

Grooving

Metric



PROFI
LINE



Hard material for your success

Hard materials are used wherever tools or components are exposed to high wear. They improve the quality of the tools and parts, extend the life of the tool and ensure secure processes.

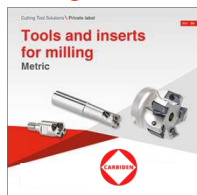
High pressure and temperature, the use of abrasive or aggressive materials, and the machining of hard materials are just some examples of factors that cause wear, and for which our hard metals and hard materials offer the necessary resistance.

From carbide blanks and semifinished products to coated and packaged inserts or tool holders, e.g. for milling, turning, drilling, parting and grooving – all private label products satisfy individual customer needs and offer top quality.

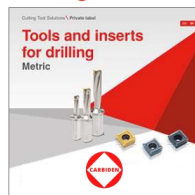
Our experts provide their partners with advice so that the right tooling solution can always be optimally positioned in the relevant market segment. The products developed here are the benchmark in their industry in terms of both price and performance.

Our product portfolio

Milling



Drilling



Multicut



Turning



Grooving

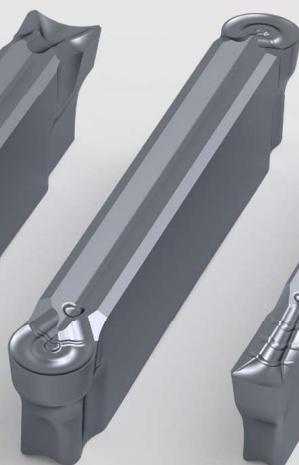
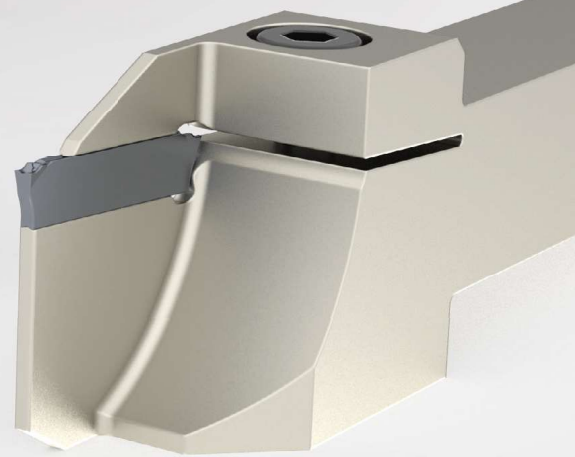
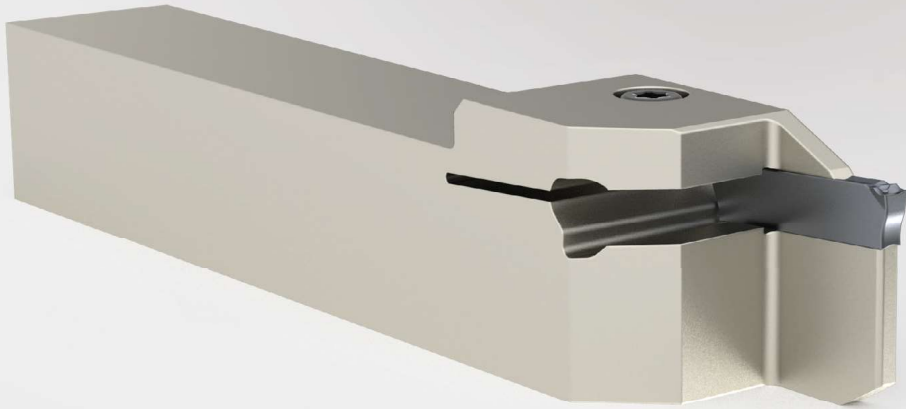




Your vision, our innovation

Couldn't find what you were looking for?
In closely collaborating with you, we will find the optimal solution for the demands of your customers which perfectly reflects your position on the market. If our presentation of standard tools in this catalogue does not fit your needs, please contact us to discuss your customised solution – whether it may be blanks, semi-finished products or finished products.







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Cutting geometries

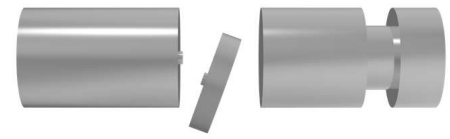
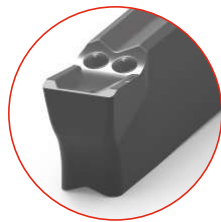




GD/GO

■ ■ M1 – Medium cutting

- ▲ Insert with narrow negative chamfer
- ▲ Suitable for all steel materials with high strength
- ▲ Suitable for all applications
- ▲ For steel and grey cast iron

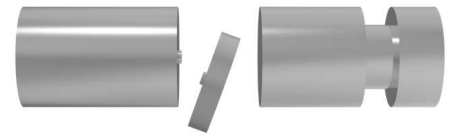
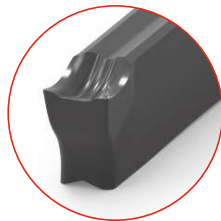


Parting

Grooving

■ ■ F1 – Very soft cutting

- ▲ Excellent cutting chipbreaker with low cutting forces
- ▲ For low or medium strength materials
- ▲ Particularly suitable for parting off tubes and thin-walled work pieces
- ▲ High cutting edge stability
- ▲ Excellent chip control also with low feed
- ▲ Low built up edge

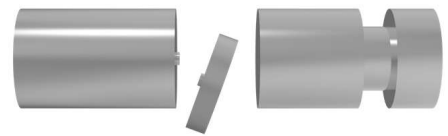


Parting

Grooving

■ ■ ST1 – Stainless und super alloys

- ▲ Especially for stainless steel
- ▲ Problem solver for steel machining



Parting

Grooving

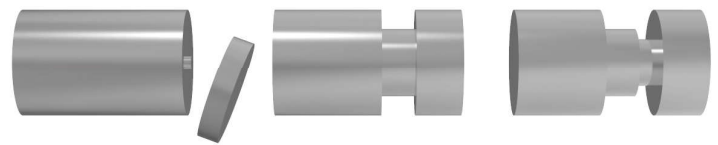
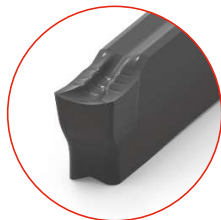


GROOVING

GD/GO

T – Grooving and Turning

- ▲ For grooving and turning
- ▲ Suitable for all steel and stainless steel materials
- ▲ Very good chip control



Parting

Grooving

Turning

M – Radius grooves

- ▲ Insert for radius grooves
- ▲ For copy turning
- ▲ Suitable for all steel and cast iron materials



Grooving

Turning



MM – General application and Turning

- ▲ Especially for stainless steel materials



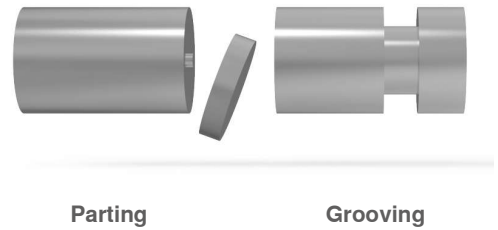
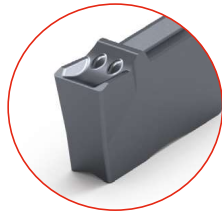
Grooving

Turning

GS

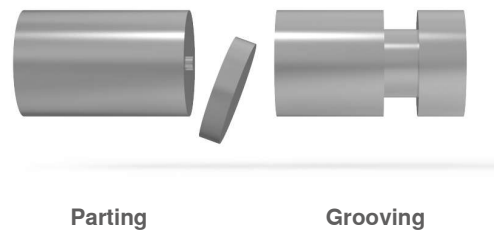
■ ■ M1 – Medium cutting

- ▲ Insert with narrow negative chamfer
- ▲ Suitable for all steel materials with high strength
- ▲ Suitable for all applications
- ▲ For steel and grey cast iron



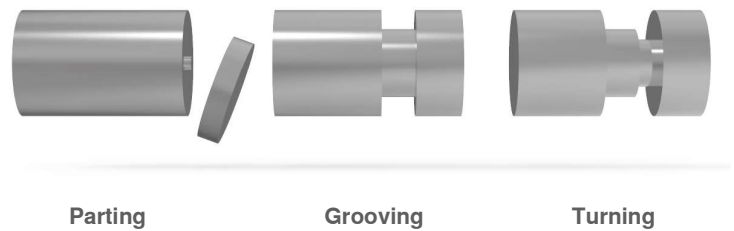
■ ■ ST1 – Stainless and super alloys

- ▲ Especially for stainless steel
- ▲ Problem solver for steel machining



■ ■ M2 – Grooving and Turning

- ▲ For grooving and turning
- ▲ Suitable for all steel and cast iron materials
- ▲ Very good chip control

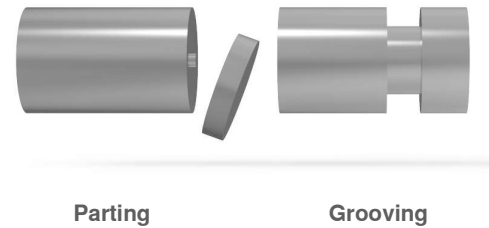




GS

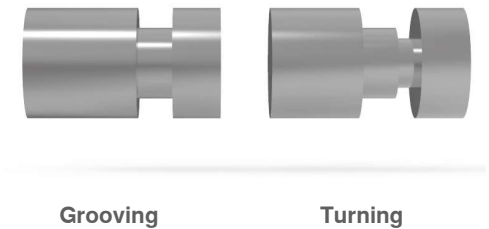
■ LM – Non ferrous metals

- ▲ Insert with highly positive cutting chipbreaker and sharp cutting edge
- ▲ Extra-smooth rake face through "microfinish"
- ▲ Reduced
- ▲ built-up edge



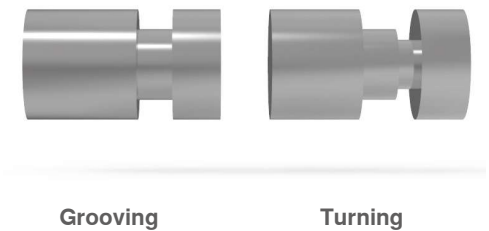
■ ■ M – General application and Turning

- ▲ Insert for radius grooves
- ▲ For copy turning
- ▲ Suitable for all steel and cast iron materials



■ MM – General application and Turning

- ▲ Especially for stainless steel materials

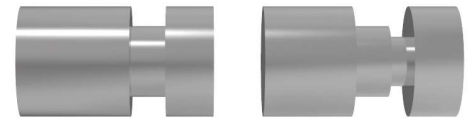




GA

T – Grooving and Turning

- ▲ For grooving and turning
- ▲ Suitable for all steel and stainless steel materials
- ▲ Very good chip control

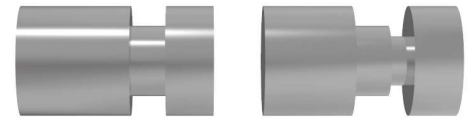


Grooving

Turning

M – General application and Turning

- ▲ Insert for radius grooves
- ▲ For copy turning
- ▲ Suitable for all steel and cast iron materials



Grooving

Turning



Application

GD/GO/GA

Material Group	Choice chipbreaker	First choice	Grades	
			First choice	Higher wear resistance
Steel	M1 – F1	CTP1340	CTCP320ST	CTPP345
	T – M	CTP1340		
Stainless steel	ST1 – F1 – T – M – MM	CTP1340		CTPP345
Cast iron	M1	CTP1340	CTCP320ST	CTPP345
	M	CTP1340		
Exotic	ST1	CTPP345		
Non-ferrous metals	LM	CTWN715		

GS

Material Group	Choice chipbreaker	First choice	Grades	
			First choice	Higher wear resistance
Steel	M1 – M2 – M	CTP1340	CTCP320ST	CTPP345
Stainless steel	ST1 – MM	CTP1340		CTPP345
Cast iron	M1 – M2	CTP1340		CTPP345
Non-ferrous metals	LM	CTWN715		

Inserts



GD

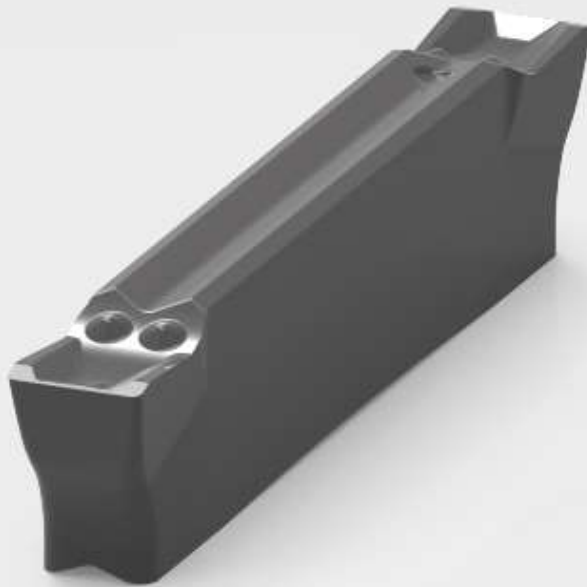
Double-sided













M1

1.5 – 8











GD – M1

Insert		Designation	Material number
1.5		GD24NT-15.015-00-M1 CTCP320ST	12599663
		GD24NT-15.015-00-M1 CTP1340	12599660
		GD24NT-15.015-00-M1 CTPP345	12599666
		GD24LT-20.015-06-M1 CTCP320ST	12248387
		GD24LT-20.015-06-M1 CTP1340	12248382
		GD24LT-20.015-06-M1 CTPP345	12248392
2.0		GD24NT-20.02-00-M1 CTCP320ST	12158331
		GD24NT-20.02-00-M1 CTP1340	12158330
		GD24NT-20.02-00-M1 CTPP345	12158332
		GD24RT-20.015-06-M1 CTCP320ST	12248400
		GD24RT-20.015-06-M1 CTP1340	12248396
		GD24RT-20.015-06-M1 CTPP345	12248401
		GD24LT-30.02-06-M1 CTCP320ST	12235866
		GD24LT-30.02-06-M1 CTP1340	12235863
		GD24LT-30.02-06-M1 CTPP345	12235868
3.0		GD24NT-30.02-00-M1 CTCP320ST	12149223
		GD24NT-30.02-00-M1 CTP1340	12141178
		GD24NT-30.02-00-M1 CTPP345	12149224
		GD24RT-30.02-06-M1 CTCP320ST	12235873
		GD24RT-30.02-06-M1 CTP1340	12235871
		GD24RT-30.02-06-M1 CTPP345	12235877



Insert	Designation	Material number
  	GD24LT-40.03-04-M1 CTCP320ST	12416667
	GD24LT-40.03-04-M1 CTP1340	12416662
	GD24LT-40.03-04-M1 CTPP345	12416668
	GD24NT-40.03-00-M1 CTCP320ST	12149566
	GD24NT-40.03-00-M1 CTP1340	12149565
	GD24NT-40.03-00-M1 CTPP345	12149567
	GD24RT-40.03-04-M1 CTCP320ST	12416653
	GD24RT-40.03-04-M1 CTP1340	12416651
	GD24RT-40.03-04-M1 CTPP345	12416656
	GD24NT-50.04-00-M1 CTCP320ST	12336861
	GD24NT-50.04-00-M1 CTP1340	12336856
	GD24NT-50.04-00-M1 CTPP345	12336862
	GD24NT-60.04-00-M1 CTCP320ST	12536051
	GD24NT-60.04-00-M1 CTP1340	12536043
	GD24NT-60.04-00-M1 CTPP345	12536052
	GD35NT-80.08-00-M1 CTP1340	57004597













