

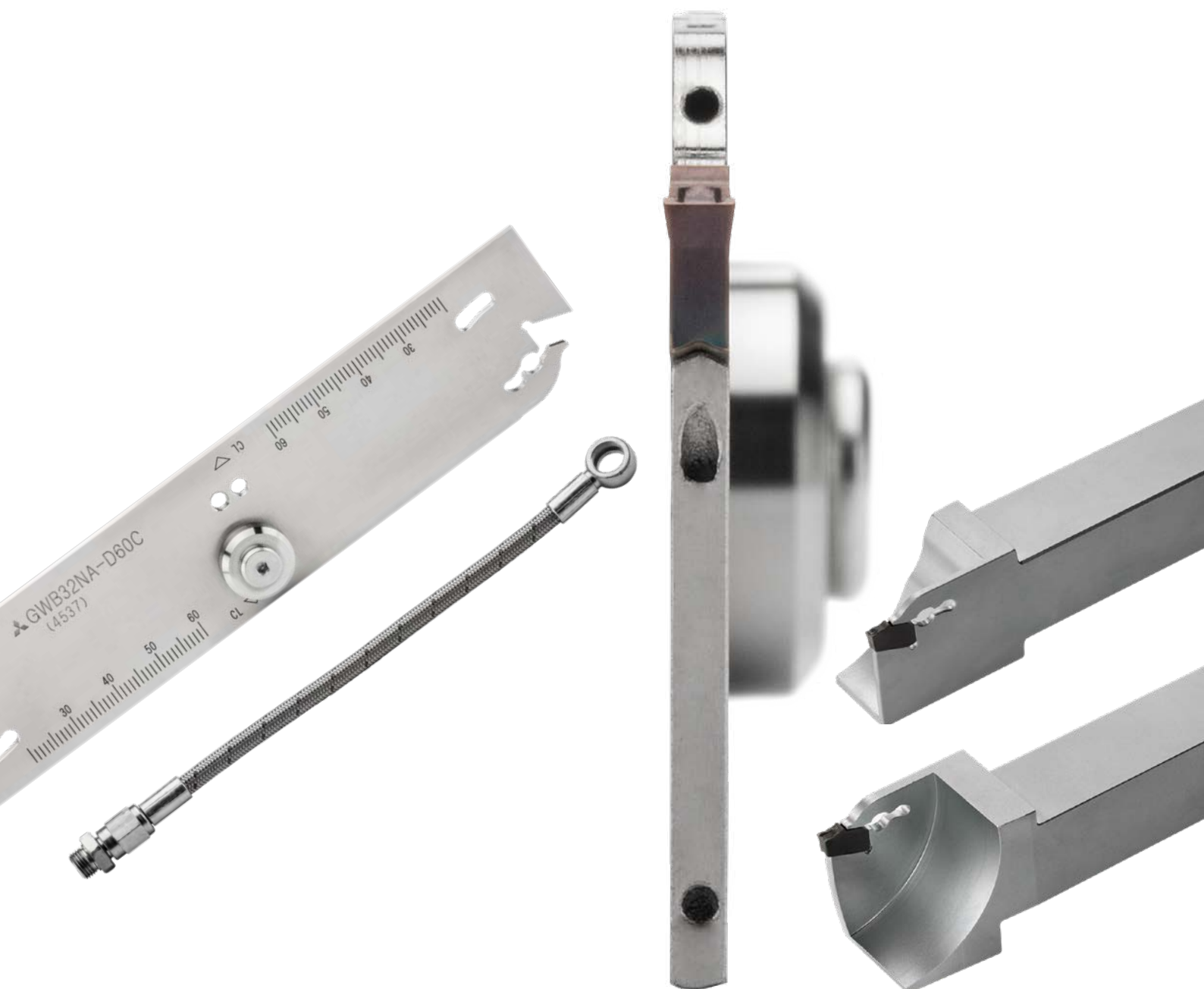
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# GW

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DURABLE & EASY TO USE  
CUTTING OFF & GROOVING SYSTEM

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# GW

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## SIMPLIFIED EFFICIENCY

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### EASY CONFIGURATION THAT IMPROVES INVENTORY CONTROL

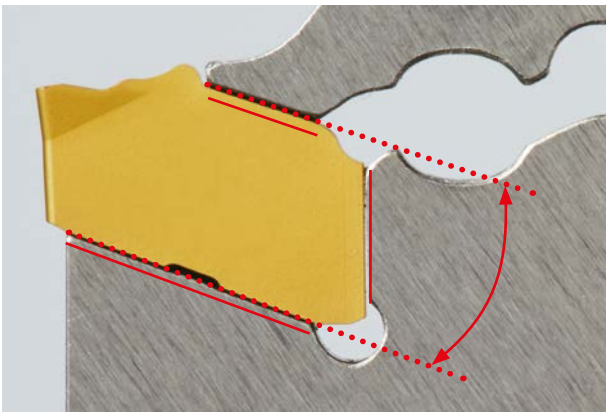
Simple & convenient. Introducing a new type of cutting off & grooving system that maximises usability whilst maintaining performance.

## CLAMPING METHOD

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### 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

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### VOICE OF THE DEVELOPER

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#### EASY INSERT SETTING

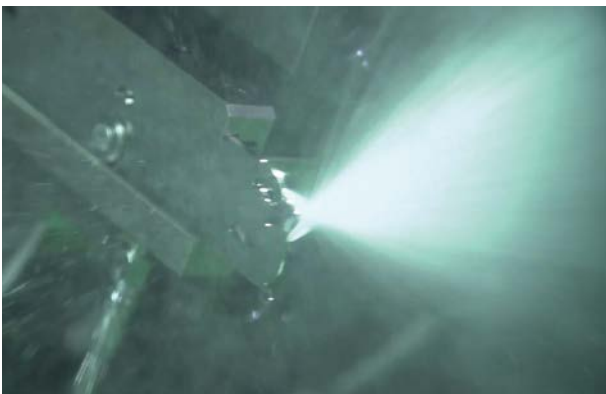
By using the unique wrench, it is possible to remove the insert with one simple action making it easier for everyday use in the workshop.

## THROUGH COOLANT BLADE

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### 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).



