GÜHRING



System 305

3-fluted indexable inserts
for universal grooving operations

System 305

Flexible solutions for perfect results

Versatile. Powerful. Compatible.

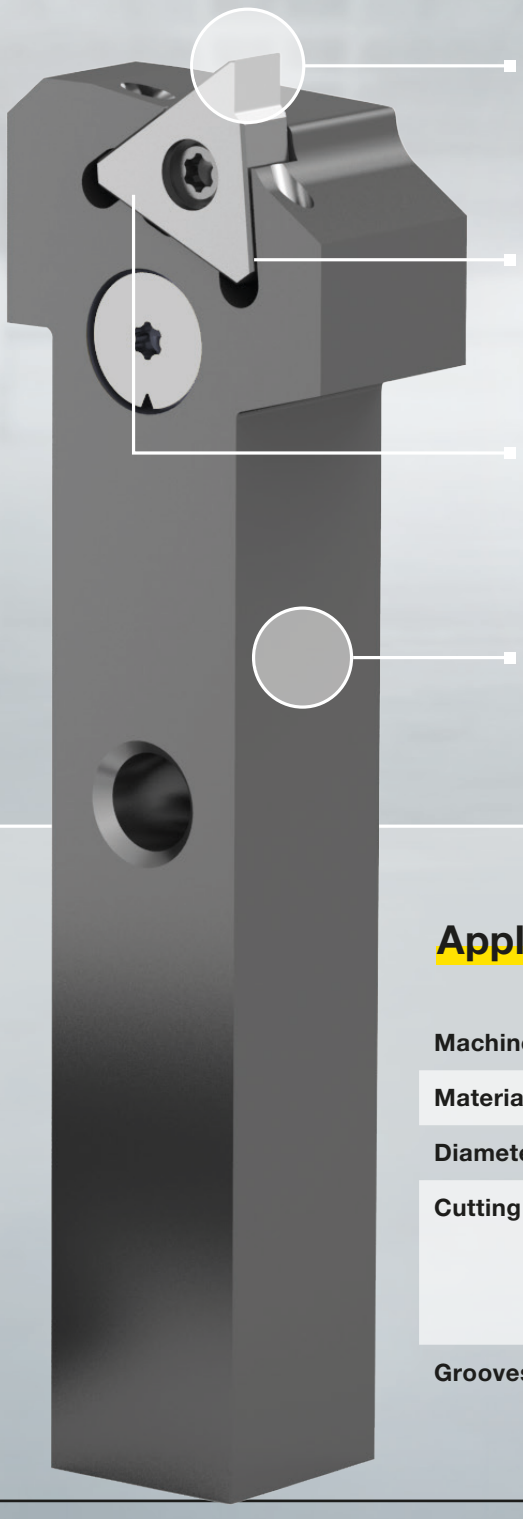
The indexable insert system 305 impresses with its versatile applications in grooving, parting off, axial machining and thread cutting. A range of insert dimensions, as well as right- and left-hand stepped grooving inserts, allow for flexible use, including for flush grooving and parting off.
For external and internal machining, a tool holder is available with or without internal cooling. The patented tool holder with adjustable internal cooling also enables a targeted coolant supply directly to the cutting edge.
Different coatings are optimally matched to various materials and ensure long tool lives as well as reliable chip evacuation. The System 305 is particularly suitable for larger CNC lathes and conventional machines in contract manufacturing, as well as for machining component parts and bar stock. A further advantage is compliance with established standards such as ISO 9974-2 and DIN 471 / 472 – ensuring high compatibility and versatile applications.

x up to 30 % increased **tool life**

X for precise machining and high process reliability

X flexible solutions for external and internal machining

X powerful in every application



grooving depth up to 5 mm
for versatile grooving and parting off applications

various types of inserts
suitable for various machining tasks and requirements

perfect chip removal
thanks to a smoothed tool surface, ensuring a reliable and trouble-free machining process

tool holders in various designs
the right solution for every type of machining

Application example

Machine:	Spinner TC600	
Material:	42CrMo4+QT	
Diameter:	65 mm	
Cutting data:	**Gühring** v_c 120 m/min **f** 0.12 mm/rev a_p 4 mm	**Competition** v_c 120 m/min **f** 0.10 mm/rev a_p 4 mm
Grooves:	**5,500**	**4,500**

System 305

3 effective cutting edges

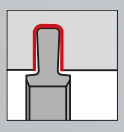
max. 5 mm grooving depth

Versatile down to the finest detail with the System 305

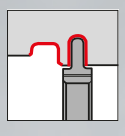
Cutting inserts & tool holders: two components, one powerful system

The System 305 impresses with its wide range of machining options. With a range of tool holders and indexable inserts, numerous applications can be carried out flexibly. In addition to grooving and parting off, recesses are also possible. Threading can also be carried out efficiently with the appropriate indexable inserts.

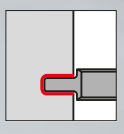
A particular strength of the System 305 is the ability to perform axial recesses at a 45° angle for manufacturing. This ensures optimum accessibility, facilitates improved chip removal and guarantees high process reliability, even with complex component geometries.



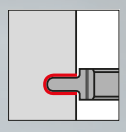
- radial grooving
- straight slots
- type GE



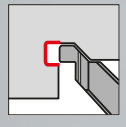
- radial grooving
- full radius slots
- type GE



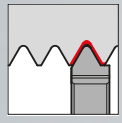
- axial grooving
- straight slots
- type GA



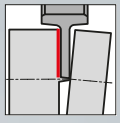
- axial grooving
- full radius slots
- type GA



- axial recessing
- type GA



- threading
- type GG



- parting off
- type GZ

Extended programme – tailored to the component and machining operation

Whether neutral, right-hand or left-hand: maximum flexibility for different component geometries and machining directions



- indexable inserts with 3 usable cutting edges
- coatings with low inherent roughness
- right- and left-hand cutting edge designs

Radial grooving made easy: we have the right solution for your machining needs



NEUTRAL

Versatile application, regardless of the tool holder



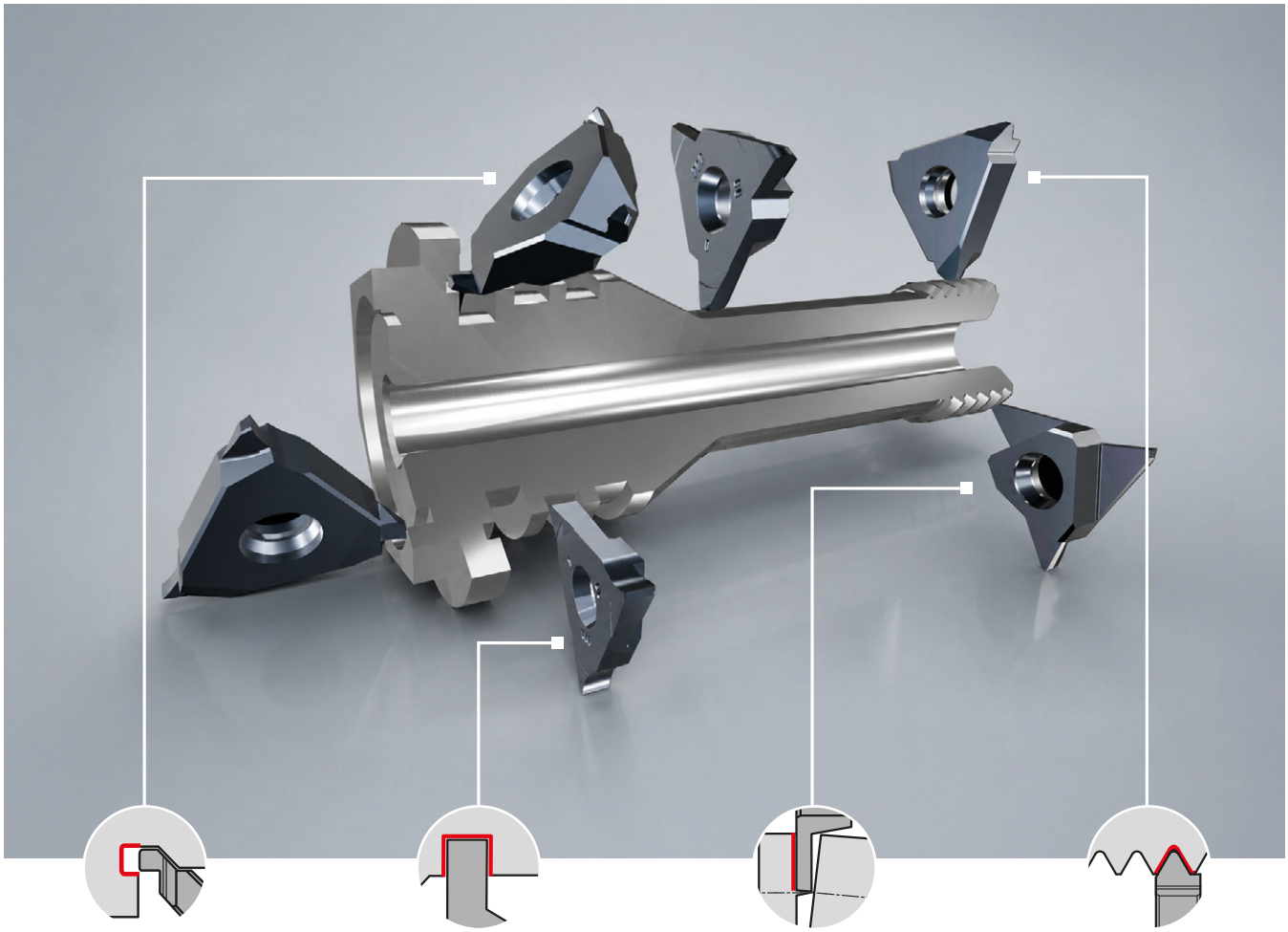
R / L

No interference contours – maximum flexibility when selecting the component

Technical notes

Various types of inserts

One system, many solutions for different machining processes.



Type: GA

Various insert designs are available for **axial grooving** – ranging from geometries for straight slots and full-radius grooving to variants for axial recesses in accordance with ISO 9974-2. The system thus offers the right solution for a variety of axial machining tasks.

Type: GE

For **radial slotting**, the system offers suitable solutions for a variety of applications. In addition to straight slots and full-radius grooving, grooving inserts for snap ring grooves in accordance with DIN 471/472 are also available. Under suitable conditions, simple copy machining operations are also possible.

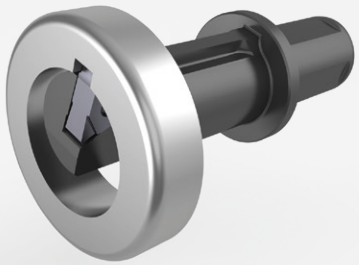
Type: GZ

Parting off is one of the final process steps and places particularly high requirements on process reliability and consistency. Various geometries and cutting edge designs are available for this purpose, enabling optimal adaptation to the component, material and machining conditions.

Type: GG

Various versions for **threading** are available within this product type. Depending on the application, you can choose between partial and full profiles as well as different thread types. This allows the appropriate indexable insert to be specifically tailored to the thread and machining task.

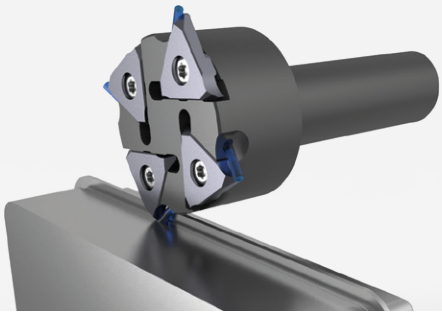
Special application



Broaching of internal longitudinal slots from a hole diameter of 30 mm,

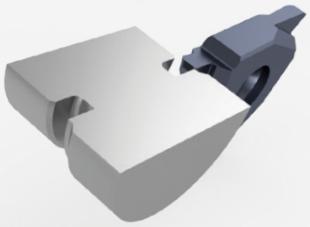
e.g. for profile forms or gear profiles

Tool holders and indexable inserts, type 305.



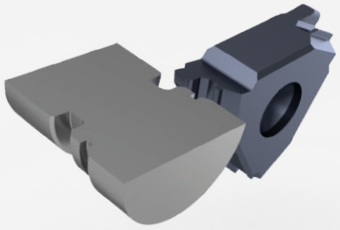
External/internal circular milling of form grooves

Milling bodies and indexable inserts, Type 305.



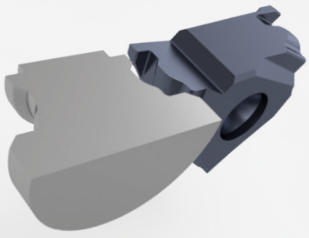
Index. inserts type 305, base width 4.2 mm

External grooving with chamfered groove edges. Profile width up to 4.2 mm, profile depth up to 4 mm.



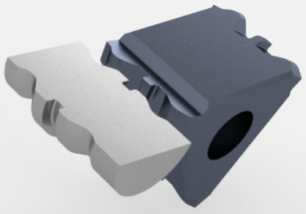
Index. inserts type 305, base width 6.2 mm

Two grooves simultaneously as a double cutter. Profile width up to 6.2 mm, profile depth up to 4 mm.



Index. inserts type 305, base width 8.2 mm

Profiled plate – outer contour. Mould width up to 8.2 mm, mould depth up to 4 mm.



Index. inserts type 305, base width 12.2 mm

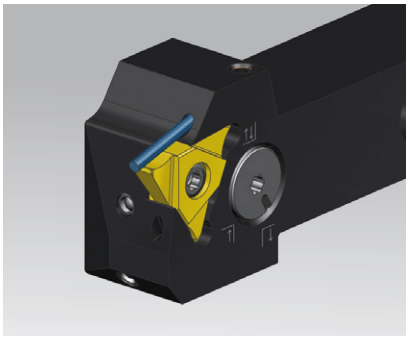
Profiled plate – outer contour. Mould width up to 12.2 mm, mould depth up to 4 mm.

Note: The illustrations shown are examples of possible applications.

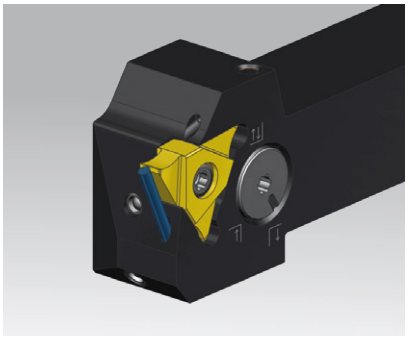
Patented coolant supply – flexibly adjustable

Precise cooling at the cutting edge, tailored to the machining process

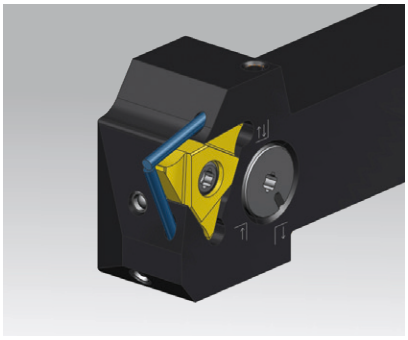
The adjustable valve allows the coolant supply to be optimally directed to the cutting edge.



Coolant supply to the rake face



Coolant supply to the clearance face



Coolant supply to both the rake and clearance faces

Patented cooling technology for maximum flexibility

With the EST tool holder series, Gühring offers a unique tool holder for grooving inserts that stands out thanks to its variable coolant supply. This patented solution enables flexible and targeted cooling of the cutting edge and can be optimally adapted to different machining requirements.