GROOVING

F1 21

F1
2-5



GD – F1

	Insert	Designation	Material number
2.0		GD24LT-20.015-06-F1 CTCP320ST	12245958
		GD24LT-20.015-06-F1 CTP1340	12245957
		GD24LT-20.015-06-F1 CTPP345	12245959
		GD24NT-20.02-00-F1 CTCP320ST	12218962
		GD24NT-20.02-00-F1 CTP1340	12218959
		GD24NT-20.02-00-F1 CTPP345	12218963
		GD24RT-20.015-06-F1 CTCP320ST	12245961
		GD24RT-20.015-06-F1 CTP1340	12245960
		GD24RT-20.015-06-F1 CTPP345	12245962
3.0		GD24LT-30.02-06-F1 CTCP320ST	12236951
		GD24LT-30.02-06-F1 CTP1340	12236949
		GD24LT-30.02-06-F1 CTPP345	12236952
		GD24NT-30.02-00-F1 CTCP320ST	12149218
		GD24NT-30.02-00-F1 CTP1340	12141176
		GD24NT-30.02-00-F1 CTPP345	12149221
		GD24RT-30.02-06-F1 CTCP320ST	12236947
		GD24RT-30.02-06-F1 CTP1340	12236946
		GD24RT-30.02-06-F1 CTPP345	12236948
4.0		GD24LT-40.03-04-F1 CTCP320ST	12416716
		GD24LT-40.03-04-F1 CTP1340	12416713
		GD24LT-40.03-04-F1 CTPP345	12416718
		GD24NT-40.03-00-F1 CTCP320ST	12218967
		GD24NT-40.03-00-F1 CTP1340	12218965
		GD24NT-40.03-00-F1 CTPP345	12218969
		GD24RT-40.03-04-F1 CTCP320ST	12416699
		GD24RT-40.03-04-F1 CTP1340	12416695
		GD24RT-40.03-04-F1 CTPP345	12416703
5.0		GD24RT-50.04-00-F1 CTCP320ST	12395254
		GD24RT-50.04-00-F1 CTP1340	12395243
		GD24RT-50.04-00-F1 CTPP345	12395259










ST1

1,5 – 6




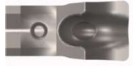





GD – ST1

Insert	Designation	Material number
1.5 	GD24NT-15.015-00-ST1 CTCP320ST	12269418
	GD24NT-15.015-00-ST1 CTP1340	12269406
	GD24NT-15.015-00-ST1 CTPP345	12269420
2.0   	GD24LT-20.015-06-ST1 CTCP320ST	12248411
	GD24LT-20.015-06-ST1 CTP1340	12248409
	GD24LT-20.015-06-ST1 CTPP345	12248413
	GD24NT-20.02-00-ST1 CTCP320ST	12158334
	GD24NT-20.02-00-ST1 CTP1340	12158333
	GD24NT-20.02-00-ST1 CTPP345	12158335
	GD24RT-20.015-06-ST1 CTCP320ST	12248416
	GD24RT-20.015-06-ST1 CTP1340	12248415
	GD24RT-20.015-06-ST1 CTPP345	12248418
3.0   	GD24LT-30.02-06-ST1 CTCP320ST	12236942
	GD24LT-30.02-06-ST1 CTP1340	12236941
	GD24LT-30.02-06-ST1 CTPP345	12236943
	GD24NT-30.02-00-ST1 CTCP320ST	12149214
	GD24NT-30.02-00-ST1 CTP1340	12141184
	GD24NT-30.02-00-ST1 CTPP345	12149216
	GD24RT-30.02-06-ST1 CTCP320ST	12236937
	GD24RT-30.02-06-ST1 CTP1340	12236932
	GD24RT-30.02-06-ST1 CTPP345	12236939



	Insert	Designation	Material number
4.0		GD24LT-40.03-04-ST1 CTCP320ST	12416683
		GD24LT-40.03-04-ST1 CTP1340	12416682
		GD24LT-40.03-04-ST1 CTPP345	12416686
		GD24NT-40.04-00-ST1 CTCP320ST	12149563
		GD24NT-40.04-00-ST1 CTP1340	12149561
		GD24NT-40.04-00-ST1 CTPP345	12149564
		GD24RT-40.03-04-ST1 CTCP320ST	12416679
		GD24RT-40.03-04-ST1 CTP1340	12416676
		GD24RT-40.03-04-ST1 CTPP345	12416681
5.0		GD24NT-50.04-00-ST1 CTPP345	12382668
		GD24NT-50.04-00-ST1 CTP1340	12382661
		GD24NT-50.04-00-ST1 CTCP320ST	12382664
6.0		GD24NT-60.04-00-ST1 CTPP345	12545261
		GD24NT-60.04-00-ST1 CTP1340	12545222
		GD24NT-60.04-00-ST1 CTCP320ST	12545248









T
2-6








GD – T

	Insert	Designation	Material number
2.0		GD24LT-20.02-06-T CTCP320ST	12312069
		GD24LT-20.02-06-T CTP1340	12312068
		GD24LT-20.02-06-T CTPP345	12312070
		GD24NT-20.02-00-T CTCP320ST	12158328
		GD24NT-20.02-00-T CTP1340	12158327
		GD24NT-20.02-00-T CTPP345	12158329
		GD24RT-20.02-06-T CTCP320ST	12312059
		GD24RT-20.02-06-T CTP1340	12312058
		GD24RT-20.02-06-T CTPP345	12312060
3.0		GD24LT-30.02-06-T CTCP320ST	12312076
		GD24LT-30.02-06-T CTP1340	12312075
		GD24LT-30.02-06-T CTPP345	12312077
		GD24NT-30.03-00-T CTCP320ST	12149211
		GD24NT-30.03-00-T CTP1340	12141172
		GD24NT-30.03-00-T CTPP345	12149213
		GD24RT-30.02-06-T CTCP320ST	12312073
		GD24RT-30.02-06-T CTP1340	12312072
		GD24RT-30.02-06-T CTPP345	12312074



Insert	Designation	Material number
4.0 	GD24NT-40.04-00-T CTCP320ST	12149559
	GD24NT-40.04-00-T CTP1340	12149558
	GD24NT-40.04-00-T CTPP345	12149560
5.0 	GD24NT-50.04-00-T CTCP320ST	12391983
	GD24NT-50.04-00-T CTP1340	12391945
	GD24NT-50.04-00-T CTPP345	12395234
6.0 	GD24NT-60.04-00-T CTCP320ST	12545289
	GD24NT-60.04-00-T CTP1340	12545272
	GD24NT-60.04-00-T CTPP345	12545301








M

2 – 6



GD – M

Insert	Designation	Material number
2.0 	GD24NR-20.00-00-M CTCP320ST	12218982
	GD24NR-20.00-00-M CTP1340	12218980
	GD24NR-20.00-00-M CTPP345	12218983
3.0 	GD24NR-30.00-00-M CTCP320ST	12149207
	GD24NR-30.00-00-M CTP1340	12142965
	GD24NR-30.00-00-M CTPP345	12149210
4.0 	GD24NR-40.00-00-M CTCP320ST	12218975
	GD24NR-40.00-00-M CTP1340	12218974
	GD24NR-40.00-00-M CTPP345	12218977
5.0 	GD24NR-50.00-00-M CTCP320ST	12391880
	GD24NR-50.00-00-M CTP1340	12391847
	GD24NR-50.00-00-M CTPP345	12391882
6.0 	GD24NR-60.00-00-M CTCP320ST	12545446
	GD24NR-60.00-00-M CTP1340	12545433
	GD24NR-60.00-00-M CTPP345	12545456








MM

2 – 6

GD – MM



Insert	Designation	Material number
2.0 	GD24NR-20.00-00-MM CTCP320ST	●
	GD24NR-20.00-00-MM CTP1340	●
	GD24NR-20.00-00-MM CTPP345	●
3.0 	GD24NR-30.00-00-MM CTCP320ST	●
	GD24NR-30.00-00-MM CTP1340	●
	GD24NR-30.00-00-MM CTPP345	●
4.0 	GD24NR-40.00-00-MM CTCP320ST	●
	GD24NR-40.00-00-MM CTP1340	●
	GD24NR-40.00-00-MM CTPP345	●
5.0 	GD24NR-50.00-00-MM CTCP320ST	●
	GD24NR-50.00-00-MM CTP1340	●
	GD24NR-50.00-00-MM CTPP345	●
6.0 	GD24NR-60.00-00-MM CTCP320ST	●
	GD24NR-60.00-00-MM CTP1340	●
	GD24NR-60.00-00-MM CTPP345	●

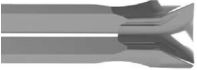


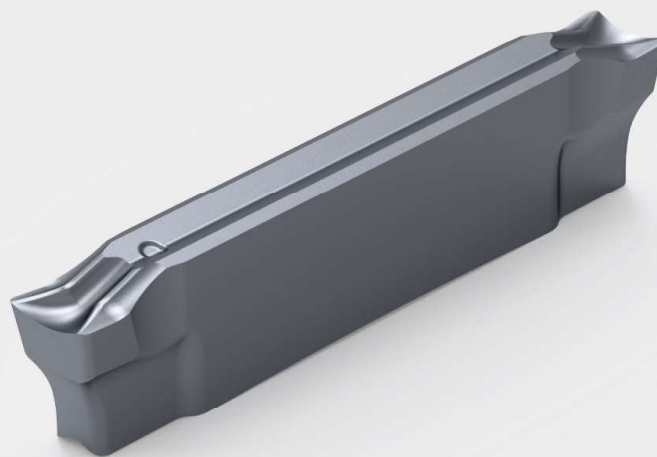
LM

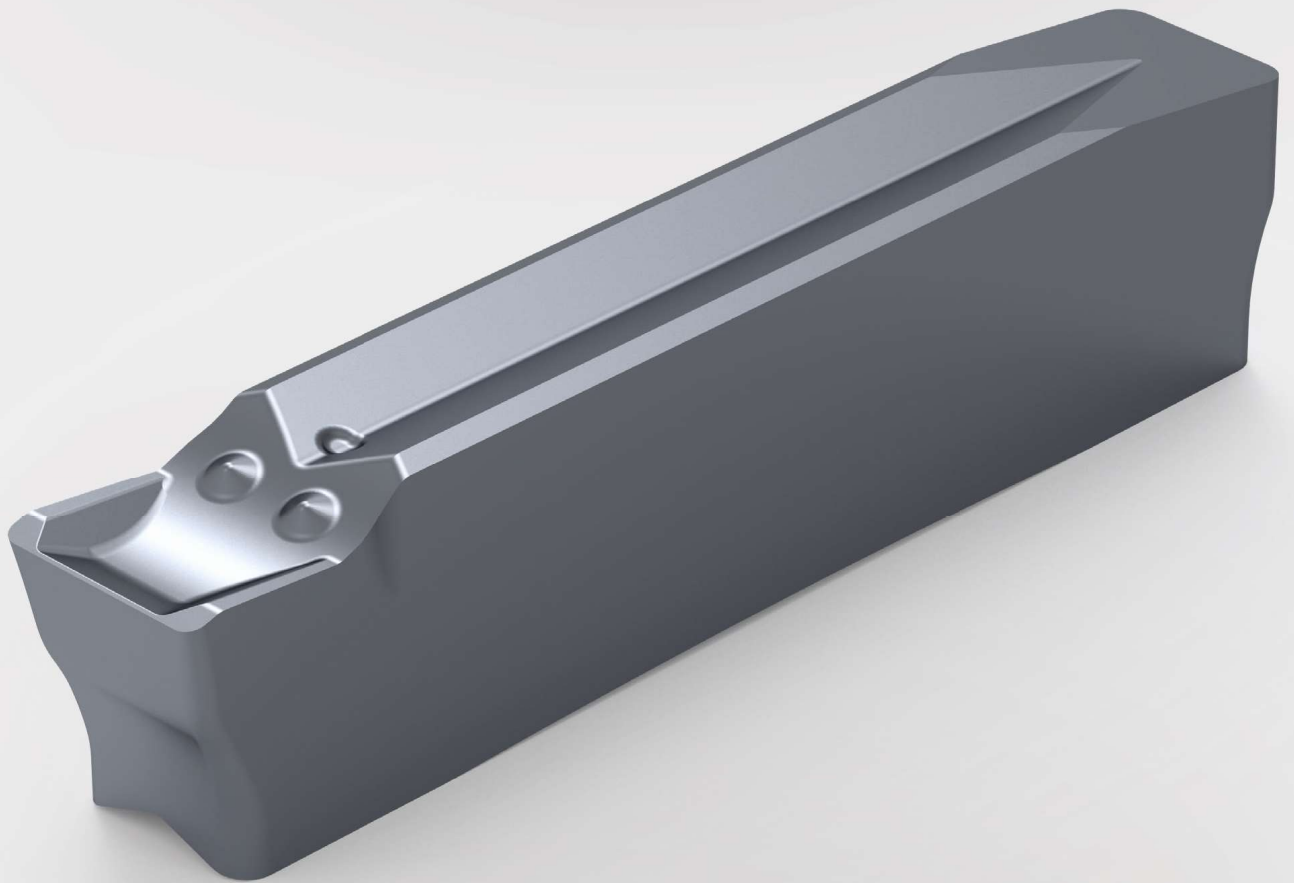
2 – 6



GD – LM

Insert	Designation	Material number
	GD24NT-20.02-00-LM CTWN715	12596998
	GD24NT-30.03-00-LM CTWN715	12597001
	GD24NT-40.04-00-LM CTWN715	12597002
	GD24NT-50.04-00-LM CTWN715	14603779
	GD24NT-60.05-00-LM CTWN715	14603782