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### VOICE OF THE DEVELOPER

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#### REDUCED HEAT GENERATION

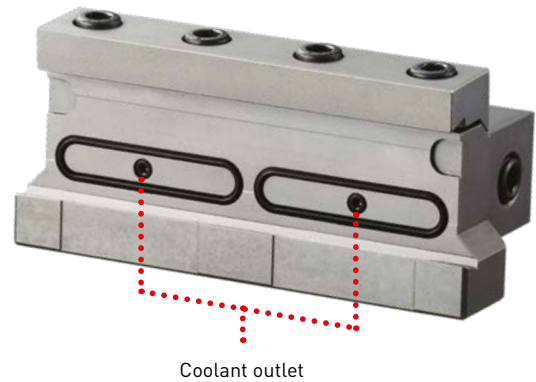
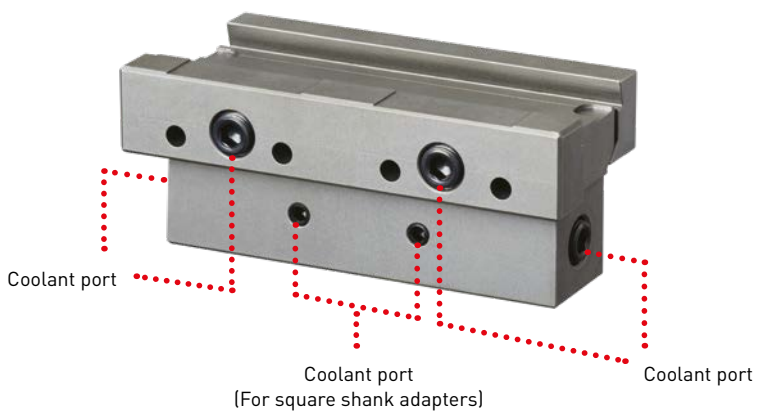
The 2 coolant holes used in the blade are capable of coping with pressures up to 7MPa. This is achieved by using as large as possible hole diameter. The coolant holes are located close to the cutting edge to improve cutting edge cooling and increase wear resistance.



# COOLANT PORTS

## FLEXIBILITY WITH THE USE OF 6 COOLANT PORTS

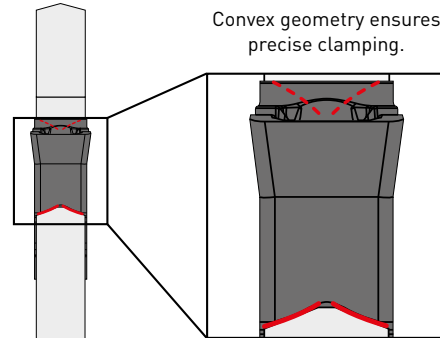
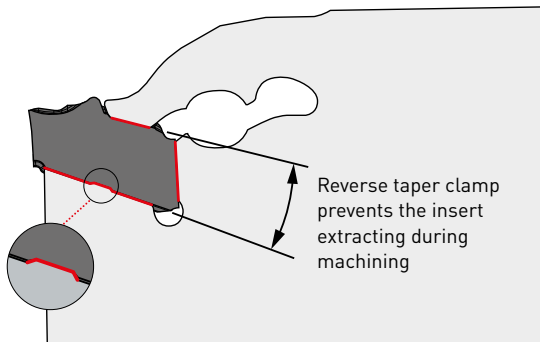
There are 6 coolant ports designed into the tool block, making it easy to set up the block and blade to a suitable configuration. The through coolant holes improve cutting edge cooling and chip evacuation. The use of external coolant hoses is also possible.



# CLAMP MECHANISM

## SIMPLE INSERT CLAMPING METHOD OFFERING HIGH RIGIDITY

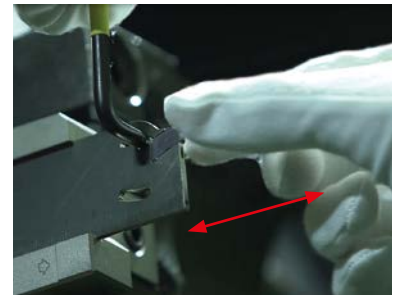
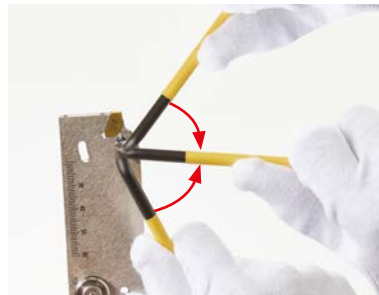
### HIGHLY RELIABLE INSERT CLAMPING



Safety key prevents insert movement.

## EASY INSERT INDEXING

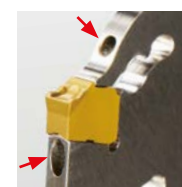
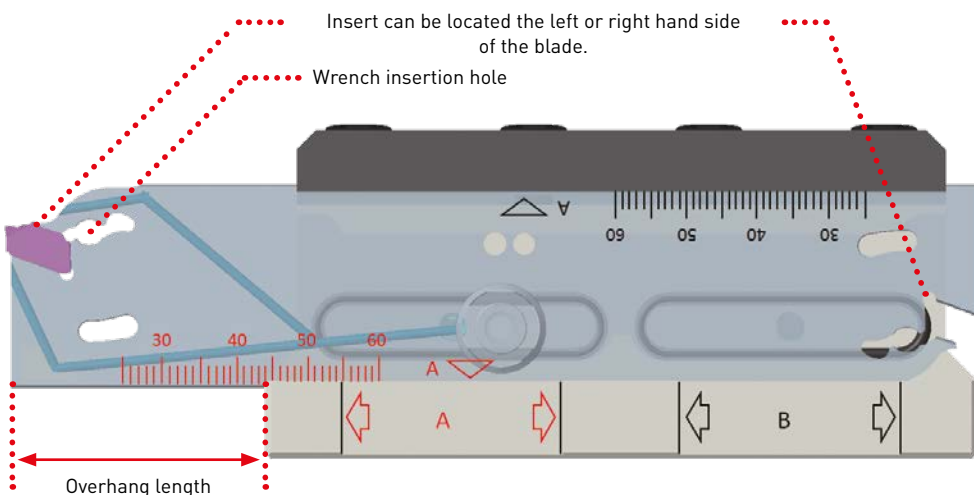
Inserts can be changed easily with a single movement of the wrench.



## INTERNAL COOLANT

### SUITABLE FOR A WIDE VARIETY OF APPLICATIONS

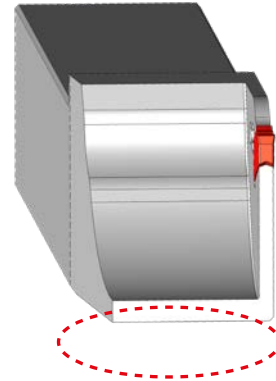
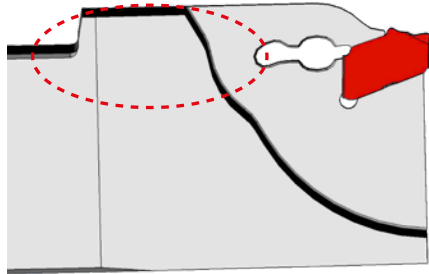
A scale is marked on the blade to facilitate the correct overhang length. If the arrow on the blade falls within the band marked on the tool block, through coolant is possible. The blade can be used with both external or through coolant.



