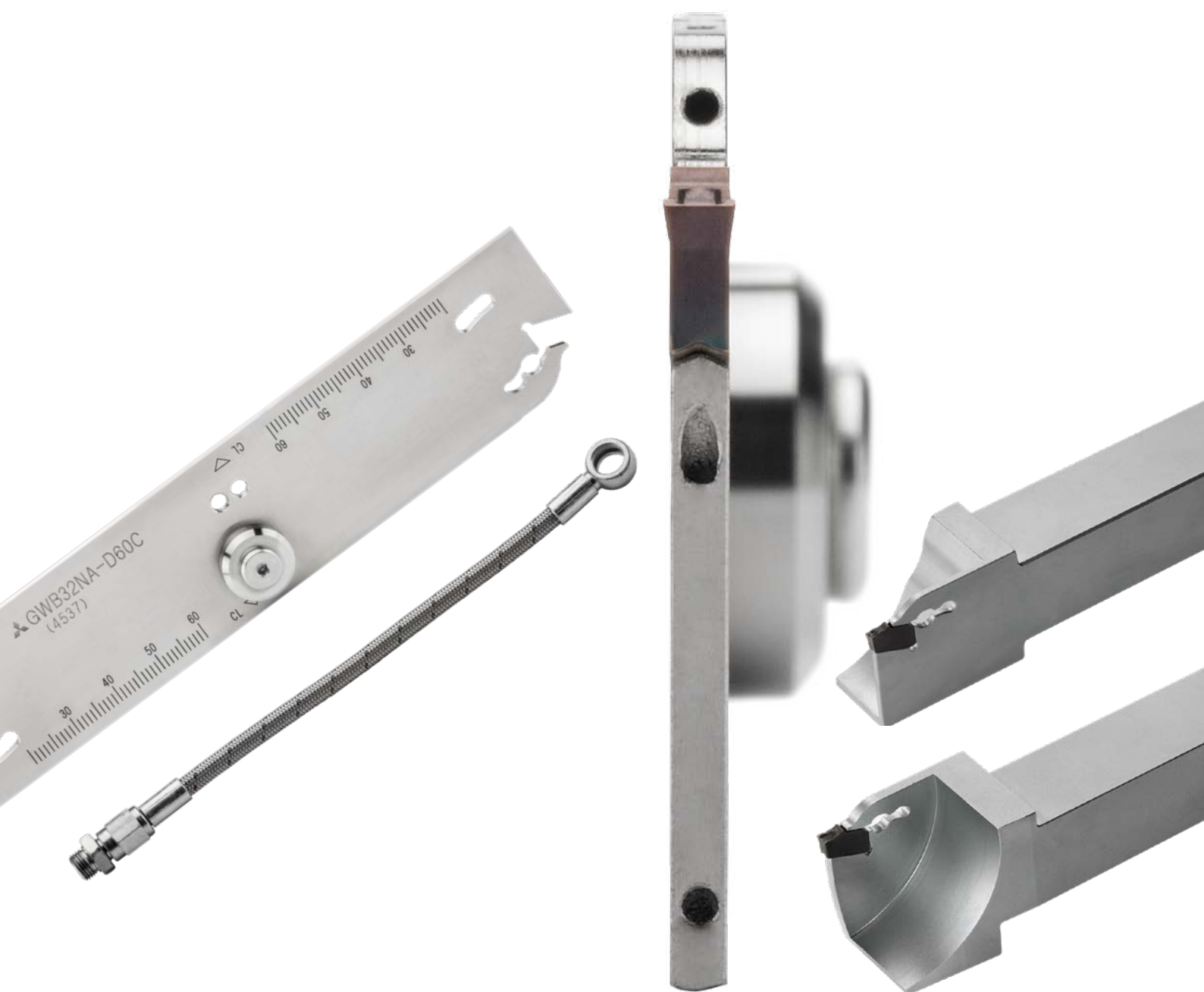


GW

DURABLE & EASY TO USE
CUTTING OFF & GROOVING SYSTEM



 MITSUBISHI MATERIALS

GW

SIMPLIFIED EFFICIENCY

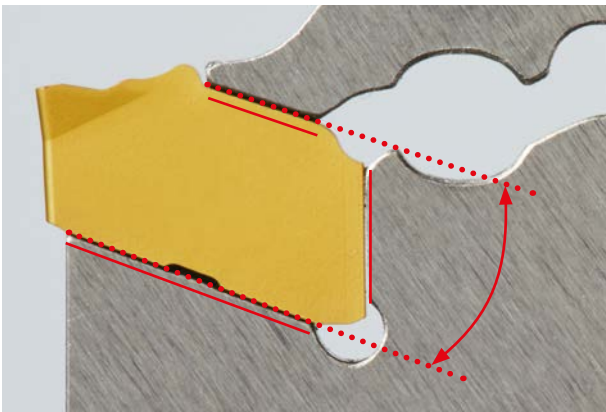
EASY CONFIGURATION THAT IMPROVES INVENTORY CONTROL

Simple & convenient. Introducing a new type of cutting off & grooving system that maximises usability whilst maintaining performance.

CLAMPING METHOD

SIMPLE INSERT CLAMPING METHOD THAT OFFERS HIGH RIGIDITY

To prevent extraction during machining, the insert features a reverse taper angle. Additionally the design also includes 3 large locating faces with the blade, offering increased cutting edge reliability. The blade itself is made from a suitable, special alloy steel. For changing the insert, a unique wrench is supplied to ensure ease of use.



Reverse taper angle

VOICE OF THE DEVELOPER

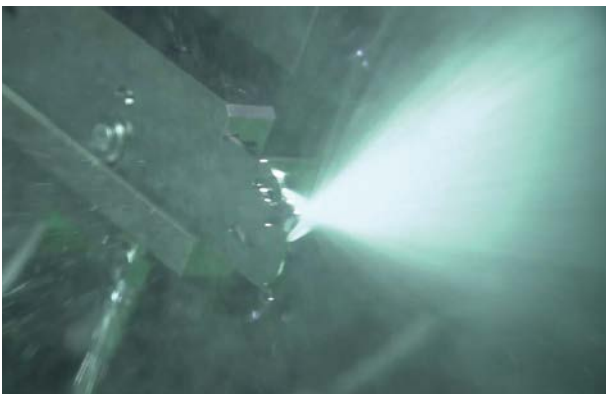
EASY INSERT SETTING

By using the unique wrench, it is possible to remove the insert with one simple action making it easier for everyday use in the workshop.

THROUGH COOLANT BLADE

INCREASED WEAR RESISTANCE DUE TO 2 THROUGH COOLANT HOLES

2 through holes supply coolant to both the rake and flank face, leading to effective cutting edge cooling and increased wear resistance. Additionally the blade can also be utilised with both low and high pressure coolant (7MPa).



VOICE OF THE DEVELOPER

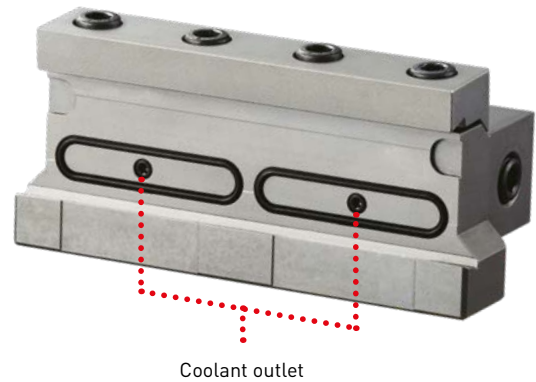
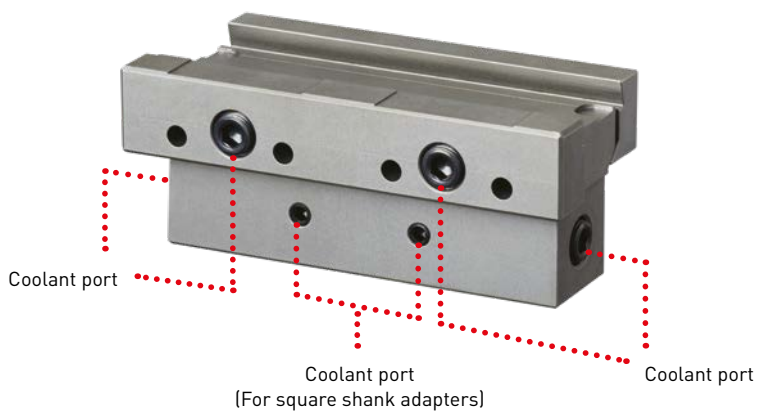
REDUCED HEAT GENERATION

The 2 coolant holes used in the blade are capable of coping with pressures up to 7MPa. This is achieved by using as large as possible hole diameter. The coolant holes are located close to the cutting edge to improve cutting edge cooling and increase wear resistance.