GO

Single-sided

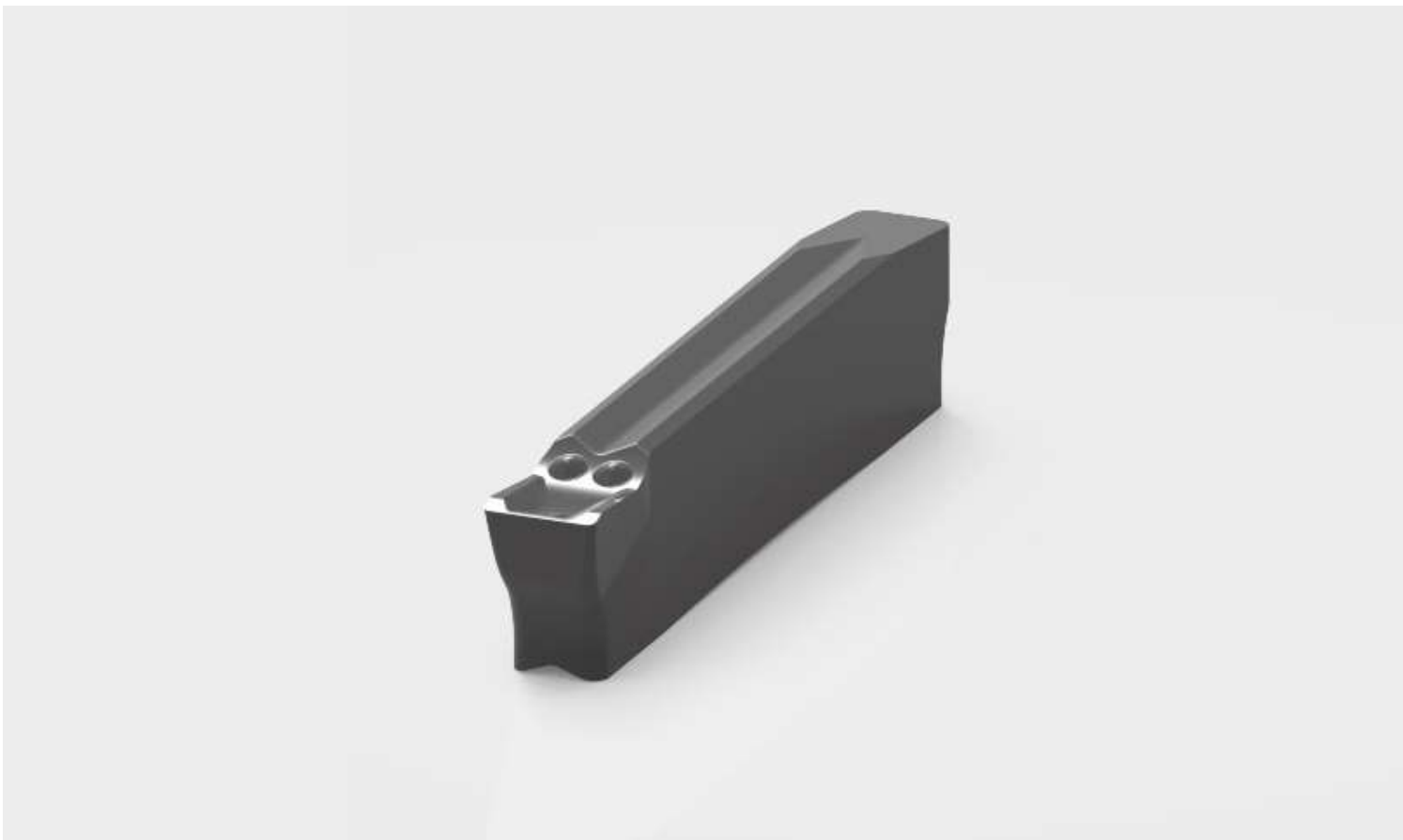


GROOVING

M1 35








M1

2-4





GO – M1

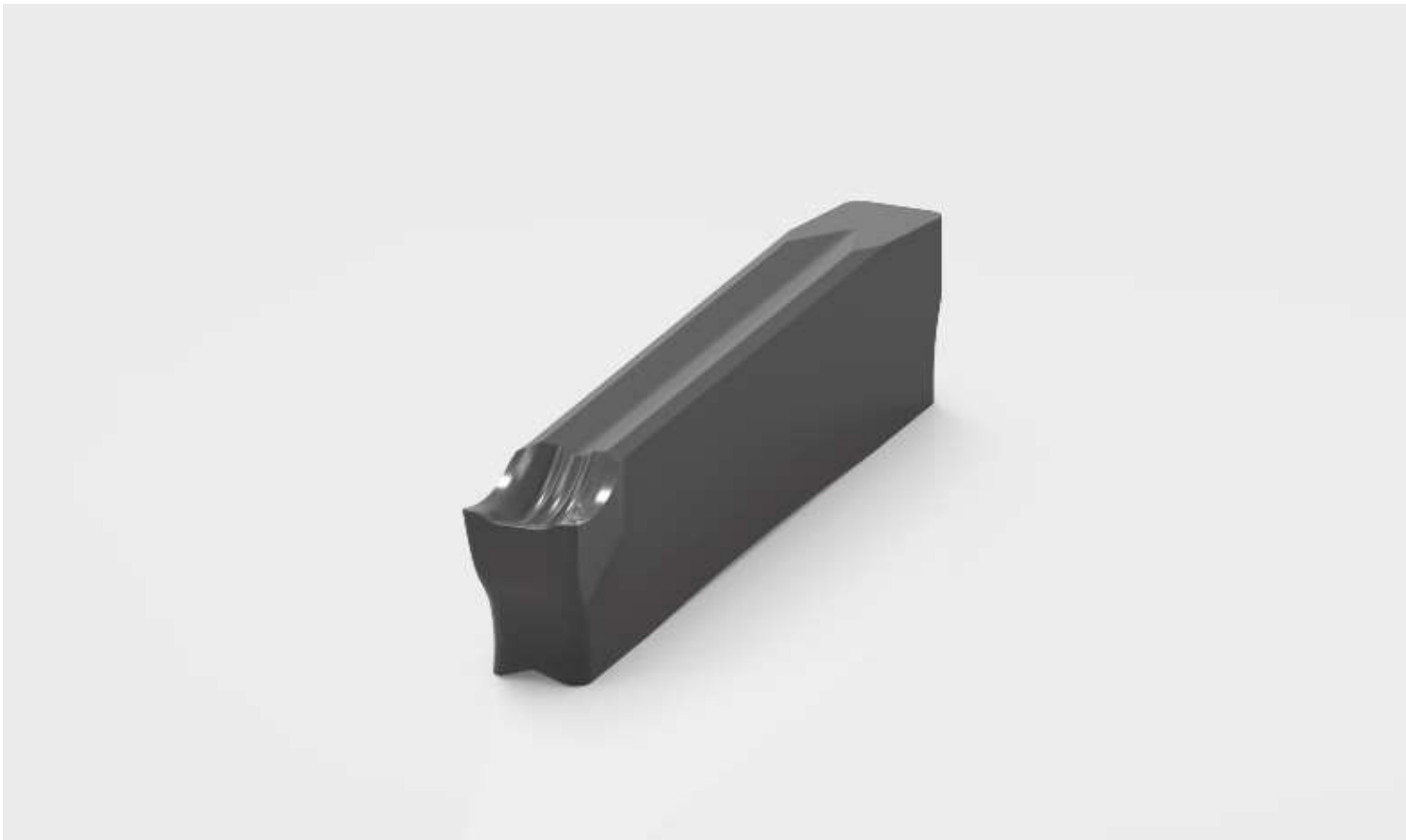
Insert	Designation	Material number
2.0 	GO24LT-20.015-06-M1 CTCP320ST	12407615
	GO24LT-20.015-06-M1 CTP1340	12407610
	GO24LT-20.015-06-M1 CTPP345	12407617
2.0 	GO24NT-20.02-00-M1 CTCP320ST	12193962
	GO24NT-20.02-00-M1 CTP1340	12193961
	GO24NT-20.02-00-M1 CTPP345	12193963
2.0 	GO24RT-20.015-06-M1 CTCP320ST	12407597
	GO24RT-20.015-06-M1 CTP1340	12407590
	GO24RT-20.015-06-M1 CTPP345	12407598
3.0 	GO24LT-30.02-06-M1 CTCP320ST	12407644
	GO24LT-30.02-06-M1 CTP1340	12407642
	GO24LT-30.02-06-M1 CTPP345	12407645
3.0 	GO24NT-30.02-00-M1 CTCP320ST	12193971
	GO24NT-30.02-00-M1 CTP1340	12143095
	GO24NT-30.02-00-M1 CTPP345	12193973
3.0 	GO24RT-30.02-06-M1 CTCP320ST	12407602
	GO24RT-30.02-06-M1 CTP1340	12407600
	GO24RT-30.02-06-M1 CTPP345	12407605
4.0 	GO24NT-40.03-00-M1 CTCP320ST	12193967
	GO24NT-40.03-00-M1 CTP1340	12193966
	GO24NT-40.03-00-M1 CTPP345	12193969



GROOVING

F1 37

F1
2-4





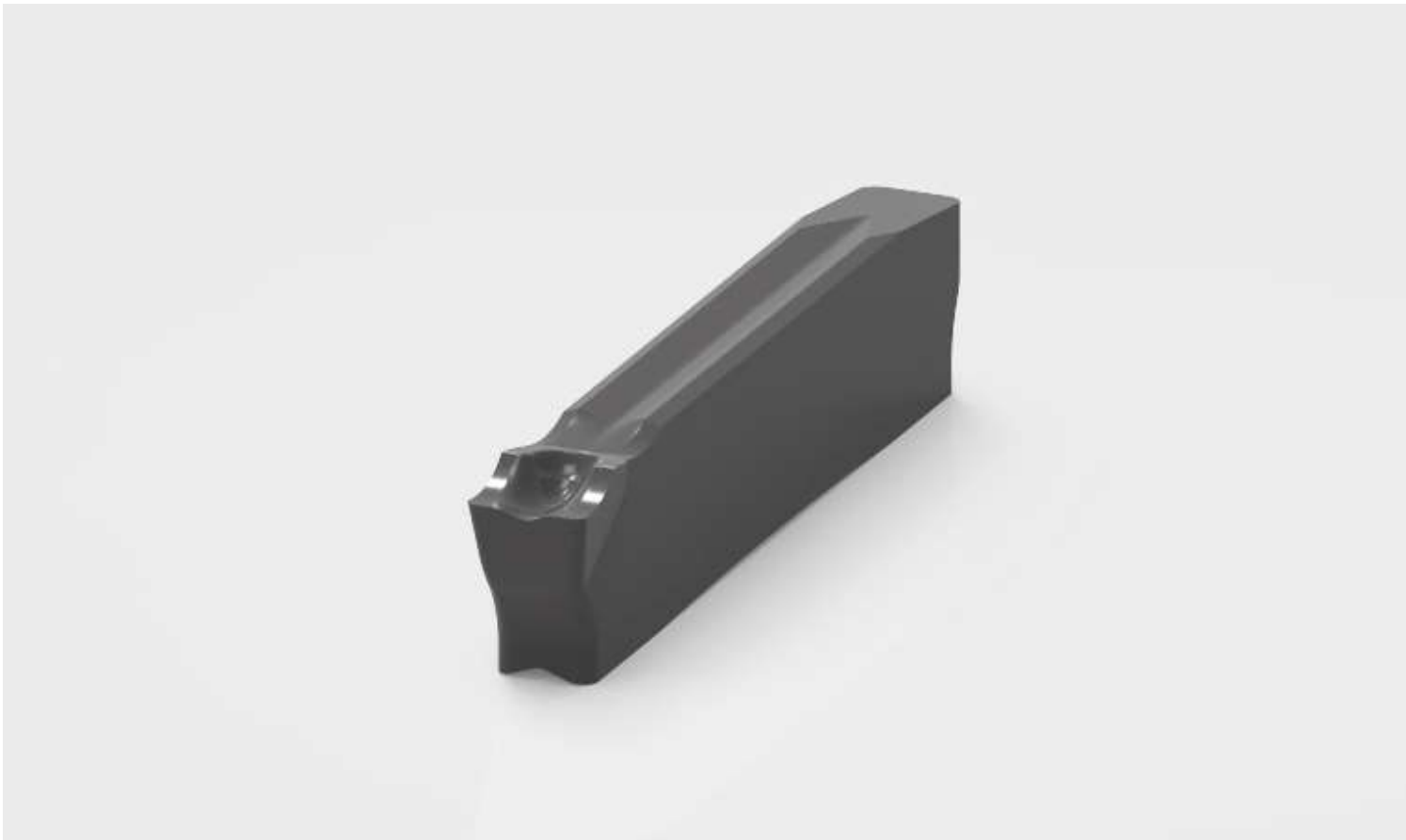
GO – F1

Insert	Designation	Material number
2.0 	GO24LT-20.015-06-F1 CTCP320ST	12407584
	GO24LT-20.015-06-F1 CTP1340	12407578
	GO24LT-20.015-06-F1 CTPP345	12407586
2.0 	GO24NT-20.02-00-F1 CTCP320ST	12330133
	GO24NT-20.02-00-F1 CTP1340	12330130
	GO24NT-20.02-00-F1 CTPP345	12330135
2.0 	GO24RT-20.015-06-F1 CTCP320ST	12407623
	GO24RT-20.015-06-F1 CTP1340	12407621
	GO24RT-20.015-06-F1 CTPP345	12407627
3.0 	GO24LT-30.02-06-F1 CTCP320ST	12407650
	GO24LT-30.02-06-F1 CTP1340	12407648
	GO24LT-30.02-06-F1 CTPP345	12407653
3.0 	GO24NT-30.02-00-F1 CTCP320ST	12330168
	GO24NT-30.02-00-F1 CTP1340	12330167
	GO24NT-30.02-00-F1 CTPP345	12330170
3.0 	GO24RT-30.02-06-F1 CTCP320ST	12407658
	GO24RT-30.02-06-F1 CTP1340	12407656
	GO24RT-30.02-06-F1 CTPP345	12407659
4.0 	GO24NT-40.03-00-F1 CTCP320ST	12330181
	GO24NT-40.03-00-F1 CTP1340	12330180
	GO24NT-40.03-00-F1 CTPP345	12330183






ST1

2-4





GO – ST1

Insert	Designation	Material number
2.0 	GO24NT-20.02-00-ST1 CTCP320ST	12330151
	GO24NT-20.02-00-ST1 CTP1340	12330143
	GO24NT-20.02-00-ST1 CTPP345	12330152
3.0 	GO24NT-30.03-00-ST1 CTCP320ST	12330173
	GO24NT-30.03-00-ST1 CTP1340	12330172
	GO24NT-30.03-00-ST1 CTPP345	12330175
4.0 	GO24NT-40.04-00-ST1 CTCP320ST	12330219
	GO24NT-40.04-00-ST1 CTP1340	12330218
	GO24NT-40.04-00-ST1 CTPP345	12330220






T
2-4





GO – T

	Insert	Designation	Material number
2.0		GO24NT-20.02-00-T CTCP320ST	12330165
		GO24NT-20.02-00-T CTP1340	12330163
		GO24NT-20.02-00-T CTPP345	12330166
3.0		GO24NT-30.03-00-T CTCP320ST	12330178
		GO24NT-30.03-00-T CTP1340	12330176
		GO24NT-30.03-00-T CTPP345	12330179
4.0		GO24NT-40.04-00-T CTCP320ST	12330223
		GO24NT-40.04-00-T CTP1340	12330222
		GO24NT-40.04-00-T CTPP345	12330224