Why variable coolant supply?

The variable coolant supply allows the cooling to be precisely adapted to the specific machining conditions.
At low coolant pressure, cooling can be directed primarily to the rake face. If the coolant supply is impaired by chip formation, rake face cooling enables effective temperature control of the cutting edge.
At high coolant pressure, cooling via both holes is recommended. In this case, cooling via the rake face can have a positive effect on chip breaking, whilst cooling via the clearance face additionally helps to control the cutting edge temperature.

Application example

Longer tool life, improved chip formation
Compared with purely sintered competitor inserts, the ground Gühring insert delivers a longer tool life, improved chip formation and good surface quality. The targeted and optimally adjusted coolant supply also supports reliable chip breaking and contributes to a stable machining process.

Machining: Radial external grooving		**Tool selection**	
Machine:	Mazak Quick Turn Smart 200	System:	305
Component:	Piston	Holder:	GH305.2020.125.00.04.R.IK.EST
Material:	17 CrNiMo 6, 1.6587	Cutting edge:	GE305.0200.020.BA.04.N
Working step:	Grooving 58 HRC, EHT 0.8 mm		
IC:	20 bar		
v_c:	40 m/min		
f:	0.06 mm		
Slot depth:	3 mm		

Article description

Article descriptions indexable insert

Order number example: GE305.0250.020.BA.04.R

Type	System	max. grooving depth	Cutting width	Cutting angle	Chip breaker	Size of insert	Design
GE	**305**	**5**	**2.5**	**0.2**	**BA**	**4**	**R**

Order number example: GZ305.0100.080.AA.04.RR

Type	System	max. grooving depth	Cutting width	Cutting angle	Chip breaker	Size of insert	Design
GZ	**305**	**5**	**1.0**	**80**	**AA**	**4**	**RR**

Order number example: GA305.0150.020.BA.04.R

Type	System	max. grooving depth	Cutting width	Cutting angle	Chip breaker	Size of insert	Design
GA	**305**	**2**	**1.5**	**0.2**	**BA**	**4**	**R**

Order number example: GG305.TM00.100.AA.04.R

Type	System	Profile	Pitch	-	Chip breaker	Size of insert	Design
GG	**305**	**TM**	**1.0**	**-**	**AA**	**4**	**R**

Article descriptions: Holders

Order number example: GH305.2020.125.00.04.R.IK

Type	System	Shank size	Total length	Alignment	Size of insert seat	Design	Internal cooling
GH	**305**	**20x20**	**125**	**0**	**4**	**R**	**IK**

Order number example: GB305.0020.150.90.04.R.IK

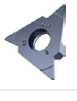
Type	System	Shank size	Total length	Alignment	Size of insert seat	Design	Internal cooling
GB	**305**	**20**	**150**	**90**	**4**	**R**	**IK**

P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
Indexable inserts for radial grooving external and internal												
●	○	○		○	○		GE305	N	VHM	F	25601	20
●	●	○	○	●	○		GE305	N	VHM	E	25602	20
○	○		●				GE305	N	VHM	○	25603	20
●	○	○		○	○		GE305	R	VHM	F	25400	21
●	●	○	○	●	○		GE305	R	VHM	E	25401	21
○	○		●				GE305	R	VHM	○	25402	21
●	○	○		○	○		GE305	L	VHM	F	25403	21
●	●	○	○	●	○		GE305	L	VHM	E	25404	21
○	○		●				GE305	L	VHM	○	25405	21
●	○	○		○	○		GE305	N	VHM	F	25605	22
●	●	○	○	●	○		GE305	N	VHM	E	25606	22
○	●	○	●	●	○		GE305	N	VHM	○	25607	22
●	○	○		○	○		GE305	R	VHM	F	25406	23
●	●	○	○	●	○		GE305	R	VHM	E	25407	23
○	●	○	●	●	○		GE305	R	VHM	○	25408	23
●	○	○		○	○		GE305	L	VHM	F	25409	23
●	●	○	○	●	○		GE305	L	VHM	E	25410	23
○	●	○	●	●	○		GE305	L	VHM	○	25411	23
●	○	○		○	○		GE305	N	VHM	F	25613	24
●	●	○	○	●	○		GE305	N	VHM	E	25614	24
○	●	○	●	●	○		GE305	N	VHM	○	25615	24
●	○	○		○	○		GE305	R	VHM	F	25412	25

P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
Indexable inserts for radial grooving external and internal												
●	●	○	○	●	○		GE305	R	VHM	E	**25413**	25
○	●	○	●	●	○		GE305	R	VHM	○	**25414**	25
●	○	○		○	○		GE305	L	VHM	F	**25415**	25
●	●	○	○	●	○		GE305	L	VHM	E	**25416**	25
○	●	○	●	●	○		GE305	L	VHM	○	**25417**	25

P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
Indexable inserts for axial grooving, flat bottom slots												
●	○	○		○	○		GA305	R	VHM	F	25626	26
●	●	○	○	●	○		GA305	R	VHM	E	25628	26
○	○		●				GA305	R	VHM	○	25630	26
●	○	○		○	○		GA305	L	VHM	F	25627	26
●	●	○	○	●	○		GA305	L	VHM	E	25629	26
○	○		●				GA305	L	VHM	○	25631	26
Indexable inserts for axial grooving, full radius slots												
●	○	○		○	○		GA305	R	VHM	F	25634	27
●	●	○	○	●	○		GA305	R	VHM	E	25636	27
○	●	○	●	●	○		GA305	R	VHM	○	25638	27
●	○	○		○	○		GA305	L	VHM	F	25635	27
●	●	○	○	●	○		GA305	L	VHM	E	25637	27
○	●	○	●	●	○		GA305	L	VHM	○	25639	27
Indexable inserts for grooving axial external recesses												
●	○	○		○	○		GA305	R	VHM	F	25618	28
●	●	○	○	●	○		GA305	R	VHM	E	25620	28
○	○		●				GA305	R	VHM	○	25622	28
●	○	○		○	○		GA305	L	VHM	F	25619	28
●	●	○	○	●	○		GA305	L	VHM	E	25621	28
○	○		●				GA305	L	VHM	○	25623	28

Indexable inserts for parting off

P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
●	○	○		○	○		GZ305	N	VHM	F	25641	29
●	●	○	○	●	○		GZ305	N	VHM	E	25642	29
○	●	○	●	●	○		GZ305	N	VHM	○	25643	29
●	○	○		○	○		GZ305	R	VHM	F	25418	30
●	●	○	○	●	○		GZ305	R	VHM	E	25419	30
○	●	○	●	●	○		GZ305	R	VHM	○	25420	30
●	○	○		○	○		GZ305	L	VHM	F	25421	30
●	●	○	○	●	○		GZ305	L	VHM	E	25422	30
○	●	○	●	●	○		GZ305	L	VHM	○	25423	30
●	○	○		○	○		GZ305	R	VHM	F	25646	31
●	●	○	○	●	○		GZ305	R	VHM	E	25648	31
○	●	○	●	●	○		GZ305	R	VHM	○	25650	31
●	○	○		○	○		GZ305	L	VHM	F	25647	31
●	●	○	○	●	○		GZ305	L	VHM	E	25649	31
○	●	○	●	●	○		GZ305	L	VHM	○	25651	31
●	○	○		○	○		GZ305	R	VHM	F	25424	32
●	●	○	○	●	○		GZ305	R	VHM	E	25425	32
○	●	○	●	●	○		GZ305	R	VHM	○	25426	32
●	○	○		○	○		GZ305	L	VHM	F	25427	32

Indexable inserts for parting off

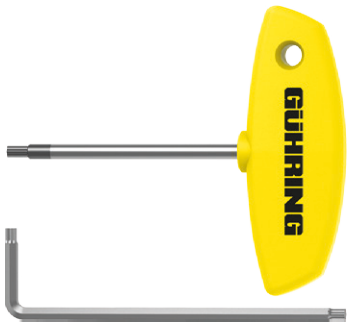
P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
●	●	○	○	●	○		GZ305	L	VHM	E	25428	32
○	●	○	●	●	○		GZ305	L	VHM	○	25429	32
●	○	○		○	○		GZ305	R	VHM	F	25430	33
●	●	○	○	●	○		GZ305	R	VHM	E	25431	33
○	●	○	●	●	○		GZ305	R	VHM	○	25432	33
●	○	○		○	○		GZ305	L	VHM	F	25433	33
●	●	○	○	●	○		GZ305	L	VHM	E	25434	33
○	●	○	●	●	○		GZ305	L	VHM	○	25435	33

P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
Indexable inserts for threading, part profile, external												
●	○	○		○	○		GG305	R	VHM	F	25654	34
●	●	○	○	●	○		GG305	R	VHM	E	25656	34
○	○		●				GG305	R	VHM		25658	34
●	○	○		○	○		GG305	L	VHM	F	25655	34
●	●	○	○	●	○		GG305	L	VHM	E	25657	34
○	○		●				GG305	L	VHM		25659	34
Indexable inserts for threading, full profile, external												
●	○	○		○	○		GG305	R	VHM	F	25662	35
●	●	○	○	●	○		GG305	R	VHM	E	25664	35
○	○		●				GG305	R	VHM		25666	35
●	○	○		○	○		GG305	L	VHM	F	25663	35
●	●	○	○	●	○		GG305	L	VHM	E	25665	35
○	○		●				GG305	L	VHM		25667	35
Indexable inserts for threading, Whitworth												
●	○	○		○	○		GG305	R	VHM	F	25668	36
●	●	○	○	●	○		GG305	R	VHM	E	25670	36
○	○		●				GG305	R	VHM		25672	36
●	○	○		○	○		GG305	L	VHM	F	25669	36
●	●	○	○	●	○		GG305	L	VHM	E	25671	36
○	○		●				GG305	L	VHM		25673	36
Indexable inserts for threading, UNC/UNF												
●	○	○		○	○		GG305	R	VHM	F	25674	37

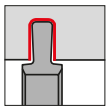
P	M	K	N	S	H	Tool illustration	Type	Cutting direction	Tool material	Surface	Article no.	Page
Indexable inserts for threading, UNC/UNF												
●	●	○	○	●	○		GG305	R	VHM	E	25676	37
○	○		●				GG305	R	VHM	○	25678	37
●	○	○		○	○		GG305	L	VHM	F	25675	37
●	●	○	○	●	○		GG305	L	VHM	E	25677	37
○	○		●				GG305	L	VHM	○	25679	37

Tool illustration	Type	Design	Article no.	Page
Square shank holder straight, external machining, without IC				
	GH305	R	25350	38
	GH305	L	25351	38
Square shank holders straight, external machining, with IC				
	GH305	R	25352	39
	GH305	L	25353	39
Square shank holders straight, external machining, IC adjustable				
	GH305	R	25372	40
	GH305	L	25373	40
Square shank holders 90° offset, external machining, without IC				
	GH305	R	25356	41
	GH305	L	25357	41
Square shank holders 90° offset, external machining, with IC				
	GH305	R	25358	42
	GH305	L	25359	42
Square shank holders 45° offset, external machining, without IC				
	GH305	R	25362	43
	GH305	L	25363	43

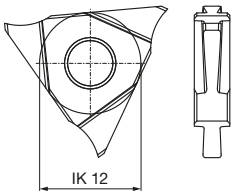
Tool illustration	Type	Design	Article no.	Page
Square shank holders 45° offset, external machining, with IC				
	GH305	R	25364	44
	GH305	L	25365	44
Round shank holders, internal machining, without IC				
	GB305	R	25368	45
	GB305	L	25369	45
Round shank holders, internal machining, with IC				
	GB305	R	25370	46
	GB305	L	25371	46

Tool illustration	Article no.	Page
Accessories		
	**4915**	47
	**4960**	47
	**25904**	47
	**25901**	47
	**25902**	48
	**25905**	48
	**25913**	48
	**25910**	48
	**25923**	48

Indexable inserts for radial grooving external and internal



snap ring grooves to DIN471/472, NW = 0.5-5.15 mm
indexable inserts applicable in right and left holders • geometry .BA ground • pay attention to assignment holder/insert seat size 04/06 • for tool holders type GH305/GB305, size 04/06 • for tool holders type GH305/GB305, size 04/06





P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 50-51



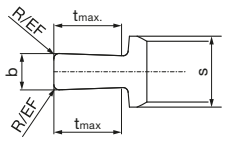
P	M	K	N	S	H
●	●	○	○	●	○

VHM GE305 (E) cutting data see page 50-51



P	M	K	N	S	H
○	○		●		

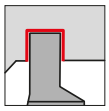
VHM GE305 ○ cutting data see page 50-51



Article no. **25601** (F) (N)
Article no. **25602** (E) (N)
Article no. **25603** ○ (N)

NW mm	b ±0,02 mm	R mm	EF mm	tmax. mm	s mm	Size	Code no.	Description
0.50	0.55			1.50	4.20	04	12.001	GE305.0050.000.BA.04.N
0.60	0.65			1.50	4.20	04	12.002	GE305.0060.000.BA.04.N
0.70	0.75			1.50	4.20	04	12.003	GE305.0070.000.BA.04.N
0.80	0.85			1.50	4.20	04	12.004	GE305.0080.000.BA.04.N
0.90	0.95			1.50	4.20	04	12.005	GE305.0090.000.BA.04.N
1.00	1.05		0.05	3.00	4.20	04	12.006	GE305.0100.000.BA.04.N
1.10	1.22		0.05	3.00	4.20	04	12.007	GE305.0110.000.BA.04.N
1.30	1.42		0.05	3.00	4.20	04	12.008	GE305.0130.000.BA.04.N
1.60	1.72		0.05	4.00	4.20	04	12.009	GE305.0160.000.BA.04.N
1.85	1.97	0.15		4.00	4.20	04	12.010	GE305.0185.015.BA.04.N
2.15	2.27	0.15		5.00	4.20	04	12.011	GE305.0215.015.BA.04.N
2.65	2.77	0.15		5.00	4.20	04	12.012	GE305.0265.015.BA.04.N
3.15	3.27	0.15		5.00	4.20	04	12.013	GE305.0315.015.BA.04.N
4.15	4.27	0.15		5.00	6.20	06	12.014	GE305.0415.015.BA.06.N
5.15	5.27	0.15		5.00	6.20	06	12.015	GE305.0515.015.BA.06.N

Indexable inserts for radial grooving external and internal



snap ring grooves to DIN471/472, NW = 0.5-5.15 mm

indexable inserts applicable in right and left holders • geometry .BA ground • pay attention to assignment holder/insert seat size 04/06 • for tool holders type GH305/GB305, size 04/06 • for tool holders type GH305/GB305, size 04/06



P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 50-51



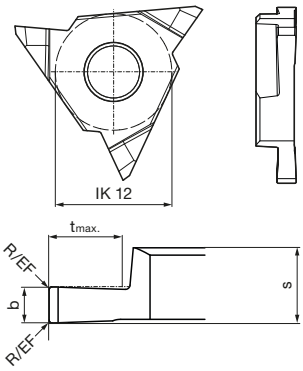
P	M	K	N	S	H
●	●	○	○	●	○

VHM GE305 (E) cutting data see page 50-51



P	M	K	N	S	H
○	○		●		

VHM GE305 ( ) cutting data see page 50-51



Article no. **25400** (F) (R)