COOLANT PORTS

FLEXIBILITY WITH THE USE OF 6 COOLANT PORTS

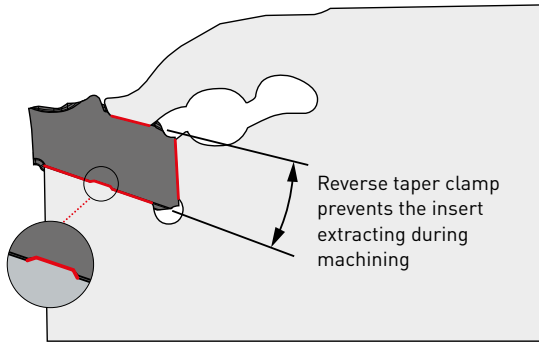
There are 6 coolant ports designed into the tool block, making it easy to set up the block and blade to a suitable configuration. The through coolant holes improve cutting edge cooling and chip evacuation. The use of external coolant hoses is also possible.



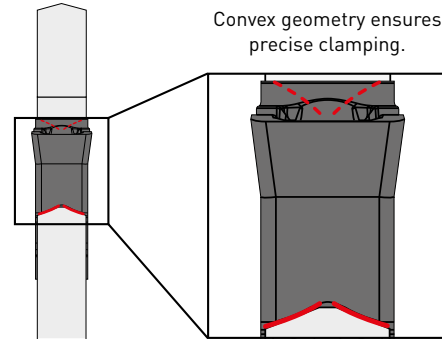
CLAMP MECHANISM

SIMPLE INSERT CLAMPING METHOD OFFERING HIGH RIGIDITY

HIGHLY RELIABLE INSERT CLAMPING

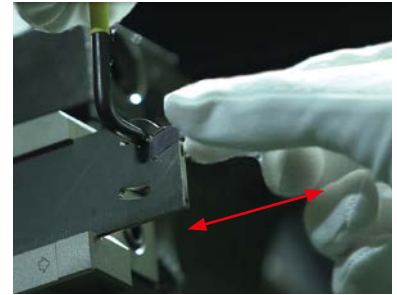
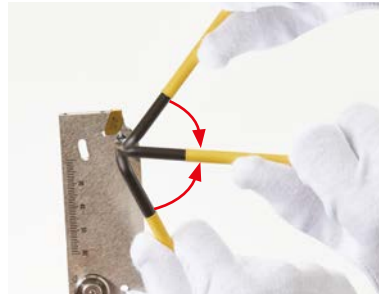


Safety key prevents insert movement.



EASY INSERT INDEXING

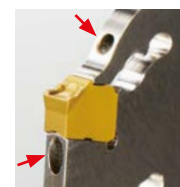
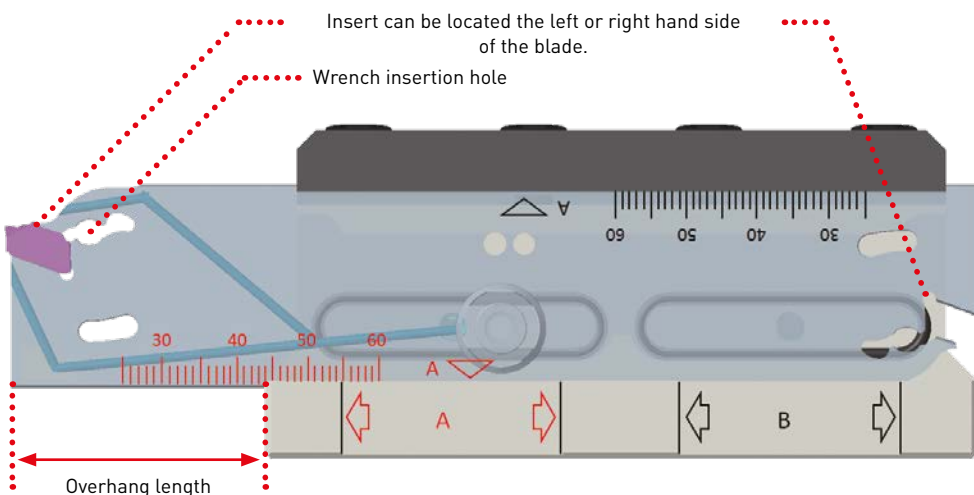
Inserts can be changed easily with a single movement of the wrench.



INTERNAL COOLANT

SUITABLE FOR A WIDE VARIETY OF APPLICATIONS

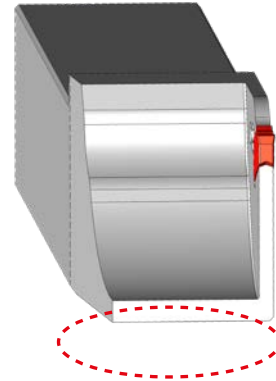
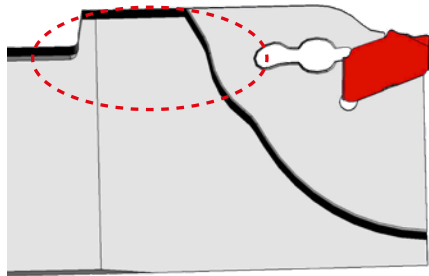
A scale is marked on the blade to facilitate the correct overhang length. If the arrow on the blade falls within the band marked on the tool block, through coolant is possible. The blade can be used with both external or through coolant.



GW MONOBLOCK HOLDER

HIGH-RIGIDITY HOLDER

Tool deflection caused by cutting resistance and the remaining pip in the centre of the workpiece after cutting are greatly reduced.

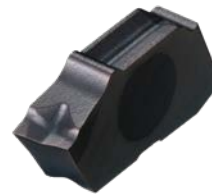


NEW LOW RESISTANCE AND HIGH LEAD ANGLE INSERT

New inserts with a lead angle of 8° have been added to the range to reduce burrs and the size of the remaining pip in the centre of the workpiece after cutting.



Lead angle 5°

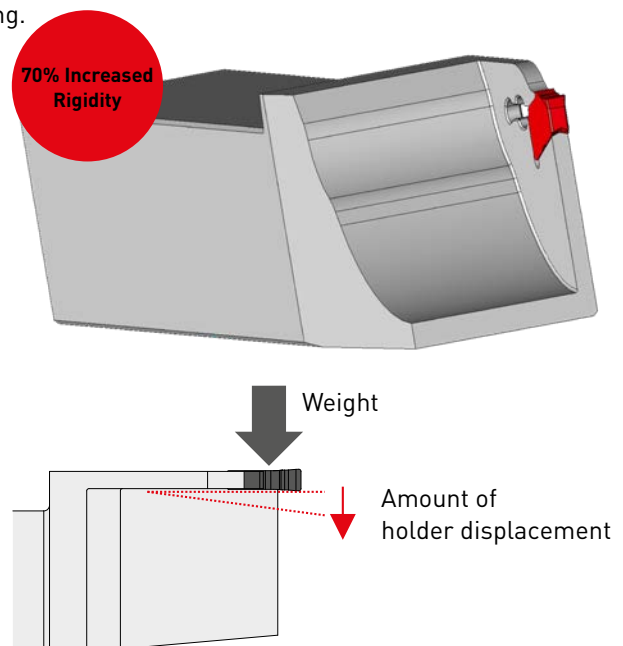
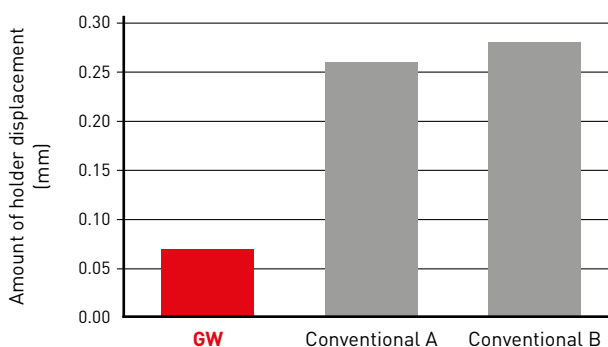


Lead angle 8°

CUTTING PERFORMANCE

TOOL HOLDER DEFLECTION COMPARISON

The high rigidity reduces chatter and vibration thereby improving component surface finishes and also reduces the size of the remaining centre pip of the workpiece after cutting.



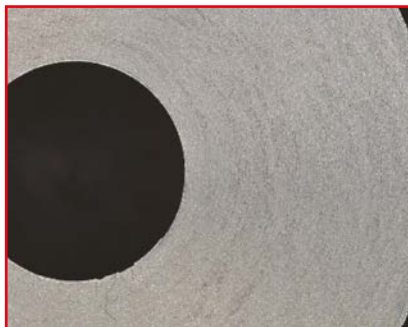
GW MONOBLOCK HOLDER

CUTTING PERFORMANCE

HIGH LEAD ANGLE EFFECT WHEN CUTTING OFF: JIS SUS304

The high-rigidity holder suppresses chatter, vibration and tool deflection, thereby improving the finished surface.