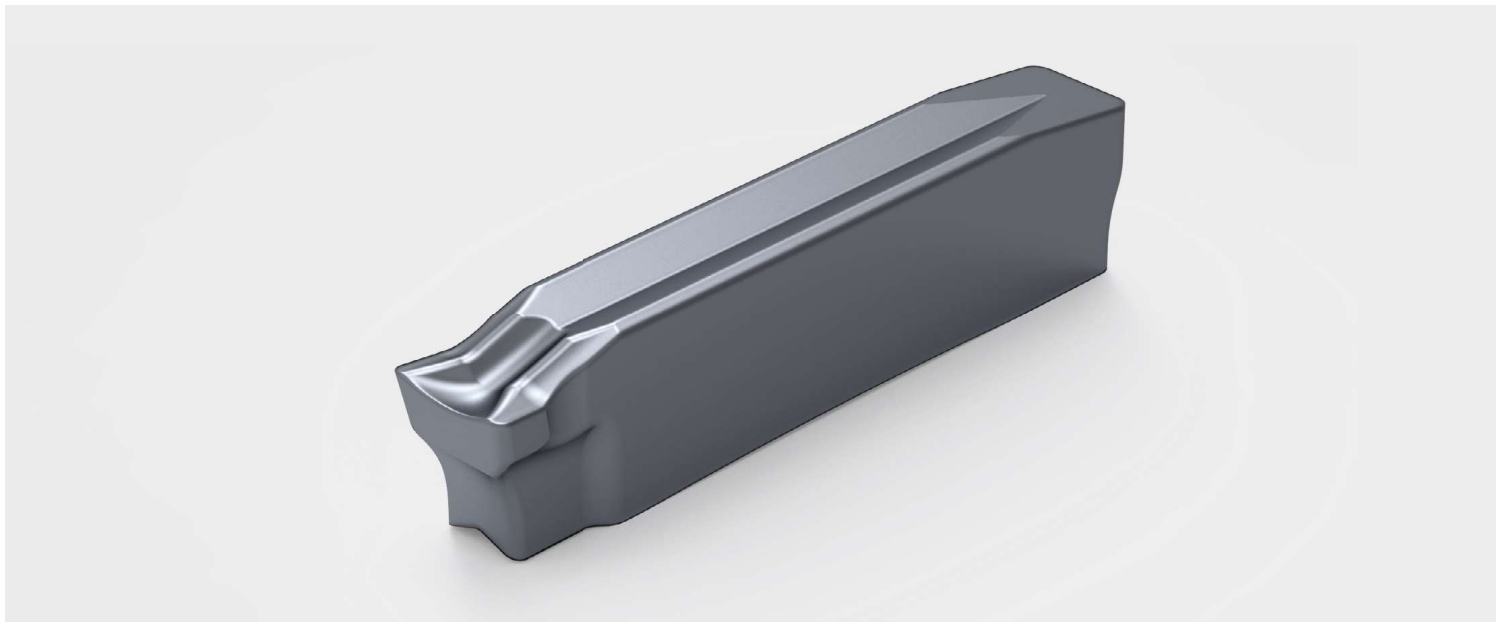
LM

2 – 4



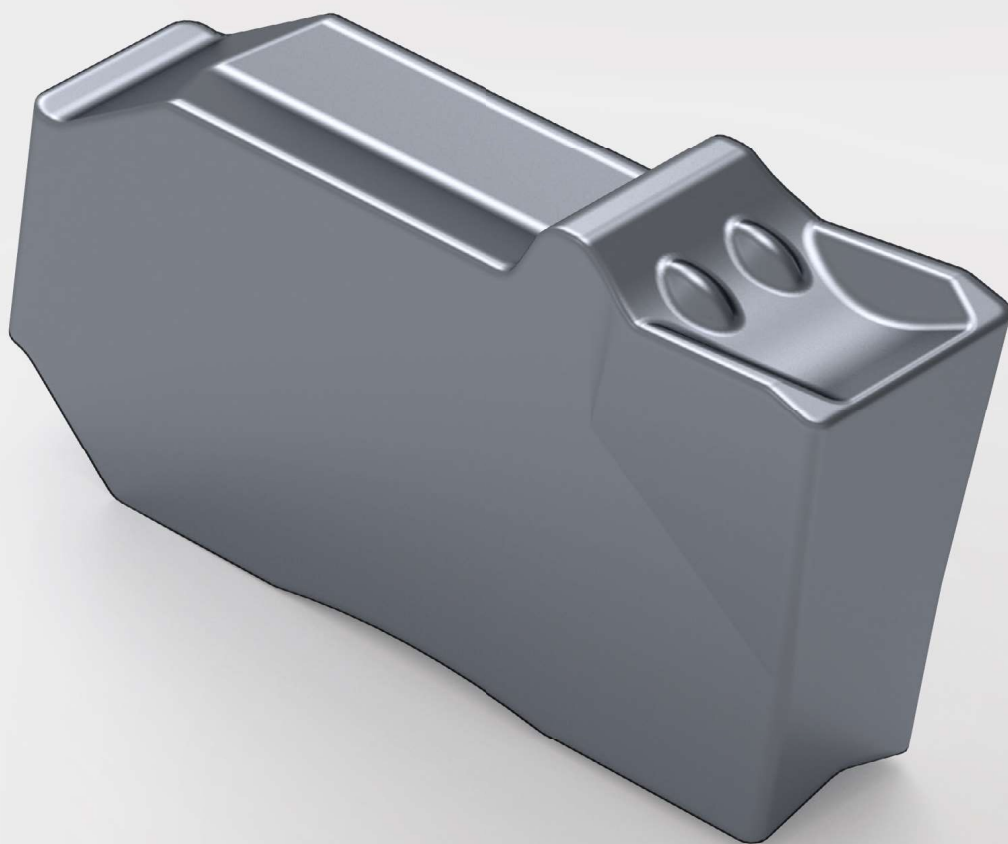
GO – LM

Insert	Designation	Material number
	GO24NT-20.02-00-LM CTWN715	12597003
	GO24NT-30.03-00-LM CTWN715	12597004
	GO24NT-40.04-00-LM CTWN715	12597008



GS

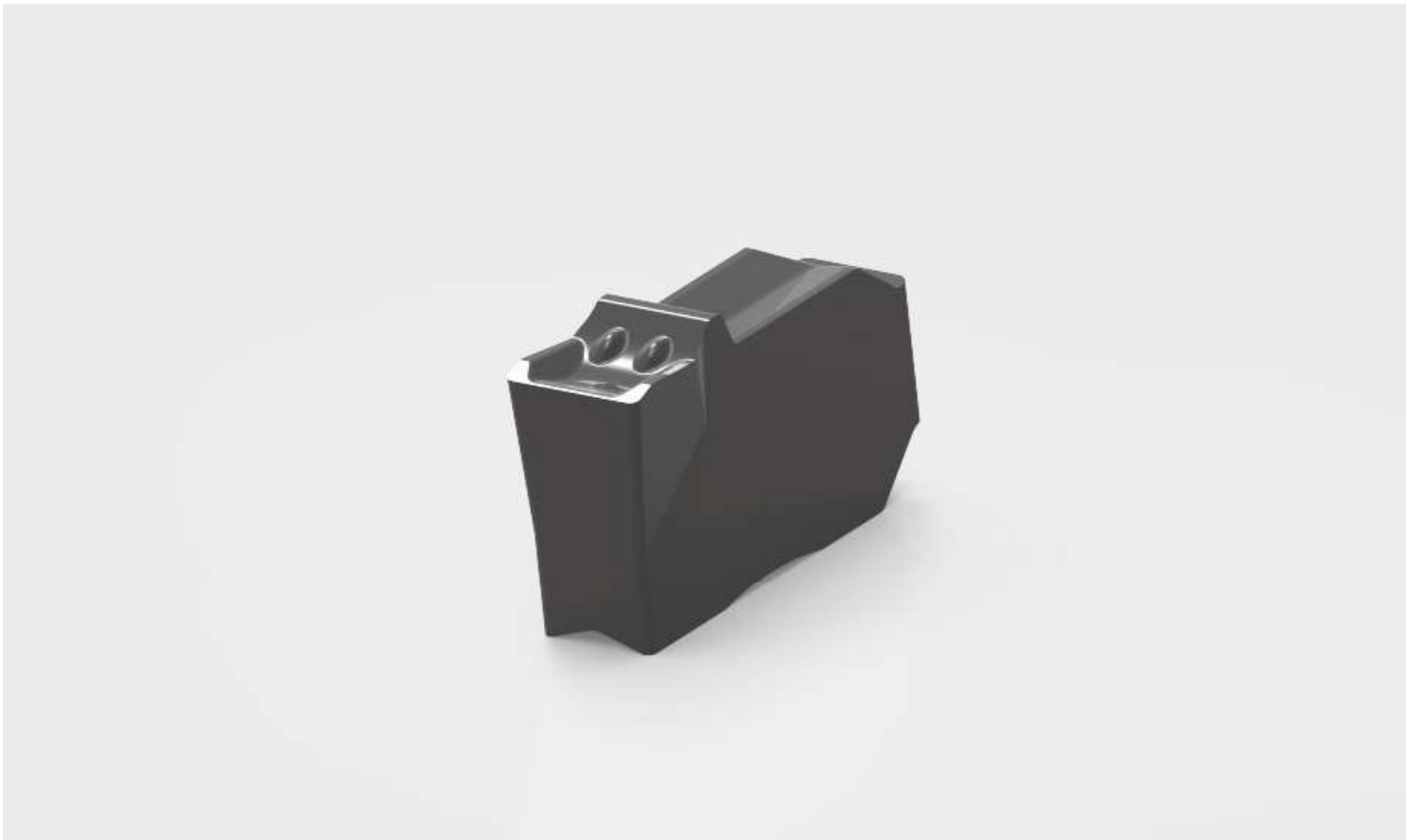
Small size insert










M1

2 – 6





GS – M1

Insert	Designation	Material number
2.0 	GSNT-20.02-00-M1 CTP320ST	12220987
	GSNT-20.02-00-M1 CTPP345	12122435
	GSNT-20.02-00-M1 CTP1340	12331961
3.0 	GSNT-30.02-00-M1 CTP320ST	12220994
	GSNT-30.02-00-M1 CTPP345	11888187
	GSNT-30.02-00-M1 CT1340	12331985
4.0 	GSNT-40.03-00-M1 CTP320ST	12220998
	GSNT-40.03-00-M1 CTPP345	11888182
	GSNT-40.03-00-M1 CTP1340	12332006
5.0 	GSNT-50.03-00-M1 CTP320ST	12169163
	GSNT-50.03-00-M1 CTPP345	12169161
	GSNT-50.03-00-M1 CTP1340	12332013
6.0 	GSNT-60.04-00-M1 CTP320ST	12169145
	GSNT-60.04-00-M1 CTPP345	12169142
	GSNT-60.04-00-M1 CTP1340	12332029




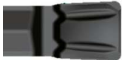



M2

2 – 6





GS – M2

Insert	Designation	Material number
2.0 	GSNT-20.02-00-M2 CTP320ST	12220991
	GSNT-20.02-00-M2 CTPP345	12122433
	GSNT-20.02-00-M2 CTP1340	12331971
3.0 	GSNT-30.03-00-M2 CTP320ST	12220996
	GSNT-30.03-00-M2 CTPP345	11888973
	GSNT-30.03-00-M2 CTP1340	12331988
4.0 	GSNT-40.04-00-M2 CTP320ST	12220999
	GSNT-40.04-00-M2 CTPP345	11888968
	GSNT-40.04-00-M2 CTP1340	12332008
5.0 	GSNT-50.04-00-M2 CTP320ST	12169158
	GSNT-50.04-00-M2 CTPP345	12169151
	GSNT-50.04-00-M2 CTP1340	12332021
6.0 	GSNT-60.05-00-M2 CTP320ST	12169139
	GSNT-60.05-00-M2 CTPP345	12169134
	GSNT-60.05-00-M2 CTP1340	12332036



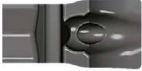
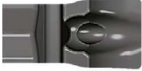



ST1

2 – 6





GS – ST1

	Insert	Designation	Material number
2.0		GSNT-20.02-00-ST1 CTP1340	12262689
		GSNT-20.02-00-ST1 CTCP320ST	12262690
		GSNT-20.02-00-ST1 CTPP345	12262692
3.0		GSNT-30.02-00-ST1 CTP1340	12262694
		GSNT-30.02-00-ST1 CTCP320ST	12262695
		GSNT-30.02-00-ST1 CTPP345	12262696
4.0		GSNT-40.04-00-ST1 CTCP320ST	12416760
		GSNT-40.04-00-ST1 CTP1340	12416758
		GSNT-40.04-00-ST1 CTPP345	12416763
5.0		GSNT-50.04-00-ST1 CTCP320ST	12416750
		GSNT-50.04-00-ST1 CTP1340	12416747
		GSNT-50.04-00-ST1 CTPP345	12416752
6.0		GSNT-60.04-00-ST1 CTCP320ST	12416735
		GSNT-60.04-00-ST1 CTP1340	12416725
		GSNT-60.04-00-ST1 CTPP345	12416742




LM

2 – 6



GS – LM

Insert	Designation	Material number
2.0	GSNT-20.02-00-LM CTWN715	12596993
3.0	GSNT-30.03-00-LM CTWN715	12596989
4.0 	GSNT-40.04-00-LM CTWN715	12596991
5.0	GSNT-50.04-00-LM CTWN715	14447754
6.0	GSNT-60.04-00-LM CTWN715	14447755





M

2 – 6



GS – M

Insert	Designation	Material number
2.0	GSNR-20.00-00-M CTP1340	14617248
3.0	GSNR-30.00-00-M CTP1340	14617250
4.0	GSNR-40.00-00-M CTP1340	14617254
5.0	GSNR-50.00-00-M CTP1340	14617259
6.0	GSNR-60.00-00-M CTP1340	14617263






MM

2 – 6



GS – MM

Insert	Designation	Material number
2.0	GSNR-20.00-00-MM CTP1340	14617264
3.0	GSNR-30.00-00-MM CTP1340	14617265
4.0 	GSNR-40.00-00-MM CTP1340	14617268
5.0	GSNR-50.00-00-MM CTP1340	14617270
6.0	GSNR-60.00-00-MM CTP1340	14617272



GA

Axial grooving








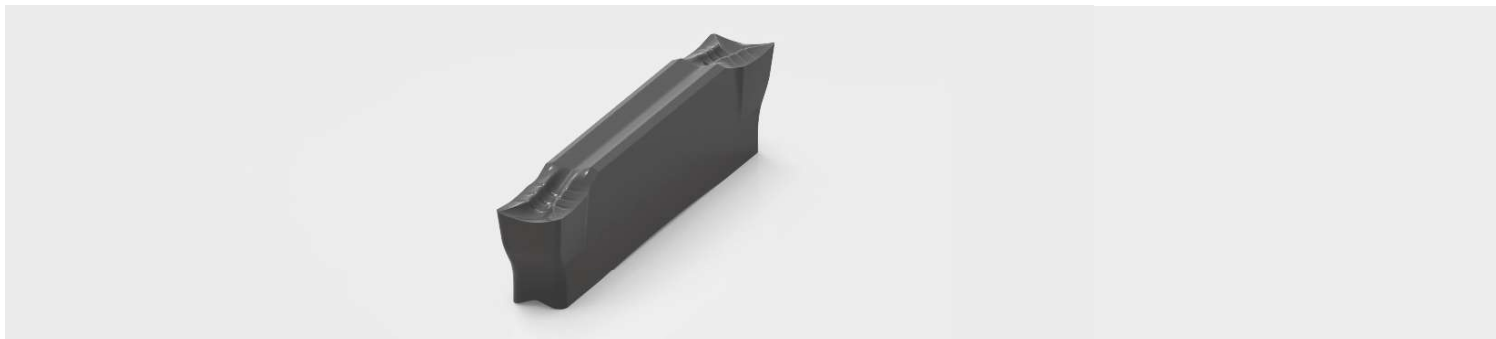
T

3 – 5



GA – T

Insert	Designation	Material number
3.0 	GA24NT-30.03-00-T CTCP320ST	12358352
	GA24NT-30.03-00-T CTP1340	12358346
	GA24NT-30.03-00-T CTPP345	12358353
4.0 	GA24NT-40.04-00-T CTCP320ST	14467538
	GA24NT-40.04-00-T CTP1340	14467537
	GA24NT-40.04-00-T CTPP345	14467539
5.0 	GA24NT-50.04-00-T CTCP320ST	14646114
	GA24NT-50.04-00-T CTP1340	14646112
	GA24NT-50.04-00-T CTPP345	14646115