Article no. **25401** (E) (R)

Article no. **25402** ( ) (R)

NW mm	b ±0,02 mm	R mm	EF mm	tmax. mm	s mm	Size	Code no.	Description
0.50	0.55			1.50	4.10	04	12.001	GE305.0050.000.BA.04.R
0.60	0.65			1.50	4.10	04	12.002	GE305.0060.000.BA.04.R
0.70	0.75			1.50	4.10	04	12.003	GE305.0070.000.BA.04.R
0.80	0.85			1.50	4.10	04	12.004	GE305.0080.000.BA.04.R
0.90	0.95			1.50	4.10	04	12.005	GE305.0090.000.BA.04.R
1.00	1.05		0.05	3.00	4.10	04	12.006	GE305.0100.000.BA.04.R
1.10	1.22		0.05	3.00	4.10	04	12.007	GE305.0110.000.BA.04.R
1.30	1.42		0.05	3.00	4.10	04	12.008	GE305.0130.000.BA.04.R
1.60	1.72		0.05	4.00	4.10	04	12.009	GE305.0160.000.BA.04.R
1.85	1.97	0.15		4.00	4.10	04	12.010	GE305.0185.015.BA.04.R
2.15	2.27	0.15		5.00	4.10	04	12.011	GE305.0215.015.BA.04.R
2.65	2.77	0.15		5.00	4.10	04	12.012	GE305.0265.015.BA.04.R
3.15	3.27	0.15		5.00	4.10	04	12.013	GE305.0315.015.BA.04.R

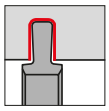
Article no. **25403** (F) (L)

Article no. **25404** (E) (L)

Article no. **25405** ( ) (L)

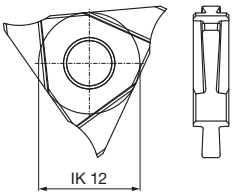
On the left-hand design, the designation changes to .L

Indexable inserts for radial grooving and external and internal copying



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .BA ground • for tool holders type GH305/GB305, size 04





P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 51-52



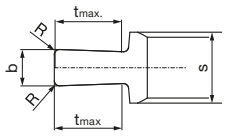
P	M	K	N	S	H
●	●	○	○	●	○

VHM GE305 (E) cutting data see page 51-52



P	M	K	N	S	H
○	●	○	●	●	○

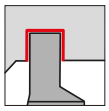
VHM GE305 ◯ cutting data see page 51-52



Article no.	**25605**	F N
Article no.	**25606**	E N
Article no.	**25607**	◯ N

b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	3.00	4.20	04	12.001	GE305.0100.010.BA.04.N
1.50	0.20	3.00	4.20	04	12.002	GE305.0150.020.BA.04.N
2.00	0.15	4.00	4.20	04	12.009	GE305.0200.015.BA.04.N
2.00	0.20	4.00	4.20	04	12.003	GE305.0200.020.BA.04.N
2.50	0.20	5.00	4.20	04	12.010	GE305.0250.020.BA.04.N
2.50	0.30	5.00	4.20	04	12.004	GE305.0250.030.BA.04.N
3.00	0.15	5.00	4.20	04	12.011	GE305.0300.015.BA.04.N
3.00	0.20	5.00	4.20	04	12.012	GE305.0300.020.BA.04.N
3.00	0.30	5.00	4.20	04	12.005	GE305.0300.030.BA.04.N
3.50	0.30	5.00	4.20	04	12.006	GE305.0350.030.BA.04.N
4.00	0.20	5.00	4.20	04	12.007	GE305.0400.020.BA.04.N
4.00	0.40	5.00	4.20	04	12.008	GE305.0400.040.BA.04.N

Indexable inserts for radial grooving and external and internal copying



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .BA ground • for tool holders type GH305/GB305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 51-52



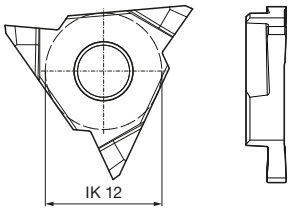
P	M	K	N	S	H
●	●	○	○	●	○

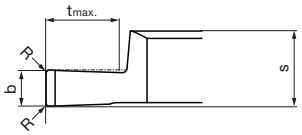
VHM GE305 (E) cutting data see page 51-52



P	M	K	N	S	H
○	●	○	●	●	○

VHM GE305 ◯ cutting data see page 51-52





Article no. **25406** (F) (R)

Article no. **25407** (E) (R)

Article no. **25408** ◯ (R)

b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	3.00	4.10	04	12.001	GE305.0100.010.BA.04.R
1.50	0.20	3.00	4.10	04	12.002	GE305.0150.020.BA.04.R
2.00	0.15	4.00	4.10	04	12.003	GE305.0200.015.BA.04.R
2.00	0.20	4.00	4.10	04	12.004	GE305.0200.020.BA.04.R
2.50	0.20	5.00	4.10	04	12.005	GE305.0250.020.BA.04.R
2.50	0.30	5.00	4.10	04	12.006	GE305.0250.030.BA.04.R
3.00	0.15	5.00	4.10	04	12.007	GE305.0300.015.BA.04.R
3.00	0.20	5.00	4.10	04	12.008	GE305.0300.020.BA.04.R
3.00	0.30	5.00	4.10	04	12.009	GE305.0300.030.BA.04.R
3.50	0.30	5.00	4.10	04	12.010	GE305.0350.030.BA.04.R
4.00	0.20	5.00	4.10	04	12.011	GE305.0400.020.BA.04.R
4.00	0.40	5.00	4.10	04	12.012	GE305.0400.040.BA.04.R

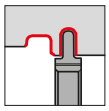
Article no. **25409** (F) (L)

Article no. **25410** (E) (L)

Article no. **25411** ◯ (L)

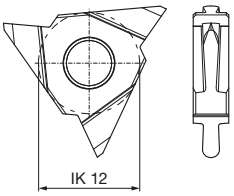
On the left-hand design, the designation changes to .L

Indexable inserts for radial grooving and external and internal copying



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305/GB305, size 04





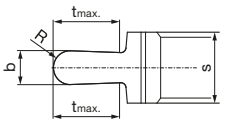
P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 53-54



P	M	K	N	S	H
●	●	○	○	●	○

VHM GE305 (E) cutting data see page 53-54





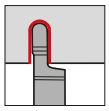
P	M	K	N	S	H
○	●	○	●	●	○

VHM GE305 ○ cutting data see page 53-54

Article no.	**25613**	F N
Article no.	**25614**	E N
Article no.	**25615**	○ N

b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
0.50	0.25	1.50	4.20	04	12.001	GE305.0050.025.AA.04.N
1.00	0.50	3.00	4.20	04	12.002	GE305.0100.050.AA.04.N
1.10	0.55	3.00	4.20	04	12.003	GE305.0110.055.AA.04.N
1.20	0.60	3.00	4.20	04	12.004	GE305.0120.060.AA.04.N
1.40	0.70	3.00	4.20	04	12.005	GE305.0140.070.AA.04.N
1.50	0.75	3.00	4.20	04	12.006	GE305.0150.075.AA.04.N
1.60	0.80	4.00	4.20	04	12.007	GE305.0160.080.AA.04.N
1.80	0.90	4.00	4.20	04	12.008	GE305.0180.090.AA.04.N
2.00	1.00	4.00	4.20	04	12.009	GE305.0200.100.AA.04.N
2.20	1.10	5.00	4.20	04	12.010	GE305.0220.110.AA.04.N
2.50	1.25	5.00	4.20	04	12.011	GE305.0250.125.AA.04.N
2.80	1.40	5.00	4.20	04	12.012	GE305.0280.140.AA.04.N
3.00	1.50	5.00	4.20	04	12.013	GE305.0300.150.AA.04.N
3.60	1.80	5.00	4.20	04	12.014	GE305.0360.180.AA.04.N
4.00	2.00	5.00	4.20	04	12.015	GE305.0400.200.AA.04.N

Indexable inserts for radial grooving and external and internal copying



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305/GB305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GE305 (F) cutting data see page 53-54



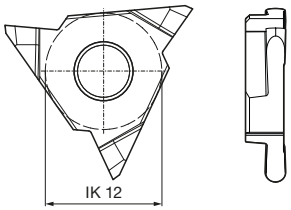
P	M	K	N	S	H
●	●	○	○	●	○

VHM GE305 (E) cutting data see page 53-54



P	M	K	N	S	H
○	●	○	●	●	○

VHM GE305 ◯ cutting data see page 53-54



Article no. **25412** (F) (R)

Article no. **25413** (E) (R)

Article no. **25414** ◯ (R)

b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
0.50	0.25	1.50	4.10	04	12.001	GE305.0050.025.AA.04.R
1.00	0.50	3.00	4.10	04	12.002	GE305.0100.050.AA.04.R
1.10	0.55	3.00	4.10	04	12.003	GE305.0110.055.AA.04.R
1.20	0.60	3.00	4.10	04	12.004	GE305.0120.060.AA.04.R
1.40	0.70	3.00	4.10	04	12.005	GE305.0140.070.AA.04.R
1.50	0.75	3.00	4.10	04	12.006	GE305.0150.075.AA.04.R
1.60	0.80	4.00	4.10	04	12.007	GE305.0160.080.AA.04.R
1.80	0.90	4.00	4.10	04	12.008	GE305.0180.090.AA.04.R
2.00	1.00	4.00	4.10	04	12.009	GE305.0200.100.AA.04.R
2.20	1.10	5.00	4.10	04	12.010	GE305.0220.110.AA.04.R
2.50	1.25	5.00	4.10	04	12.011	GE305.0250.125.AA.04.R
2.80	1.40	5.00	4.10	04	12.012	GE305.0280.140.AA.04.R
3.00	1.50	5.00	4.10	04	12.013	GE305.0300.150.AA.04.R
3.60	1.80	5.00	4.10	04	12.014	GE305.0360.180.AA.04.R
4.00	2.00	5.00	4.10	04	12.015	GE305.0400.200.AA.04.R

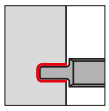
Article no. **25415** (F) (L)

Article no. **25416** (E) (L)

Article no. **25417** ◯ (L)

On the left-hand design, the designation changes to .L

Indexable inserts for axial grooving, flat bottom slots



grooving depth up to 3 mm
right handed inserts in right, left handed inserts in left tool holders
• geometry .BA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GA305 (F) cutting data see page 55



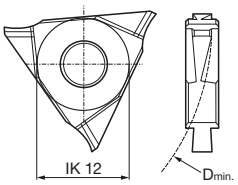
P	M	K	N	S	H
●	●	○	○	●	○

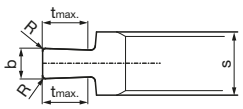
VHM GA305 (E) cutting data see page 55



P	M	K	N	S	H
○	○		●		

VHM GA305 ( ) cutting data see page 55





Right-hand design as shown. Left-hand design is mirror image.

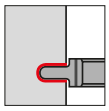
Article no.	25626	(F) (R)
Article no.	25628	(E) (R)
Article no.	25630	( ) (R)

Dmin. mm	b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
15.00	1.50	0.20	2.00	4.20	04	12.001	GA305.0150.020.BA.04.R
30.00	2.00	0.20	3.00	4.20	04	12.002	GA305.0200.020.BA.04.R
30.00	2.50	0.20	3.00	4.20	04	12.003	GA305.0250.020.BA.04.R
30.00	3.00	0.20	3.00	4.20	04	12.004	GA305.0300.020.BA.04.R

On the left-hand design, the designation changes to .L

Article no.	25627	(F) (L)
Article no.	25629	(E) (L)
Article no.	25631	( ) (L)

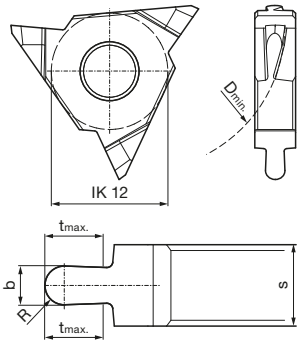
Indexable inserts for axial grooving, full radius slots



grooving depth up to 3 mm

right handed inserts in right, left handed inserts in left tool holders

• geometry .AA ground • for tool holders type GH305, size 04





P	M	K	N	S	H
●	○	○		○	○

VHM GA305 (F) cutting data see page 55



P	M	K	N	S	H
●	●	○	○	●	○

VHM GA305 (E) cutting data see page 55



P	M	K	N	S	H
○	●	○	●	●	○

VHM GA305 ◯ cutting data see page 55

Article no. **25634** (F) (R)

Article no. **25636** (E) (R)

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25638** ◯ (R)

Dmin. mm	b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
15.00	1.50	0.75	2.00	4.20	04	12.001	GA305.0150.075.AA.04.R
30.00	2.00	1.00	3.00	4.20	04	12.002	GA305.0200.100.AA.04.R
30.00	3.00	1.50	3.00	4.20	04	12.003	GA305.0300.150.AA.04.R
30.00	4.00	2.00	3.00	4.20	04	12.004	GA305.0400.200.AA.04.R

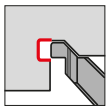
Article no. **25635** (F) (L)

Article no. **25637** (E) (L)

On the left-hand design, the designation changes to .L

Article no. **25639** ◯ (L)

Indexable inserts for grooving axial external recesses



grooving depth up to 2 mm

right handed inserts in right, left handed inserts in left tool holders • geometry .AA ground • for axial external recesses according to ISO 9974-2 • for tool holders type GH305, 45° offset



P	M	K	N	S	H
●	○	○		○	○

VHM GA305 (F) cutting data see page 55



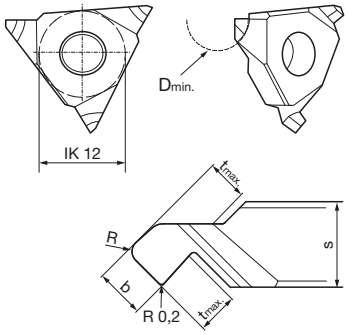
P	M	K	N	S	H
●	●	○	○	●	○

VHM GA305 (E) cutting data see page 55



P	M	K	N	S	H
○	○		●		

VHM GA305 ( ) cutting data see page 55



Right-hand design as shown. Left-hand design is mirror image.