# 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.

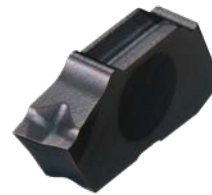


## NEW LOW RESISTANCE AND HIGH LEAD ANGLE INSERT

New inserts with a lead angle of  $8^\circ$  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  $5^\circ$

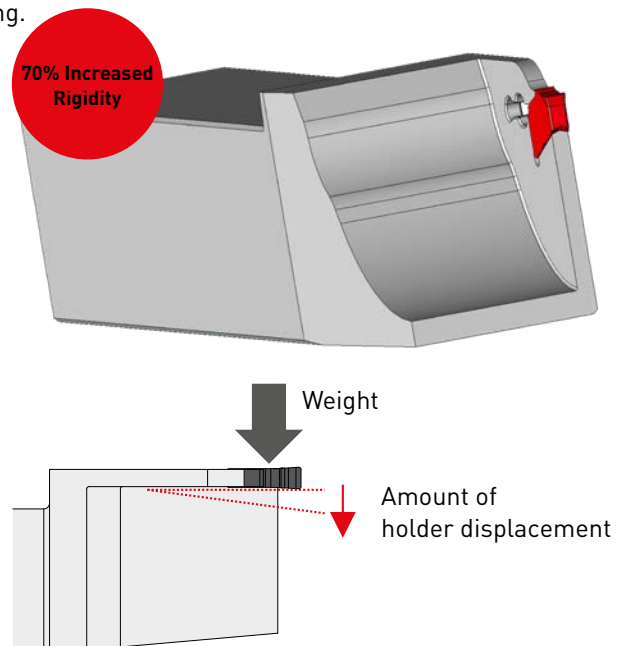
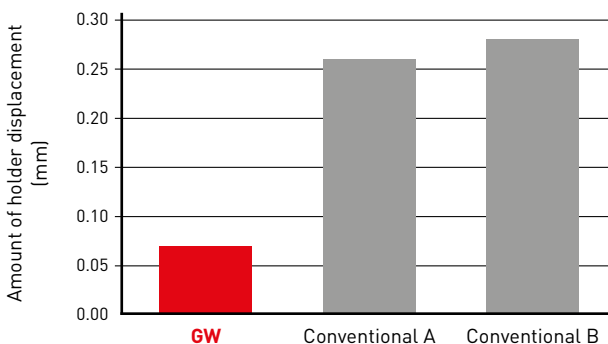


Lead angle  $8^\circ$

## 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.



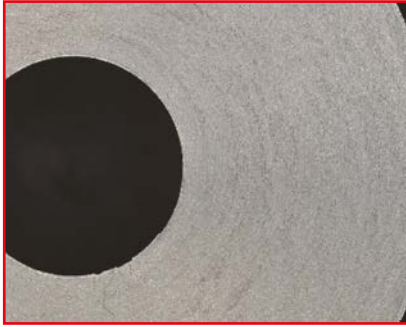
# GW MONOBLOCK HOLDER

## CUTTING PERFORMANCE

### HIGH LEAD ANGLE EFFECT WHEN CUTTING OFF: JIS SUS304

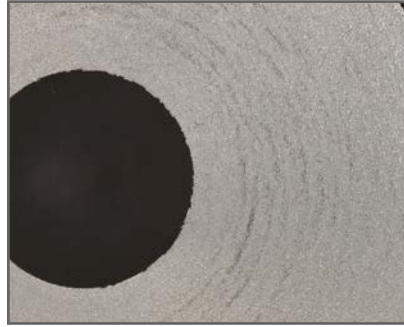
The high-rigidity holder suppresses chatter, vibration and tool deflection, thereby improving the finished surface.

**GW**



Lead angle 8° - Rz 7.9 μm

Conventional



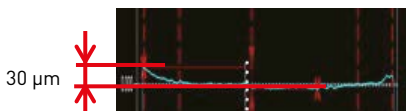
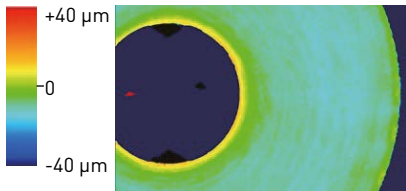
Lead angle 6° - Rz 11.3 μm

### Cutting performance

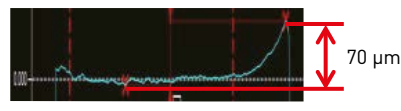
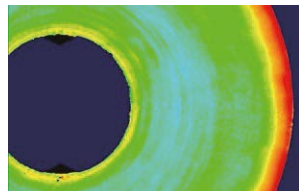
Material	SUS304 ø 38 mm
CW (mm)	2
Vc (m/min)	120
f (mm/rev)	0.11
Coolant	Wet cutting

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

**GW**



Conventional








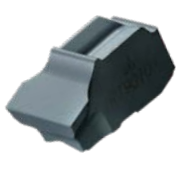
### Cutting performance

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	●				
VP20RT RT9020	●	VP20RT RT9020	●	VP10RT RT9010	●	VP20RT RT9020	●
				VP20RT RT9020	●		
VP30RT	✖	VP30RT	✖		✖		✖

## PROPER USE OF GW SERIES RIGHT HAND INSERTS

### 1<sup>st</sup> Recommendation

Improved fracture resistance ←

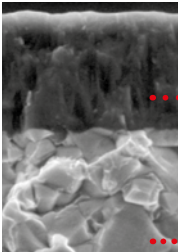
Reduction of cutting resistance

Reduction of burrs and core residue →

<b>GM</b> PSIRR = 5°, RE = 0.20	<b>GS</b> PSIRR = 5°, RE = 0.20	<b>GS</b> PSIRR = 8°, RE = 0.03
		

# INSERT GRADES

## VP10RT

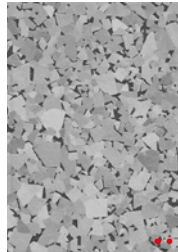


PVD coated grade with a cemented carbide substrate harder than VP20RT. For use on difficult-to-cut materials and for extending tool life.