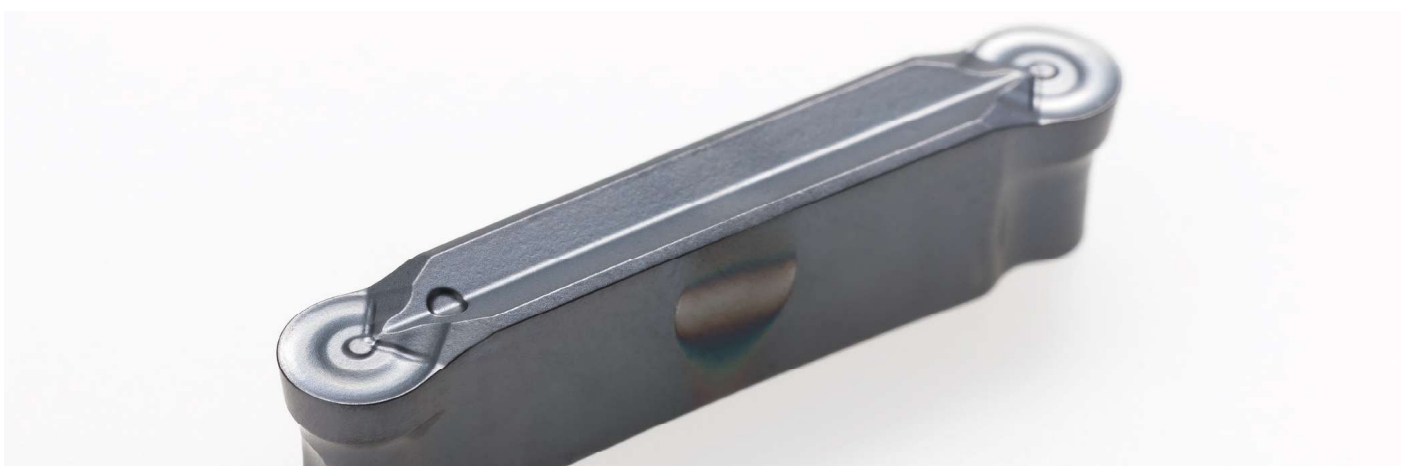
M

3 – 4



GA – T

Insert	Designation	Material number
3.0 	GA24NR-30.00-00-M CTCP320ST	14595669
	GA24NR-30.00-00-M CTP1340	14595666
	GA24NR-30.00-00-M CTPP345	14595672
4.0 	GA24NR-40.00-00-M CTCP320ST	14598108
	GA24NR-40.00-00-M CTP1340	14598096
	GA24NR-40.00-00-M CTPP345	14598110



Tools




Blade


GO/GD





2 – 6

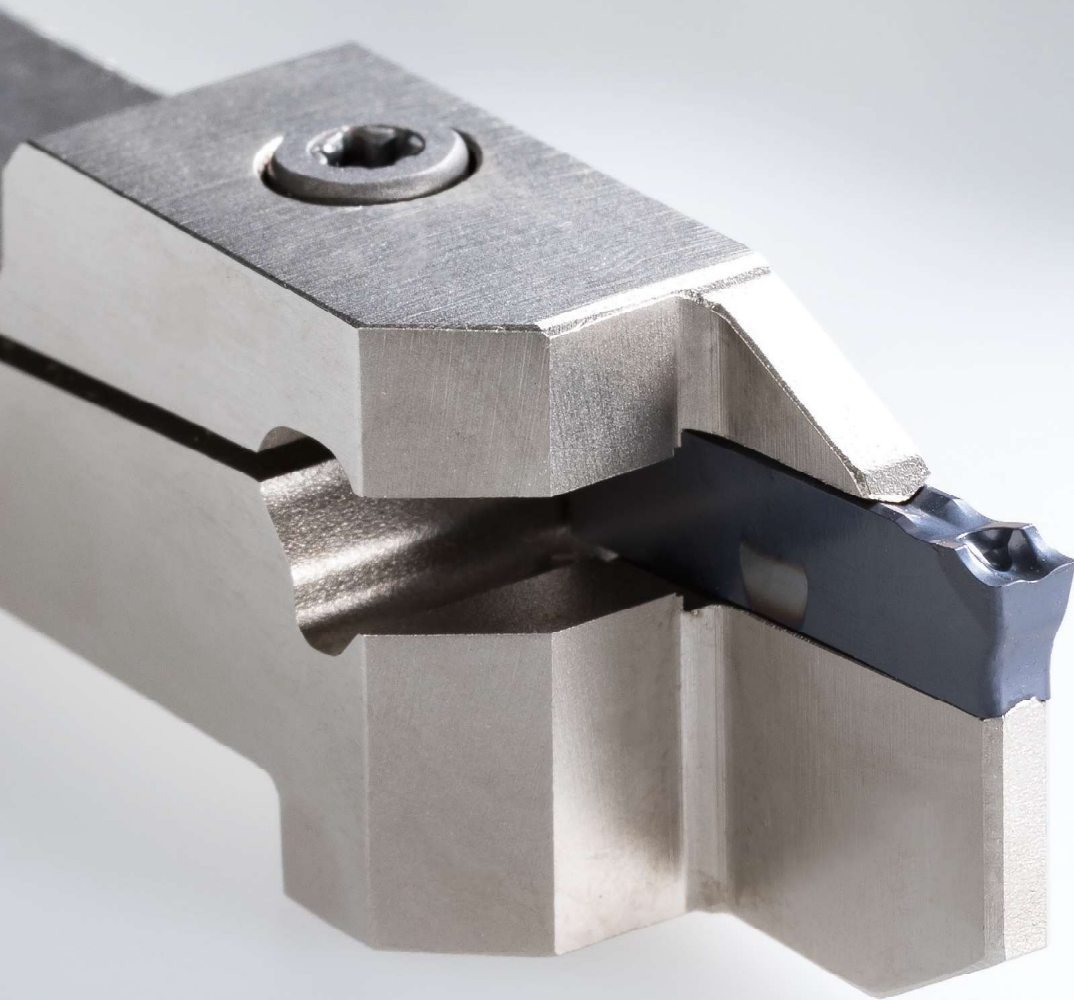
Blades	Designation	T _{max} [mm]	Material number
	GBL-2602-GO2402	25	12295514
	GBL-3202-GO2402	25	12295534
	GBR-2602-GO2402	25	12295505
	GBR-3202-GO2402	25	12295510
	GBN-2602-GO2402	25	12295540
	GBN-3202-GO2402	25	12295546
	GBN-2603-GO2403	35	12167262
	GBN-3203-GO2403	50	12167255
	GBN-2604-GO2404	35	12167260
	GBN-3204-GO2404	50	12167253
	GBN-3205-GO2405	60	14442164
	GBN-3206-GO2406	60	14442166

Spare parts *	Designation	Material number
	GK-3 (2 and 3 mm)	12154231
	GK-4 (4, 5 and 6 mm)	12154233


For information on how to use the system go to page 98.



Monoblocks

GO/GD





Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-12-GD2402-K-T13	13	12	L	12162709
	GMER-12-GD2402-K-T13	13	12	R	12162706
	GMEL-16-GD2402-K-T13	13	16	L	12162703
	GMER-16-GD2402-K-T13	13	16	R	12162693
	GMEL-20-GD2402-K-T13	13	20	L	12162691
	GMER-20-GD2402-K-T13	13	20	R	12162690
	GMEL-12-GD24015-K-T23	23	12	L	12599654
	GMER-12-GD24015-K-T23	23	12	R	12599653
	GMEL-16-GD24015-K-T23	23	16	L	12269982
	GMER-16-GD24015-K-T23	23	16	R	12599646

Spare parts	Designation	Material number
	Key T15	12380791
	Key T20	12380793
	Key SW4	4209
	M3.5X14,0/T15 (for h=12)	11081190
	M4.0X16/T20 (for h=16)	12003031
	M4.0X18/T20 (for h=20)	11007006
	M5.0X20	4492



Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-12-GD2403-K-T13	13	12	L	12148458
	GMER-12-GD2403-K-T13	13	12	R	12148456
	GMEL-16-GD2403-K-T13	13	16	L	12148455
	GMER-16-GD2403-K-T13	13	16	R	12148450
	GMEL-20-GD2403-K-T13	13	20	L	12148443
	GMER-20-GD2403-K-T13	13	20	R	12148440
	GMEL-25-GD2403-K-T13	13	25	L	12148436
	GMER-25-GD2403-K-T13	13	25	R	12148434
	GMEL-16-GD2403-K-T25	25	16	L	12148452
	GMER-16-GD2403-K-T25	25	16	R	12148445
	GMEL-20-GD2403-K-T25	25	20	L	12148441
	GMER-20-GD2403-K-T25	25	20	R	12148437
	GMEL-25-GD2403-K-T25	25	25	L	12148435
	GMER-25-GD2403-K-T25	25	25	R	12148433
	GMEL-32-GD2403-P-T25	25	32	L	14543475
	GMER-32-GD2403-P-T25	25	32	R	14543466
	GMEL-40-GD2403-S-T25	25	40	L	14543525
	GMER-40-GD2403-S-T25	25	40	R	14543492

Spare parts



Designation	Material number
Key T15	12380791
Key T20	12380793
M3.5X14.0/T15 (for h=12)	11081190
M4.0X16/T20 (for h=16)	12003031
M4.0X18/T20 (for h=20/25)	11007006



Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-16-GD2404-K-T25	25	16	L	12162689
	GMER-16-GD2404-K-T25	25		R	12162737
	GMEL-20-GD2404-K-T25	25	20	L	12162734
	GMER-20-GD2404-K-T25	25		R	12162729
	GMEL-25-GD2404-K-T25	25	25	L	12162726
	GMER-25-GD2404-K-T25	25		R	12162714
	GMEL-20-GD2405-M-T25	25	20	L	12545199
	GMER-20-GD2405-M-T25	25		R	12545190
	GMEL-25-GD2405-M-T25	25	25	L	12376613
	GMER-25-GD2405-M-T25	25		R	12376612
	GMEL-20-GD2406-M-T25	25	20	L	12545152
	GMER-20-GD2406-M-T25	25		R	12545139
	GMEL-25-GD2406-M-T25	25	25	L	12545182
	GMER-25-GD2406-M-T25	25		R	12545172
	GMEL-32-GD2406-P-T25	25	32	L	14543480
	GMER-32-GD2406-P-T25	25	32	R	14543478
	GMEL-40-GD2406-S-T25	25	40	L	14543534
	GMER-40-GD2406-S-T25	25	40	R	14543527
	GMEL-25-GD3508-P-T32	32	25	L	14420699
	GMER-25-GD3508-P-T32	32	25	R	14420698
GMEL-32-GD3508-P-T32	32	32	L	14420703	
GMER-32-GD3508-P-T32	32	32	R	14420702	

Spare parts



Designation	Material number
Key T20	12380793



M4.0X16 T20 (for h=16)	12003031
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M4.0X18/T20 (for h=20/25)	11007006
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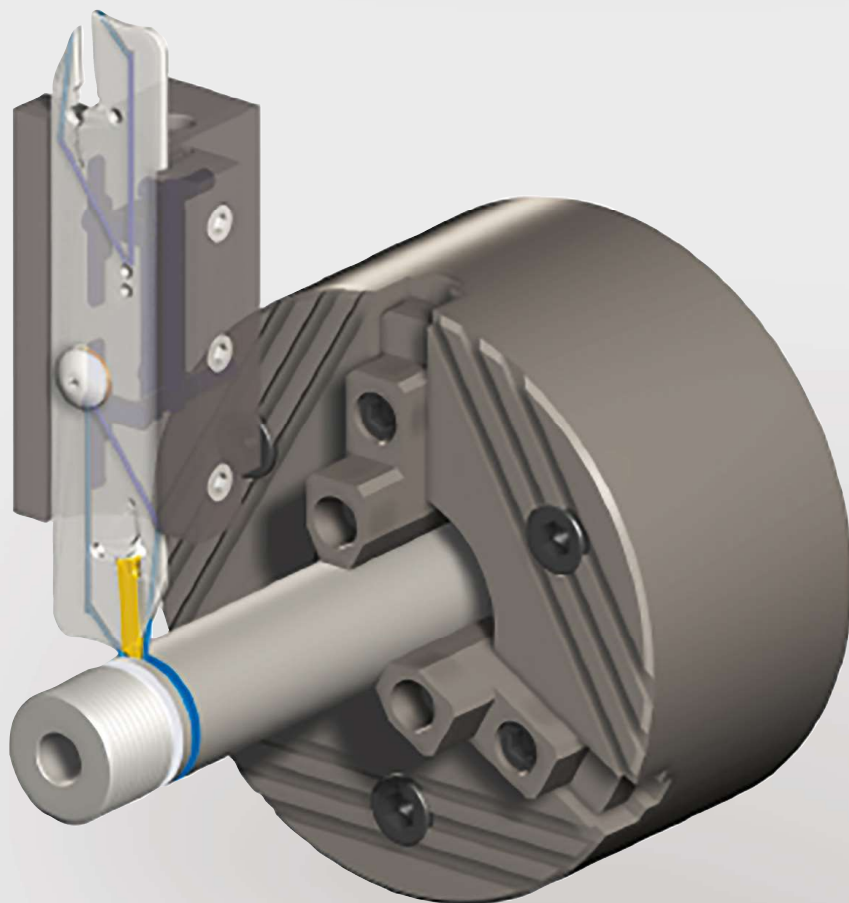


Key SW5	4496
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M6.0X20	4493
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Blades GO/GD


with internal cooling





Blades	Designation	T _{max} [mm]	Material number
	GBL-2602-GO2402-C	25	12416853
	GBL-3202-GO2402-C	25	12416844
	GBR-2602-GO2402-C	25	12416829
	GBR-3202-GO2402-C	25	12416818
	GBN-2602-GO2402-C	25	12416839
	GBN-3202-GO2402-C	25	12295549
	GBN-2603-GO2403-C	35	12154026
	GBN-3203-GO2403-C	50	12154027
	GBN-2604-GO2404-C	35	12528755
	GBN-3204-GO2404-C	50	12528758
	GBN-3205-GO2405-C	60	14442167
	GBN-3206-GO2406-C	60	14442170

Spare parts	Designation	Material number
	Key T15 58MM	7095086600
	Coolant screw plug M4X3	11998618

Spare parts *	Designation	Material number
	GK-3 (2 and 3 mm)	12154231
	GK-4 (4, 5 and 6 mm)	12154233

For information on how to use the system go to page 98.