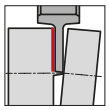
Article no.	25618	F	R
Article no.	25620	E	R
Article no.	25622	( )	R

Dmin. mm	b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
8.00	1.50	0.40	1.60	4.20	04	12.001	GA305.0150.040.AA.04.R
12.00	2.00	0.50	1.90	4.20	04	12.002	GA305.0200.050.AA.04.R
20.00	2.40	0.60	2.00	4.20	04	12.003	GA305.0240.060.AA.04.R

On the left-hand design, the designation changes to .L

Article no.	25619	F	L
Article no.	25621	E	L
Article no.	25623	( )	L

Indexable inserts for parting off



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GZ305 (F) cutting data see page 56



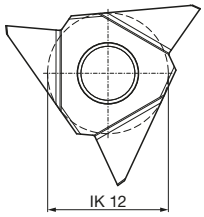
P	M	K	N	S	H
●	●	○	○	●	○

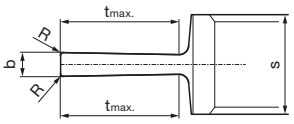
VHM GZ305 (E) cutting data see page 56



P	M	K	N	S	H
○	●	○	●	●	○

VHM GZ305 ( ) cutting data see page 56

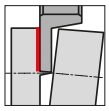




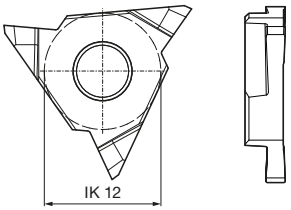
Article no.	**25641**	(F) (N)
Article no.	**25642**	(E) (N)
Article no.	**25643**	( ) (N)

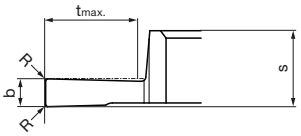
b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	5.00	4.20	04	12.001	GZ305.0100.000.AA.04.N
1.50	0.10	5.00	4.20	04	12.002	GZ305.0150.000.AA.04.N

Indexable inserts for parting off



grooving depth up to 5 mm
indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305, size 04







P	M	K	N	S	H
●	○	○		○	○

VHM GZ305 (F) cutting data see page 56



P	M	K	N	S	H
●	●	○	○	●	○

VHM GZ305 (E) cutting data see page 56



P	M	K	N	S	H
○	●	○	●	●	○

VHM GZ305 ◯ cutting data see page 56

Right-hand design as shown. Left-hand design is mirror image.

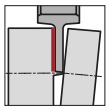
Article no. **25418** (F) (R)
Article no. **25419** (E) (R)
Article no. **25420** ◯ (R)

b ±0,02 mm	R mm	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	5.00	4.10	04	12.001	GZ305.0100.000.AA.04.R
1.50	0.10	5.00	4.10	04	12.002	GZ305.0150.000.AA.04.R

On the left-hand design, the designation changes to .L

Article no. **25421** (F) (L)
Article no. **25422** (E) (L)
Article no. **25423** ◯ (L)

Indexable inserts for parting off



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GZ305 (F) cutting data see page 56



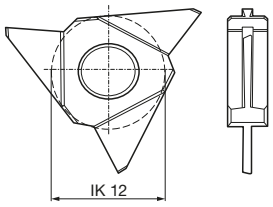
P	M	K	N	S	H
●	●	○	○	●	○

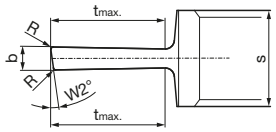
VHM GZ305 (E) cutting data see page 56



P	M	K	N	S	H
○	●	○	●	●	○

VHM GZ305 ( ) cutting data see page 56





Right-hand design as shown. Left-hand design is mirror image.

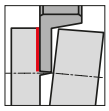
Article no.	25646	(F) (R)
Article no.	25648	(E) (R)
Article no.	25650	( ) (R)

b ±0,02 mm	R mm	W2 °	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	8.00	5.00	4.20	04	12.001	GZ305.0100.080.AA.04.R
1.50	0.10	8.00	5.00	4.20	04	12.002	GZ305.0150.080.AA.04.R

On the left-hand design, the designation changes to .L

Article no.	25647	(F) (L)
Article no.	25649	(E) (L)
Article no.	25651	( ) (L)

Indexable inserts for parting off



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GZ305 (F) cutting data see page 56



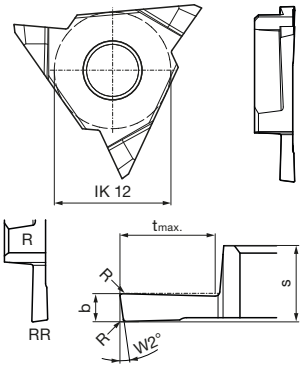
P	M	K	N	S	H
●	●	○	○	●	○

VHM GZ305 (E) cutting data see page 56



P	M	K	N	S	H
○	●	○	●	●	○

VHM GZ305 ( ) cutting data see page 56



Right-hand design as shown. Left-hand design is mirror image.

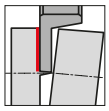
Article no.	25424	(F) (R)
Article no.	25425	(E) (R)
Article no.	25426	( ) (R)

b ±0,02 mm	R mm	W2 °	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	8.00	5.00	4.10	04	12.001	GZ305.0100.080.AA.04.RR
1.50	0.10	8.00	5.00	4.10	04	12.002	GZ305.0150.080.AA.04.RR

On the left-hand design, the designation changes to .LL

Article no.	25427	(F) (L)
Article no.	25428	(E) (L)
Article no.	25429	( ) (L)

Indexable inserts for parting off



grooving depth up to 5 mm

indexable inserts applicable in right and left holders • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GZ305 (F) cutting data see page 56



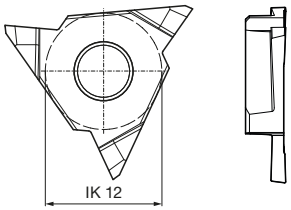
P	M	K	N	S	H
●	●	○	○	●	○

VHM GZ305 (E) cutting data see page 56



P	M	K	N	S	H
○	●	○	●	●	○

VHM GZ305 ◯ cutting data see page 56



Article no.	**25430**	F	R
Article no.	**25431**	E	R
Article no.	**25432**	◯	R

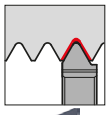
Right-hand design as shown. Left-hand design is mirror image.

b ±0,02 mm	R mm	W2 °	tmax. mm	s mm	Size	Code no.	Description
1.00	0.10	8.00	5.00	4.10	04	12.001	GZ305.0100.080.AA.04.RL
1.50	0.10	8.00	5.00	4.10	04	12.002	GZ305.0150.080.AA.04.RL

Article no.	**25433**	F	L
Article no.	**25434**	E	L
Article no.	**25435**	◯	L

On the left-hand design, the designation changes to .LR

Indexable inserts for threading, part profile, external



pitch P = 1.0-6.0

ground chip breaker • geometry .AA ground • pay attention to assignment holder/insert seat size 04/06 • for tool holders type GH305, size 04/06



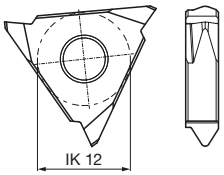
P	M	K	N	S	H				
●	○	○		○	○	VHM	GG305	F	cutting data see page 57

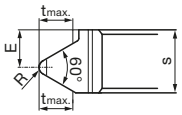


P	M	K	N	S	H				
●	●	○	○	●	○	VHM	GG305	E	cutting data see page 57



P	M	K	N	S	H				
○	○		●			VHM	GG305	◯	cutting data see page 57





Right-hand design as shown. Left-hand design is mirror image.

Article no. **25654** F R

Article no. **25656** E R

Article no. **25658** ◯ R

P mm	E mm	R mm	tmax. mm	s mm	Size	Code no.	Description
0.3-0.5	3.90	0.04	0.40	4.20	04	12.100	GG305.TM00.050.AA.04.R
0.5-0.8	3.80	0.07	0.60	4.20	04	12.110	GG305.TM00.080.AA.04.R
0.8-1.0	3.70	0.11	0.70	4.20	04	12.120	GG305.TM00.099.AA.04.R
1.00	3.60	0.14	0.70	4.20	04	12.010	GG305.TM00.100.AA.04.R
1.25	3.50	0.17	0.85	4.20	04	12.020	GG305.TM00.125.AA.04.R
1.50	3.40	0.21	1.00	4.20	04	12.030	GG305.TM00.150.AA.04.R
1.75	3.20	0.25	1.20	4.20	04	12.040	GG305.TM00.175.AA.04.R
2.00	3.10	0.28	1.35	4.20	04	12.050	GG305.TM00.200.AA.04.R
2.50	2.90	0.36	1.65	4.20	04	12.060	GG305.TM00.250.AA.04.R
3.00	2.60	0.43	2.00	4.20	04	12.070	GG305.TM00.300.AA.04.R
3.50	2.50	0.50	2.25	4.20	04	12.090	GG305.TM00.350.AA.04.R
3.0-6.0	3.50	0.43	4.00	6.20	06	12.080	GG305.TM00.600.AA.06.R

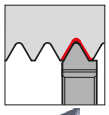
On the left-hand design, the designation changes to .L

Article no. **25655** F L

Article no. **25657** E L

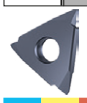
Article no. **25659** ◯ L

Indexable inserts for threading, full profile, external



pitch P = 1.0-6.0

ground chip breaker • geometry .AA ground • pay attention to assignment holder/insert seat size 04/06/08 • for tool holders type GH305, size 04/06/08



P	M	K	N	S	H
●	○	○		○	○

VHM GG305 (F) cutting data see page 57



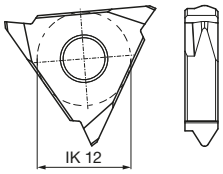
P	M	K	N	S	H
●	●	○	○	●	○

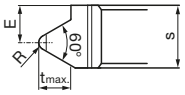
VHM GG305 (E) cutting data see page 57



P	M	K	N	S	H
○	○		●		

VHM GG305 ◯ cutting data see page 57





Right-hand design as shown. Left-hand design is mirror image.

Article no. **25662** (F) (R)

Article no. **25664** (E) (R)

Article no. **25666** ◯ (R)

P mm	E mm	R mm	tmax. mm	s mm	Size	Code no.	Description
1.00	3.60	0.14	0.70	4.20	04	12.010	GG305.VM00.100.AA.04.R
1.25	3.40	0.17	1.00	4.20	04	12.020	GG305.VM00.125.AA.04.R
1.50	3.30	0.21	1.15	4.20	04	12.030	GG305.VM00.150.AA.04.R
1.75	3.20	0.25	1.30	4.20	04	12.040	GG305.VM00.175.AA.04.R
2.00	3.10	0.28	1.45	4.20	04	12.050	GG305.VM00.200.AA.04.R
2.50	2.90	0.36	1.75	4.20	04	12.060	GG305.VM00.250.AA.04.R
3.00	2.70	0.43	2.10	4.20	04	12.070	GG305.VM00.300.AA.04.R
3.50	2.40	0.50	2.40	4.20	04	12.080	GG305.VM00.350.AA.04.R
4.00	4.20	0.57	2.70	6.20	06	12.090	GG305.VM00.400.AA.06.R
5.00	3.80	0.72	3.30	6.20	06	12.100	GG305.VM00.500.AA.06.R
6.00	5.20	0.86	3.90	8.20	08	12.110	GG305.VM00.600.AA.08.R

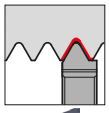
On the left-hand design, the designation changes to .L

Article no. **25663** (F) (L)

Article no. **25665** (E) (L)

Article no. **25667** ◯ (L)

Indexable inserts for threading, Whitworth



pitch 28-11 TPI

ground chip breaker • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GG305 (F) cutting data see page 57



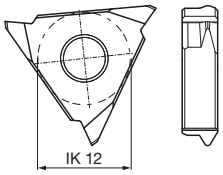
P	M	K	N	S	H
●	●	○	○	●	○

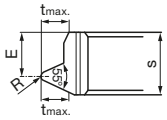
VHM GG305 (E) cutting data see page 57



P	M	K	N	S	H
○	○		●		

VHM GG305 ◯ cutting data see page 57





Right-hand design as shown. Left-hand design is mirror image.

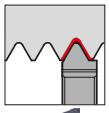
Article no.	25668	F R
Article no.	25670	E R
Article no.	25672	◯ R

P G/inch	E mm	R mm	tmax. mm	s mm	Size	Code no.	Description
28.0	3.60	0.11	0.58	4.20	04	12.010	GG305.VW00.028.AA.04.R
19.0	3.40	0.17	0.86	4.20	04	12.020	GG305.VW00.019.AA.04.R
14.0	3.20	0.23	1.16	4.20	04	12.030	GG305.VW00.014.AA.04.R
11.0	3.00	0.30	1.48	4.20	04	12.040	GG305.VW00.011.AA.04.R

On the left-hand design, the designation changes to .L

Article no.	25669	F L
Article no.	25671	E L
Article no.	25673	◯ L

Indexable inserts for threading, UNC/UNF



pitch 24-12 TPI

ground chip breaker • geometry .AA ground • for tool holders type GH305, size 04



P	M	K	N	S	H
●	○	○		○	○

VHM GG305 (F) cutting data see page 57



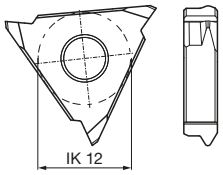
P	M	K	N	S	H
●	●	○	○	●	○

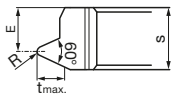
VHM GG305 (E) cutting data see page 57



P	M	K	N	S	H
○	○		●		

VHM GG305 ◯ cutting data see page 57





Right-hand design as shown. Left-hand design is mirror image.

Article no.	**25674**	F R
Article no.	**25676**	E R
Article no.	**25678**	◯ R

P G/inch	E mm	R mm	tmax. mm	s mm	Size	Code no.	Description
24.0	3.60	0.15	0.80	4.20	04	12.010	GG305.VU00.024.AA.04.R
20.0	3.50	0.18	0.90	4.20	04	12.020	GG305.VU00.020.AA.04.R
18.0	3.40	0.20	1.00	4.20	04	12.030	GG305.VU00.018.AA.04.R
16.0	3.30	0.23	1.10	4.20	04	12.040	GG305.VU00.016.AA.04.R
14.0	3.30	0.26	1.20	4.20	04	12.050	GG305.VU00.014.AA.04.R
12.0	3.20	0.31	1.40	4.20	04	12.060	GG305.VU00.012.AA.04.R

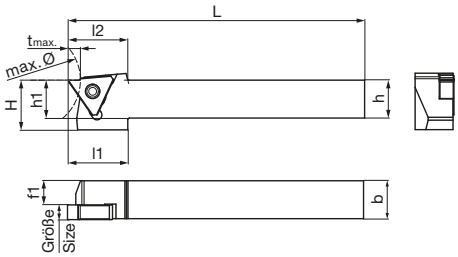
On the left-hand design, the designation changes to .L