GW



Lead angle 8° – Rz 7.9 μm

Conventional



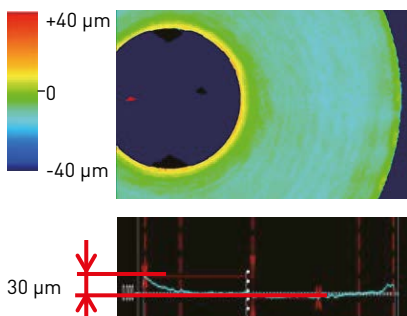
Lead angle 6° – Rz 11.3 μm

Cutting performance

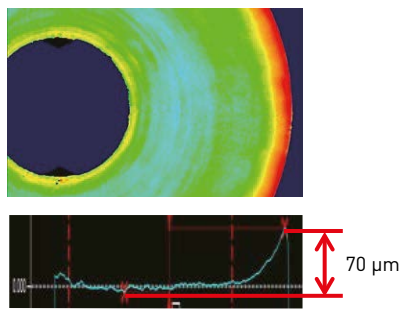
Material	SUS304 ø 38 mm
CW (mm)	2
Vc (m/min)	120
f (mm/rev)	0.11
Coolant	Wet cutting

HIGH ACCURACY WITH THE SAME LEAD ANGLE WHEN CUTTING OFF: JIS SUS304

GW



Conventional

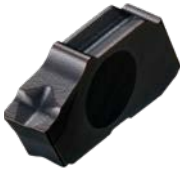
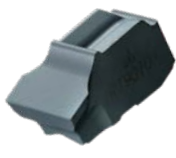


Cutting performance

Material	SUS304 ø 38 mm
CW (mm)	2
Vc (m/min)	120
f (mm/rev)	0.11
Coolant	Wet cutting

CHIPBREAKER

BREAKER SYSTEM OFFERING EXCELLENT CHIP DISPOSAL PROPERTIES

GS Breaker			GM Breaker		
Low feeds			Medium feeds		
					
Neutral	Right hand 5°	Right hand 8°	Neutral	Right hand 5° / Left hand 5°	Blank insert for special profile by customer

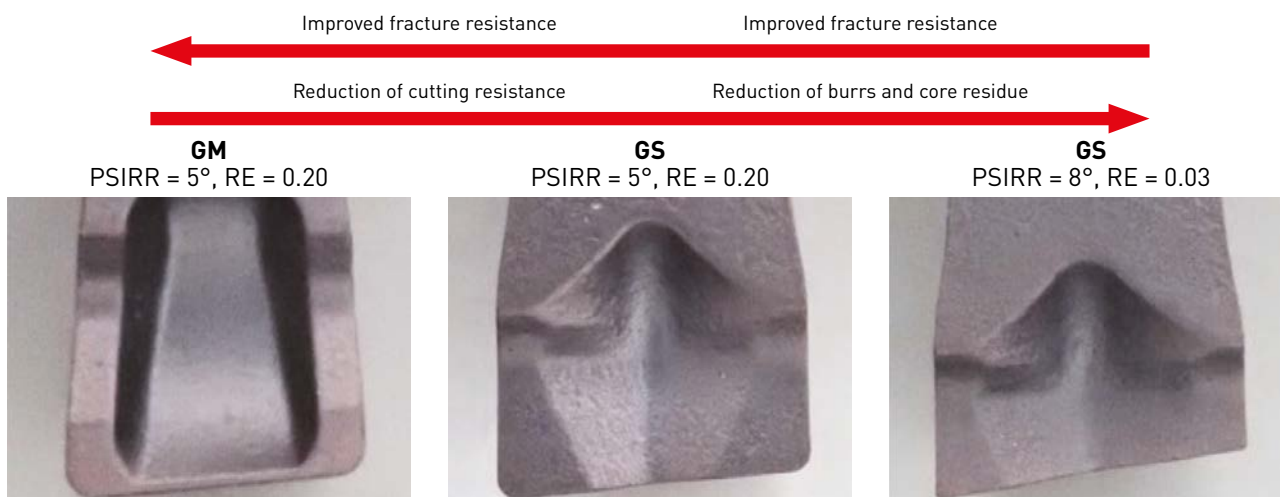
INSERT GRADES

Cutting conditions: ●: Stable cutting ●: General cutting ✖: Unstable cutting

P		M		K		S	
MY5015	●		●	MY5015	●	VP10RT RT9010	●
VP10RT RT9010		VP10RT RT9010		VP10RT RT9010		VP20RT RT9020	●
VP20RT RT9020	●	VP20RT RT9020	●	VP20RT RT9020	●	VP20RT RT9020	●
VP30RT	✖	VP30RT	✖		✖		✖

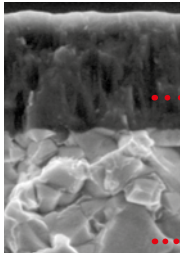
PROPER USE OF GW SERIES RIGHT HAND INSERTS

1st Recommendation



INSERT GRADES

VP10RT

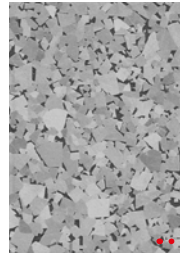


PVD coated grade with a cemented carbide substrate harder than VP20RT. For use on difficult-to-cut materials and for extending tool life.

MIRACLE coating

Carbide substrate (HRA92.0)

RT9010

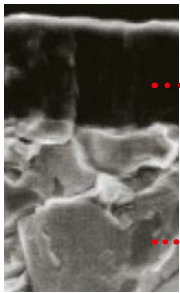


Cemented carbide substrate harder than RT9020 and is ideal for longer tool life on stable cutting applications.

Carbide substrate (HRA92.0)

VP20RT

(1st Recommendation)

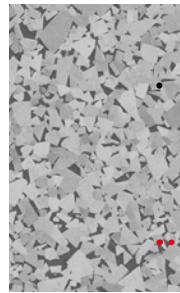


PVD coated grade suitable for a wide range of applications. The combination of a special tough cemented carbide substrate with MIRACLE coating provides an excellent balance of wear and fracture resistance.

MIRACLE coating

Carbide substrate (HRA90.5)

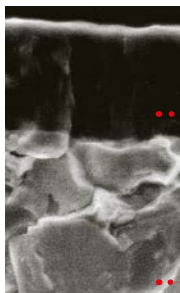
RT9020



Cemented carbide substrate suitable for a wide range of applications. Having an excellent balance of wear and fracture resistance.

Carbide substrate (HRA90.5)

VP30RT

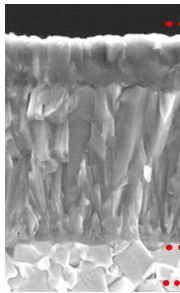


A combination of a tough, special cemented carbide substrate and MIRACLE coating. Ideal for heavy interrupted cutting of stainless and general steels.

MIRACLE coating (Al,Ti)N

Carbide substrate

MY5015



CVD coated grade with excellent wear resistance even at high temperatures. Providing longer tool life when machining cast and ductile cast irons. Also suitable for high speed continuous cutting of steels.

CVD coating

Carbide substrate

IDENTIFICATION

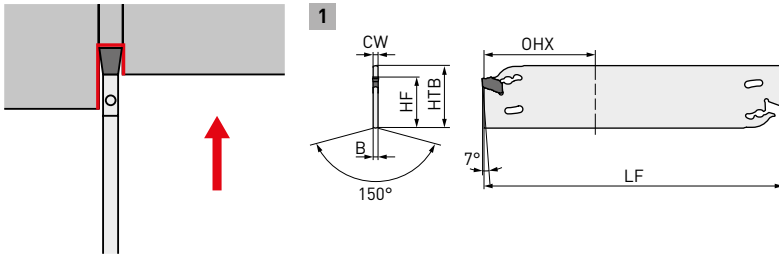
INSERT / BLADE / TOOL BLOCK

INSERT

	GW	1	M	0300	F	030	R	05	—	G	M
Series description	Peripheral		Groove width		Seat size		Hand		Application 1		
	M	Sintered	0200	2.00 mm	D	2.00 mm	N	Neutral	G	Grooving/ Cutting off	
			0300	3.00 mm	F	3.00 mm	R	Right			
			0400	4.00 mm	G	4.00 mm	L	Left			
			0500	5.00 mm	H	5.00 mm					
Number of cutting edges											
	1 Single edge type										
					Corner radius		Handed angle		Application 2		
					010 0.10 mm		05 5°		S Low feeds		
					:		08 8°		M Medium feeds		
					040 0.40 mm						

GW BLADE

FOR EXTERNAL CUTTING OFF / GROOVING



Simple insert clamping method offering high rigidity.
Possible to use with both external or through coolant.
Groove depth CW 2.0–5.0 mm.