Monoblocks GO/GD


with internal cooling









Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-16-GD2402-K-T13-C	13	16	L	12317045
	GMER-16-GD2402-K-T13-C	13	16	R	12317044
	GMEL-20-GD2402-K-T13-C	13	25	L	12317048
	GMER-20-GD2402-K-T13-C	13	25	R	12317046
	GMEL-16-GD2403-K-T25-C	25	16	L	12213519
	GMER-16-GD2403-K-T25-C	25	16	R	12213518
	GMEL-20-GD2403-K-T25-C	25	20	L	12213516
	GMER-20-GD2403-K-T25-C	25	20	R	12213513
	GMEL-25-GD2403-K-T25-C	25	25	L	12213509
	GMER-25-GD2403-K-T25-C	25	25	R	12213508
	GMEL-16-GD2404-K-T25-C	25	16	L	12317036
	GMER-16-GD2404-K-T25-C	25	16	R	12317035
	GMEL-20-GD2404-K-T25-C	25	20	L	12317041
	GMER-20-GD2404-K-T25-C	25	20	R	12317040
	GMEL-25-GD2404-K-T25-C	25	25	L	12317034
	GMER-25-GD2404-K-T25-C	25	25	R	12317043
	GMEL-32-GD2403-P-T25-C	25	32	L	14543537
	GMER-32-GD2403-P-T25-C	25	32	R	14543535
	GMEL-32-GD2404-P-T25-C	25	32	L	14543543
	GMER-32-GD2404-P-T25-C	25	32	R	14543540
	GMEL-40-GD2403-S-T25-C	25	40	L	14543558
	GMER-40-GD2403-S-T25-C	25	40	R	14543546
	GMEL-40-GD2404-S-T25-C	25	40	L	14543566
	GMER-40-GD2404-S-T25-C	25	40	R	14543564



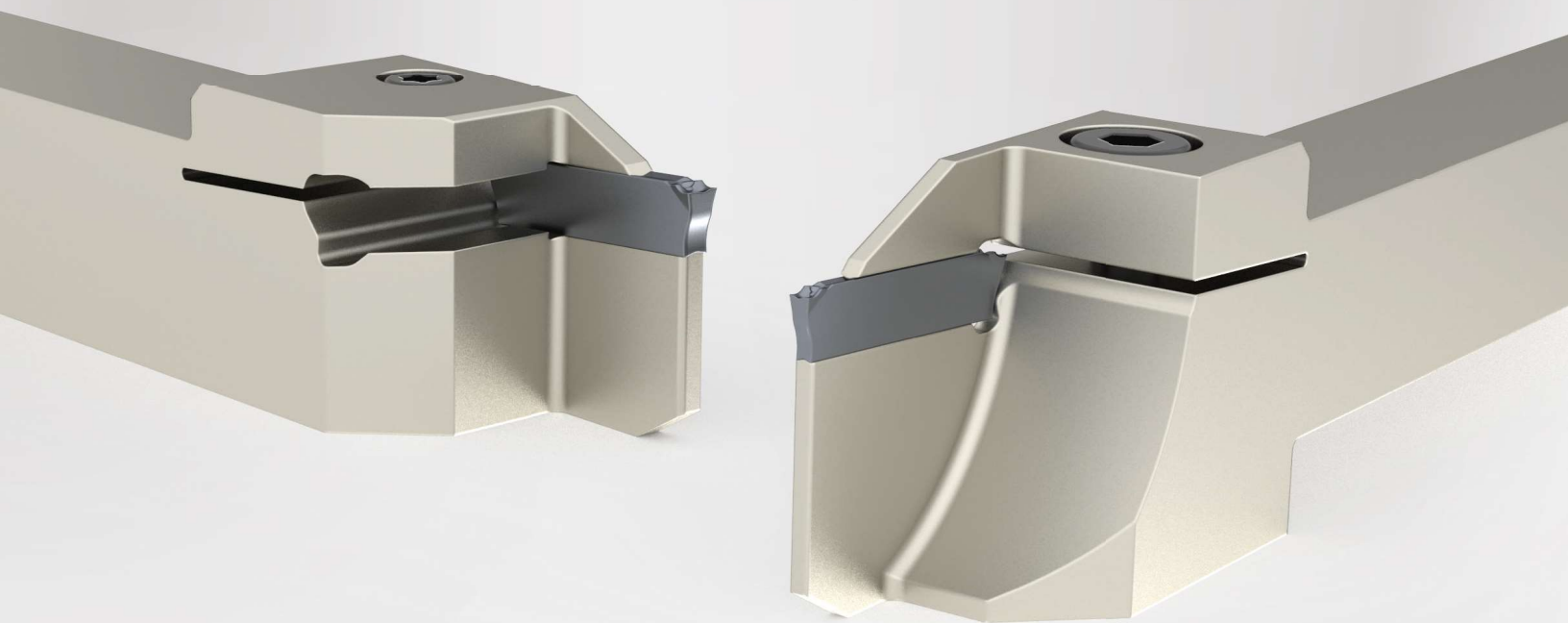
Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-20-GD2405-M-T25-C	25	20	L	●
	GMER-20-GD2405-M-T25-C	25	20	R	●
	GMEL-25-GD2405-M-T25-C	25	25	L	●
	GMER-25-GD2405-M-T25-C	25	25	R	●
	GMEL-20-GD2406-M-T25-C	25	20	L	●
	GMER-20-GD2406-M-T25-C	25	20	R	●
	GMEL-25-GD2406-M-T25-C	25	25	L	●
	GMER-25-GD2406-M-T25-C	25	25	R	●
	GMEL-40-GD3508-P-T32-C	32	40	L	14543572
	GMER-40-GD3508-P-T32-C	32	40	R	14543567

Spare parts	Designation	Material number
	Key SW5	4496
	M6.0x20	4493
	M6x6 DIN 913	11040843
	G1/8 DIN 913	12089802



Monoblocks GO/GD

– R (reinforced)





Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-12-GD2402-K-T13-R	13	12	L	12562846
	GMER-12-GD2402-K-T13-R	13		R	12522212
	GMEL-16-GD2402-K-T13-R	13	16	L	12562848
	GMER-16-GD2402-K-T13-R	13		R	12522214
	GMEL-12-GD2402-K-T21-R	21	12	L	12562851
	GMER-12-GD2402-K-T21-R	21		R	12522215
	GMEL-16-GD2402-K-T21-R	21	16	L	12562855
	GMER-16-GD2402-K-T21-R	21		R	12522216
	GMEL-12-GD2403-K-T13-R	13	12	L	12562831
	GMER-12-GD2403-K-T13-R	13		R	12522181
	GMEL-16-GD2403-K-T13-R	13	16	L	12562835
	GMER-16-GD2403-K-T13-R	13		R	12522183
	GMEL-12-GD2403-K-T21-R	21	12	L	12562836
	GMER-12-GD2403-K-T21-R	21		R	12522210
	GMEL-16-GD2403-K-T21-R	21	16	L	12562843
	GMER-16-GD2403-K-T21-R	21		R	12522211

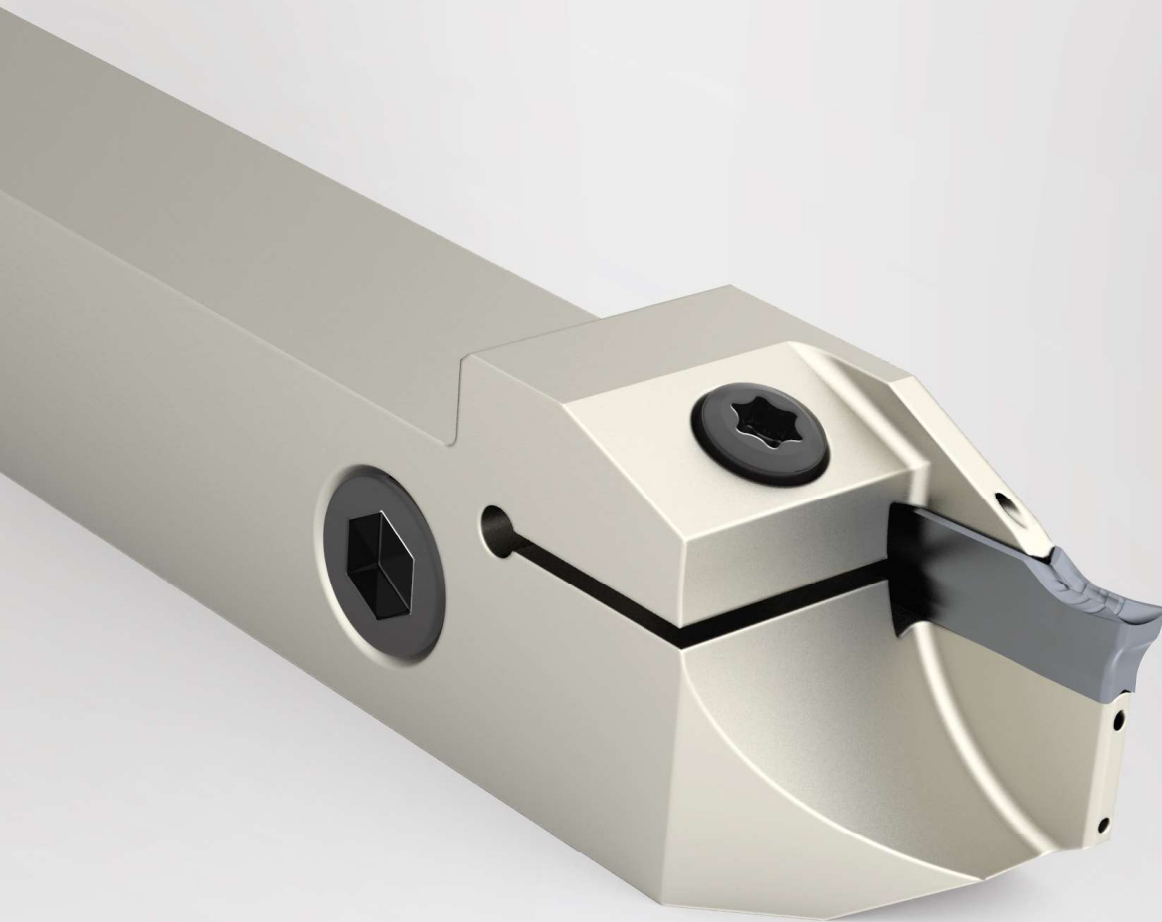
Spare parts



Designation	Material number
Key T15	12380791
M4.0X14/T15	195068

Monoblocks GO/GD

-R (reinforced) with internal cooling

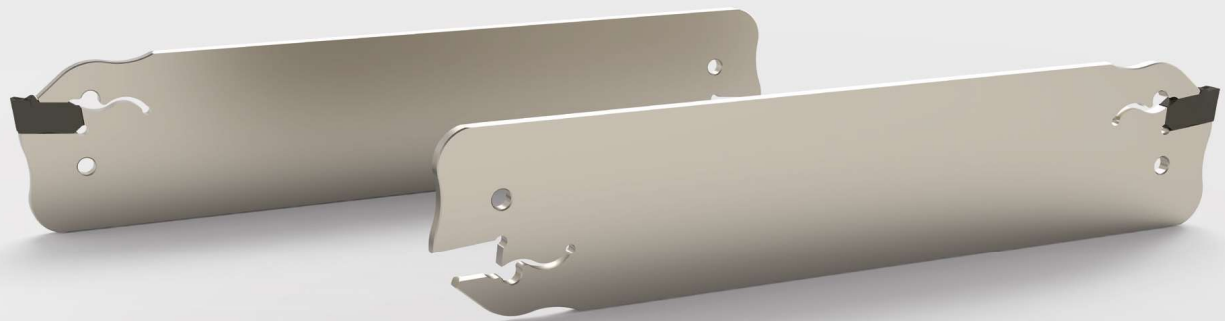




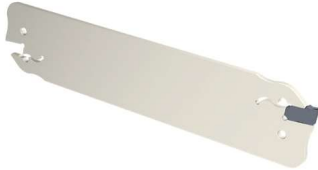
Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-12-GD2402-K-T13-R-C	13	12	L	12595600
	GMER-12-GD2402-K-T13-R-C	13	12	R	12595599
	GMEL-16-GD2402-K-T13-R-C	13	16	L	12562862
	GMER-16-GD2402-K-T13-R-C	13	16	R	12522219
	GMEL-16-GD2402-K-T21-R-C	21	16	L	12562868
	GMER-16-GD2402-K-T21-R-C	21	16	R	12562866
	GMEL-12-GD2403-K-T13-R-C	13	12	L	12595597
	GMER-12-GD2403-K-T13-R-C	13	12	R	12595596
	GMEL-16-GD2403-K-T13-R-C	13	16	L	12562859
	GMER-16-GD2403-K-T13-R-C	13	16	R	12562875
	GMEL-16-GD2403-K-T21-R-C	21	16	L	12562861
	GMER-16-GD2403-K-T21-R-C	21	16	R	12522218

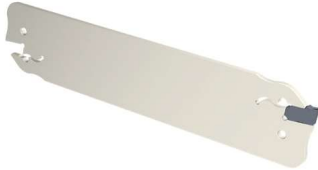
Spare parts	Designation	Material number
	Key T15	12380791
	M4.0X14/T15	195068
	M6.0X6.0 DIN 913	11040843
	G1/8 DIN 913	12089802


Blades GS





Blades	Designation	T _{max} [mm]	Material number
	GBR-2602-GS02	25	12167546
	GBL-2602-GS02	25	12167544
	GBR-3202-GS02	25	12167553
	GBL-3202-GS02	25	12167550
	GBN-2603-GS03	35	11896198
	GBN-3203-GS03	50	11896189

Blades	Designation	T _{max} [mm]	Material number
	GBN-2604-GS04	40	11896196
	GBN-3204-GS04	50	11896181
	GBN-3205-GS05	55	12170445
	GBN-3206-GS06	60	12170446

Spare parts *	Designation	Material number
	GK-3 (2 and 3 mm)	12154231
	GK-4 (4, 5 and 6 mm)	12154233




For information on how to use the system go to page 98.


Blades GS

with internal cooling



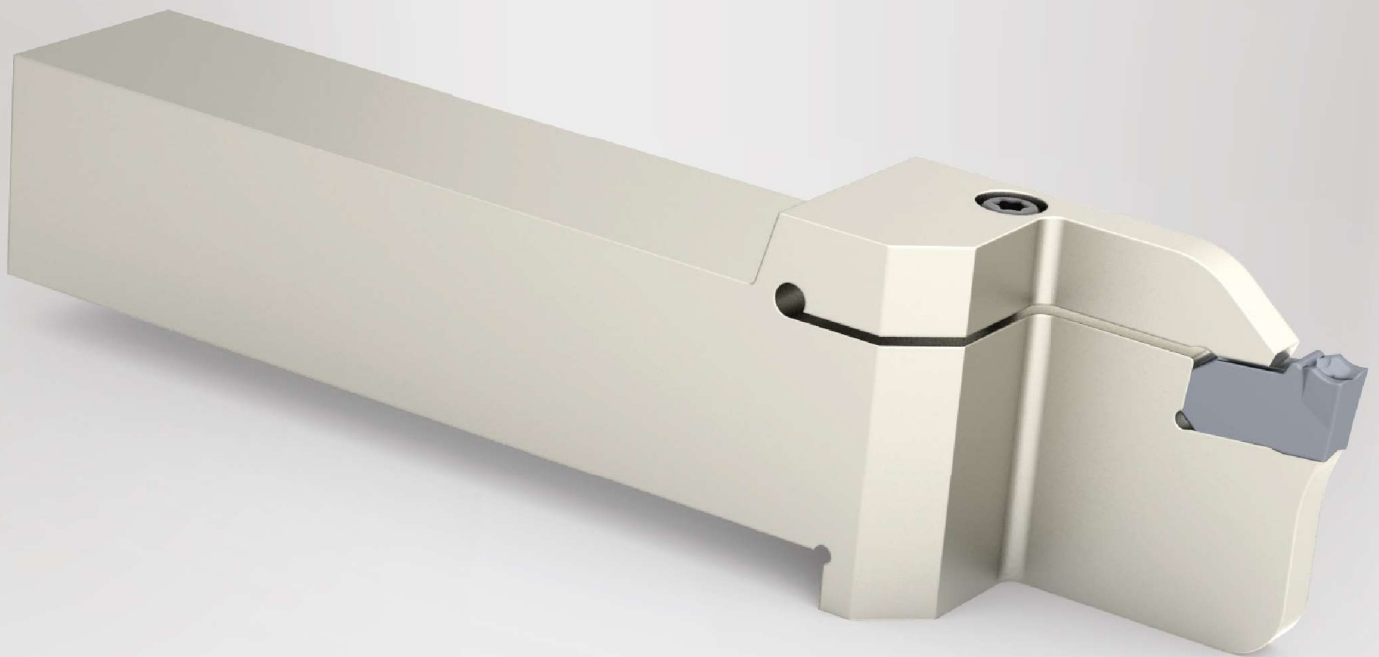


Blades	Designation	T _{max} [mm]	Material number
	GBL-2602-GS02-C	25	12258634
	GBL-3202-GS02-C	25	12258689
	GBR-2602-GS02-C	25	12258498
	GBR-3202-GS02-C	25	12258693
	GBN-2603-GS03-C	35	12258695
	GBN-3203-GS03-C	50	12258698
	GBN-2604-GS04-C	40	12260542
	GBN-3204-GS04-C	50	12260546


Spare parts *	Designation	Material number
	GK-3 (2 and 3 mm)	12154231
	GK-4 (4, 5 and 6 mm)	12154233

For information on how to use the system go to page 98.

