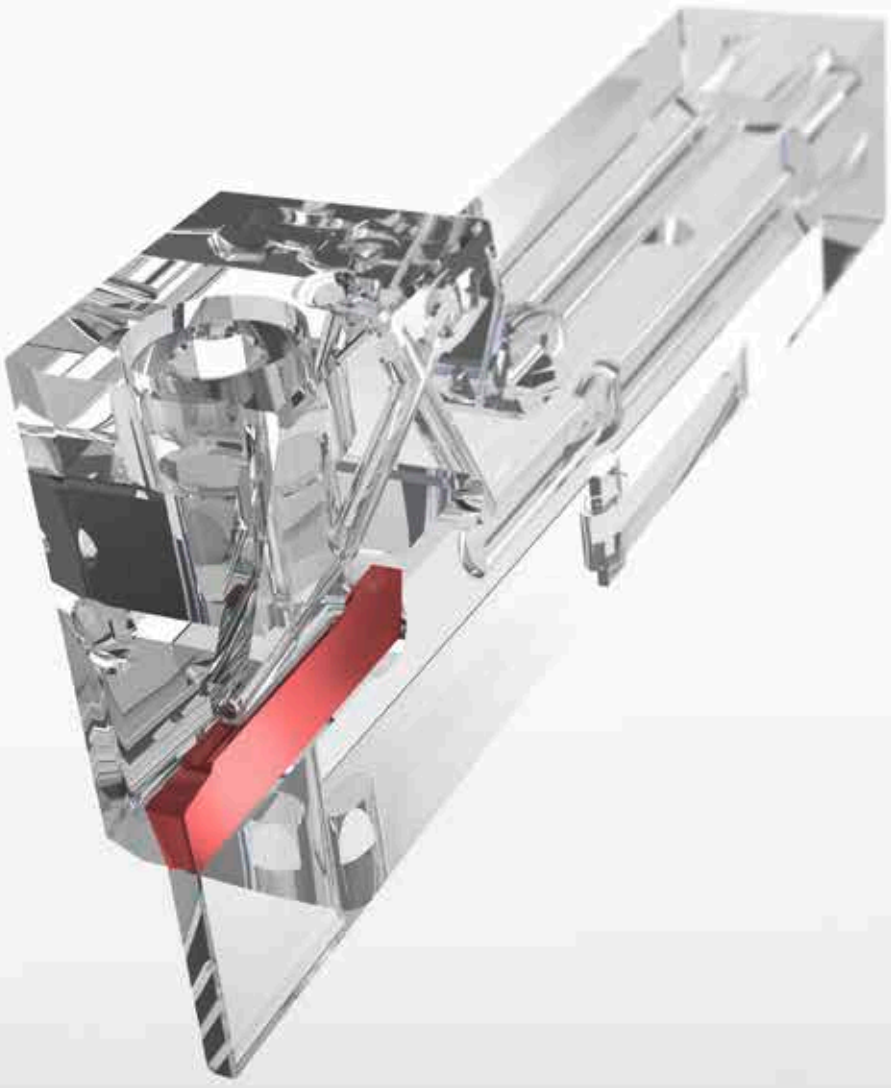
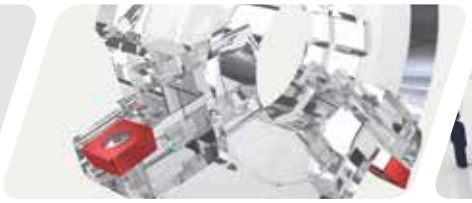
GND grooving system

Monobloc and modular tools with internal cooling



MAS
TOOLS & ENGINEERING

PEOPLE
Cooperate in fair partnership



AMBITION
Question yesterday to provide new solutions for today and tomorrow

SYNERGY
Share our strength

Corporate philosophy

PEOPLE – AMBITION – SYNERGY
These 3 components are the foundation for the success of MAS GmbH.

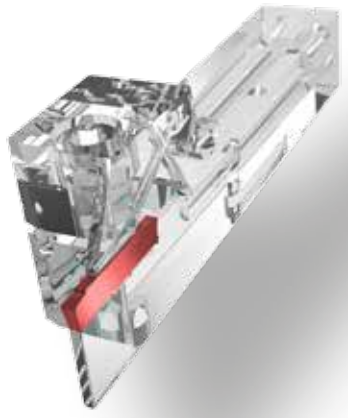
Trust the experts with more than 40 years of experience in cutting technologies. The specialists with the most modern equipment for the development, design and manufacture of tools. The partners who discover synergies between man and technologie and who are able to harness them for your success.

The utmost objective of every project is our customers' and partners' success. Our own success goes hand in hand.

This is and will remain our guide for the future!