WITHOUT COOLANT HOLE

Order number	Seat size	CW	CUTDIA* ¹	Stock	OHN* ²	OHX* ³	B	LF	HTB	HF	Fig.	Insert type	Wrench	Tool block type
GWB26NA2-D36	D	2.00	72	●	16	36	1.55	110	26	21.4	1	GW1M0200D	GWY39L	GWTBN-B26
GWB32NA2-D60			120	●	16	60	1.55	150	32	25	1	GW1M0200D	GWY39L	GWTBN-B32
GWB26NA2-D36	D	3.24	72	●								GW1B0320D020N	GWY39L	GWTBN-B26
GWB32NA2-D60			120	●								GW1B0320D020N	GWY39L	GWTBN-B32
GWB26NA2-F36	F	3.00	72	●	16	36	2.45	110	26	21.4	1	GW1M0300F	GWY39L	GWTBN-B26
GWB32NA2-F60			120	●	16	60	2.45	150	32	25	1	GW1M0300F	GWY39L	GWTBN-B32
GWB26NA2-F36	F	4.44	72	●								GW1B0440F020N	GWY39L	GWTBN-B26
GWB32NA2-F60			120	●								GW1B0440F020N	GWY39L	GWTBN-B32
GWB26NA2-G36	G	4.00	72	●	19	36	3.35	110	26	21.4	1	GW1M0400G	GWY39L	GWTBN-B26
GWB32NA2-G60			120	●	19	60	3.35	150	32	25	1	GW1M0400G	GWY39L	GWTBN-B32
GWB26NA2-G36	G	5.44	72	●								GW1B0540G020N	GWY39L	GWTBN-B26
GWB32NA2-G60			120	●								GW1B0540G020N	GWY39L	GWTBN-B32
GWB26NA2-H36	H	5.00	72	●	19	36	4.25	110	26	21.4	1	GW1M0500H	GWY39L	GWTBN-B26
GWB32NA2-H60			120	●	19	60	4.25	150	32	25	1	GW1M0500H	GWY39L	GWTBN-B32
GWB26NA2-H36	H	6.44	72	●								GW1B0640H020N	GWY39L	GWTBN-B26
GWB32NA2-H60			120	●								GW1B0640H020N	GWY39L	GWTBN-B32

Recommended maximum coolant pressure 7 MPa.

CUTDIA: Maximum cut off diameter

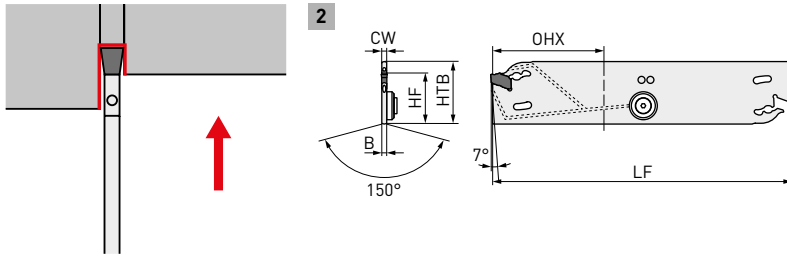
OHN: Minimum overhang length

OHX: Maximum overhang length

GW BLADE



FOR EXTERNAL CUTTING OFF / GROOVING



Simple insert clamping method offering high rigidity.
Possible to use with both external or through coolant.
Groove depth CW 2.0–5.0 mm.

WITH COOLANT HOLE

Order number	Seat size	CW	CUTDIA* ¹	Stock	OHN* ²	OHX* ³	B	LF	HTB	HF	Fig.	Insert type	Wrench	Tool block type
GWB26NA2-D36-C	D	2.00	72	●	16	36	1.55	110	26	21.4	2	GW1M0200D	GWY39L	GWTBN-B26-C
GWB32NA2-D60-C	D	2.00	120	●	26	60	1.55	150	32	25	2	GW1M0200D	GWY39L	GWTBN-B32-C
GWB26NA2-D36-C	D	3.24	72	●								GW1B0320D020N	GWY39L	GWTBN-B26-C
GWB32NA2-D60-C	D	3.24	120	●								GW1B0320D020N	GWY39L	GWTBN-B32-C
GWB26NA2-F36-C	F	3.00	72	●	16	36	2.45	110	26	21.4	2	GW1M0300F	GWY39L	GWTBN-B26-C
GWB32NA2-F60-C	F	3.00	120	●	26	60	2.45	150	32	25	2	GW1M0300F	GWY39L	GWTBN-B32-C
GWB26NA2-F36-C	F	4.44	72	●								GW1B0440F020N	GWY39L	GWTBN-B26-C
GWB32NA2-F60-C	F	4.44	120	●								GW1B0440F020N	GWY39L	GWTBN-B32-C
GWB26NA2-G36-C	G	4.00	72	●	19	36	3.35	110	26	21.4	2	GW1M0400G	GWY39L	GWTBN-B26-C
GWB32NA2-G60-C	G	4.00	120	●	26	60	3.35	150	32	25	2	GW1M0400G	GWY39L	GWTBN-B32-C
GWB26NA2-G36-C	G	5.44	72	●								GW1B0540G020N	GWY39L	GWTBN-B26-C
GWB32NA2-G60-C	G	5.44	120	●								GW1B0540G020N	GWY39L	GWTBN-B32-C
GWB26NA2-H36-C	H	5.00	72	●	19	36	4.25	110	26	21.4	2	GW1M0500H	GWY39L	GWTBN-B26-C
GWB32NA2-H60-C	H	5.00	120	●	26	60	4.25	150	32	25	2	GW1M0500H	GWY39L	GWTBN-B32-C
GWB26NA2-H36-C	H	6.44	72	●								GW1B0640H020N	GWY39L	GWTBN-B26-C
GWB32NA2-H60-C	H	6.44	120	●								GW1B0640H020N	GWY39L	GWTBN-B32-C

Recommended maximum coolant pressure 7 MPa.

CUTDIA: Maximum cut off diameter

OHN: Minimum overhang length

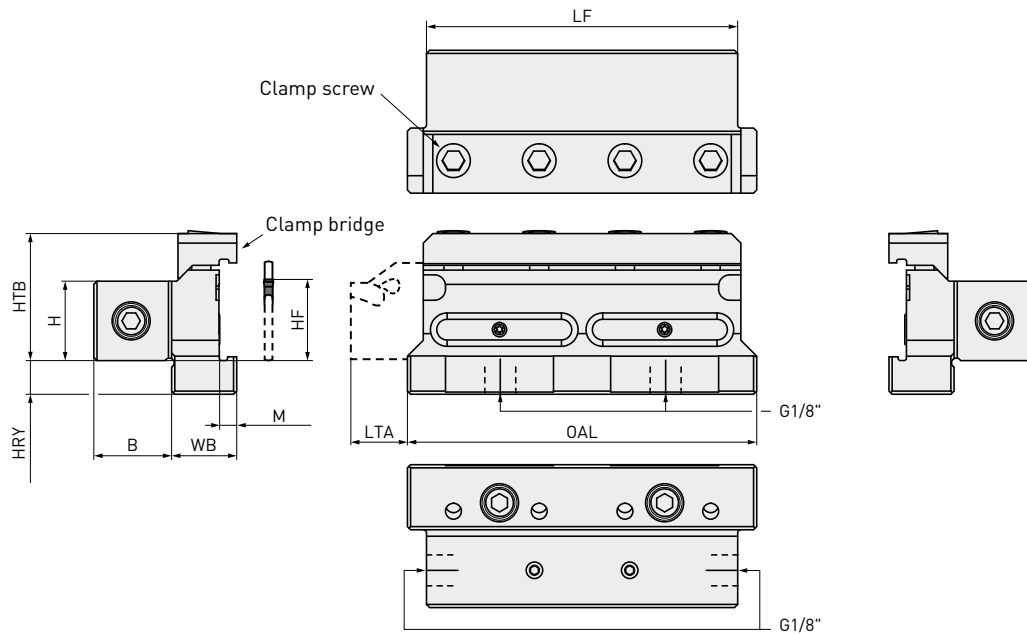
OHX: Maximum overhang length



SPARE PARTS FOR BLADES WITH COOLANT HOLE

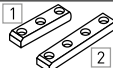
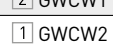
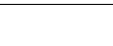
Order number	CW	Washer	Clamp screw	Plug wrench
GWB26NA2-D36-C	2.0	1 GWW04038		
GWB32NA2-D60-C	2.0	1 GWW04038		
GWB26NA2-F36-C	3.0	1 GWW04038		
GWB32NA2-F60-C	3.0	1 GWW04038		
GWB26NA2-G36-C	4.0	2 GWW04026	GW04005F	HKY20R
GWB32NA2-G60-C	4.0	2 GWW04026		
GWB26NA2-H36-C	5.0	2 GWW04026		
GWB32NA2-H60-C	5.0	2 GWW04026		

TOOL BLOCK



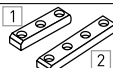
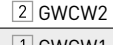
Tool block with coolant hole shown.