MIRACLE coating

Carbide substrate (HRA92.0)

## RT9010

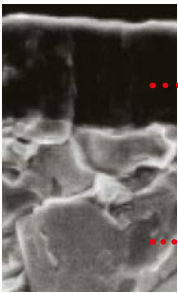


Cemented carbide substrate harder than RT9020 and is ideal for longer tool life on stable cutting applications.

Carbide substrate (HRA92.0)

## VP20RT

**(1<sup>st</sup> Recommendation)**

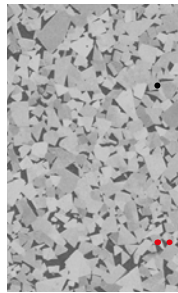


PVD coated grade suitable for a wide range of applications. The combination of a special tough cemented carbide substrate with MIRACLE coating provides an excellent balance of wear and fracture resistance.

MIRACLE coating

Carbide substrate (HRA90.5)

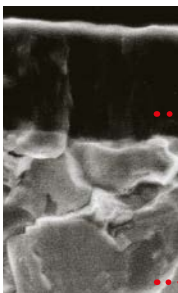
## RT9020



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

Carbide substrate (HRA90.5)

## VP30RT

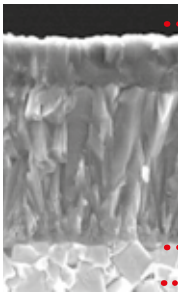


A combination of a tough, special cemented carbide substrate and MIRACLE coating. Ideal for heavy interrupted cutting of stainless and general steels.

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

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

### BLADE

	<b>GW</b>	<b>B32</b>	<b>N</b>	<b>A</b>	<b>2</b>	<b>F</b>	<b>60</b>	<b>C</b>
<b>Series description</b>	<b>Hand</b> N Neutral		<b>Blade geometry</b> A Standard type		<b>Seat size</b> *3 D 2.00 mm F 3.00 mm G 4.00 mm H 5.00 mm		<b>Coolant hole</b> Without coolant hole C With coolant hole	
<b>Blade size</b> *2	B26 B32		<b>No. of pocket seats</b> 2 2 pocket seats		<b>Max. groove depth</b> 36 36 mm 60 60 mm			

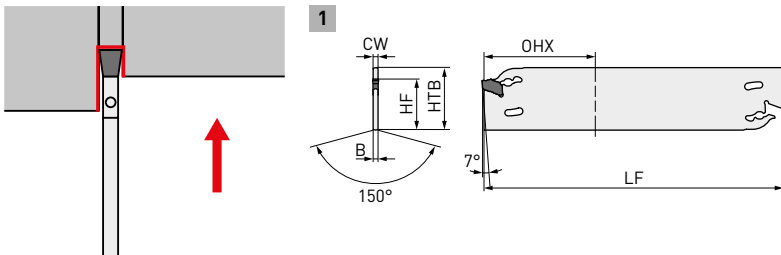
### TOOL BLOCK

	<b>GW</b>	<b>TB</b>	<b>N</b>	<b>2525</b>	<b>B32</b>	<b>C</b>		
<b>Series description</b>	<b>Hand</b> N Neutral		<b>Shank diameter</b> 2020 20 mm x 20 mm 2525 25 mm x 25 mm		<b>Blade size</b> *4 B26 B32		<b>Coolant hole</b> Without coolant hole C With coolant hole	
<b>Tool block</b>								

- \*1 Select seat size with the same symbol as the blade.
- \*2 Select blade size with the same symbol as the tool block.
- \*3 Select seat size with the same symbol as the insert.
- \*4 Select blade size with the same symbol as the blade.


# 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* <sup>1</sup>	Stock	OHN* <sup>2</sup>	OHX* <sup>3</sup>	B	LF	HTB	HF	Fig.			Tool block type
												Insert type	Wrench	
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
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
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
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

1. Recommended maximum coolant pressure 7 MPa.

\*<sup>1</sup> CUTDIA: Maximum cut off diameter

\*<sup>2</sup> OHN: Minimum overhang length

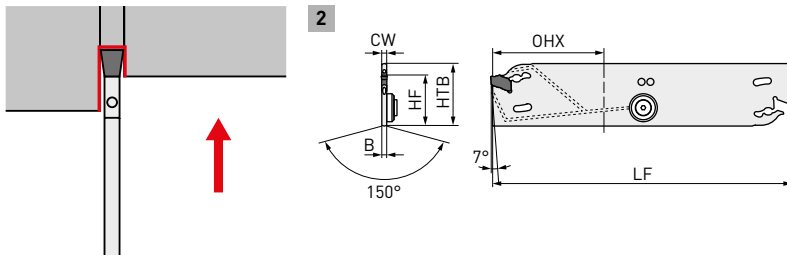
\*<sup>3</sup> OHX: Maximum overhang length



# 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* <sup>1</sup>	Stock	OHN* <sup>2</sup>	OHX* <sup>3</sup>	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			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			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			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			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			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			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			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			120	●									GW1B0640H020N	GWY39L	GWTBN-B32-C

1. Recommended maximum coolant pressure 7 MPa.



















\*<sup>1</sup> CUTDIA: Maximum cut off diameter

\*<sup>2</sup> OHN: Minimum overhang length

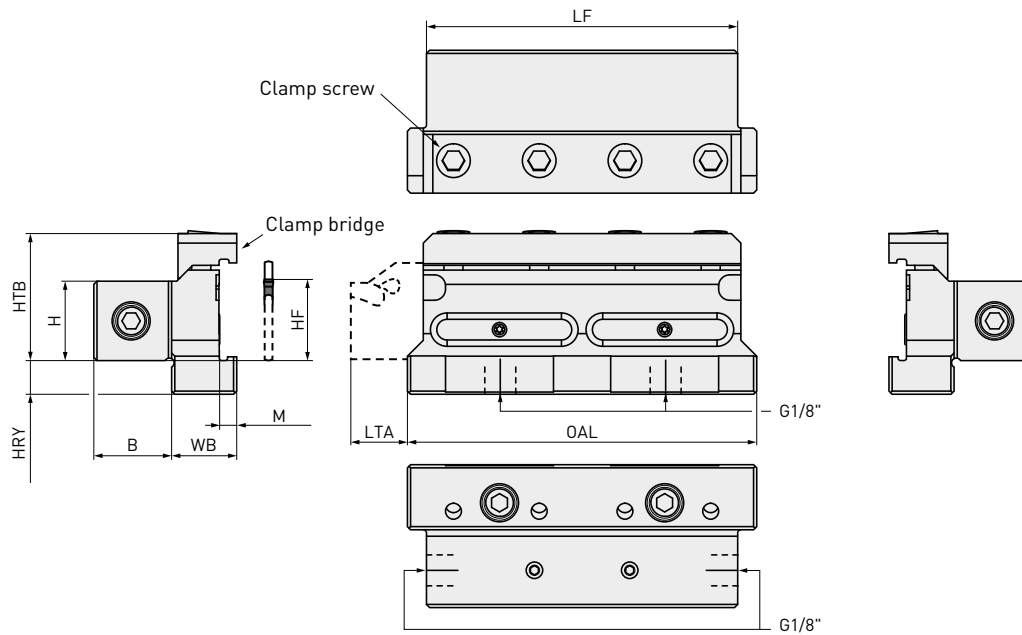
\*<sup>3</sup> OHX: Maximum overhang length



## SPARE PARTS FOR BLADES WITH COOLANT HOLE

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

# TOOL BLOCK



Tool block with coolant hole shown.