GND grooving system

Table of Contents



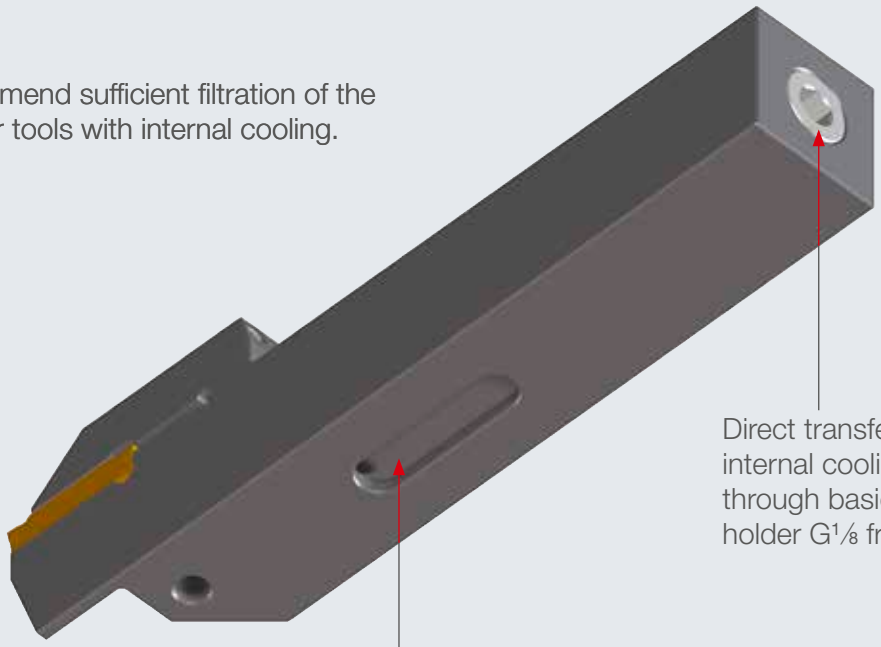
Benefits and Features

- Square shank tool holder with direct internal cooling transfer, standard version with 3 grooving depths and 5 grooving widths
- Square shank tool holder 2525 with exchangeable tool cartridge
- Square shank tool holder with internal cooling from the top
- Tool cartridge with internal cooling from top & bottom
- Optimized chip control and wear resistance thanks to internal cooling
- Square shank tool holder, standard 1616 and 2020 with large grooving depth
- Basic tool holder system PSK with exchangeable tool cartridge
- Quenched and tempered basic tool holder for long service life

GND basic tool holder

with internal cooling

We recommend sufficient filtration of the coolant for tools with internal cooling.



Direct transfer of internal cooling through basic tool holder G1/8 from rear

Direct transfer of internal cooling through basic tool holder from bottom

System of order numbers

Examples

Square shank MONO

GND-system	1	2	3	4	5
GND	R/L	2020	-H	2	17

Cartridge holder

GND-system	1	2
GND	R/L	C4-K20

Cartridges

GND-system	1	2	3	4	5
GND	R/L	K20	-H	4	12

Designation system

1	**Version:**		Right-hand / left-hand
2	**Interface:**		Square shank
		PSK	(e.g. C4)
		K	Cartridge mounting dimension
		P	V-block
		S	Cutting blade
3	**Application:**	**H**	Grooving / cutting
		HS	Grooving / cutting with angular tool holder
		F	Axial grooving
		FS	Axial grooving with angular tool holder
		I	Internal grooving
		K	Cartridge solution
4	**Grooving width**		
5	**Grooving depth**		