Monoblocks GS





Tool	Designation	T _{max} [mm]	h		Material number
	GMEL-16-GS02-K-T20	20	16	L	14640098
	GMER-16-GS02-K-T20	20	16	R	14640108
	GMEL-16-GS03-K-T20	20	16	L	14418730
	GMER-16-GS03-K-T20	20	16	R	12014659
	GMEL-20-GS02-K-T20	20	20	L	14640088
	GMER-20-GS02-K-T20	20	20	R	14640093
	GMEL-20-GS03-K-T20	20	20	L	14418731
	GMER-20-GS03-K-T20	20	20	R	12014658
	GMEL-20-GS04-K-T25	25	20	L	14640077
	GMER-20-GS04-K-T25	25	20	R	14640086
	GMEL-20-GS05-K-T25	25	20	L	14640019
	GMER-20-GS05-K-T25	25	20	R	14640027
	GMEL-20-GS06-K-T25	25	20	L	14640035
	GMER-20-GS06-K-T25	25	20	R	14640057
	GMEL-25-GS03-M-T20	20	25	L	14418735
	GMER-25-GS03-M-T20	20	25	R	12014657
	GMEL-25-GS04-M-T25	25	25	L	14640046
	GMER-25-GS04-M-T25	25	25	R	14640064
	GMEL-25-GS05-M-T25	25	25	L	12172251
	GMER-25-GS05-M-T25	25	25	R	12172252
	GMEL-25-GS06-M-T32	32	25	L	12172246
	GMER-25-GS06-M-T32	32	25	R	12172249

Spare parts

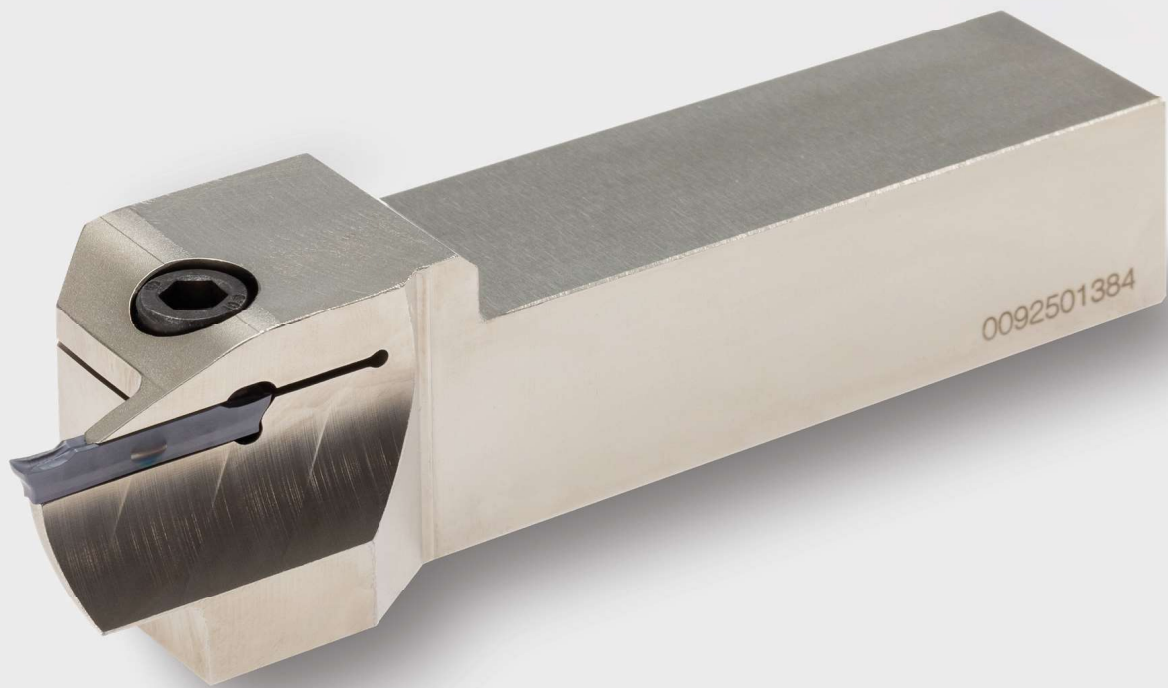


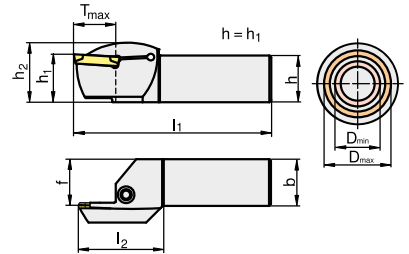
Designation Material number

Key T20 12380793

M4.0X18/T20 11007006

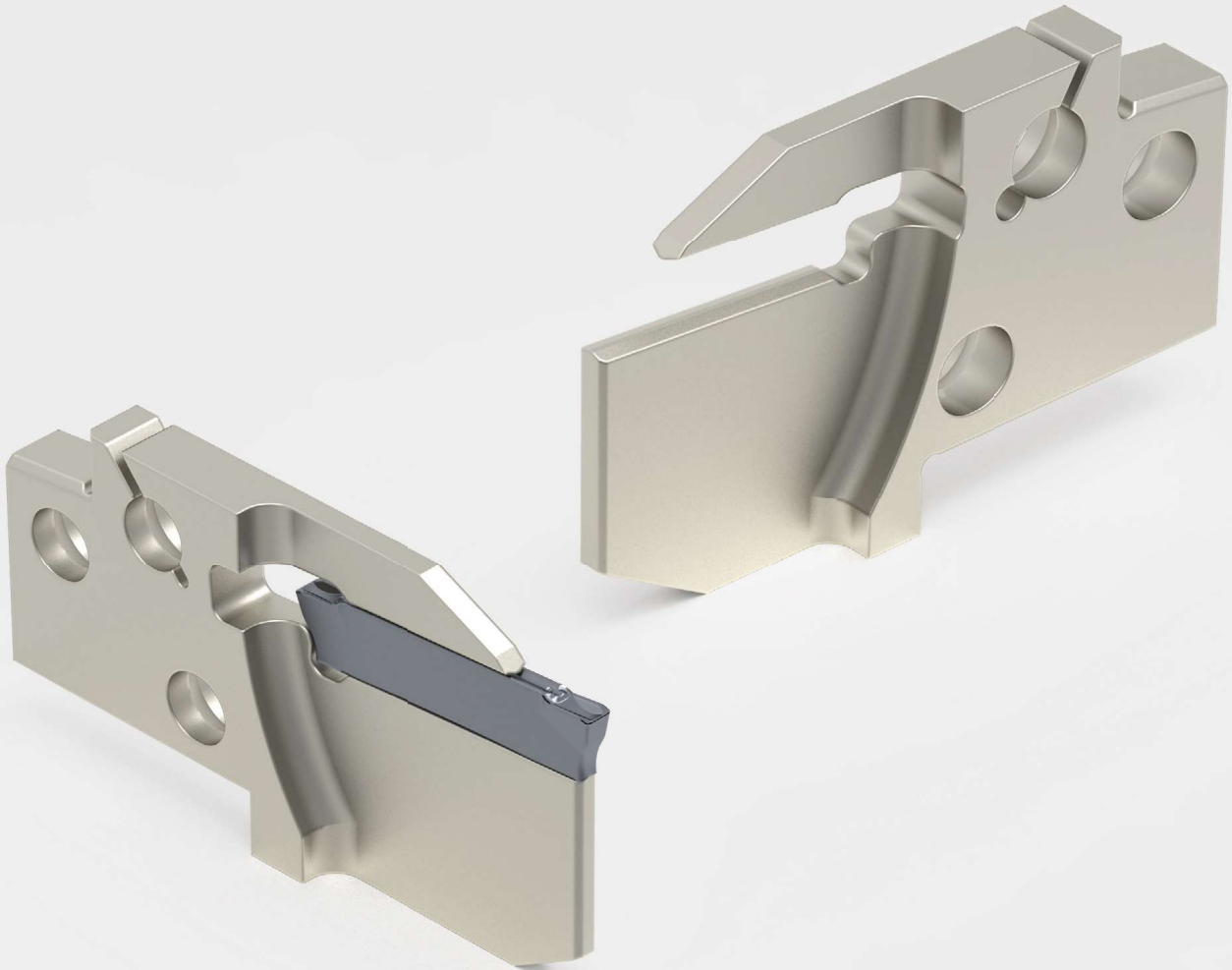
Monoblocks GA





Designation	s [mm]	T _{max} [mm]	D _{min} [mm]	D _{max} [mm]	h = h ₁ [mm]	h ₂ [mm]	b [mm]	l ₁ [mm]	l ₂ [mm]	f [mm]	Material number
GMAR-25-GA03-K-T13-40-50	3	13	40	50	25	33	25	125	39.7	24.3	12624781
GMAR-25-GA03-K-T13-50-60	3	13	50	60	25	33	25	125	39.7	24.3	12624782
GMAR-25-GA03-K-T13-60-70	3	13	60	70	25	33	25	125	39.7	24.3	12624787
GMAR-25-GA03-K-T13-75-100	3	13	75	100	25	33	25	125	39.7	24.3	12624789
GMAR-25-GA03-K-T13-100-140	3	13	100	140	25	33	25	125	39.7	24.3	12624778
GMAR-25-GA03-K-T13-140-200	3	13	140	200	25	33	25	125	39.7	24.3	12624779
GMAL-25-GA03-K-T13-40-50	3	13	40	50	25	33	25	125	39.7	24.3	12624771
GMAL-25-GA03-K-T13-50-60	3	13	50	60	25	33	25	125	39.7	24.3	12624773
GMAL-25-GA03-K-T13-60-70	3	13	60	70	25	33	25	125	39.7	24.3	12624775
GMAL-25-GA03-K-T13-75-100	3	13	75	100	25	33	25	125	39.7	24.3	12624776
GMAL-25-GA03-K-T13-100-140	3	13	100	140	25	33	25	125	39.7	24.3	12624767
GMAL-25-GA03-K-T13-140-200	3	13	140	200	25	33	25	125	39.7	24.3	12624769
GMAR-25-GA04-K-T13-40-50	4	13	40	50	25	33	25	125	39.7	24.3	14590378
GMAR-25-GA04-K-T13-50-60	4	13	50	60	25	33	25	125	39.7	24.3	14590379
GMAR-25-GA04-K-T13-60-70	4	13	60	70	25	33	25	125	39.7	24.3	14590380
GMAR-25-GA04-K-T13-75-100	4	13	75	100	25	33	25	125	39.7	24.3	14590384
GMAR-25-GA04-K-T13-100-140	4	13	100	140	25	33	25	125	39.7	24.3	14590388
GMAR-25-GA04-K-T13-140-200	4	13	140	200	25	33	25	125	39.7	24.3	14590389
GMAL-25-GA04-K-T13-40-50	4	13	40	50	25	33	25	125	39.7	24.3	14590390
GMAL-25-GA04-K-T13-50-60	4	13	50	60	25	33	25	125	39.7	24.3	14590392
GMAL-25-GA04-K-T13-60-70	4	13	60	70	25	33	25	125	39.7	24.3	14590393
GMAL-25-GA04-K-T13-75-100	4	13	75	100	25	33	25	125	39.7	24.3	14590394
GMAL-25-GA04-K-T13-100-140	4	13	100	140	25	33	25	125	39.7	24.3	14590395
GMAL-25-GA04-K-T13-140-200	4	13	140	200	25	33	25	125	39.7	24.3	14590396
GMAR-25-GA05-K-T13-45-60	5	20	45	60	25	33	25	150	39	23.3	14646118
GMAR-25-GA05-K-T13-60-75	5	20	60	75	25	33	25	150	39	23.3	14646121
GMAR-25-GA05-K-T13-75-100	5	28	75	100	25	33	25	150	47	23.3	14646122
GMAR-25-GA05-K-T13-100-180	5	28	100	180	25	33	25	150	47	23.3	14646123
GMAR-25-GA05-K-T13-180-400	5	32	180	400	25	33	25	150	51	23.3	14646128
GMAL-25-GA05-K-T13-45-60	5	20	45	60	25	33	25	150	39	23.3	14646129
GMAL-25-GA05-K-T13-60-75	5	20	60	75	25	33	25	150	39	23.3	14646130
GMAL-25-GA05-K-T13-75-100	5	28	75	100	25	33	25	150	47	23.3	14646131
GMAL-25-GA05-K-T13-100-180	5	28	100	180	25	33	25	150	47	23.3	14646132
GMAL-25-GA05-K-T13-180-400	5	32	180	400	25	33	25	150	51	23.3	14646133

Module



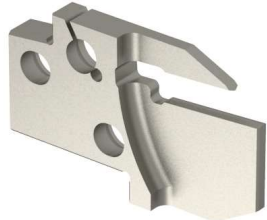


Module GO/GD



Radial

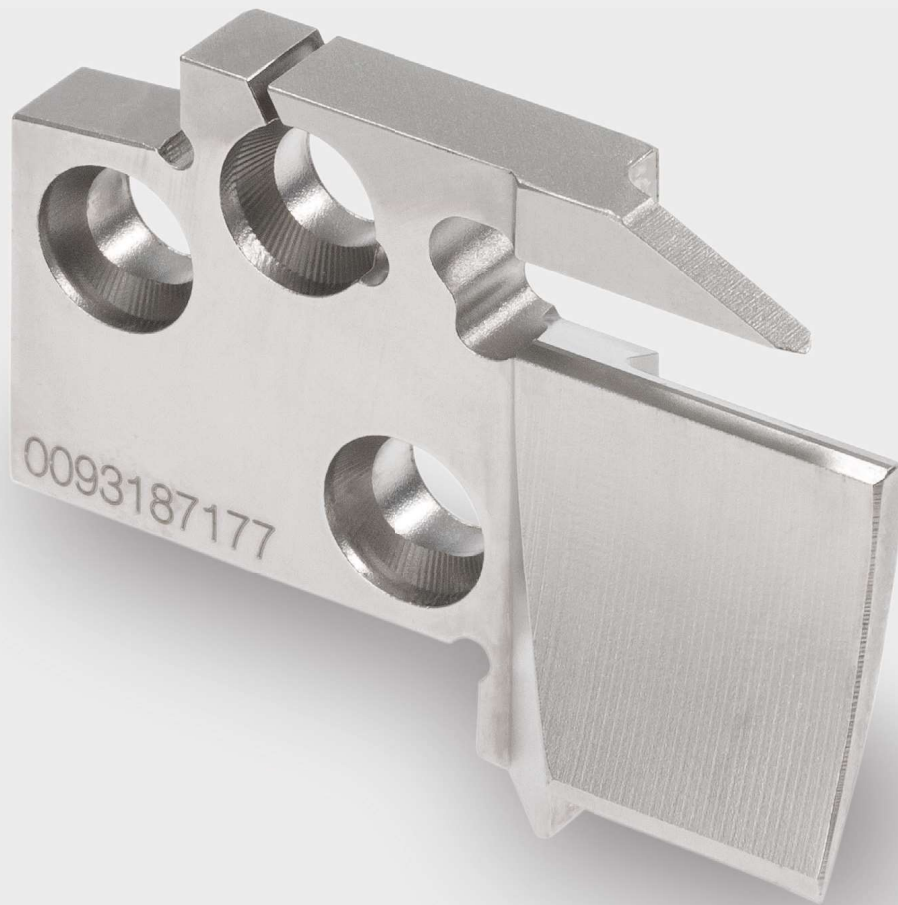


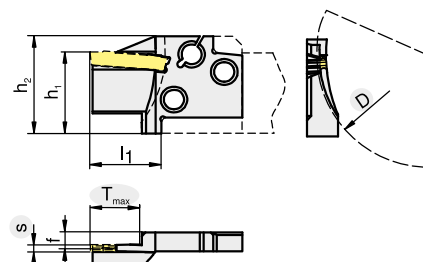


Tool	Designation	T _{max} [mm]	h		Material number	
	GEML-2002-GO2402-T25	25	20	L	12578880	
	GEMR-2002-GO2402-T25	25	20	R	12578890	
	GEML-2003-GO2403-T25	25	20	L	12578885	
	GEMR-2003-GO2403-T25	25	20	R	12578892	
	GEML-2004-GO2404-T25	25	20	L	12578889	
	GEMR-2004-GO2404-T25	25	20	R	12578893	
	GEML-2005-GO2405-T25	25	20	L	Oct-21	
	GEMR-2005-GO2405-T25	25	20	R		
	GEML-2006-GO2406-T25	25	20	L		
	GEMR-2006-GO2406-T25	25	20	R		
	GEML-2502-GO2402-T25	25	25	L		12599637
	GEMR-2502-GO2402-T25	25	25	R		12599628
	GEML-2503-GO2403-T25	25	25	L	12599640	
	GEMR-2503-GO2403-T25	25	25	R	12599630	
	GEML-2504-GO2404-T25	25	25	L	12599643	
	GEMR-2504-GO2404-T25	25	25	R	12599635	
	GEML-2505-GO2405-T25	25	25	L	Oct-21	
	GEMR-2505-GO2405-T25	25	25	R		
	GEML-2506-GO2406-T25	25	25	L		
	GEMR-2506-GO2406-T25	25	25	R		