## WITHOUT COOLANT HOLE

Order number	Stock	H	HF	HTB	HRY	B	WB	M	LF	OAL	1 2	1 2	1 2	
											Clamp bridge	Clamp screw	Wrench	
GWTBN2020-B26	★	20	20	33.5	11	19.5	20.0	5.0	75	85	1	GWCW1	HSC06020	HKY50R
GWTBN2020-B32	★	20	20	35.0	15.6	19.5	20.5	5.5	100	110	2	GWCW2		
GWTBN2525-B26	★	25	25	38.5	6	24.5	20.0	5.0	75	85	2	GWCW1		
GWTBN2525-B32	★	25	25	40.0	10.6	24.5	20.5	5.5	100	110	1	GWCW2		

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## WITH COOLANT HOLE

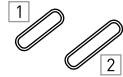





Order number	Stock	H	HF	HTB	HRY	B	WB	M	LF	OAL	1 2	1 2	1 2	
											Clamp bridge	Clamp screw	Wrench	
GWTBN2020-B26-C	●	20	20	33.5	11	19.5	20.0	5.0	75	85	1	GWCW1	HSC06020	HKY50R
GWTBN2020-B32-C	●	20	20	35.0	15.6	19.5	20.5	5.5	100	110	2	GWCW2		
GWTBN2525-B26-C	●	25	25	38.5	6	24.5	20.0	5.0	75	85	1	GWCW1		
GWTBN2525-B32-C	●	25	25	40.0	10.6	24.5	20.5	5.5	100	110	2	GWCW2		

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






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# 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					

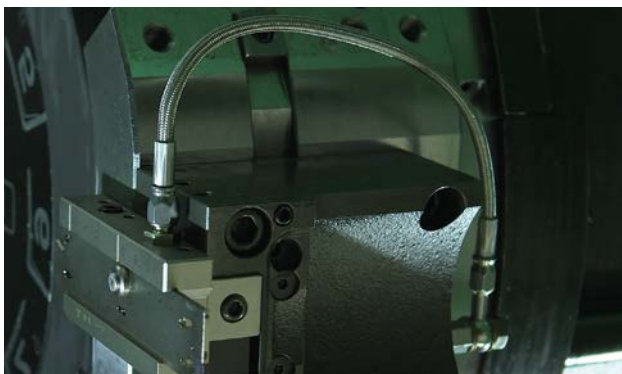
## COOLANT HOSE KIT

Order number	Stock	Hose length	Kit details									
												
			Hose	Banjo adapter	Banjo bolt	Adapter	Washer					
			Code No.	Code No.	Qty.	Code No.	Qty.	Code No.	Qty.	Code No.	Qty.	
<b>STRAIGHT</b>												
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	
<b>ELBOW STRAIGHT</b>												
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	
<b>ELBOW</b>												
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	

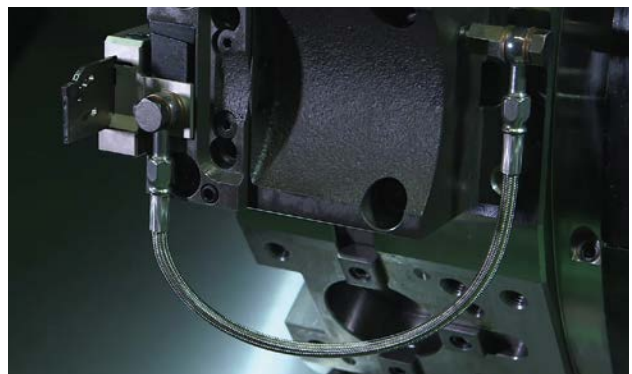
1. Connection screw size = G1/8"



## MOUNTING EXAMPLE



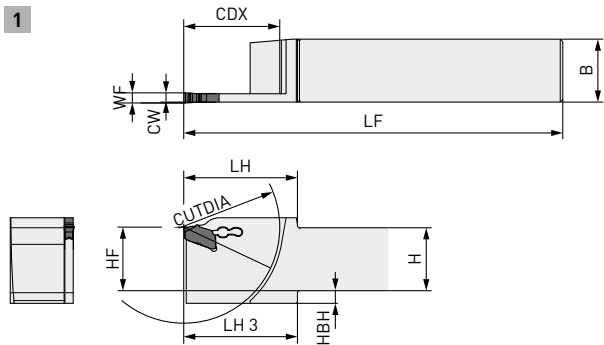
Straight type



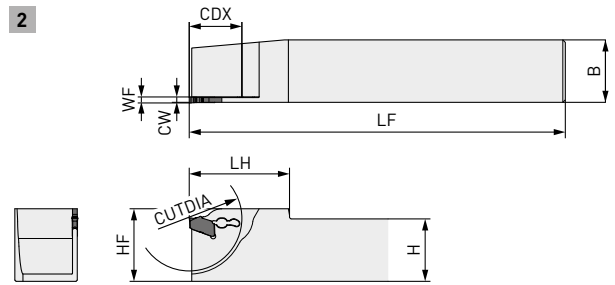
Elbow type

# GW MONOBLOCK HOLDER

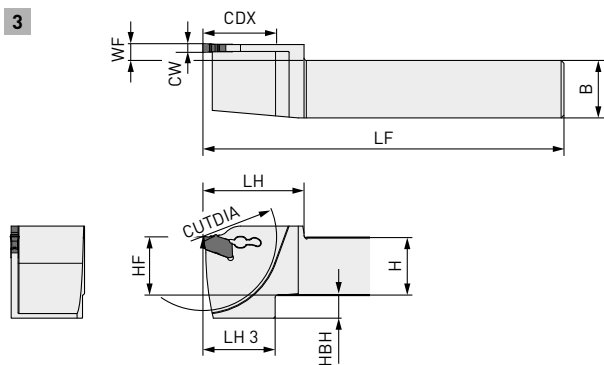
## EXTERNAL FOR SWISS STYLE LATHES



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	●					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	●			E	2.39	21	42	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	★							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	●	E	2.39	21	42	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	●					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