Article no.	**25675**	F L
Article no.	**25677**	E L
Article no.	**25679**	◯ L

Square shank holder straight, external machining, without IC

for indexable inserts type 305 • grooving depth up to 5 mm
without internal coolant supply





max. Ø	tmax.
80	5
160	4,5
240	4
320	3,5
axial	3

GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25350**

h mm	b mm	L mm	h1 mm	Dmax. mm	l1 mm	l2 mm	f1 mm	Size	Code no.	Description
10.00	10.00	125.00	10.00	20.00	24.00	25.00	8.20	04	12.013	GH305.1010.125.00.04.R
12.00	12.00	125.00	12.00	20.00	24.00	25.00	8.20	04	12.014	GH305.1212.125.00.04.R
12.70	12.70	127.00	12.70	21.70	25.40	25.40	8.90	04	12.033	GH305.0500.500.00.04.R
15.87	15.87	127.00	15.87	20.87	25.40	25.40	12.07	04	12.021	GH305.0625.500.00.04.R
16.00	16.00	125.00	16.00	21.00	25.00	25.00	12.20	04	12.001	GH305.1616.125.00.04.R
19.05	19.05	127.00	19.05	24.05	25.40	25.40	15.25	04	12.022	GH305.0750.500.00.04.R
20.00	20.00	125.00	20.00	25.00	25.00	25.00	16.20	04	12.002	GH305.2020.125.00.04.R
25.00	25.00	150.00	25.00	30.00	25.00	25.00	21.20	04	12.003	GH305.2525.150.00.04.R
25.40	25.40	152.40	25.40	30.40	25.40	25.40	21.60	04	12.023	GH305.1000.600.00.04.R
10.00	10.00	125.00	10.00	20.00	24.00	25.00	8.20	06	12.015	GH305.1010.125.00.06.R
12.00	12.00	125.00	12.00	20.00	24.00	25.00	8.20	06	12.016	GH305.1212.125.00.06.R
12.70	12.70	127.00	12.70	21.70	25.40	25.40	6.90	06	12.034	GH305.0500.500.00.06.R
15.87	15.87	127.00	15.87	20.87	25.40	25.40	10.07	06	12.024	GH305.0625.500.00.06.R
16.00	16.00	125.00	16.00	21.00	25.00	25.00	10.20	06	12.004	GH305.1616.125.00.06.R
19.05	19.05	127.00	19.05	24.05	25.40	25.40	13.25	06	12.025	GH305.0750.500.00.06.R
20.00	20.00	125.00	20.00	25.00	25.00	25.00	14.20	06	12.005	GH305.2020.125.00.06.R
25.00	25.00	150.00	25.00	30.00	25.00	25.00	19.20	06	12.006	GH305.2525.150.00.06.R
25.40	25.40	152.40	25.40	30.40	25.40	25.40	19.60	06	12.026	GH305.1000.600.00.06.R
10.00	10.00	125.00	10.00	20.00	24.00	25.00	8.20	08	12.017	GH305.1010.125.00.08.R
12.00	12.00	125.00	12.00	20.00	24.00	25.00	8.20	08	12.018	GH305.1212.125.00.08.R
12.70	12.70	127.00	12.70	21.70	25.40	25.40	4.90	08	12.035	GH305.0500.500.00.08.R
15.87	15.87	127.00	15.87	20.87	25.40	25.40	8.07	08	12.027	GH305.0625.500.00.08.R
16.00	16.00	125.00	16.00	21.00	25.00	25.00	8.20	08	12.007	GH305.1616.125.00.08.R
19.05	19.05	127.00	19.05	24.05	25.40	25.40	11.25	08	12.028	GH305.0750.500.00.08.R
20.00	20.00	125.00	20.00	25.00	25.00	25.00	12.20	08	12.008	GH305.2020.125.00.08.R
25.00	25.00	150.00	25.00	30.00	25.00	25.00	17.20	08	12.009	GH305.2525.150.00.08.R
25.40	25.40	152.40	25.40	30.40	25.40	25.40	17.60	08	12.029	GH305.1000.600.00.08.R
10.00	10.00	125.00	10.00	20.00	24.00	25.00	8.20	12	12.019	GH305.1010.125.00.12.R
12.00	12.00	125.00	12.00	20.00	24.00	25.00	8.20	12	12.020	GH305.1212.125.00.12.R
12.70	12.70	127.00	12.70	21.70	25.40	25.40	8.90	12	12.036	GH305.0500.500.00.12.R
15.87	15.87	127.00	15.87	20.87	24.40	25.40	8.27	12	12.030	GH305.0625.500.00.12.R
16.00	16.00	125.00	16.00	21.00	24.00	25.00	8.60	12	12.010	GH305.1616.125.00.12.R
19.05	19.05	127.00	19.05	24.05	25.40	25.40	7.25	12	12.031	GH305.0750.500.00.12.R
20.00	20.00	125.00	20.00	25.00	25.00	25.00	8.20	12	12.011	GH305.2020.125.00.12.R
25.00	25.00	150.00	25.00	30.00	25.00	25.00	13.20	12	12.012	GH305.2525.150.00.12.R
25.40	25.40	152.40	25.40	30.40	25.40	25.40	13.60	12	12.032	GH305.1000.600.00.12.R

On the left-hand design, the designation changes to .L

Article no. **25351**

Spare parts

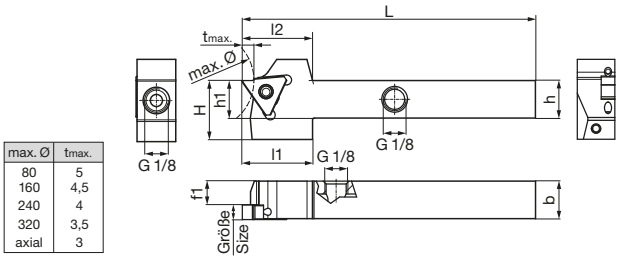
Article no. 25901	Clamping screw	Tightening torque Nm	Size	Description
Code 4.002	M4x11x15IP	3-3.5	04-06	GH305.1010.125....; GH305.1212.125...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.0625.500....; GH305.0750.500...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.1616.125....; GH305.1000.600...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.2020.125....; GH305.2525.150...
Code 4.000	M4x15x15IP	3-3.5	08	GH305....
Code 4.003	M4x17x15IP	3-3.5	12	GH305....

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders straight, external machining, with IC

for indexable inserts type 305 • grooving depth up to 5 mm
with internal coolant supply from above and below





max. Ø	tmax.
80	5
160	4,5
240	4
320	3,5
axial	3

GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25352**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f1 mm	Size	Code no.	Description
12.00	12.00	125.00	12.00	21.00	30.00	30.00	10.20	04	12.014	GH305.1212.125.00.04.R.IK
12.70	12.70	127.00	12.70	21.70	30.48	30.48	8.90	04	12.033	GH305.0500.500.00.04.R.IK
15.87	15.87	127.00	15.87	24.87	30.48	30.48	12.07	04	12.021	GH305.0625.500.00.04.R.IK
16.00	16.00	125.00	16.00	25.00	30.00	30.00	12.20	04	12.001	GH305.1616.125.00.04.R.IK
19.05	19.05	127.00	19.05	24.05	30.48	30.48	15.25	04	12.022	GH305.0750.500.00.04.R.IK
20.00	20.00	125.00	20.00	25.00	30.00	30.00	16.20	04	12.002	GH305.2020.125.00.04.R.IK
25.00	25.00	150.00	25.00	30.00	30.00	30.00	21.20	04	12.003	GH305.2525.150.00.04.R.IK
25.40	25.40	152.40	25.40	30.40	30.48	30.48	21.60	04	12.023	GH305.1000.600.00.04.R.IK
12.00	12.00	125.00	12.00	21.00	30.00	30.00	10.20	06	12.016	GH305.1212.125.00.06.R.IK
12.70	12.70	127.00	12.70	21.70	30.48	30.48	6.90	06	12.034	GH305.0500.500.00.06.R.IK
15.87	15.87	127.00	15.87	24.87	30.48	30.48	10.07	06	12.024	GH305.0625.500.00.06.R.IK
16.00	16.00	125.00	16.00	25.00	30.00	30.00	10.20	06	12.004	GH305.1616.125.00.06.R.IK
19.05	19.05	127.00	19.05	24.05	30.48	30.48	13.25	06	12.025	GH305.0750.500.00.06.R.IK
20.00	20.00	125.00	20.00	25.00	30.00	30.00	14.20	06	12.005	GH305.2020.125.00.06.R.IK
25.00	25.00	150.00	25.00	30.00	30.00	30.00	19.20	06	12.006	GH305.2525.150.00.06.R.IK
25.40	25.40	152.40	25.40	30.40	30.48	30.48	19.60	06	12.026	GH305.1000.600.00.06.R.IK
12.00	12.00	125.00	12.00	21.00	30.00	30.00	10.20	08	12.018	GH305.1212.125.00.08.R.IK
12.70	12.70	127.00	12.70	21.70	30.48	30.48	4.90	08	12.035	GH305.0500.500.00.08.R.IK
15.87	15.87	127.00	15.87	24.87	30.48	30.48	8.07	08	12.027	GH305.0625.500.00.08.R.IK
16.00	16.00	125.00	16.00	25.00	30.00	30.00	8.20	08	12.007	GH305.1616.125.00.08.R.IK
19.05	19.05	127.00	19.05	24.05	30.48	30.48	11.25	08	12.028	GH305.0750.500.00.08.R.IK
20.00	20.00	125.00	20.00	25.00	30.00	30.00	12.20	08	12.008	GH305.2020.125.00.08.R.IK
25.00	25.00	150.00	25.00	30.00	30.00	30.00	17.20	08	12.009	GH305.2525.150.00.08.R.IK
25.40	25.40	152.40	25.40	30.40	30.48	30.48	17.60	08	12.029	GH305.1000.600.00.08.R.IK
12.00	12.00	125.00	12.00	25.00	30.00	30.00	10.20	12	12.020	GH305.1212.125.00.12.R.IK
12.70	12.70	127.00	12.70	25.70	30.48	30.48	10.90	12	12.036	GH305.0500.500.00.12.R.IK
15.87	15.87	127.00	15.87	24.87	30.48	30.48	8.07	12	12.030	GH305.0625.500.00.12.R.IK
16.00	16.00	125.00	16.00	25.00	30.00	30.00	8.20	12	12.010	GH305.1616.125.00.12.R.IK
19.05	19.05	127.00	19.05	24.05	30.48	30.48	7.25	12	12.031	GH305.0750.500.00.12.R.IK
20.00	20.00	125.00	20.00	25.00	30.00	30.00	8.20	12	12.011	GH305.2020.125.00.12.R.IK
25.00	25.00	150.00	25.00	30.00	30.00	30.00	13.20	12	12.012	GH305.2525.150.00.12.R.IK
25.40	25.40	152.40	25.40	30.40	30.48	30.48	13.60	12	12.032	GH305.1000.600.00.12.R.IK

On the left-hand design, the designation changes to .L

Article no. **25353**

Spare parts

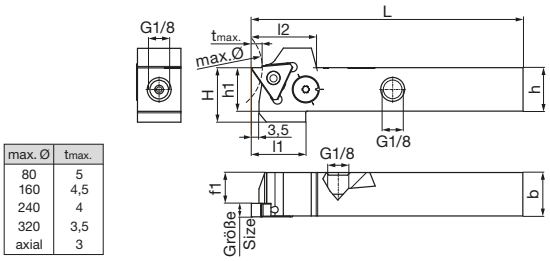
Article no. 25901	Clamping screw	Tightening torque Nm	Size	Description
Code 4.002	M4x11x15IP	3-3.5	04-06	GH305.1010.125....; GH305.1212.125...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.0625.500....; GH305.0750.500...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.1616.125....; GH305.1000.600...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.2020.125....; GH305.2525.150...
Code 4.000	M4x15x15IP	3-3.5	08	GH305....
Code 4.003	M4x17x15IP	3-3.5	12	GH305....

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders straight, external machining, IC adjustable

for indexable inserts type 305 • grooving depth up to 5 mm
with internal coolant supply





max. Ø	tmax.
80	5
160	4,5
240	4
320	3,5
axial	3

GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25372**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f1 mm	Size	Code no.	Description
15.87	15.87	127.00	15.87	24.87	30.48	30.48	12.07	04	12.021	GH305.0625.500.00.04.R.IK.EST
16.00	16.00	125.00	16.00	25.00	30.00	30.00	12.20	04	12.001	GH305.1616.125.00.04.R.IK.EST
19.05	19.05	127.00	19.05	24.05	30.48	30.48	15.25	04	12.022	GH305.0750.500.00.04.R.IK.EST
20.00	20.00	125.00	20.00	25.00	30.00	30.00	16.20	04	12.002	GH305.2020.125.00.04.R.IK.EST
25.00	25.00	150.00	25.00	30.00	30.00	30.00	21.20	04	12.003	GH305.2525.150.00.04.R.IK.EST
25.40	25.40	152.40	25.40	30.40	30.48	30.48	21.60	04	12.023	GH305.1000.600.00.04.R.IK.EST
15.87	15.87	127.00	15.87	24.87	30.48	30.48	10.07	06	12.024	GH305.0625.500.00.06.R.IK.EST
16.00	16.00	125.00	16.00	25.00	30.00	30.00	10.20	06	12.004	GH305.1616.125.00.06.R.IK.EST
19.05	19.05	127.00	19.05	24.05	30.48	30.48	13.25	06	12.025	GH305.0750.500.00.06.R.IK.EST
20.00	20.00	125.00	20.00	25.00	30.00	30.00	14.20	06	12.005	GH305.2020.125.00.06.R.IK.EST
25.00	25.00	150.00	25.00	30.00	30.00	30.00	19.20	06	12.006	GH305.2525.150.00.06.R.IK.EST
25.40	25.40	152.40	25.40	30.40	30.48	30.48	19.60	06	12.026	GH305.1000.600.00.06.R.IK.EST

On the left-hand design, the designation changes to .L

Article no. **25373**

Spare parts

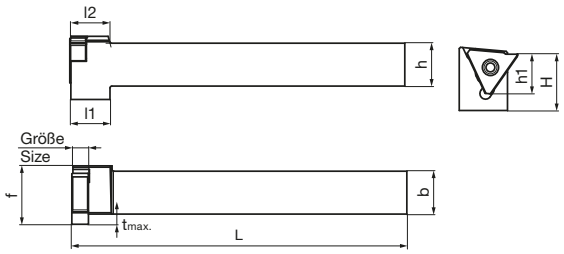
Article no. 25901	Clamping screw	Tightening torque Nm	Size	Description
Code 4.002	M4x11x15IP	3-3.5	04-06	GH305.1010.125....; GH305.1212.125...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.0625.500....; GH305.0750.500...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.1616.125....; GH305.1000.600...
Code 4.000	M4x15x15IP	3-3.5	04-06	GH305.2020.125....; GH305.2525.150...
Code 4.000	M4x15x15IP	3-3.5	08	GH305....
Code 4.003	M4x17x15IP	3-3.5	12	GH305....