Grooving tool holder dimensions

Monobloc

Size 1616

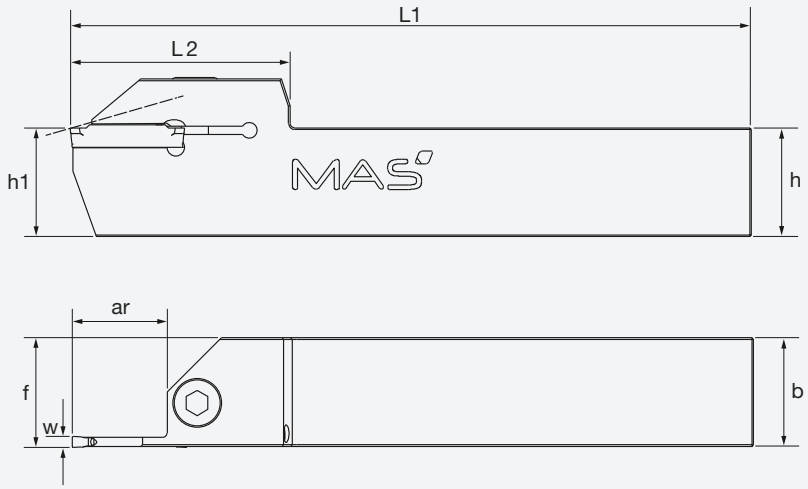


Illustration shows the right-hand version

Order number	h	b	L1	f	h1	L2	w	ar
GND R/L 1616 H 212	16	16	100.5	16.17	16	35.5	2	12
GND R/L 1616 H 217	16	16	105.5	16.17	16	40.5	2	17
GND R/L 1616 H 222	16	16	110.5	16.17	16	45.5	2	22
GND R/L 1616 H 312	16	16	100.5	16.42	16	35.5	3	12
GND R/L 1616 H 317	16	16	105.5	16.42	16	40.5	3	17
GND R/L 1616 H 322	16	16	110.5	16.42	16	45.5	3	22
GND R/L 1616 H 412	16	16	100.5	16.42	16	35.5	4	12
GND R/L 1616 H 417	16	16	105.5	16.42	16	40.5	4	17
GND R/L 1616 H 422	16	16	110.5	16.42	16	45.5	4	22
GND R/L 1616 H 512	16	16	100.5	16.5	16	35.5	5	12
GND R/L 1616 H 517	16	16	105.5	16.5	16	40.5	5	17
GND R/L 1616 H 522	16	16	110.5	16.5	16	45.5	5	22
GND R/L 1616 H 612	16	16	100.5	16.5	16	35.5	6	12
GND R/L 1616 H 617	16	16	105.5	16.5	16	40.5	6	17
GND R/L 1616 H 622	16	16	110.5	16.5	16	45.5	6	22

- Socket head bolt M5x16 DIN912
- Plug G 1/8 type 596
- Tightening torque (Nm) 5
- Wrench LH040

Grooving tool holder dimensions

Monobloc

Size 2020

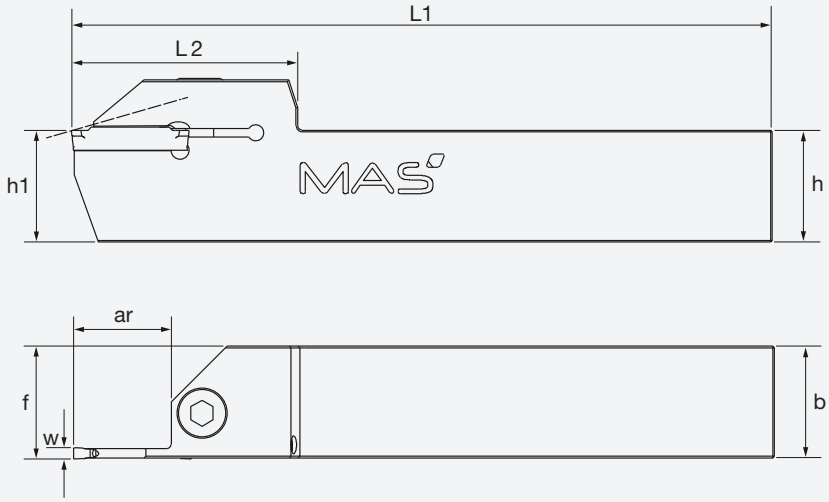


Illustration shows the right-hand version

Order number	h	b	L1	f	h1	L2	w	ar
GND R/L 2020 H 212	20	20	120.5	20.17	20	35.5	2	12
GND R/L 2020 H 217	20	20	125.5	20.17	20	40.5	2	17
GND R/L 2020 H 222	20	20	130.5	20.17	20	45.5	2	22
GND R/L 2020 H 312	20	20	120.5	20.42	20	35.5	3	12
GND R/L 2020 H 317	20	20	125.5	20.42	20	40.5	3	17
GND R/L 2020 H 322	20	20	130.5	20.42	20	45.5	3	22
GND R/L 2020 H 412	20	20	120.5	20.42	20	35.5	4	12
GND R/L 2020 H 417	20	20	125.5	20.42	20	40.5	4	17
GND R/L 2020 H 422	20	20	130.5	20.42	20	45.5	4	22
GND R/L 2020 H 512	20	20	120.5	20.5	20	35.5	5	12
GND R/L 2020 H 517	20	20	125.5	20.5	20	40.5	5	17
GND R/L 2020 H 522	20	20	130.5	20.5	20	45.5	5	22
GND R/L 2020 H 612	20	20	120.5	20.5	20	35.5	6	12
GND R/L 2020 H 617	20	20	125.5	20.5	20	40.5	6	17
GND R/L 2020 H 622	20	20	130.5	20.5	20	45.5	6	22

- Socket head bolt M5x16 DIN912
- Plug G 1/8 type 596
- Tightening torque (Nm) 5
- Wrench LH040