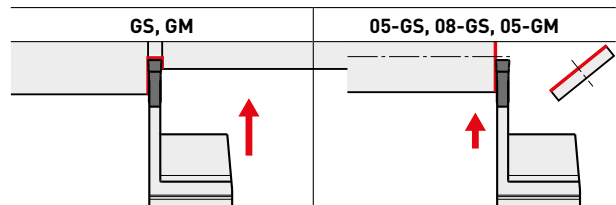
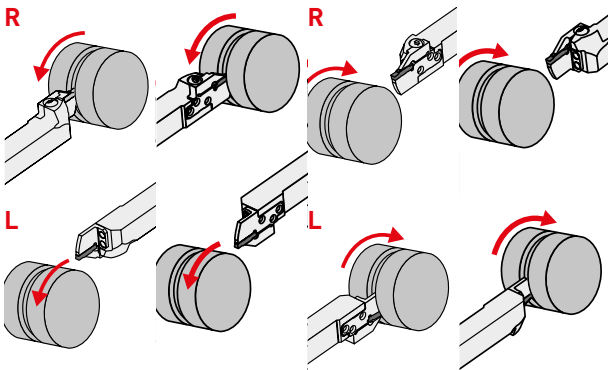
Order number	Stock	Seat size	CW	CDX	CUTDIA	Hand	H	B	LF	LH	LH3	HF	WF	HBH	Type
GWSR1915K00-F38	★	F	3.00	19	38	R	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSL1915K00-F38	★					L	19.05	15.875	125	35	35	19.05	0.3	3	1
GWSR2012K00-F42	●					R	20	12	125	35	25	20	0.3	4	1
GWSL2012K00-F42	★					L	20	12	125	35	25	20	0.3	4	1
GWSR2020K00-F42	●			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	★			L	20	20	125	35	25	20	5.8	8	3		
GWSR2020K00-F51	●			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	★			L	20	20	125	35	25	20	5.8	8	3		
GWSR2525M00-F51	●			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	●			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	★			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	★			R	25	25	150	45	45	25	0.4	5	1		
GWSL2525M00-G76	★			L	25	25	150	45	45	25	0.4	5	1		



## 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	GM	05-GS	08-GS	05-GM
		Low feeds	Medium feeds	Low feeds	Low feeds	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

P M K S

Order number	RT9010	RT9020	MY5015	VP10RT	VP20RT	VP30RT	CW		REL	RER	PSIRR	Geometry	
							Width of cutting edge	Tolerance					
<b>GROOVING / CUTTING OFF</b>													
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	-		
<b>CUTTING OFF</b>													
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		
<b>RAW BLANK</b>													
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]

1. Blank inserts to be ground by customer.

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## RECOMMENDED CUTTING CONDITIONS

### CUTTING SPEED

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

1. VP20RT is the first recommended grade for general materials.
2. 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)

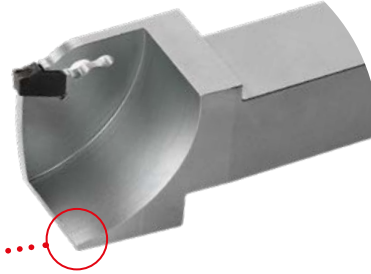
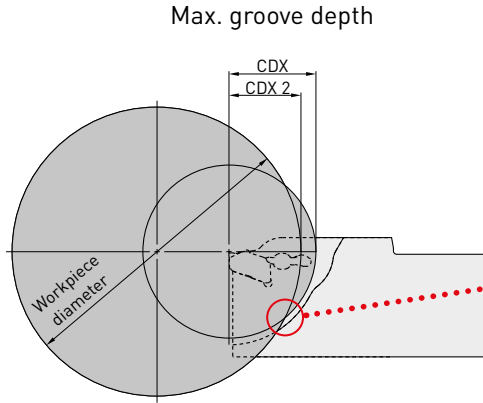
### FEED PER REVOLUTION