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders 90° offset, external machining, without IC

for indexable inserts type 305 • grooving depth up to 3.5 mm
without internal coolant supply





GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25356**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f mm	Size	Code no.	Description
10.00	10.00	125.00	10.00	19.00	14.60	14.60	13.80	04	12.013	GH305.1010.125.90.04.R
12.00	12.00	125.00	12.00	21.00	14.60	14.60	15.80	04	12.014	GH305.1212.125.90.04.R
12.70	12.70	127.00	12.70	21.70	14.84	14.84	16.50	04	12.033	GH305.0500.500.90.04.R
15.87	15.87	127.00	15.87	20.87	14.84	14.84	19.67	04	12.021	GH305.0625.500.90.04.R
16.00	16.00	125.00	16.00	21.00	14.60	14.60	19.80	04	12.001	GH305.1616.125.90.04.R
19.05	19.05	127.00	19.05	24.05	14.84	14.84	22.85	04	12.022	GH305.0750.500.90.04.R
20.00	20.00	125.00	20.00	25.00	14.60	14.60	23.80	04	12.002	GH305.2020.125.90.04.R
25.00	25.00	150.00	25.00	30.00	14.60	14.60	28.80	04	12.003	GH305.2525.150.90.04.R
25.40	25.40	152.40	25.40	30.40	14.84	14.84	29.20	04	12.023	GH305.1000.600.90.04.R
10.00	10.00	125.00	10.00	19.00	14.60	14.60	13.80	06	12.015	GH305.1010.125.90.06.R
12.00	12.00	125.00	12.00	21.00	14.60	14.60	15.80	06	12.016	GH305.1212.125.90.06.R
12.70	12.70	127.00	12.70	21.70	14.84	14.84	16.50	06	12.034	GH305.0500.500.90.06.R
15.87	15.87	127.00	15.87	20.87	14.84	14.84	19.67	06	12.024	GH305.0625.500.90.06.R
16.00	16.00	125.00	16.00	21.00	14.60	14.60	19.80	06	12.004	GH305.1616.125.90.06.R
19.05	19.05	127.00	19.05	24.05	14.84	14.84	22.85	06	12.025	GH305.0750.500.90.06.R
20.00	20.00	125.00	20.00	25.00	14.60	14.60	23.80	06	12.005	GH305.2020.125.90.06.R
25.00	25.00	150.00	25.00	30.00	14.60	14.60	28.80	06	12.006	GH305.2525.150.90.06.R
25.40	25.40	152.40	25.40	30.40	14.84	14.84	29.20	06	12.026	GH305.1000.600.90.06.R
10.00	10.00	125.00	10.00	19.00	16.60	16.60	13.80	08	12.017	GH305.1010.125.90.08.R
12.00	12.00	125.00	12.00	21.00	16.60	16.60	15.80	08	12.018	GH305.1212.125.90.08.R
12.70	12.70	127.00	12.70	21.70	16.84	16.84	16.50	08	12.035	GH305.0500.500.90.08.R
15.87	15.87	127.00	15.87	20.87	16.84	16.84	19.67	08	12.027	GH305.0625.500.90.08.R
16.00	16.00	125.00	16.00	21.00	16.60	16.60	19.80	08	12.007	GH305.1616.125.90.08.R
19.05	19.05	127.00	19.05	24.05	16.84	16.84	22.85	08	12.028	GH305.0750.500.90.08.R
20.00	20.00	125.00	20.00	25.00	16.60	16.60	23.80	08	12.008	GH305.2020.125.90.08.R
25.00	25.00	150.00	25.00	30.00	16.60	16.60	28.80	08	12.009	GH305.2525.150.90.08.R
25.40	25.40	152.40	25.40	30.40	16.84	16.84	29.20	08	12.029	GH305.1000.600.90.08.R
10.00	10.00	125.00	10.00	19.00	16.60	20.60	13.80	12	12.019	GH305.1010.125.90.12.R
12.00	12.00	125.00	12.00	21.00	20.60	20.60	15.80	12	12.020	GH305.1212.125.90.12.R
12.70	12.70	127.00	12.70	21.70	20.84	20.84	16.50	12	12.036	GH305.0500.500.90.12.R
15.87	15.87	127.00	15.87	20.87	20.84	20.84	19.67	12	12.030	GH305.0625.500.90.12.R
16.00	16.00	125.00	16.00	21.00	20.60	20.60	19.80	12	12.010	GH305.1616.125.90.12.R
19.05	19.05	127.00	19.05	24.05	20.84	20.84	22.85	12	12.031	GH305.0750.500.90.12.R
20.00	20.00	125.00	20.00	25.00	20.60	20.60	23.80	12	12.011	GH305.2020.125.90.12.R
25.00	25.00	150.00	25.00	30.00	20.60	20.60	28.80	12	12.012	GH305.2525.150.90.12.R
25.40	25.40	152.40	25.40	30.40	20.84	20.84	29.20	12	12.032	GH305.1000.600.90.12.R

On the left-hand design, the designation changes to .L

Article no. **25357**

Spare parts

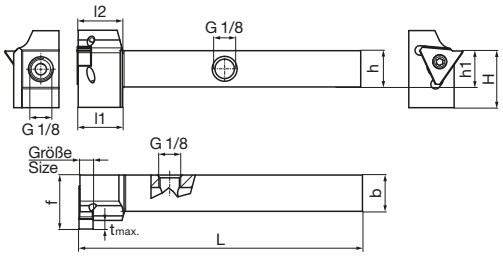
Article no. 25901	Clamping screw	Tightening torque Nm	Size
Code 4.000	M4x15x15IP	3-3.5	04-08
Code 4.003	M4x17x15IP	3-3.5	12

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders 90° offset, external machining, with IC

for indexable inserts type 305 • grooving depth up to 3.5 mm
with internal coolant supply from above and below





GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25358**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f mm	Size	Code no.	Description
12.00	12.00	125.00	12.00	21.00	21.60	21.60	23.80	04	12.014	GH305.1212.125.90.04.R.IK
12.70	12.70	127.00	12.70	21.70	19.92	19.92	22.70	04	12.033	GH305.0500.500.90.04.R.IK
15.87	15.87	127.00	15.87	24.87	19.92	19.92	24.12	04	12.021	GH305.0625.500.90.04.R.IK
16.00	16.00	125.00	16.00	25.00	19.60	19.60	23.80	04	12.001	GH305.1616.125.90.04.R.IK
19.05	19.05	127.00	19.05	24.05	19.92	19.92	22.85	04	12.022	GH305.0750.500.90.04.R.IK
20.00	20.00	125.00	20.00	25.00	19.60	19.60	23.80	04	12.002	GH305.2020.125.90.04.R.IK
25.00	25.00	150.00	25.00	30.00	19.60	19.60	28.80	04	12.003	GH305.2525.150.90.04.R.IK
25.40	25.40	152.40	25.40	30.40	19.92	19.92	29.20	04	12.023	GH305.1000.600.90.04.R.IK
12.00	12.00	125.00	12.00	21.00	21.60	21.60	23.80	06	12.016	GH305.1212.125.90.06.R.IK
12.70	12.70	127.00	12.70	21.70	19.92	19.92	22.70	06	12.034	GH305.0500.500.90.06.R.IK
15.87	15.87	127.00	15.87	24.87	19.92	19.92	24.12	06	12.024	GH305.0625.500.90.06.R.IK
16.00	16.00	125.00	16.00	25.00	19.60	19.60	23.80	06	12.004	GH305.1616.125.90.06.R.IK
19.05	19.05	127.00	19.05	24.05	19.92	19.92	22.85	06	12.025	GH305.0750.500.90.06.R.IK
20.00	20.00	125.00	20.00	25.00	19.60	19.60	23.80	06	12.005	GH305.2020.125.90.06.R.IK
25.00	25.00	150.00	25.00	30.00	19.60	19.60	28.80	06	12.006	GH305.2525.150.90.06.R.IK
25.40	25.40	152.40	25.40	30.40	19.92	19.92	29.20	06	12.026	GH305.1000.600.90.06.R.IK
12.00	12.00	125.00	12.00	21.00	23.60	23.60	23.80	08	12.018	GH305.1212.125.90.08.R.IK
12.70	12.70	127.00	12.70	21.70	21.92	21.92	22.70	08	12.035	GH305.0500.500.90.08.R.IK
15.87	15.87	127.00	15.87	24.87	21.92	21.92	24.12	08	12.027	GH305.0625.500.90.08.R.IK
16.00	16.00	125.00	16.00	25.00	19.60	19.60	23.80	08	12.007	GH305.1616.125.90.08.R.IK
19.05	19.05	127.00	19.05	24.05	19.92	19.92	22.85	08	12.028	GH305.0750.500.90.08.R.IK
20.00	20.00	125.00	20.00	25.00	19.60	19.60	23.80	08	12.008	GH305.2020.125.90.08.R.IK
25.00	25.00	150.00	25.00	30.00	19.60	19.60	28.80	08	12.009	GH305.2525.150.90.08.R.IK
25.40	25.40	152.40	25.40	30.40	19.92	19.92	29.20	08	12.029	GH305.1000.600.90.08.R.IK
12.00	12.00	125.00	12.00	21.00	27.60	27.60	23.80	12	12.020	GH305.1212.125.90.12.R.IK
12.70	12.70	127.00	12.70	21.70	25.92	25.92	22.70	12	12.036	GH305.0500.500.90.12.R.IK
15.87	15.87	127.00	15.87	24.87	25.92	25.92	24.12	12	12.030	GH305.0625.500.90.12.R.IK
16.00	16.00	125.00	16.00	25.00	27.60	27.60	23.80	12	12.010	GH305.1616.125.90.12.R.IK
19.05	19.05	127.00	19.05	24.05	25.92	25.92	24.12	12	12.031	GH305.0750.500.90.12.R.IK
20.00	20.00	125.00	20.00	25.00	27.60	27.60	23.80	12	12.011	GH305.2020.125.90.12.R.IK
25.00	25.00	150.00	25.00	30.00	27.60	27.60	28.80	12	12.012	GH305.2525.150.90.12.R.IK
25.40	25.40	152.40	25.40	30.40	25.92	25.92	29.20	12	12.032	GH305.1000.600.90.12.R.IK

On the left-hand design, the designation changes to .L

Article no. **25359**

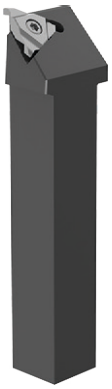
Spare parts

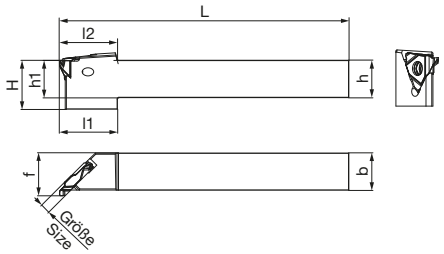
Article no. 25901	Clamping screw	Tightening torque Nm	Size
Code 4.000	M4x15x15IP	3-3.5	04-08
Code 4.003	M4x17x15IP	3-3.5	12

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders 45° offset, external machining, without IC

for indexable inserts type 305 • grooving depth up to 2 mm
without internal coolant supply





GH305

Right-hand design as shown. Left-hand design is mirror image. Article no. **25362**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f mm	Size	Code no.	Description
10.00	10.00	125.00	10.00	21.00	25.66	25.66	12.56	04	12.004	GH305.1010.125.45.04.R
12.00	12.00	125.00	12.00	21.00	25.66	25.66	14.56	04	12.005	GH305.1212.125.45.04.R
12.70	12.70	127.00	12.70	21.70	25.66	25.66	15.10	04	12.020	GH305.0500.500.45.04.R
15.87	15.87	127.00	15.87	20.87	26.06	26.06	18.44	04	12.021	GH305.0625.500.45.04.R
16.00	16.00	125.00	16.00	21.00	25.66	25.66	18.56	04	12.001	GH305.1616.125.45.04.R
19.05	19.05	127.00	19.05	24.05	26.06	26.06	21.61	04	12.022	GH305.0750.500.45.04.R
20.00	20.00	125.00	20.00	25.00	25.66	25.66	22.56	04	12.002	GH305.2020.125.45.04.R
25.00	25.00	150.00	25.00	30.00	30.66	30.66	27.56	04	12.003	GH305.2525.150.45.04.R
25.40	25.40	152.40	25.40	30.40	31.14	31.14	27.96	04	12.023	GH305.1000.600.45.04.R

On the left-hand design, the designation changes to .L Article no. **25363**

Spare parts

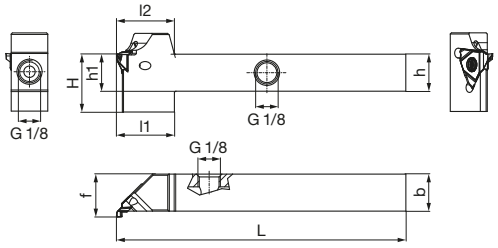
Article no. 25902	Clamping screw	Tightening torque Nm
Code 4.001	M4x0.5x7x15IP	3-3.5

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Square shank holders 45° offset, external machining, with IC

for indexable inserts type 305 • grooving depth up to 2 mm
with internal coolant supply from above





GH305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25364**

h mm	b mm	L mm	h1 mm	H mm	l1 mm	l2 mm	f mm	Size	Code no.	Description
12.00	12.00	125.00	12.00	25.00	25.66	25.66	14.56	04	12.005	GH305.1212.125.45.04.R.IK
12.70	12.70	127.00	12.70	25.70	25.66	25.66	15.10	04	12.020	GH305.0500.500.45.04.R.IK
15.87	15.87	127.00	15.87	24.87	26.06	26.06	18.44	04	12.021	GH305.0625.500.45.04.R.IK
16.00	16.00	125.00	16.00	25.00	25.66	25.66	18.56	04	12.001	GH305.1616.125.45.04.R.IK
19.05	19.05	127.00	19.05	24.05	26.06	26.06	21.61	04	12.022	GH305.0750.500.45.04.R.IK
20.00	20.00	125.00	20.00	25.00	25.66	25.66	22.56	04	12.002	GH305.2020.125.45.04.R.IK
25.00	25.00	150.00	25.00	30.00	30.66	30.66	27.56	04	12.003	GH305.2525.150.45.04.R.IK
25.40	25.40	152.40	25.40	30.40	31.14	31.14	27.96	04	12.023	GH305.1000.600.45.04.R.IK

On the left-hand design, the designation changes to .L

Article no. **25365**

Spare parts

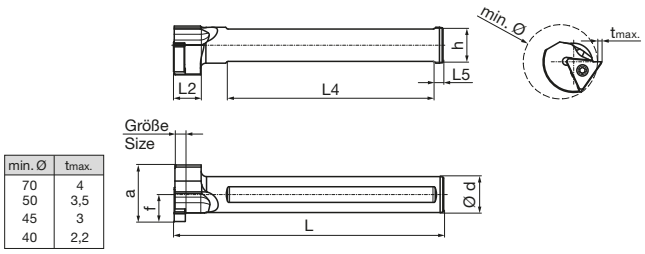
Article no. 25902	Clamping screw	Tightening torque Nm
Code 4.001	M4x0.5x7x15IP	3-3.5

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Round shank holders, internal machining, without IC

for indexable inserts type 305 • grooving depth up to 4 mm
without internal coolant supply





min. Ø	tmax.
70	4
50	3,5
45	3
40	2,2

GB305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25368**

d mm	L mm	L2 mm	L4 mm	L5 mm	h mm	f mm	a mm	Size	Code no.	Description
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	04	12.021	GB305.0750.600.90.04.R
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	04	12.001	GB305.0020.150.90.04.R
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	04	12.002	GB305.0025.170.90.04.R
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	04	12.022	GB305.1000.670.90.04.R
31.75	205.20	14.60	162.56	4.00	29.74	21.08	39.37	04	12.023	GB305.1250.800.90.04.R
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	04	12.003	GB305.0032.200.90.04.R
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	06	12.024	GB305.0750.600.90.06.R
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	06	12.004	GB305.0020.150.90.06.R
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	06	12.005	GB305.0025.170.90.06.R
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	06	12.025	GB305.1000.670.90.06.R
31.75	203.20	14.60	162.56	4.00	29.74	21.08	39.37	06	12.026	GB305.1250.800.90.06.R
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	06	12.006	GB305.0032.200.90.06.R
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	08	12.027	GB305.0750.600.90.08.R
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	08	12.007	GB305.0020.150.90.08.R
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	08	12.008	GB305.0025.170.90.08.R
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	08	12.028	GB305.1000.670.90.08.R
31.75	203.20	14.60	162.56	4.00	29.74	21.08	39.37	08	12.029	GB305.1250.800.90.08.R
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	08	12.009	GB305.0032.200.90.08.R
19.05	152.40	19.60	116.84	4.00	17.04	14.48	30.48	12	12.030	GB305.0750.600.90.12.R
20.00	150.00	19.60	115.00	4.00	18.00	15.00	31.50	12	12.010	GB305.0020.150.90.12.R
25.00	170.00	19.60	130.00	4.00	23.00	17.50	34.50	12	12.011	GB305.0025.170.90.12.R
25.40	170.18	19.60	129.54	4.00	23.39	17.78	34.54	12	12.031	GB305.1000.670.90.12.R
31.75	203.20	19.60	162.56	4.00	29.74	21.08	39.37	12	12.032	GB305.1250.800.90.12.R
32.00	200.00	19.60	160.00	4.00	30.00	21.00	39.25	12	12.012	GB305.0032.200.90.12.R

On the left-hand design, the designation changes to .L

Article no. **25369**

Spare parts

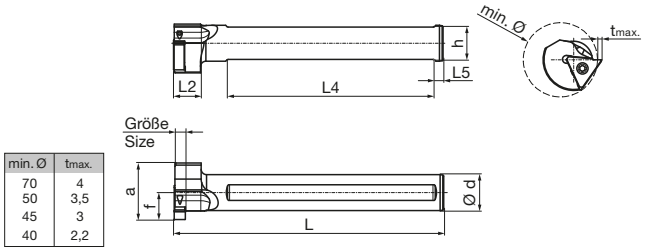
Article no. 25901	Clamping screw	Tightening torque Nm	Size
Code 4.000	M4x15x15IP	3-3.5	04-08
Code 4.003	M4x17x15IP	3-3.5	12

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Round shank holders, internal machining, with IC

for indexable inserts type 305 • grooving depth up to 4 mm
with internal coolant supply from above





min. Ø	tmax.
70	4
50	3,5
45	3
40	2,2

GB305

Right-hand design as shown. Left-hand design is mirror image.