Grooving tool holder dimensions
for changing cartridge

Size 2020

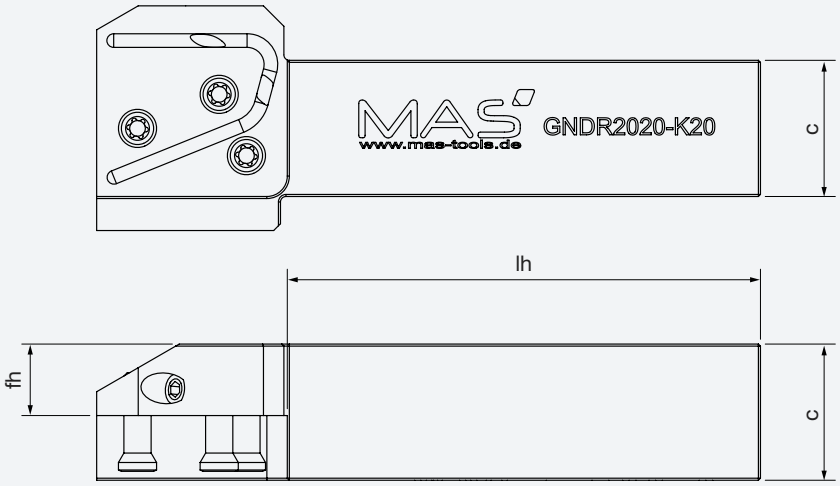


Illustration shows the right-hand version

Order number	fh	lh	c
GND R/L 2020-K20	10.5	70	20

Size 2525

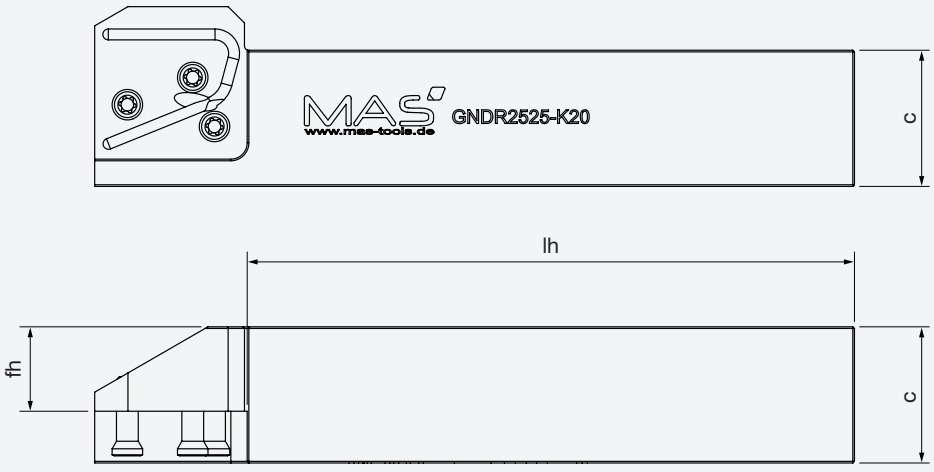


Illustration shows the right-hand version

Order number	fh	lh	c
GND R/L 2525-K20	15.5	111.5	25

- Tool cartridges, see page 12
- Clamping screw BFTX0414
- Plug G 1/8 type 596
- Tightening torque (Nm) 3.4
- Wrench Tx15