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

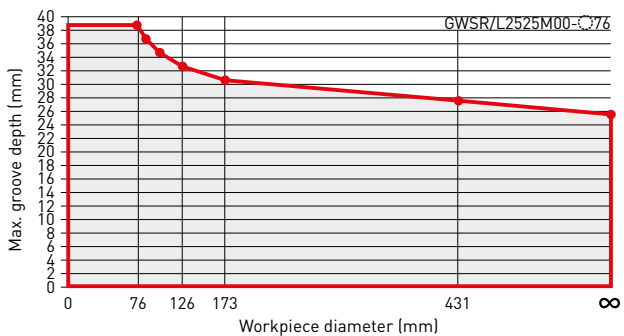
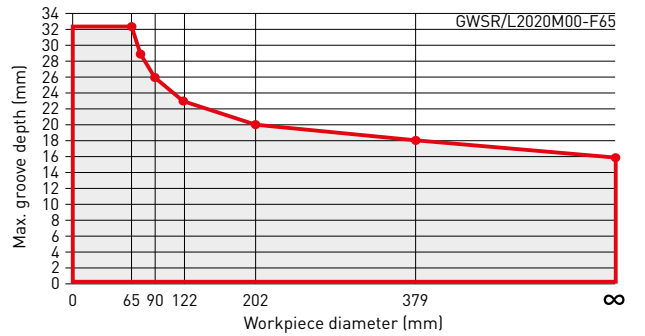
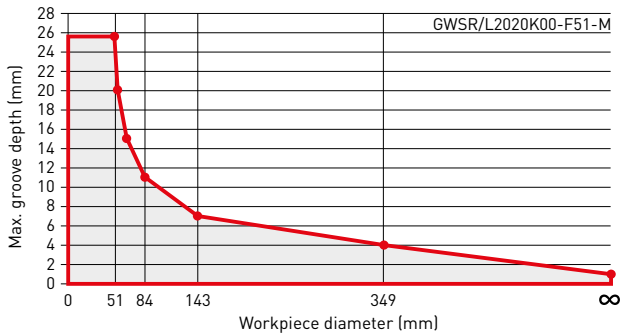
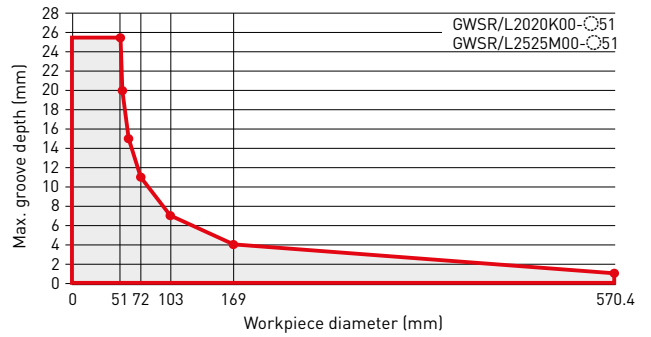
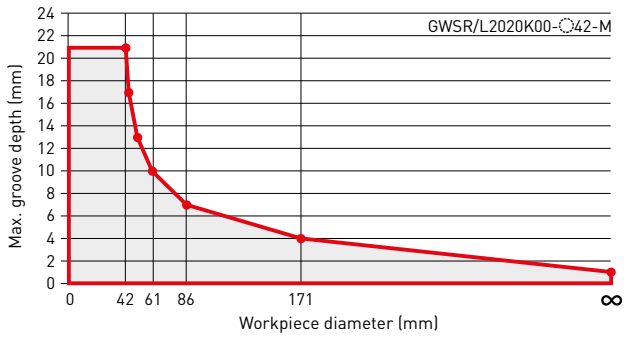
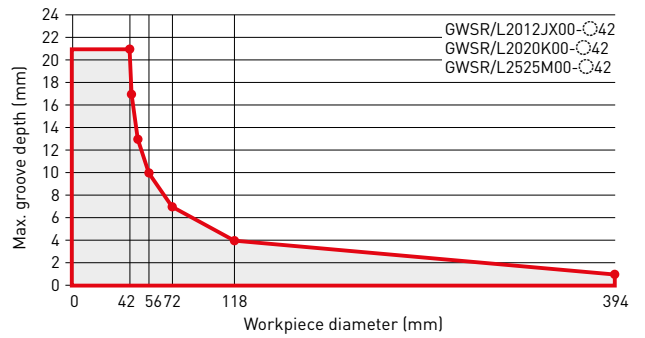
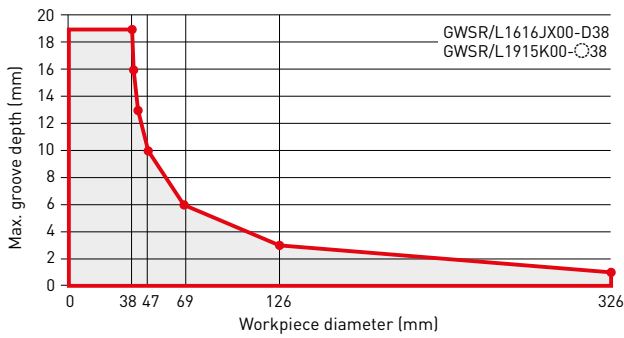
# LIMITATION OF THE MAXIMUM GROOVE DEPTH

## 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.

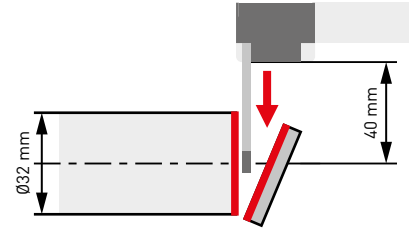


# CUTTING PERFORMANCE

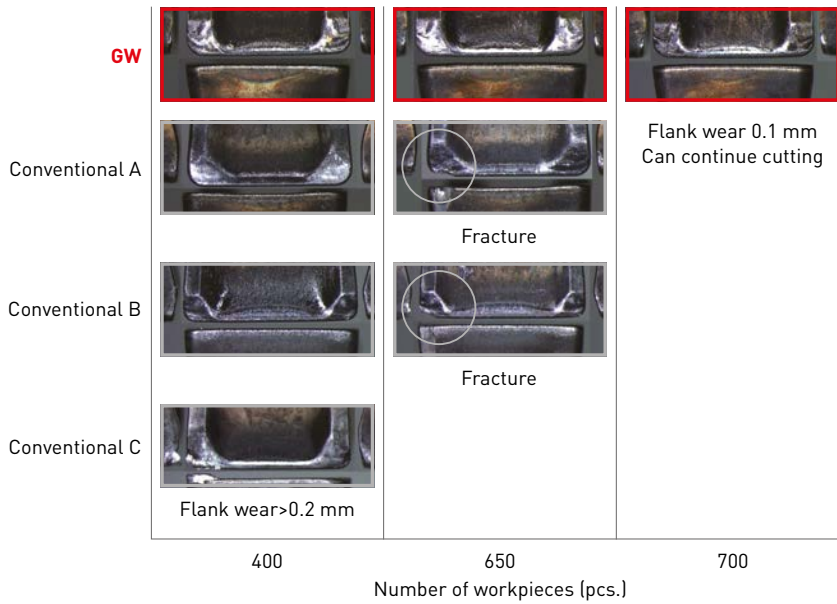
## ALLOY STEEL (DIN 41CRM04) CUTTING OFF

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 $\varnothing 10$ mm = 0.03)
Overhang (mm)	40
Coolant	Internal coolant 1 MPa

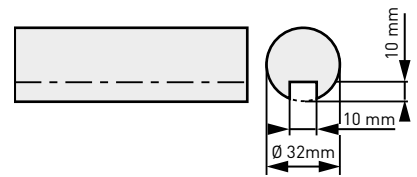


Tool life criteria: Flank wear up to 0.2 mm or fracturing.

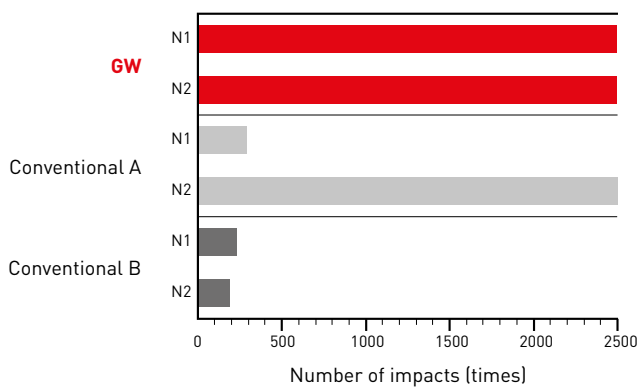


## ALLOY STEEL (DIN 41CRM04) INTERRUPTED CUTTING OFF

Material	DIN 41CrMo4
Insert	GW1M0300F030N-GM (VP30RT)
CW (mm)	3
Vc (m/min)	120
f (mm/rev)	0.20 (smaller than $\varnothing 10$ mm = 0.03)
Overhang (mm)	30
Coolant	Internal coolant 1 MPa



Tool life criteria: Fracture or breakage.