WITHOUT COOLANT HOLE

Order number	Stock	H	HF	HTB	HRY	B	WB	M	LF	OAL			
											Clamp bridge	Clamp screw	Wrench
GWTBN2020-B26	★	20	20	33.5	11	19.5	20.0	5.0	75	85		HSC06020	HKY50R
GWTBN2020-B32	★	20	20	35.0	15.6	19.5	20.5	5.5	100	110			
GWTBN2525-B26	★	25	25	38.5	6	24.5	20.0	5.0	75	85			
GWTBN2525-B32	★	25	25	40.0	10.6	24.5	20.5	5.5	100	110			

17 

WITH COOLANT HOLE

Order number	Stock	H	HF	HTB	HRY	B	WB	M	LF	OAL			
											Clamp bridge	Clamp screw	Wrench
GWTBN2020-B26-C	●	20	20	33.5	11	19.5	20.0	5.0	75	85		HSC06020	HKY50R
GWTBN2020-B32-C	●	20	20	35.0	15.6	19.5	20.5	5.5	100	110			
GWTBN2525-B26-C	●	25	25	38.5	6	24.5	20.0	5.0	75	85			
GWTBN2525-B32-C	●	25	25	40.0	10.6	24.5	20.5	5.5	100	110			

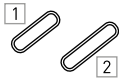
Recommended maximum coolant pressure 7 MPa
Clamp torque (N • m): HSC06020 = 7.0

17 

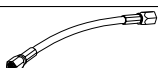
TOOL BLOCK

SPARE PARTS

FOR TOOL BLOCK WITH COOLANT HOLE

Order number						
	O-ring	Plug	Plug	Wrench	Plug	Wrench
GWTBN2020-B26-C	1 ORGW332N9					
GWTBN2020-B32-C	2 ORGW457N9					
GWTBN2525-B26-C	1 ORGW332N9	HGJ-PT1/8	HSD05004S	HKY25R	CS300590T	TKY08R
GWTBN2525-B32-C	2 ORGW457N9					

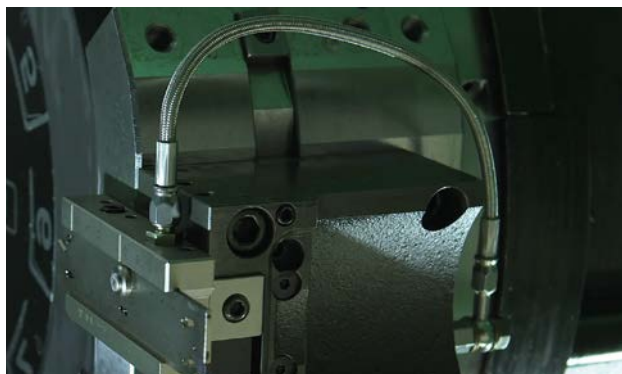
COOLANT HOSE KIT

Order number			Kit details									
												
Stock	Hose length	Hose	Banjo adapter		Banjo bolt		Adapter		Washer			
		Code No.	Code No.	Qty.	Code No.	Qty.	Code No.	Qty.	Code No.	Qty.		
STRAIGHT												
CS-1/8-150SS	●	150	HOSE-1/8-150	-	-	-	-	AD-G1/8	2	WA-M10	2	
CS-1/8-200SS	●	200	HOSE-1/8-200	-	-	-	-	AD-G1/8	2	WA-M10	2	
CS-1/8-250SS	●	250	HOSE-1/8-250	-	-	-	-	AD-G1/8	2	WA-M10	2	
CS-1/8-300SS	●	300	HOSE-1/8-300	-	-	-	-	AD-G1/8	2	WA-M10	2	
ELBOW STRAIGHT												
CS-1/8-150BS	●	150	HOSE-1/8-150	AD-BM10	1	BB-G1/8	1	AD-G1/8	1	WA-M10	3	
CS-1/8-200BS	●	200	HOSE-1/8-200	AD-BM10	1	BB-G1/8	1	AD-G1/8	1	WA-M10	3	
CS-1/8-250BS	●	250	HOSE-1/8-250	AD-BM10	1	BB-G1/8	1	AD-G1/8	1	WA-M10	3	
CS-1/8-300BS	●	300	HOSE-1/8-300	AD-BM10	1	BB-G1/8	1	AD-G1/8	1	WA-M10	3	
ELBOW												
CS-1/8-150BB	●	150	HOSE-1/8-150	AD-BM10	2	BB-G1/8	2	-	-	WA-M10	4	
CS-1/8-200BB	●	200	HOSE-1/8-200	AD-BM10	2	BB-G1/8	2	-	-	WA-M10	4	
CS-1/8-250BB	●	250	HOSE-1/8-250	AD-BM10	2	BB-G1/8	2	-	-	WA-M10	4	
CS-1/8-300BB	●	300	HOSE-1/8-300	AD-BM10	2	BB-G1/8	2	-	-	WA-M10	4	

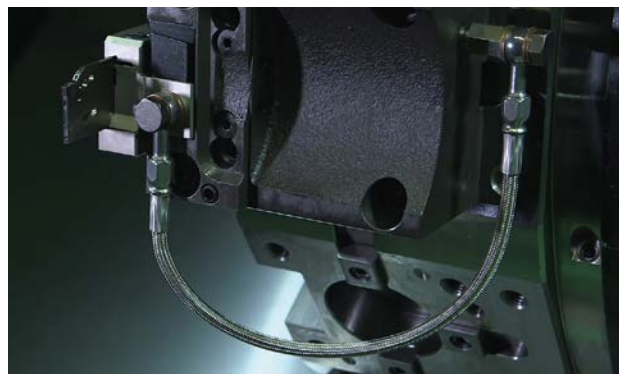
Connection screw size = G1/8"

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MOUNTING EXAMPLE



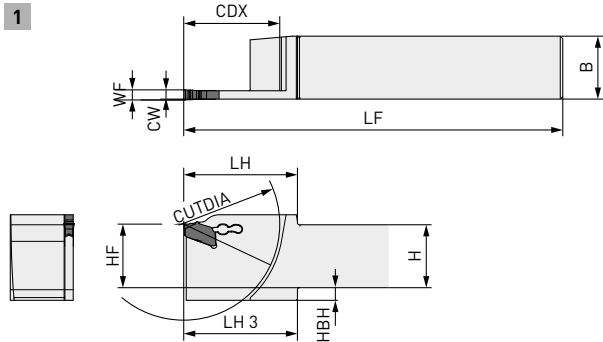
Straight type



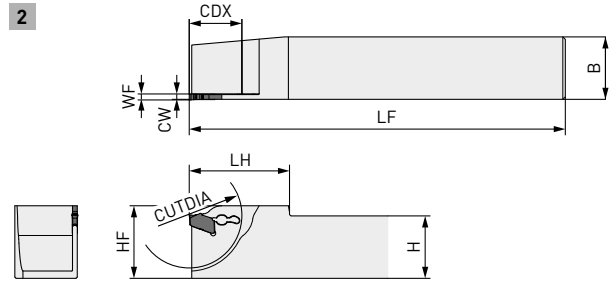
Elbow type

GW MONOBLOCK HOLDER

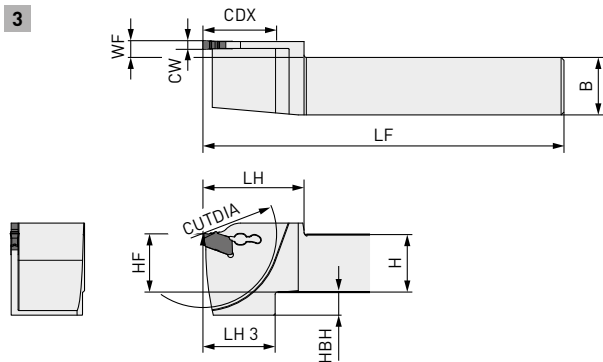
EXTERNAL FOR SWISS STYLE LATHES



Right hand tool holder shown.



Right hand tool holder shown.



Left hand tool holder shown.