Grooving tool holder dimensions
for changing cartridge

Size 2020 F

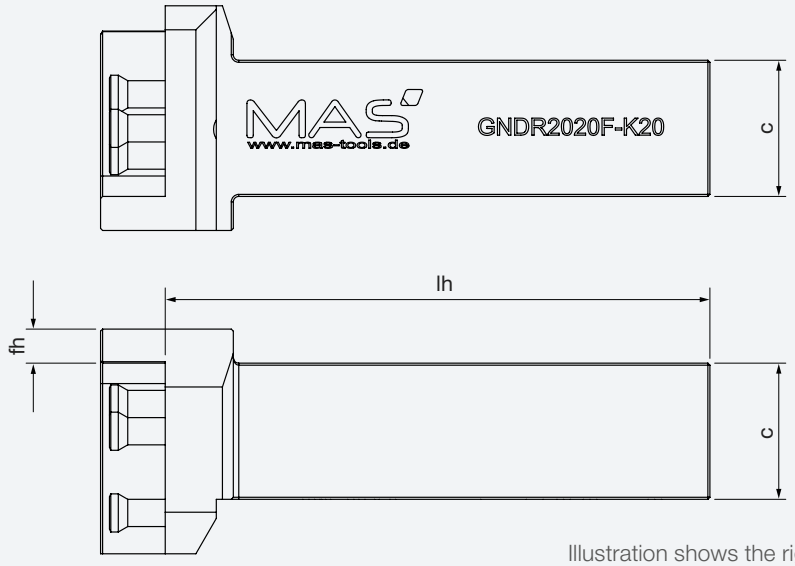


Illustration shows the right-hand version

Order number	fh	lh	c
GND R/L 2020F-K20	5	70	20

Size 2525F axial/90° angle

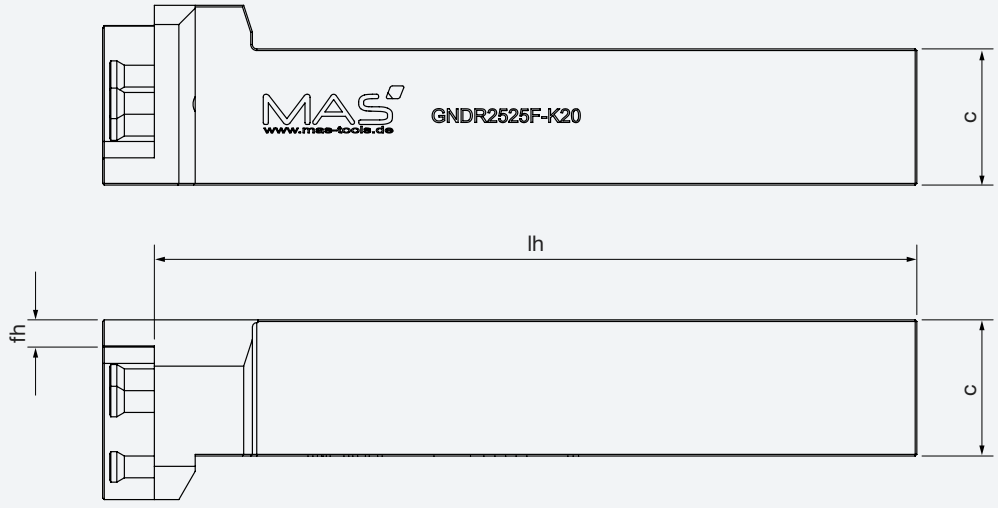


Illustration shows the right-hand version

Order number	fh	lh	c
GND R/L 2525F-K20	5	140	25

- Tool cartridges, see page 12
- Clamping screw BFTX0414
- Plug G 1/8 type 596
- Tightening torque (Nm) 3.4
- Wrench Tx15

Grooving tool holder dimensions

PSK for changing cartridge

PSK-K20

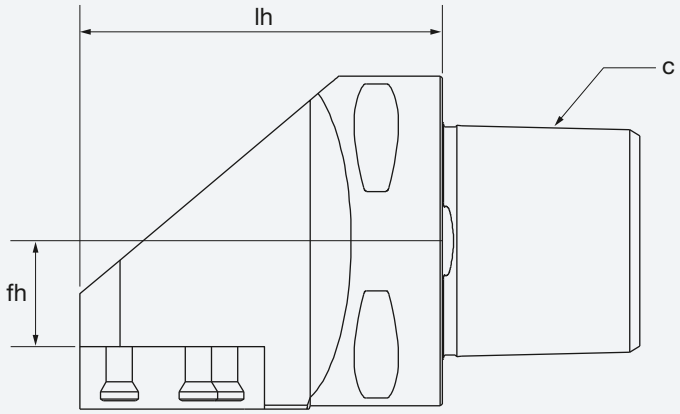
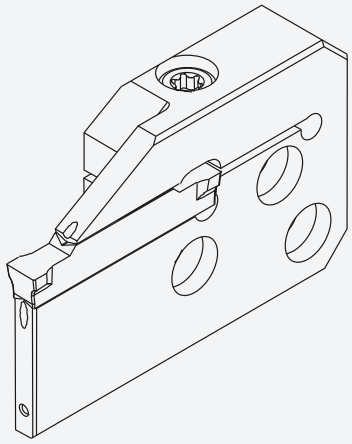


Illustration shows the right-hand version

Order number	fh	lh	c
GND R/L C3 1046-K20	10	46	C3
GND R/L C4 1255-K20	12	55	C4
GND R/L C5 1655-K20	16	55	C5
GND R/L C6 2260-K20	22	60	C6

- Tool cartridges, see page 12
- Clamping screw BFTX0414
- Tightening torque (Nm) 3.4
- Wrench Tx15