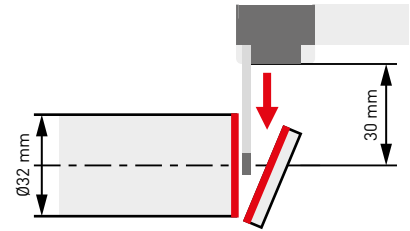


# CUTTING PERFORMANCE

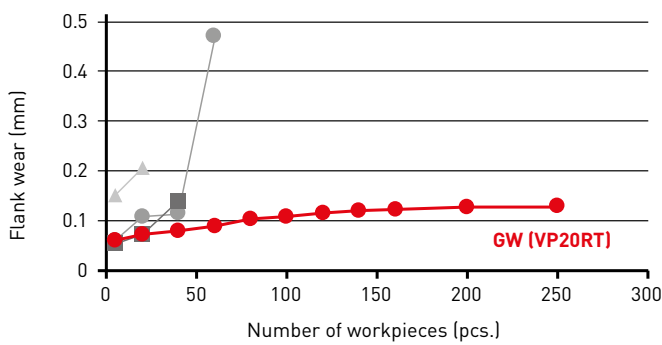
## STAINLESS STEEL (DIN X5CRNI189) CUTTING OFF

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

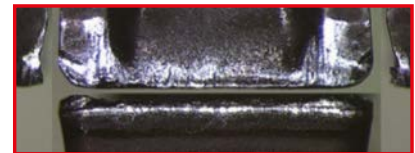
Material	DIN X5CrNi189
Insert	GW1M0300F030N-GM (VP20RT)
CW (mm)	3
Vc (m/min)	180
f (mm/rev)	0.15 (smaller than $\varnothing 10$ mm = 0.03)
Overhang (mm)	30
Coolant	Internal coolant 1 MPa



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

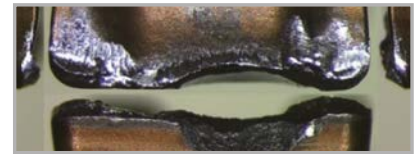


**GW**



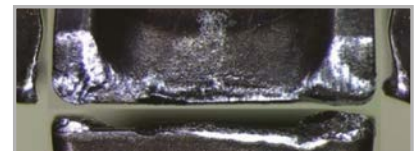
250 pcs.: Normal wear

Conventional A



60 pcs.: Fracture

Conventional B

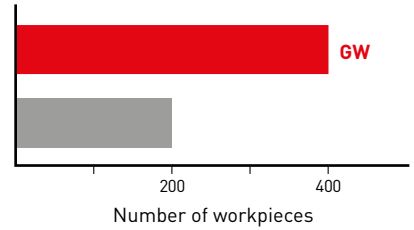
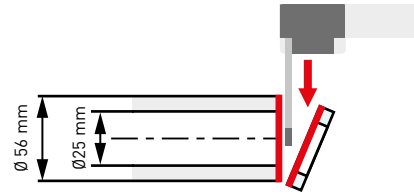


40 pcs.: Fracture

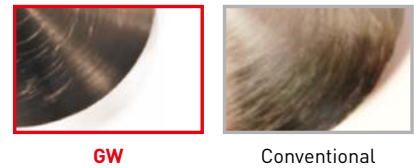
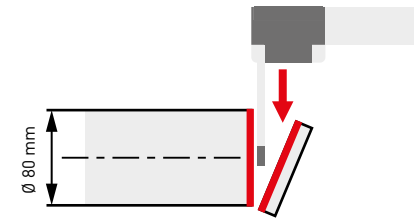


# APPLICATION EXAMPLES

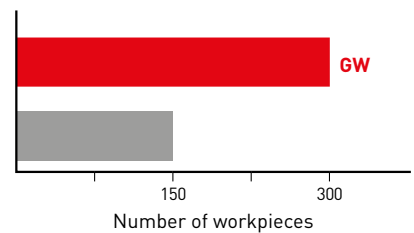
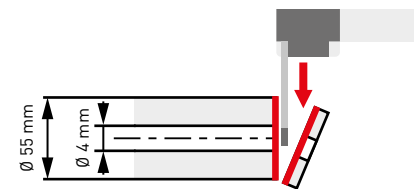
Insert	GW1M0300F030N-GM(VP20RT)
Workpiece	Stainless steel
Component	Machine parts
Vc (m/min)	160
f (mm/rev)	0.1
Cutting method	Cutting off
Coolant	Internal coolant (2 MPa)
Results	Double tool life compared to conventional products. Plus improved tool handling.



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.





**GERMANY**

MMC HARTMETALL GMBH  
Comeniusstr. 2 . 40670 Meerbusch  
Phone +49 2159 91890 . Fax +49 2159 918966  
Email admin@mmchg.de

**U.K.**

MMC HARDMETAL U.K. LTD.  
Mitsubishi House . Galena Close . Tamworth . Staffs. B77 4AS  
Phone +44 1827 312312 . Fax +44 1827 312314  
Email sales@mitsubishicarbide.co.uk

**SPAIN**

MITSUBISHI MATERIALS ESPAÑA, S.A.  
Calle Emperador 2 . 46136 Museros/Valencia  
Phone +34 96 1441711 . Fax +34 96 1443786  
Email comercial@mmevalencia.es

**FRANCE**

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

**RUSSIA**

MMC HARDMETAL OOO LTD.  
Electrozavodskaya St. 24 . build. 3 . Moscow . 107023  
Phone +7 495 725 58 85 . Fax +7 495 981 39 79  
Email info@mmc-carbide.ru

**ITALY**

MMC ITALIA S.R.L.  
Viale Certosa 144 . 20156 Milano  
Phone +39 0293 77031 . Fax +39 0293 589093  
Email info@mmc-italia.it

**TURKEY**

MMC HARTMETALL GMBH ALMANYA - İZMİR MERKEZ ŞUBESİ  
Adalet Mahallesi Anadolu Caddesi No: 41-1 . 15001 35530 Bayraklı /İzmir  
Phone +90 232 5015000 . Fax +90 232 5015007  
Email info@mmchg.com.tr

[www.mitsubishicarbide.com](http://www.mitsubishicarbide.com) | [www.mmc-hardmetal.com](http://www.mmc-hardmetal.com)

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