SPARE PARTS



Wrench

GWY39L

Order number	Stock	Seat size	CW	CDX	CUTDIA	Hand	H	B	LF	LH	LH3	HF	WF	HBH	Type
GWSR1616JX00-D38	●	D	2.00	19	38	R	16	16	120	30	30	16	0.3	6	1
GWSL1616JX00-D38	●					L	16	16	120	30	30	16	0.3	6	1
GWSR1915K00-D38	★					R	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSL1915K00-D38	★					L	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSR2020K00-D42	●			21	42	R	20	20	125	35	25	20	0.3	4	1
GWSL2020K00-D42	●					L	20	20	125	35	25	20	0.3	4	1
GWSR2012K00-D42	●					R	20	12	125	35	25	20	0.3	4	1
GWSL2012K00-D42	★					L	20	12	125	35	25	20	0.3	4	1
GWSR2525M00-D42	●					R	25	25	150	40	—	25	0.3	—	2
GWSL2525M00-D42	●					L	25	25	150	40	—	25	0.3	—	2
GWSR1915K00-E38	★	E	2.39	19	38	R	19.05	15.875	125	35	35	19.05	0.2	3	1
GWSL1915K00-E38	★					L	19.05	15.875	125	35	35	19.05	0.2	3	1
GWSR2020K00-E42	●					R	20	20	125	35	25	20	0.2	4	1
GWSL2020K00-E42	●					L	20	20	125	35	25	20	0.2	4	1
GWSL2020K00-E42-M	★					L	20	20	125	35	25	20	5.7	8	3
GWSR2012K00-E42	●			21	42	R	20	12	125	35	25	20	0.2	4	1
GWSL2012K00-E42	★					L	20	12	125	35	25	20	0.2	4	1
GWSR2525M00-E42	●					R	25	25	150	40	—	25	0.2	—	2
GWSL2525M00-E42	●					L	25	25	150	40	—	25	0.2	—	2

EXTERNAL FOR SWISS TYPE LATHES

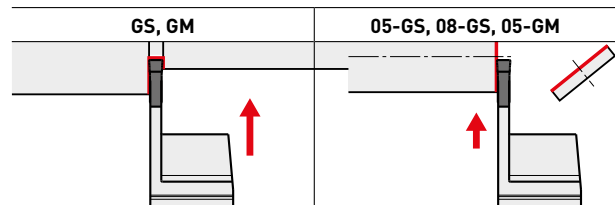
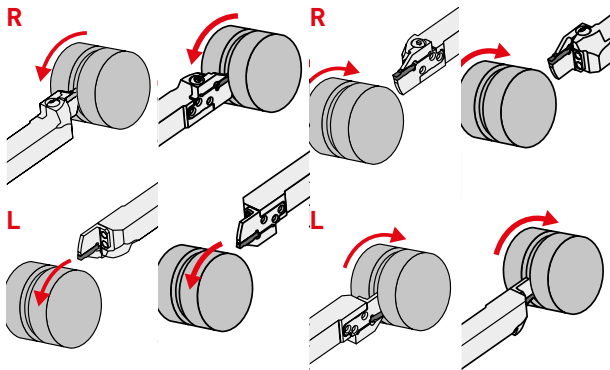
Order number	Stock	Seat size	CW	CDX	CUTDIA	Hand	H	B	LF	LH	LH3	HF	WF	HBH	Type
GWSR1915K00-F38	★	F	3.00	19	38	R	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSL1915K00-F38	★					L	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSR2012K00-F42	●			21	42	R	20	12	125	35	25	20	0.3	4	1
GWSL2012K00-F42	★					L	20	12	125	35	25	20	0.3	4	1
GWSR2020K00-F42	●			21	42	R	20	20	125	35	25	20	0.3	4	1
GWSL2020K00-F42	●					L	20	20	125	35	25	20	0.3	4	1
GWSL2020K00-F42-M	★			21	42	L	20	20	125	35	25	20	5.8	8	3
GWSR2020K00-F51	●			25.5	51	R	20	20	125	35	25	20	0.3	8	1
GWSL2020K00-F51	●					L	20	20	125	35	25	20	0.3	8	1
GWSL2020K00-F51-M	★			25.5	51	L	20	20	125	35	25	20	5.8	8	3
GWSR2525M00-F51	●			25.5	51	R	25	25	150	40	40	25	0.3	3	1
GWSL2525M00-F51	●					L	25	25	150	40	40	25	0.3	3	1
GWSR2020M00-F65	●			32.5	65	R	20	20	150	40	33	20	0.3	10	1
GWSL2020M00-F65	●					L	20	20	150	40	33	20	0.3	10	1
GWSR2525M00-F76	★			38	76	R	25	25	150	45	45	25	0.3	5	1
GWSL2525M00-F76	★					L	25	25	150	45	45	25	0.3	5	1
GWSR2525M00-G76	★	G	4.00	38	76	R	25	25	150	45	45	25	0.4	5	1
GWSL2525M00-G76	★					L	25	25	150	45	45	25	0.4	5	1

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CUTTING MODE

Clockwise

Anticlockwise



A WIDE SELECTION OF INSERTS

Seat size	Inserts
D	GW1M0200D
E	GW1M0239E
F	GW1M0300F
G	GW1M0400G

FOR GROOVING/CUTTING OFF BREAKER

Seat size	CW	GS Low feeds	GM Medium feeds	05-GS Low feeds	08-GS Low feeds	05-GM Cutting off
		neutral	neutral	with hand	with hand	with hand
D	2.00	●	●	●	●	●
E	2.39	●	●	●	●	●
F	3.00	●	●	●	●	●
G	4.00	●	●			●

●: Standard insert with dimensions

INSERTS



Order number	RT9010	RT9020	MY5015	VP10RT	VP20RT	VP30RT	CW		REL	RER	PSIRR	Geometry
							Width of cutting edge	Tolerance				
GROOVING / CUTTING OFF												
GW1M0200D020N-GS				●	●	●	2.00	±0.03	0.2	0.2	-	
GW1M0239E020N-GS				●	●	●	2.39	±0.03	0.2	0.2	-	
GW1M0300F020N-GS				●	●	●	3.00	±0.03	0.2	0.2	-	
GW1M0400G020N-GS				●	●	●	4.00	±0.04	0.2	0.2	-	
GW1M0500H030N-GS				●	●	●	5.00	±0.04	0.3	0.3	-	
GW1M0200D020N-GM			●	●	●	●	2.00	±0.03	0.2	0.2	-	
GW1M0239E020N-GM			●	●	●	●	2.39	±0.03	0.2	0.2	-	
GW1M0300F030N-GM			●	●	●	●	3.00	±0.03	0.3	0.3	-	
GW1M0400G030N-GM			●	●	●	●	4.00	±0.04	0.3	0.3	-	
GW1M0500H040N-GM			●	●	●	●	5.00	±0.04	0.4	0.4	-	
CUTTING OFF												
GW1M0200D020R05-GS				★	★	★	2.00	±0.03	0.2	0.2	5	
GW1M0239E020R05-GS				●	●	★	2.39	±0.03	0.2	0.2	5	
GW1M0300F020R05-GS				★	★	★	3.00	±0.03	0.2	0.2	5	
GW1M0200D003R08-GS				★	★	★	2.00	±0.03	0.03	0.03	8	
GW1M0239E003R08-GS				★	★	★	2.39	±0.03	0.03	0.03	8	
GW1M0300F003R08-GS				★	★	★	3.00	±0.03	0.03	0.03	8	
GW1M0200D020R05-GM			●	●	●	●	2.00	±0.03	0.2	0.2	5	
GW1M0200D020L05-GM			●	●	●	●	2.00	±0.03	0.2	0.2	5	
GW1M0239E020R05-GM			●	●	★	●	2.39	±0.03	0.2	0.2	5	
GW1M0239E020L05-GM			●	●	★	●	2.39	±0.03	0.2	0.2	5	
GW1M0300F030R05-GM			●	●	●	●	3.00	±0.03	0.3	0.3	5	
GW1M0300F030L05-GM			●	●	●	●	3.00	±0.03	0.3	0.3	5	
GW1M0400G030R05-GM			●	●	●	●	4.00	±0.04	0.3	0.3	5	
GW1M0400G030L05-GM			●	●	●	●	4.00	±0.04	0.3	0.3	5	
GW1M0500H040R05-GM			●	●	●	●	5.00	±0.04	0.4	0.4	5	
GW1M0500H040L05-GM			●	●	●	●	5.00	±0.04	0.4	0.4	5	Right hand insert shown.
RAW BLANK												
GW1B0320D020N	★	★					3.24	±0.10	0.2	0.2	-	
GW1B0440F020N	★	★					4.44	±0.10	0.2	0.2	-	
GW1B0540G020N	★	★					5.44	±0.10	0.2	0.2	-	
GW1B0640H020N	★	★					6.44	±0.10	0.2	0.2	-	

[10 inserts in one case]

Blank inserts to be ground by customer.

GW

RECOMMENDED CUTTING CONDITIONS

CUTTING SPEED

Material	Properties	Grade	Vc		
P	Mild steel	<160HB	VP20RT/RT9020	100 – 240	
			VP10RT/RT9010	110 – 250	
	Carbon steel Alloy steel	160 – 280HB		VP20RT/RT9020	80 – 200
				VP10RT/RT9010	90 – 210
				VP30RT	60 – 180
				MY5015	110 – 250
		>280HB		VP20RT/RT9020	60 – 160
				VP10RT/RT9010	70 – 170
				VP30RT	40 – 140
				MY5015	90 – 210
M	Stainless steel	<270HB		VP20RT/RT9020	60 – 180
				VP10RT/RT9010	70 – 190
				VP30RT	40 – 160
			K	Gray cast iron	Tensile strength <300MPa
	VP10RT/RT9010	90 – 210			
	MY5015	140 – 300			
Ductile cast iron	Tensile strength <800MPa			VP20RT/RT9020	60 – 160
				VP10RT/RT9010	70 – 170
				MY5015	90 – 210
S	Heat resistant alloy	—		VP20RT/RT9020	30 – 60
	Titanium alloy			VP10RT/RT9010	40 – 70

VP20RT is the first recommended grade for general materials.
For VP10RT, VP20RT, VP30RT and MY5015, wet cutting is recommended.