Cartridges



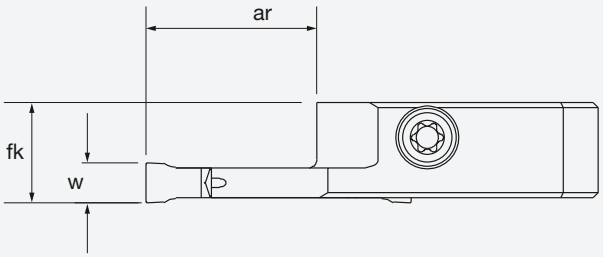


Illustration shows the right-hand version

Order number	fk	w	ar	Cutting insert	R	L
GND R/L K20-H12507	10	1,25	7	GCM □ 1250 □□	●	●
GND R/L K20-H12512	10	1,25	12	GCM □1250 □□	●	●
GND R/L K20-H1507	10	1,5	7	GCM □ 1500 □□	●	●
GND R/L K20-H1512	10	1,5	12	GCM □ 1500 □□	●	●
GND R/L K20-H212	10	2	12	GCM □ 20 oo □□		
GND R/L K20-H217	10	2	17	GCM □ 20 oo □□		
GND R/L K20-H222	10	2	22	GCM □ 20 oo □□		
GND R/L K20-H312	10	3	12	GCM □ 30 oo □□		
GND R/L K20-H317	10	3	17	GCM □ 30 oo □□		
GND R/L K20-H322	10	3	22	GCM □ 30 oo □□		
GND R/L K20-H412	10	4	12	GCM □ 40 oo □□		
GND R/L K20-H417	10	4	17	GCM □ 40 oo □□		
GND R/L K20-H422	10	4	22	GCM □ 40 oo □□		
GND R/L K20-H512	11	5	12	GCM □ 50 oo □□		
GND R/L K20-H517	11	5	17	GCM □ 50 oo □□		
GND R/L K20-H522	11	5	22	GCM □ 50 oo □□		
GND R/L K20-H612	12	6	12	GCM □ 60 oo □□		
GND R/L K20-H617	12	6	17	GCM □ 60 oo □□		
GND R/L K20-H622	12	6	22	GCM □ 60 oo □□		
GND R/L K20-H717	13	7	17	GCM □ 70 oo □□		
GND R/L K20-H722	13	7	22	GCM □ 70 oo □□		
GND R/L K20-H817	14	8	17	GCM □ 80 oo □□		
GND R/L K20-H822	14	8	22	GCM □ 80 oo □□		

● in stock ○ on request

- Internal cooling from top and bottom: w = 2
- Clamping screw BFTX0414
- Tightening torque (Nm) 3.4
- Wrench Tx15

NOTES

NOTES

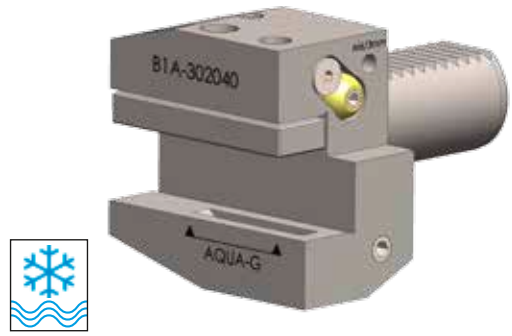
NOTES

NOTES

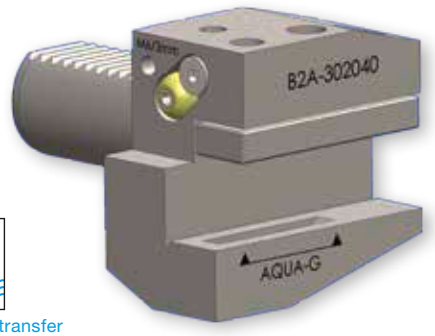
NOTES

AQUA-G® VDI tool holding fixture

with internal cooling



Coolant transfer



Coolant transfer

Coolant transfer

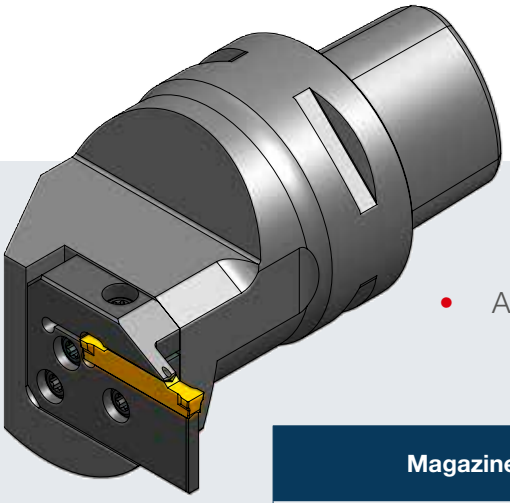
KLM-L200-S1500
KLM-L300-S1501

Accessories:
Coolant hose
with adapter

- Coolant hose tight up to 150 bar
- Coolant hose with adapter G1/8“ - M12 x 1,5
- Coolant hose not included in the scope of delivery of the VDI tool holders
- Aperture of external coolant nozzle indicates the maximum quantity of coolant for internal cooling.
- Plug screw M6 3 mm included in the scope of delivery
- Plug screw attachable at tool holder
- ⚠ CAUTION: Coolant nozzle in as-delivered condition closed by screw.
- Detailed information in our new AQUA-G® catalog