Article no. **25370** (B) (R)

d mm	L mm	L2 mm	L4 mm	L5 mm	h mm	f mm	a mm	Size	Code no.	Description
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	04	12.021	GB305.0750.600.90.04.R.IK
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	04	12.001	GB305.0020.150.90.04.R.IK
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	04	12.002	GB305.0025.170.90.04.R.IK
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	04	12.022	GB305.1000.670.90.04.R.IK
31.75	205.20	14.60	162.56	4.00	29.74	21.08	39.37	04	12.023	GB305.1250.800.90.04.R.IK
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	04	12.003	GB305.0032.200.90.04.R.IK
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	06	12.024	GB305.0750.600.90.06.R.IK
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	06	12.004	GB305.0020.150.90.06.R.IK
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	06	12.005	GB305.0025.170.90.06.R.IK
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	06	12.025	GB305.1000.670.90.06.R.IK
31.75	203.20	14.60	162.56	4.00	29.74	21.08	39.37	06	12.026	GB305.1250.800.90.06.R.IK
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	06	12.006	GB305.0032.200.90.06.R.IK
19.05	152.40	14.60	116.84	4.00	17.04	14.48	30.48	08	12.027	GB305.0750.600.90.12.R.IK
20.00	150.00	14.60	115.00	4.00	18.00	15.00	31.50	08	12.007	GB305.0020.150.90.08.R.IK
25.00	170.00	14.60	130.00	4.00	23.00	17.50	34.50	08	12.008	GB305.0025.170.90.08.R.IK
25.40	170.18	14.60	129.54	4.00	23.39	17.78	34.54	08	12.028	GB305.1000.670.90.08.R.IK
31.75	203.20	14.60	162.56	4.00	29.74	21.08	39.37	08	12.029	GB305.1250.800.90.08.R.IK
32.00	200.00	14.60	160.00	4.00	30.00	21.00	39.25	08	12.009	GB305.0032.200.90.08.R.IK
19.05	152.40	19.60	116.84	4.00	17.04	14.48	30.48	12	12.030	GB305.0750.600.90.06.R.IK
20.00	150.00	19.60	115.00	4.00	18.00	15.00	31.50	12	12.010	GB305.0020.150.90.12.R.IK
25.00	170.00	19.60	130.00	4.00	23.00	17.50	34.50	12	12.011	GB305.0025.170.90.12.R.IK
25.40	170.18	19.60	129.54	4.00	23.39	17.78	34.54	12	12.031	GB305.1000.670.90.12.R.IK
31.75	203.20	19.60	162.56	4.00	29.74	21.08	39.37	12	12.032	GB305.1250.800.90.12.R.IK
32.00	200.00	19.60	160.00	4.00	30.00	21.00	39.25	12	12.012	GB305.0032.200.90.12.R.IK

On the left-hand design, the designation changes to .L

Article no. **25371** (B) (L)

Spare parts

Article no. 25901	Clamping screw	Tightening torque Nm	Size
Code 4.000	M4x15x15IP	3-3.5	04-08
Code 4.003	M4x17x15IP	3-3.5	12

Article no. 25904	Torx Plus wrench
Code 15.000	T15IP T-handle

Torque wrenches

WN

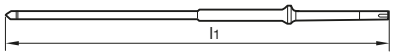


Article no.	4915

Size	Torque Nm	l1 mm	Code no.
1/4	2-8	200.00	8.000

Torx-Plus interchangeable blade

WN





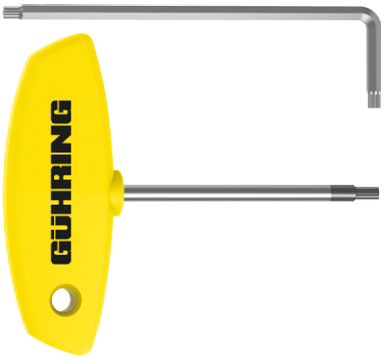
Article no.	4960

Size	Torque Nm	l1 mm	Code no.
15IP	6,6	175.00	15.000

Torx Plus wrench

WN

key with T-handle code no. 15.000 • allen key code no. 15.001



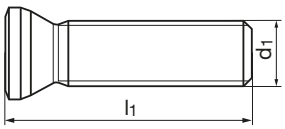
Article no.	25904

Size	l1 mm	Code no.
15IP	90.60	15.000
15IP	58.00	15.001

Clamping screws

WN

for system 305





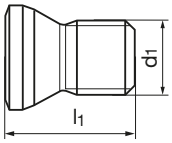
Article no.	25901

Size	d1	l1 mm	Code no.
15IP	M4	15.00	4.000
15IP	M4	22.00	4.001
15IP	M4	11.00	4.002
15IP	M4	17.00	4.003
25IP	M5	22.00	5.000

Clamping screws

WN

for system 305





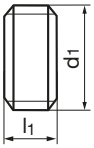
Article no. **25902**

Size	d1	l1 mm	Code no.
15IP	M4 x 0,5	15.00	4.000
15IP	M4 x 0,5	7.00	4.001

Set screws

WN

for IC lock, systems 305 and 222





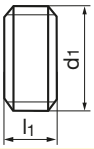
Article no. **25905**

Size	d1	l1 mm	Code no.
SW 4	G1/8	5.00	5.000

Set screws

WN

for IC lock, systems 305 and 222





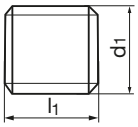
Article no. **25913**

Size	d1	l1 mm	Code no.
SW4	M8x1	5.00	8.000

IC screw plugs for tubeless coolant supply (TL)

WN

for tool holders GH222 and GH305





Article no. **25910**

Size	d1	l1 mm	Code no.
SW3	M6	6.00	6.000

Lubricating paste for clamping screws

WN



Article no. **25923**

Code no.
1.000

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Internal grooving



Machining group		System 305					
		v_c (m/min)	f (mm/rev) by width				
			< 1	< 2	< 3	< 4	≥ 4
P1.1.1	Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.2	Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.3	Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.4	Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.5	Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.6	Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	150	0.010	0.020	0.030	0.040	0.050
P1.1.7	Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	150	0.010	0.020	0.030	0.040	0.050
P2.1.1	Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	150	0.010	0.020	0.030	0.040	0.050
P2.1.2	Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	150	0.010	0.020	0.030	0.040	0.050
P2.1.3	Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	150	0.010	0.020	0.030	0.040	0.050
P2.1.4	Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	150	0.010	0.020	0.030	0.040	0.050
P3.1.1	High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	150	0.010	0.020	0.030	0.040	0.050
P3.1.2	High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	150	0.010	0.020	0.030	0.040	0.050
M1.1.1	Stainless steel, ferritic/martensitic, with machining additives	150	0.010	0.020	0.030	0.040	0.050
M1.1.2	Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	150	0.010	0.020	0.030	0.040	0.050
M1.1.3	Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	150	0.010	0.020	0.030	0.040	0.050
M2.1.1	Stainless steel, austenitic, quenched, 180 HB	150	0.010	0.020	0.030	0.040	0.050
M2.2.1	Duplex steel, high-strength stainless steels	150	0.010	0.020	0.030	0.040	0.050
K1.1.1	Grey cast iron, pearlitic/ferritic, 180 HB	150	0.010	0.020	0.030	0.040	0.050
K1.1.2	Grey cast iron, pearlitic/martensitic, 260 HB	150	0.010	0.020	0.030	0.040	0.050
K1.2.1	Cast iron with spheroidal graphite, ferritic, 160 HB	150	0.010	0.020	0.030	0.040	0.050
K1.2.2	Cast iron with spheroidal graphite, pearlitic, 250 HB	150	0.010	0.020	0.030	0.040	0.050
K1.3.1	Malleable cast iron, ferritic, 130 HB	150	0.010	0.020	0.030	0.040	0.050
K1.3.2	Malleable cast iron, pearlitic, 230 HB	150	0.010	0.020	0.030	0.040	0.050
K2.1.1	Vermicular graphite cast iron (GJV)						
K2.2.1	Austenitic-ferritic spheroidal graphite cast iron (ADI)						
N1.1.1	Wrought aluminium alloys, non-hardened, 60 HB	300	0.010	0.020	0.030	0.040	0.050
N1.1.2	Wrought aluminium alloys, hardened, 100 HB	300	0.010	0.020	0.030	0.040	0.050
N2.1.1	Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	300	0.010	0.020	0.030	0.040	0.050
N2.1.2	Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	300	0.010	0.020	0.030	0.040	0.050
N2.1.3	Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	300	0.010	0.020	0.030	0.040	0.050
N3.1.1	Copper and copper alloys: Free-machining alloy, Pb > 1 %	300	0.010	0.020	0.030	0.040	0.050
N3.1.2	Copper and copper alloys: CuZn, CuSnZn	300	0.010	0.020	0.030	0.040	0.050
N3.1.3	Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	300	0.010	0.020	0.030	0.040	0.050
N4.1.1	Non-metallic materials: Duroplastics, fibre-reinforced plastics	300	0.010	0.020	0.030	0.040	0.050
N4.1.2	Non-metallic materials: Hard rubber, wood, etc.	300	0.010	0.020	0.030	0.040	0.050
N4.1.3	Non-metallic materials: Graphite	300	0.010	0.020	0.030	0.040	0.050
S1.1.1	Heat-resistant alloys, Fe-based, annealed, 200 HB	100	0.010	0.020	0.030	0.040	0.050
S1.1.2	Heat-resistant alloys, Fe-based, hardened, 280 HB	100	0.010	0.020	0.030	0.040	0.050
S1.1.3	Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	100	0.010	0.020	0.030	0.040	0.050
S1.1.4	Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	100	0.010	0.020	0.030	0.040	0.050
S1.1.5	Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	100	0.010	0.020	0.030	0.040	0.050
S2.1.1	Titanium alloys, pure titanium, Rm 400 N/mm²	100	0.010	0.020	0.030	0.040	0.050
S2.1.2	Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	100	0.010	0.020	0.030	0.040	0.050
H1.1.1	Hardened steel, hardened and tempered, < 55 HRC	100	0.010	0.020	0.030	0.040	0.050
H1.1.2	Hardened steel, hardened and tempered, < 60 HRC	100	0.010	0.020	0.030	0.040	0.050
H1.1.3	Hardened steel, hardened and tempered, > 60 HRC	100	0.010	0.020	0.030	0.040	0.050
H2.1.1	Chilled cast iron, 400 HB	100	0.010	0.020	0.030	0.040	0.050
H2.1.2	Chilled cast iron, hardened and tempered, < 55 HRC	100	0.010	0.020	0.030	0.040	0.050

All the value stated are guide values. You can find detailed cutting values online in our Gühring Navigator at webnavigator.guehring.de/en.

External grooving



Machining group	System 305				
	v_c (m/min)	f (mm/rev) by width			
		< 1	< 2	< 3	≥ 3
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.050	0.070	0.100	0.120
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.050	0.070	0.100	0.120
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.050	0.070	0.100	0.120
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.050	0.070	0.100	0.120
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	150	0.050	0.070	0.100	0.120
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	150	0.050	0.070	0.100	0.120
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	150	0.050	0.070	0.100	0.120
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	150	0.050	0.070	0.100	0.120
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	150	0.050	0.070	0.100	0.120
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	150	0.050	0.070	0.100	0.120
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	150	0.050	0.070	0.100	0.120
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	150	0.050	0.070	0.100	0.120
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	150	0.050	0.070	0.100	0.120
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	135	0.040	0.050	0.075	0.090
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	135	0.040	0.050	0.075	0.090
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	135	0.040	0.050	0.075	0.090
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	135	0.040	0.050	0.075	0.090
M2.2.1 Duplex steel, high-strength stainless steels	135	0.040	0.050	0.075	0.090
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	150	0.065	0.085	0.125	0.150
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	150	0.065	0.085	0.125	0.150
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	150	0.065	0.085	0.125	0.150
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	150	0.065	0.085	0.125	0.150
K1.3.1 Malleable cast iron, ferritic, 130 HB	150	0.065	0.085	0.125	0.150
K1.3.2 Malleable cast iron, pearlitic, 230 HB	150	0.065	0.085	0.125	0.150
K2.1.1 Vermicular graphite cast iron (GJV)					
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)					
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB					
N1.1.2 Wrought aluminium alloys, hardened, 100 HB					
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB					
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB					
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB					
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %					
N3.1.2 Copper and copper alloys: CuZn, CuSnZn					
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte					
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics					
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.					
N4.1.3 Non-metallic materials: Graphite					
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	100	0.020	0.030	0.040	0.050
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	100	0.020	0.030	0.040	0.050
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	100	0.020	0.030	0.040	0.050
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	100	0.020	0.030	0.040	0.050
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	100	0.020	0.030	0.040	0.050
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	100	0.020	0.030	0.040	0.050
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	100	0.020	0.030	0.040	0.050
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	100	0.020	0.030	0.040	0.050
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	100	0.020	0.030	0.040	0.050
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	100	0.020	0.030	0.040	0.050
H2.1.1 Chilled cast iron, 400 HB	100	0.020	0.030	0.040	0.050
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	100	0.020	0.030	0.040	0.050

Boring out



Machining group	System 305											
	v_c (m/min)	f (mm/rev) with nom. Ø					$ap_{max.}$ (mm) by radius					
		< 1	< 2	< 3	< 4	≥ 4	≤ 0.05	≤ 0.1	≤ 0.15	≤ 0.2	≤ 0.25	> 0.25
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M2.2.1 Duplex steel, high-strength stainless steels	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.3.1 Malleable cast iron, ferritic, 130 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.3.2 Malleable cast iron, pearlitic, 230 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K2.1.1 Vermicular graphite cast iron (GJV)												
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)												
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.3 Non-metallic materials: Graphite	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H2.1.1 Chilled cast iron, 400 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005

b/R > 2

All the value stated are guide values. You can find detailed cutting values online in our Gühring Navigator at webnavigator.guehring.de/en.