FEED PER REVOLUTION

	f			
	Seat size D	Seat size F	Seat size G	Seat size H
GM Breaker	0.09 – 0.16 (0.05 – 0.20)	0.13 – 0.22 (0.07 – 0.26)	0.15 – 0.27 (0.08 – 0.32)	0.17 – 0.30 (0.10 – 0.35)
GS Breaker	0.06 – 0.12 (0.03 – 0.15)	0.09 – 0.16 (0.05 – 0.20)	0.11 – 0.18 (0.06 – 0.22)	0.13 – 0.22 (0.08 – 0.25)

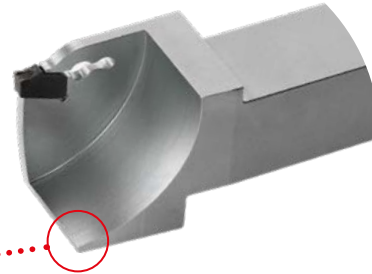
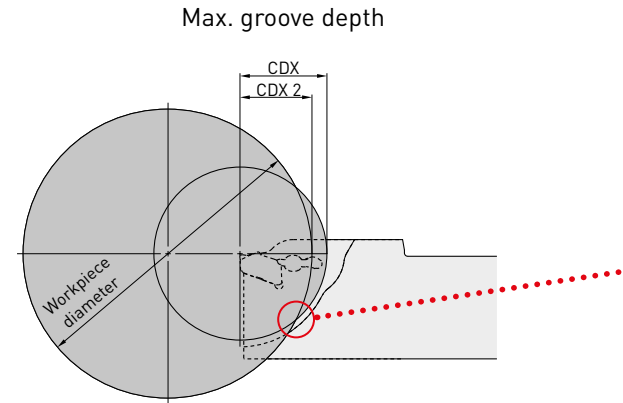
FEED PER REVOLUTION

Chipbreaker	PSIPR	Hand	f			
			Seat size D	Seat size E	Seat size F	Seat size G
R05-GS	5°	R	0.03 – 0.10	0.03 – 0.12	0.03 – 0.14	—
R08-GS	8°	R	0.03 – 0.08	0.03 – 0.09	0.03 – 0.10	—
R05-GM	5°	R/L	0.05 – 0.15	0.06 – 0.17	0.07 – 0.20	0.08 – 0.23

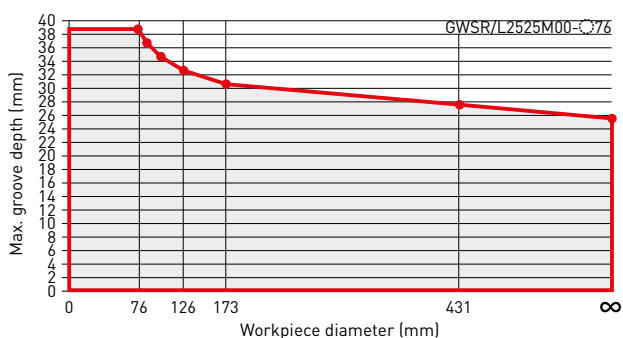
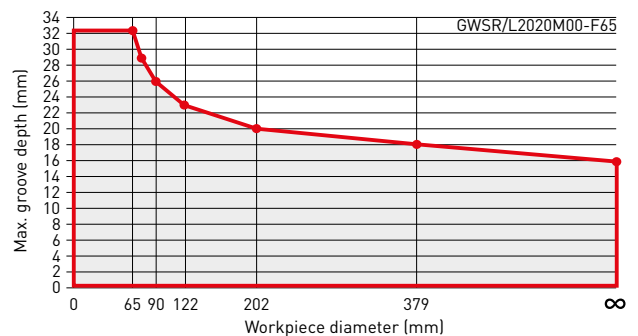
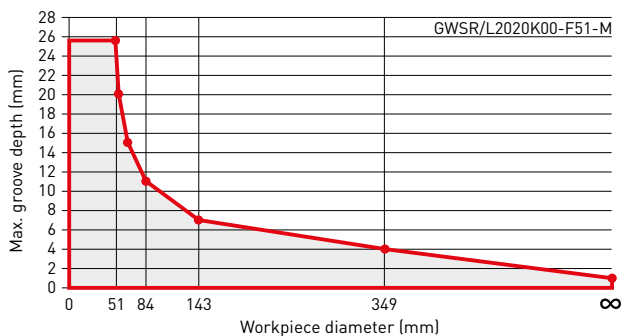
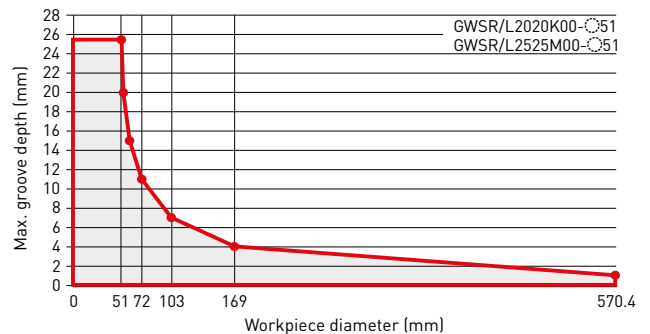
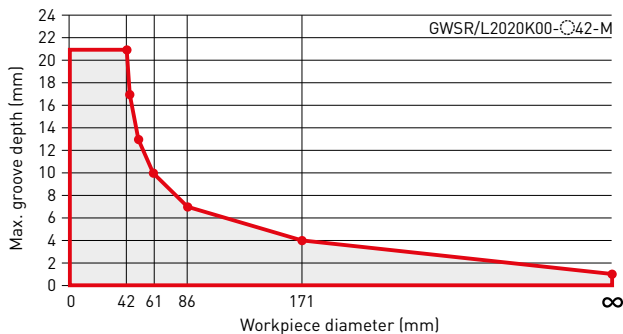
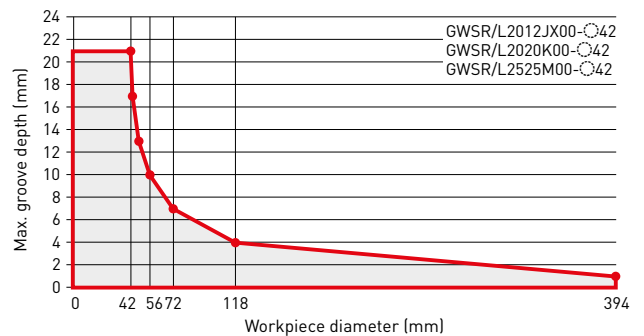
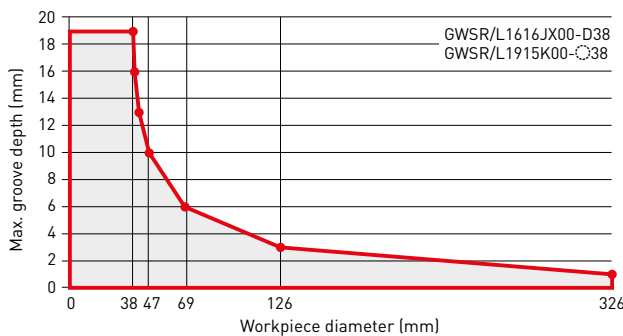
LIMITATION OF THE MAXIMUM GROOVE DEPTH

FOR EXTERNAL GROOVING

- For mono block type holders for Swiss type lathes, the maximum groove depth is limited by the workpiece diameter.



Due to the interference on this part, the maximum groove depth is limited by the workpiece diameter.

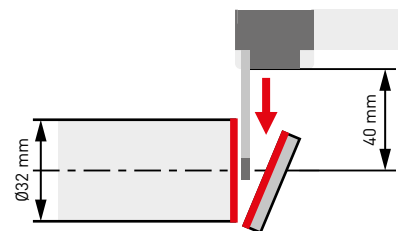


CUTTING PERFORMANCE

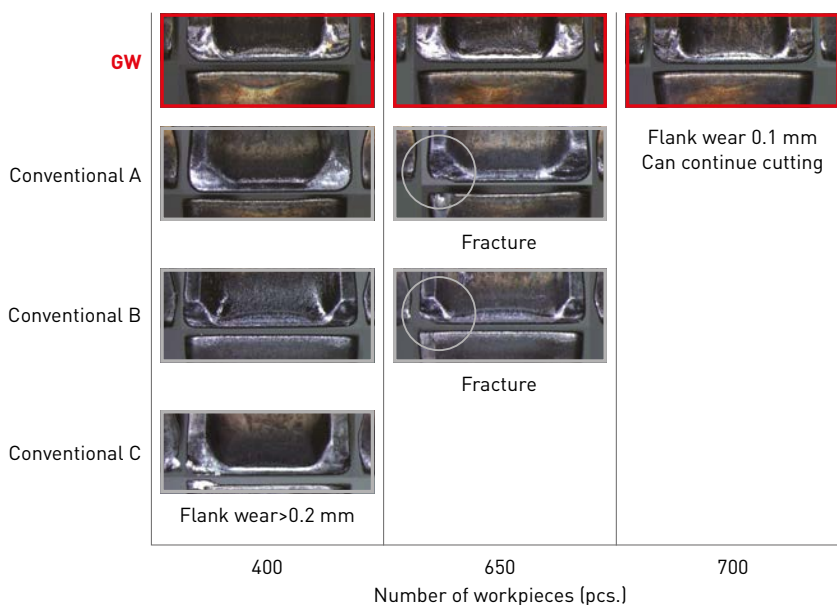
ALLOY STEEL (DIN 41CRM04) CUTTING OFF

No abnormal cutting edge damage, possible to extend tool life.