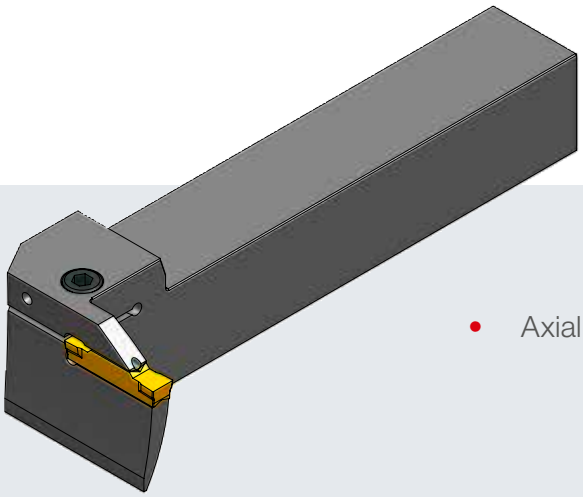
Special solutions

Examples



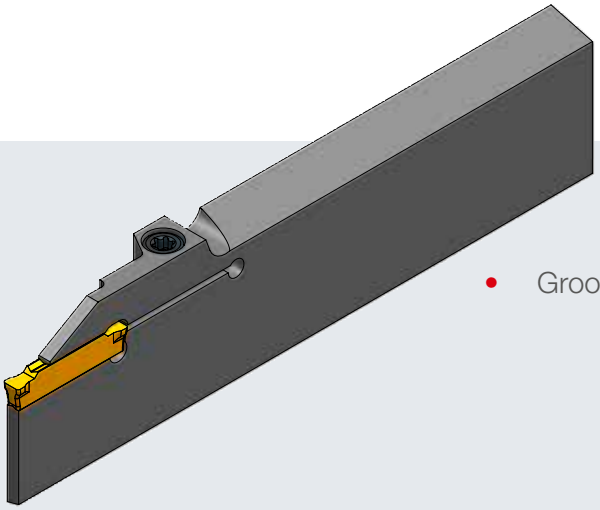
- Angled Capto tool holder with cartridge

Magazine	Order number
WKL-GCMNH412	C5-GNDMR-011540



- Axial grooving

Order number
GNDL2525FS623-100-E926



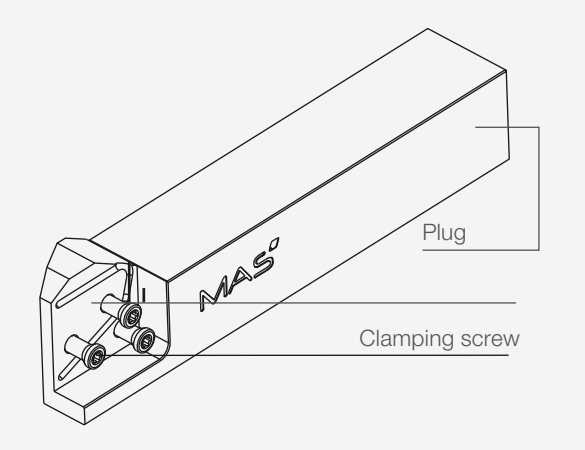
- Grooving blade

Order number
GNDL-K-319-S504

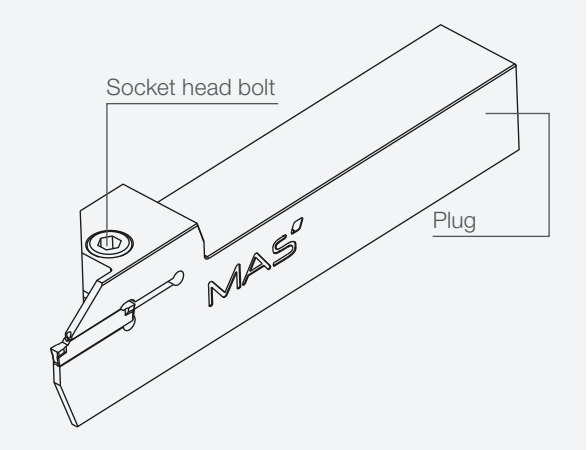
Right-hand version shown in the illustration.