External grooving, full radius



Machining group	System 305				
	v_c (m/min)	f (mm/rev) by width			
		< 1	< 2	< 3	≥ 3
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.050	0.070	0.100	0.120
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.050	0.070	0.100	0.120
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.050	0.070	0.100	0.120
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.050	0.070	0.100	0.120
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	150	0.050	0.070	0.100	0.120
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	150	0.050	0.070	0.100	0.120
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	150	0.050	0.070	0.100	0.120
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	150	0.050	0.070	0.100	0.120
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	150	0.050	0.070	0.100	0.120
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	150	0.050	0.070	0.100	0.120
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	150	0.050	0.070	0.100	0.120
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	150	0.050	0.070	0.100	0.120
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	150	0.050	0.070	0.100	0.120
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	135	0.040	0.050	0.075	0.090
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	135	0.040	0.050	0.075	0.090
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	135	0.040	0.050	0.075	0.090
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	135	0.040	0.050	0.075	0.090
M2.2.1 Duplex steel, high-strength stainless steels	135	0.040	0.050	0.075	0.090
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	150	0.065	0.085	0.125	0.150
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	150	0.065	0.085	0.125	0.150
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	150	0.065	0.085	0.125	0.150
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	150	0.065	0.085	0.125	0.150
K1.3.1 Malleable cast iron, ferritic, 130 HB	150	0.065	0.085	0.125	0.150
K1.3.2 Malleable cast iron, pearlitic, 230 HB	150	0.065	0.085	0.125	0.150
K2.1.1 Vermicular graphite cast iron (GJV)					
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)					
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB					
N1.1.2 Wrought aluminium alloys, hardened, 100 HB					
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB					
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB					
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB					
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %					
N3.1.2 Copper and copper alloys: CuZn, CuSnZn					
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte					
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics					
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.					
N4.1.3 Non-metallic materials: Graphite					
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	100	0.020	0.030	0.040	0.050
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	100	0.020	0.030	0.040	0.050
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	100	0.020	0.030	0.040	0.050
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	100	0.020	0.030	0.040	0.050
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	100	0.020	0.030	0.040	0.050
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	100	0.020	0.030	0.040	0.050
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	100	0.020	0.030	0.040	0.050
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	100	0.020	0.030	0.040	0.050
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	100	0.020	0.030	0.040	0.050
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	100	0.020	0.030	0.040	0.050
H2.1.1 Chilled cast iron, 400 HB	100	0.020	0.030	0.040	0.050
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	100	0.020	0.030	0.040	0.050

External grooving, full radius



Machining group	System 305											
	v_c (m/min)	f (mm/rev) with nom.Ø					$ap_{max.}$ (mm) by radius					
		< 1	< 2	< 3	< 4	≥ 4	≤ 0.25	≤ 0.5	≤ 0.75	≤ 1	≤ 1.25	≤ 2
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	150	0.005	0.010	0.015	0.020	0.025	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
M2.2.1 Duplex steel, high-strength stainless steels	135	0.005	0.010	0.010	0.015	0.020	0.005	0.005	0.005	0.005	0.005	0.005
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.3.1 Malleable cast iron, ferritic, 130 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K1.3.2 Malleable cast iron, pearlitic, 230 HB	150	0.005	0.015	0.020	0.025	0.030	0.005	0.005	0.005	0.005	0.005	0.005
K2.1.1 Vermicular graphite cast iron (GJV)												
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)												
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
N4.1.3 Non-metallic materials: Graphite	300	0.010	0.015	0.025	0.030	0.040	0.010	0.010	0.010	0.010	0.010	0.010
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H2.1.1 Chilled cast iron, 400 HB	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	100	0.005	0.005	0.005	0.010	0.010	0.005	0.005	0.005	0.005	0.005	0.005

Attention: Material suitability by coating
Full radius: b/R = 2

All the value stated are guide values. You can find detailed cutting values online in our Gühring Navigator at webnavigator.guehring.de/en.

Axial grooving



Machining group		System 305				System 305 axial external recesses	
		f (mm/rev) by width				f (mm/rev) by width	
	v_c (m/min)	1.5	2.5	3.5	4.5	1.5	2.5
		< 2	< 3	< 4	≥ 4	< 2	≥ 2
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	140	0.015	0.025	0.030	0.040	0.010	0.010
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	125	0.010	0.020	0.025	0.030	0.005	0.010
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	125	0.010	0.020	0.025	0.030	0.005	0.010
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	125	0.010	0.020	0.025	0.030	0.005	0.010
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	125	0.010	0.020	0.025	0.030	0.005	0.010
M2.2.1 Duplex steel, high-strength stainless steels	125	0.010	0.020	0.025	0.030	0.005	0.010
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K1.3.1 Malleable cast iron, ferritic, 130 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K1.3.2 Malleable cast iron, pearlitic, 230 HB	140	0.020	0.030	0.040	0.050	0.010	0.015
K2.1.1 Vermicular graphite cast iron (GJV)							
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)							
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	280	0.025	0.035	0.050	0.060	0.010	0.020
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	280	0.025	0.035	0.050	0.060	0.010	0.020
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	280	0.025	0.035	0.050	0.060	0.010	0.020
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	280	0.025	0.035	0.050	0.060	0.010	0.020
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	280	0.025	0.035	0.050	0.060	0.010	0.020
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	280	0.025	0.035	0.050	0.060	0.010	0.020
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	280	0.025	0.035	0.050	0.060	0.010	0.020
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	280	0.025	0.035	0.050	0.060	0.010	0.020
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	280	0.025	0.035	0.050	0.060	0.010	0.020
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	280	0.025	0.035	0.050	0.060	0.010	0.020
N4.1.3 Non-metallic materials: Graphite	280	0.025	0.035	0.050	0.060	0.010	0.020
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	90	0.005	0.010	0.015	0.015	0.005	0.005
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	90	0.005	0.010	0.015	0.015	0.005	0.005
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	90	0.005	0.010	0.015	0.015	0.005	0.005
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	90	0.005	0.010	0.015	0.015	0.005	0.005
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	90	0.005	0.010	0.015	0.015	0.005	0.005
H2.1.1 Chilled cast iron, 400 HB	90	0.005	0.010	0.015	0.015	0.005	0.005
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	90	0.005	0.010	0.015	0.015	0.005	0.005

Parting off



Machining group	System 305		
	v_c (m/min)	F	E
		f (mm/rev)	
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	120	0.080	0.080
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	120	0.080	0.080
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	120	0.080	0.080
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	120	0.080	0.080
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	120	0.080	0.080
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	120	0.080	0.080
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	120	0.080	0.080
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	120	0.080	0.080
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	120	0.080	0.080
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	120	0.080	0.080
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	120	0.080	0.080
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	120	0.080	0.080
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	120	0.080	0.080
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	110	0.060	0.060
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	110	0.060	0.060
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	110	0.060	0.060
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	110	0.060	0.060
M2.2.1 Duplex steel, high-strength stainless steels	110	0.060	0.060
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	120	0.100	0.100
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	120	0.100	0.100
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	120	0.100	0.100
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	120	0.100	0.100
K1.3.1 Malleable cast iron, ferritic, 130 HB	120	0.100	0.100
K1.3.2 Malleable cast iron, pearlitic, 230 HB	120	0.100	0.100
K2.1.1 Vermicular graphite cast iron (GJV)			
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)			
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	240		0.120
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	240		0.120
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	240		0.120
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	240		0.120
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	240		0.120
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	240		0.120
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	240		0.120
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	240		0.120
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	240		0.120
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	240		0.120
N4.1.3 Non-metallic materials: Graphite	240		0.120
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	80		0.030
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	80		0.030
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	80		0.030
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	80		0.030
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	80		0.030
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	80		0.030
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	80		0.030
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	80	0.030	
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	80	0.030	
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	80	0.030	
H2.1.1 Chilled cast iron, 400 HB	80	0.030	
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	80	0.030	

All the value stated are guide values. You can find detailed cutting values online in our Gühring Navigator at webnavigator.guehring.de/en.

External thread



Machining group	System 305					
	v_c (m/min)	$ap_{max.}$ (mm) by pitch				
		≤ 1.75	≤ 2.5	≤ 4	≤ 6	> 6
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm², 125 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm², 125 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm², 190 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm², 190 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm², 250 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm², 270 HB	120	0.220	0.250	0.335	0.375	0.400
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm², 300 HB	120	0.220	0.250	0.335	0.375	0.400
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm², 180 HB	120	0.220	0.250	0.335	0.375	0.400
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm², 275 HB	120	0.220	0.250	0.335	0.375	0.400
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm², 300 HB	120	0.220	0.250	0.335	0.375	0.400
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm², 350 HB	120	0.220	0.250	0.335	0.375	0.400
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm², 200 HB	120	0.220	0.250	0.335	0.375	0.400
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm², 325 HB	120	0.220	0.250	0.335	0.375	0.400
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	110	0.220	0.250	0.335	0.375	0.400
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm², 200 HB	110	0.220	0.250	0.335	0.375	0.400
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm², 240 HB	110	0.220	0.250	0.335	0.375	0.400
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	110	0.220	0.250	0.335	0.375	0.400
M2.2.1 Duplex steel, high-strength stainless steels	110	0.220	0.250	0.335	0.375	0.400
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	120	0.220	0.250	0.335	0.375	0.400
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	120	0.220	0.250	0.335	0.375	0.400
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	120	0.220	0.250	0.335	0.375	0.400
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	120	0.220	0.250	0.335	0.375	0.400
K1.3.1 Malleable cast iron, ferritic, 130 HB	120	0.220	0.250	0.335	0.375	0.400
K1.3.2 Malleable cast iron, pearlitic, 230 HB	120	0.220	0.250	0.335	0.375	0.400
K2.1.1 Vermicular graphite cast iron (GJV)						
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)						
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	240	0.220	0.250	0.335	0.375	0.400
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	240	0.220	0.250	0.335	0.375	0.400
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	240	0.220	0.250	0.335	0.375	0.400
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	240	0.220	0.250	0.335	0.375	0.400
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	240	0.220	0.250	0.335	0.375	0.400
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	240	0.220	0.250	0.335	0.375	0.400
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	240	0.220	0.250	0.335	0.375	0.400
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	240	0.220	0.250	0.335	0.375	0.400
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	240	0.220	0.250	0.335	0.375	0.400
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	240	0.220	0.250	0.335	0.375	0.400
N4.1.3 Non-metallic materials: Graphite	240	0.220	0.250	0.335	0.375	0.400
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	80	0.220	0.250	0.335	0.375	0.400
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	80	0.220	0.250	0.335	0.375	0.400
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	80	0.220	0.250	0.335	0.375	0.400
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	80	0.220	0.250	0.335	0.375	0.400
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	80	0.220	0.250	0.335	0.375	0.400
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm²	80	0.220	0.250	0.335	0.375	0.400
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm²	80	0.220	0.250	0.335	0.375	0.400
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	80	0.220	0.250	0.335	0.375	0.400
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	80	0.220	0.250	0.335	0.375	0.400
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	80	0.220	0.250	0.335	0.375	0.400
H2.1.1 Chilled cast iron, 400 HB	80	0.220	0.250	0.335	0.375	0.400
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	80	0.220	0.250	0.335	0.375	0.400

f (mm/rev) = Pitch P

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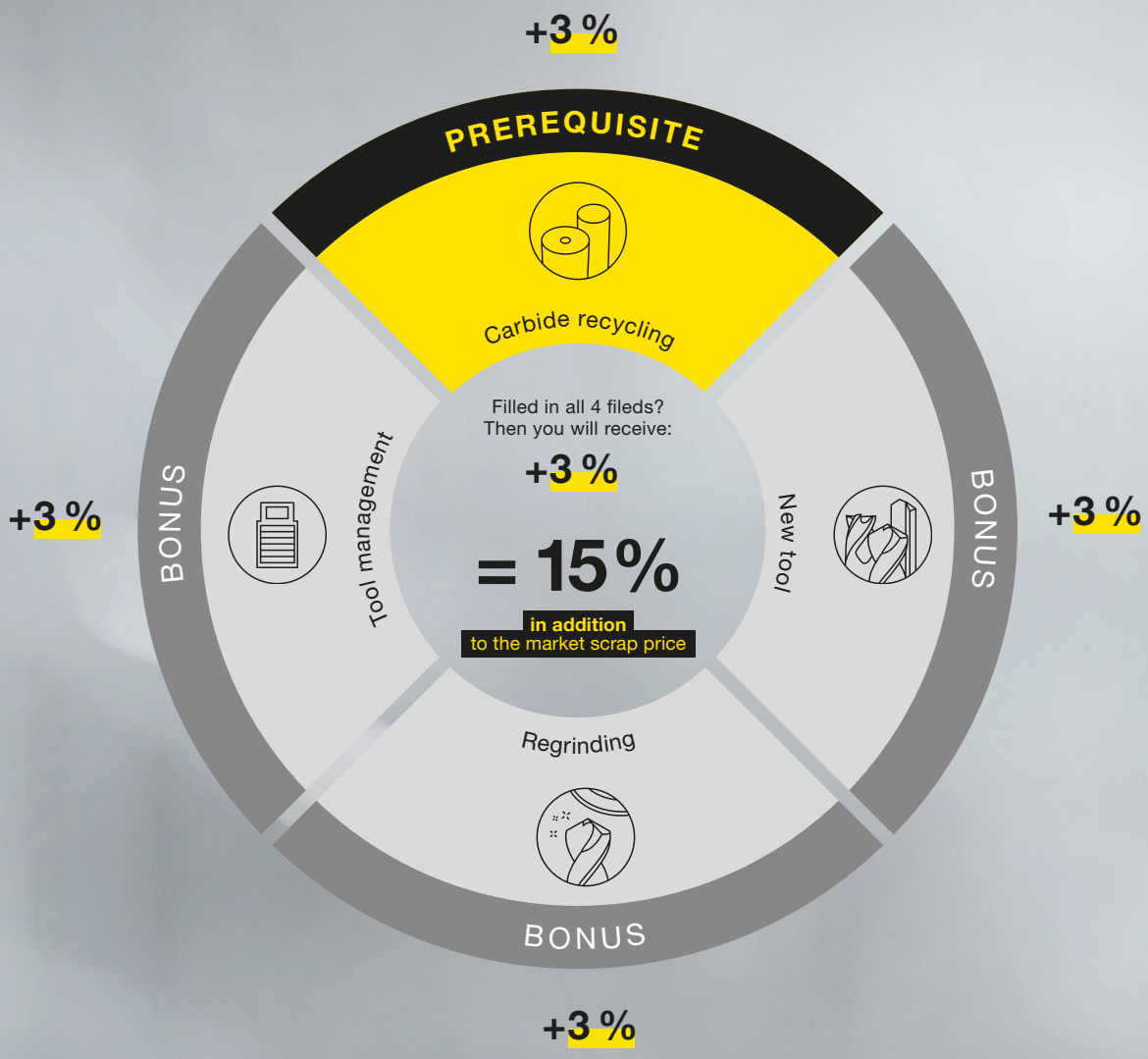
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carbide scrap	market price	bonus achieved	credit note
quantity	per kilo	total	on new tool



System 305

400204337 | 2026

GÜHRING

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