Material	DIN 41CrMo4
Insert	GW1M0300F030N-GM (MY5015)
CW (mm)	3
Vc (m/min)	170
f (mm/rev)	0.15 (smaller than Ø10 mm = 0.03)
Overhang (mm)	40
Coolant	Internal coolant 1 MPa

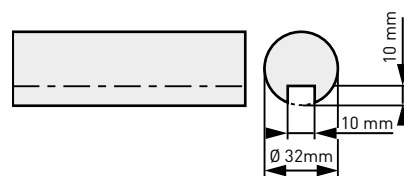


Tool life criteria: Flank wear up to 0.2 mm or fracturing.

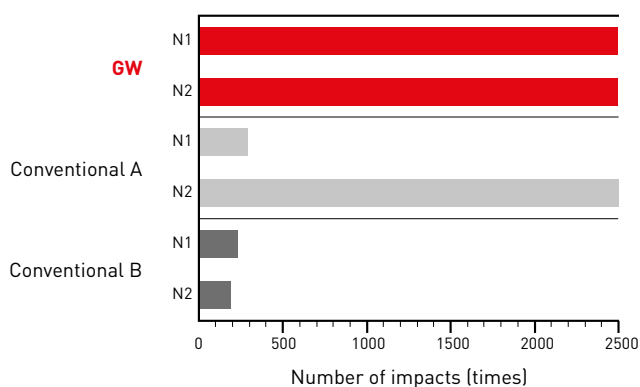


ALLOY STEEL (DIN 41CRM04) INTERRUPTED CUTTING OFF

Material	DIN 41CrMo4
Insert	GW1M0300F030N-GM (VP30RT)
CW (mm)	3
Vc (m/min)	120
f (mm/rev)	0.20 (smaller than Ø10 mm = 0.03)
Overhang (mm)	30
Coolant	Internal coolant 1 MPa



Tool life criteria: Fracture or breakage.



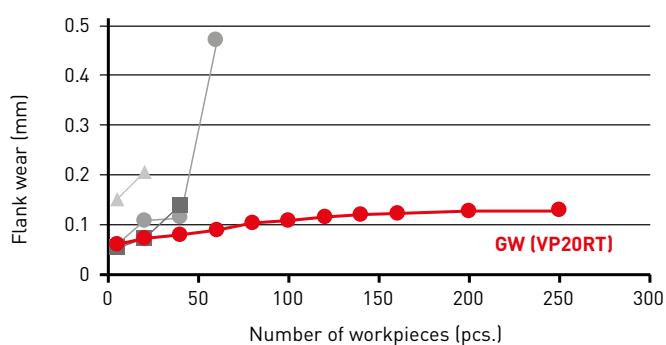
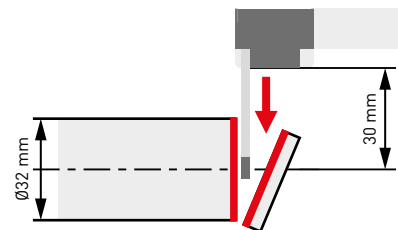
CUTTING PERFORMANCE

STAINLESS STEEL (DIN X5CRNI189) CUTTING OFF

No abnormal cutting edge damage, 4 times longer tool life.

Material	DIN X5CrNi189
Insert	GW1M0300F030N-GM (VP20RT)
CW (mm)	3
Vc (m/min)	180
f (mm/rev)	0.15 (smaller than Ø10 mm = 0.03)
Overhang (mm)	30
Coolant	Internal coolant 1 MPa

Tool life criteria: Flank wear up to 0.2 mm or fracture.



GW



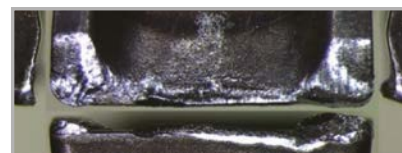
250 pcs.: Normal wear

Conventional A



60 pcs.: Fracture

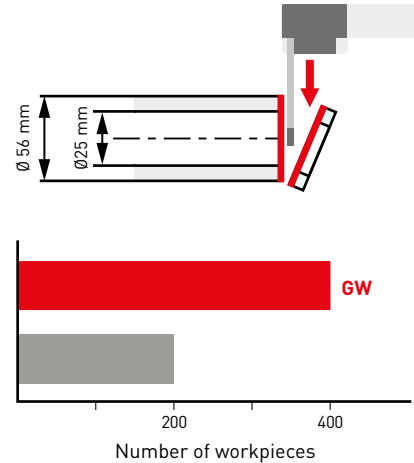
Conventional B



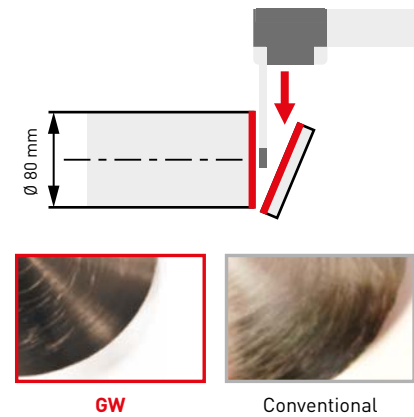
40 pcs.: Fracture

APPLICATION EXAMPLES

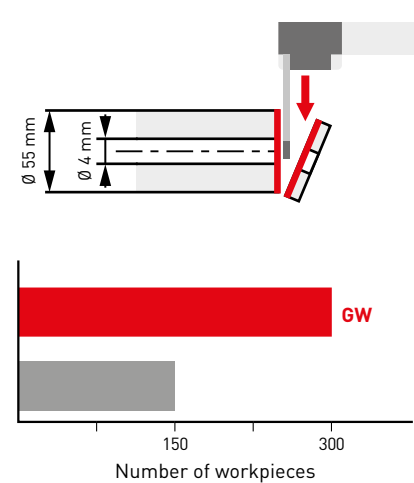
Insert	GW1M0300F030N-GM(VP20RT)
Workpiece	Stainless steel
Component	Machine parts
Vc (m/min)	160
f (mm/rev)	0.1
Cutting method	Cutting off
Coolant	Internal coolant (2 MPa)
Results	Double tool life compared to conventional products. Plus improved tool handling.



Insert	GW1M0300F030N-GM(VP20RT)
Workpiece	Carbon tool steel (AISI W5)
Component	Machine parts
Vc (m/min)	180
f (mm/rev)	0.13
Cutting method	Cutting off
Coolant	Internal coolant (0.5MPa)
Results	A good surface finish was obtained due to the smooth chip evacuation.



Insert	GW1M0300F030N-GM(VP20RT)
Workpiece	Stainless steel (DIN X46Cr13)
Component	Machine parts
Vc (m/min)	110
f (mm/rev)	0.04
Cutting method	Cutting off
Coolant	Internal coolant
Results	Compared to conventional products, double the number of workpieces were machined.



The above application examples are customer's applications, therefore can differ from the recommended conditions.

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EUROPEAN SALES COMPANIES

GERMANY

MITSUBISHI MATERIALS TOOLS EUROPE GMBH
Comeniusstr. 2 . 40670 Meerbusch
Phone +49 2159 91890 . Fax +49 2159 918966
Email admin@mmchg.de

UK Office

MMC HARDMETAL UK LTD
1 Centurion Court, Centurion Way
Tamworth, B77 5PN
Phone +44 1827 312312
Email sales@mitsubishicarbide.co.uk

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MITSUBISHI MATERIALS ESPAÑA, S.A.
Calle Emperador 2 . 46136 Museros/Valencia
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MMC METAL FRANCE S.A.R.L.
6, Rue Jacques Monod . 91400 Orsay
Phone +33 1 69 35 53 53 . Fax +33 1 69 35 53 50
Email mmfsales@mmc-metal-france.fr

POLAND

MMC HARDMETAL POLAND SP. Z O.O
Al. Armii Krajowej 61 . 50-541 Wrocław
Phone +48 71335 1620 . Fax +48 71335 1621
Email sales@mitsubishicarbide.com.pl

ITALY

MMC ITALIA S.R.L.
Viale Certosa 144 . 20156 Milano
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Email info@mmc-italia.it

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