Spare parts

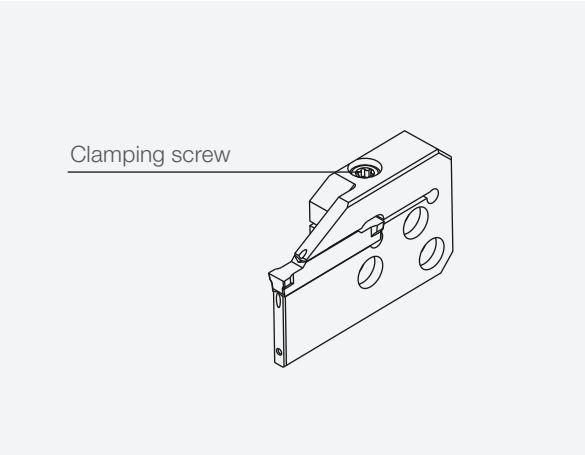
Plugs, clamping screws and wrench



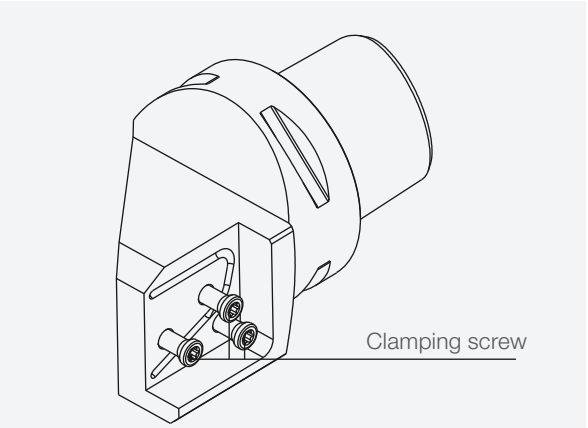
Order number	Clamping screw	Plug
GND R/L 2525-K20	BFTX0414	G⅛ type 596



Order number	Socket head bolt	Plug
GND R/L 2020-H...	M5x16 DIN912	G⅛ type 596



Order number	Clamping screw
GND R/L K20-H...	BFTX0414



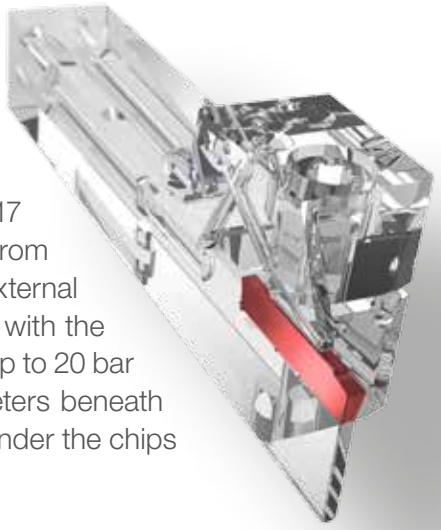
Order number	Clamping screw
GND R/L C...-K20	BFTX0414

for order number ...	... required wrench ID:
GND R/L 1616-H...	Hexagon socket wrench LH040
GND R/L 2020-H...	Hexagon socket wrench LH040
GND R/L 2525-K20	Wrench Tx15
GND R/L 2525F-K20	Wrench Tx15
GND R/L C. 1046-K20	Wrench Tx15
GND R/L K20-H...	Wrench Tx15

FOCUS ON TOOLS

Longer Service Lives when Grooving

Feeding coolant directly to the blade



Our tool holders for groove turning with the GND cutting system from Sumitomo have an internal coolant supply system which increases service lives by up to 30 percent. The square shanks, which measure 16 x 16 mm or 20 x 20 mm, support grooving inserts of 2 to 6 mm width from Sumitomo's GND range of grooving products, allowing them to cut grooves of 12, 17 and 22 mm depth. The coolant can be fed in from the side or from below into the tool shanks as desired. There is no need for external pipelines or hoses, meaning that there are no forms to interfere with the process. The internal coolant ducts can withstand pressures of up to 20 bar without any problems. The coolant discharge just a few millimeters beneath the cutting surface of the inserts ensures that the coolant gets under the chips directly, lifting them reliably.

Even with more challenging materials, the chips are short and are reliably discharged from the cutting point of the inserts. The coolant jet also continuously cools the insert directly at the point where the heat is generated from the cutting process. The main advantages are the high process reliability and the increase in service life of the carbide inserts by over 30 per cent. Because the time between tool changes is much longer and the machines are left idle for less time, the internal coolant supply also enhances productivity. The internal coolant supply of our innovative groove turning tool holders there contributes significantly to more cost-effective turning, specifically for automotive suppliers.

PEOPLE
Cooperate in fair partnership

AMBITION
Question yesterday's, in order to develop new solutions for today and tomorrow

SYNERGY
Share our strength

GND grooving system

MAS
TOOLS & ENGINEERING

MAS GmbH
Schmigalla Straße 1 · 71229 Leonberg

Tel. +49 7152-6065-0
Fax +49 7152-6065-65

zentrale@mas-tools.de
www.mas-tools.de

MAS GND 10.2017