Module GA

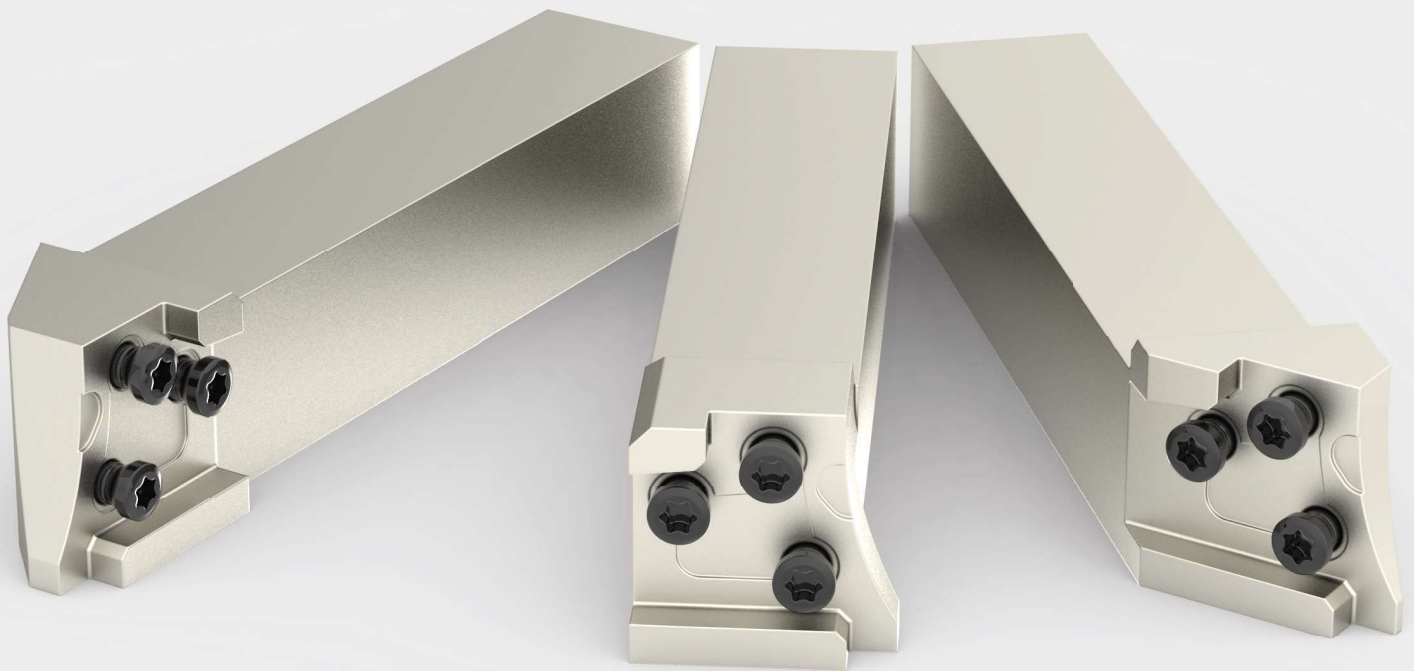
Axial







Designation	s [mm]	T _{max} [mm]	D _{min} [mm]	D _{max} [mm]	h = h ₁ [mm]	h ₂ [mm]	l ₁ [mm]	f [mm]	Material number
GAMR-25-GA03-K-T15-40-50	3	15	40	50	25	30	22	4.9	14463975
GAMR-25-GA03-K-T15-50-60	3	15	50	60	25	30	22	4.9	14463983
GAMR-25-GA03-K-T15-60-70	3	15	60	70	25	30	22	4.9	14464017
GAMR-25-GA03-K-T15-75-100	3	15	75	100	25	30	22	4.9	14464019
GAMR-25-GA03-K-T15-100-140	3	15	100	140	25	30	22	4.9	14464021
GAMR-25-GA03-K-T15-140-200	3	15	140	200	25	30	22	4.9	14464024
GAML-25-GA03-K-T15-40-50	3	15	40	50	25	30	22	4.9	14463992
GAML-25-GA03-K-T15-50-60	3	15	50	60	25	30	22	4.9	14464003
GAML-25-GA03-K-T15-60-70	3	15	60	70	25	30	22	4.9	14464004
GAML-25-GA03-K-T15-75-100	3	15	75	100	25	30	22	4.9	14464005
GAML-25-GA03-K-T15-100-140	3	15	100	140	25	30	22	4.9	14464007
GAML-25-GA03-K-T15-140-200	3	15	140	200	25	30	22	4.9	14464009
GAMR-25-GA04-K-T15-40-50	4	15	40	50	25	30	22	4.4	14482809
GAMR-25-GA04-K-T15-50-60	4	15	50	60	25	30	22	4.4	14482811
GAMR-25-GA04-K-T15-60-70	4	15	60	70	25	30	22	4.4	14482813
GAMR-25-GA04-K-T15-75-100	4	15	75	100	25	30	22	4.4	14482815
GAMR-25-GA04-K-T15-100-140	4	15	100	140	25	30	22	4.4	14482816
GAMR-25-GA04-K-T15-140-200	4	15	140	200	25	30	22	4.4	14482819
GAML-25-GA04-K-T15-40-50	4	15	40	50	25	30	22	4.4	14482788
GAML-25-GA04-K-T15-50-60	4	15	50	60	25	30	22	4.4	14482790
GAML-25-GA04-K-T15-60-70	4	15	60	70	25	30	22	4.4	14482794
GAML-25-GA04-K-T15-75-100	4	15	75	100	25	30	22	4.4	14482797
GAML-25-GA04-K-T15-100-140	4	15	100	140	25	30	22	4.4	14482800
GAML-25-GA04-K-T15-140-200	4	15	140	200	25	30	22	4.4	14482804

Module Holder





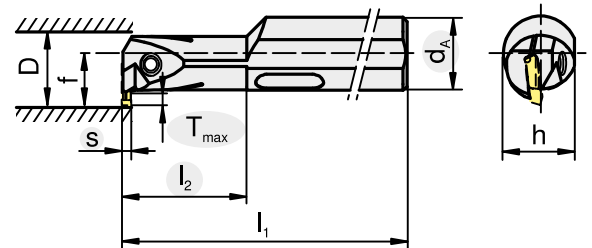
Tool	Designation	s	Module Radial	Module axial	Material number
	GMLL-20-GD2400-J	0	GEML-20		12578894
	GMMR-20-GD2400-J	0	GEMR-20		12578903
	GMLL-20-GD2445-J	45	GEML-20		12578896
	GMMR-20-GD2445-J	45	GEMR-20		12578904
	GMLL-20-GD2490-J	90	GEML-20		12578897
	GMMR-20-GD2490-J	90	GEMR-20		12578905
	GMLL-25-GD2400-J	0	GEML-25	GAML-25	12578898
	GMMR-25-GD2400-J	0	GEMR-25	GAMR-25	12578906
	GMLL-25-GD2445-J	45	GEMR-25	GAMR-25	12578899
	GMMR-25-GD2445-J	45	GEML-25	GAML-25	12578908
	GMLL-25-GD2490-J	90	GEMR-25	GAMR-25	12578900
	GMMR-25-GD2490-J	90	GEML-25	GAML-25	12578918

Spare parts	Designation	Material number
	Key T15	220983
	Key T20	220985
	M4.0X11/T15	219981
	M4.0X14/T15	195068
	M5.0X13.5/T20	219982
	M5.0X18/T20	195069

Boring Bars

NEW





Designation	d_A [mm]	T_{max} [mm]	s [mm]	h [mm]	f [mm]	l_1 [mm]	l_2 [mm]	D_{min} [mm]	Material number
GMIR-25-GD2402-T08-C	25	8	2	24.4	21	200	52	32	14579550
GMIR-25-GD2403-T09-C	25	9	3	24.5	22	200	52	32	14579559
GMIR-32-GD2403-T11-C	32	11	3	31	27.5	250	64	42	14531572
GMIR-32-GD2404-T11-C	32	11	4	31	27.5	250	64	42	14579577
GMIR-40-GD2404-T12-C	40	12	4	38.5	32.5	300	80	53	14579584
GMIR-40-GD2405-T12-C	40	12	5	38.5	32.5	300	80	53	14579589
GMIL-25-GD2402-T08-C	25	8	2	24.4	21	200	52	32	14579552
GMIL-25-GD2403-T09-C	25	9	3	24.5	22	200	52	32	14579575
GMIL-32-GD2403-T11-C	32	11	3	31	27.5	250	64	42	14579548
GMIL-32-GD2404-T11-C	32	11	4	31	27.5	250	64	42	14579582
GMIL-40-GD2404-T12-C	40	12	4	38.5	32.5	300	80	53	14579587
GMIL-40-GD2405-T12-C	40	12	5	38.5	32.5	300	80	53	14579592

Spare parts



Designation

Material number

Key T20

220985

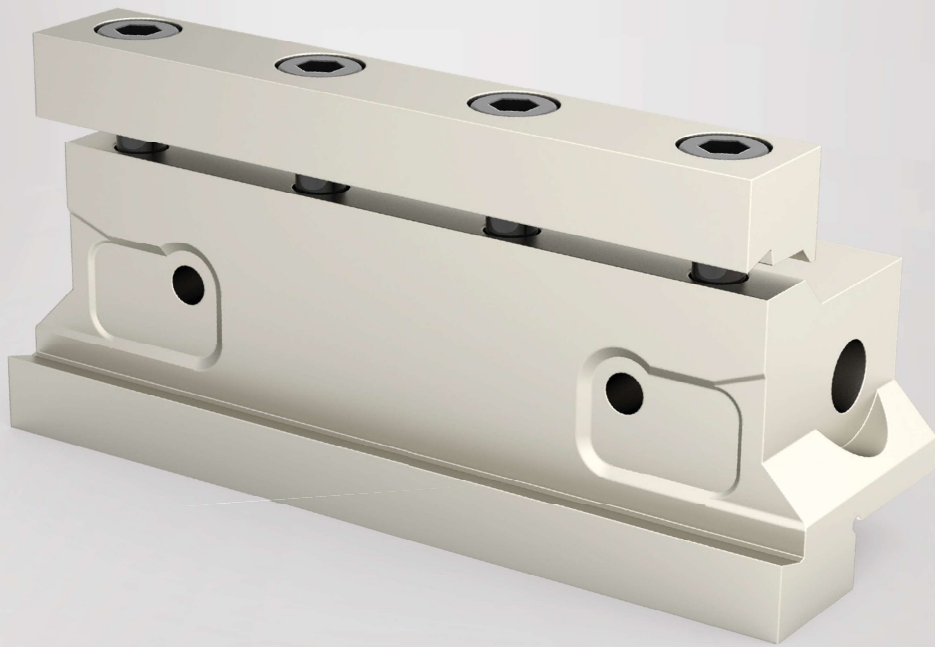
M5.0X18/T20

195069

M4.0X4.0 DIN 913

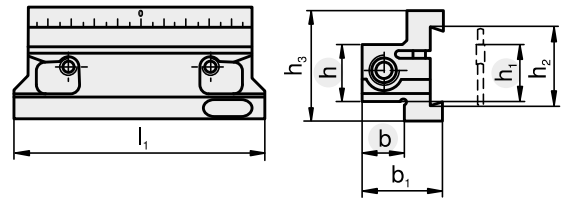
1338306

Clamping block






SCB



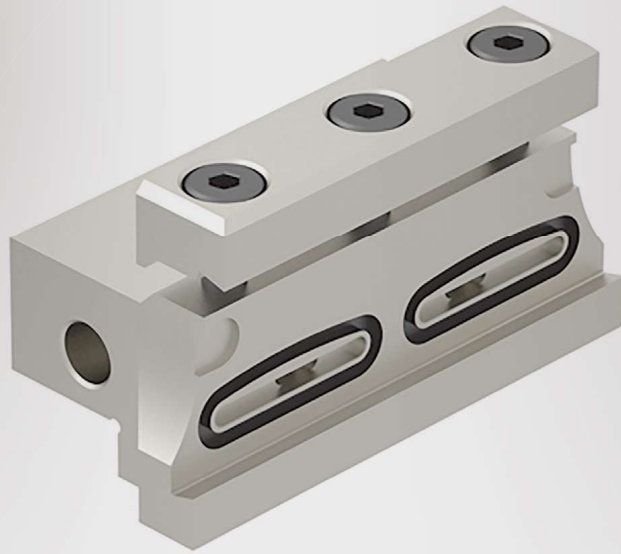
Designation	Material	h_2 [mm]	h [mm]	h_1 [mm]	h_3 [mm]	l_1 [mm]	b [mm]	b_1 [mm]	For blade
SCB-GB26-2020	12279141	26	20	20	43	90	20	37	GBN...26...
SCB-GB32-2520	12279142	32	25	25	49	110	20	38	GBN...32...

Spare part for clamping block without cooling

Spare parts	Designation	Material number
	Clamping screw M6.0x25	22485

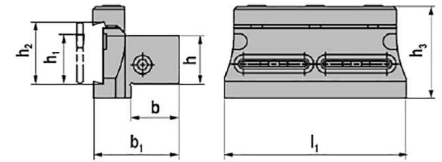
Clamping block

with internal cooling







Range



Designation	Material	h_2 [mm]	h [mm]	h_1 [mm]	h_3 [mm]	l_1 [mm]	b [mm]	b_1 [mm]	For blade
SCB-GB26-2020-C	12279139	26	20	20	43	82	20	40	GBN...26...
SCB-GB32-2525-C	12279137	32	25	25	49	95	25	44.5	GBN...32...

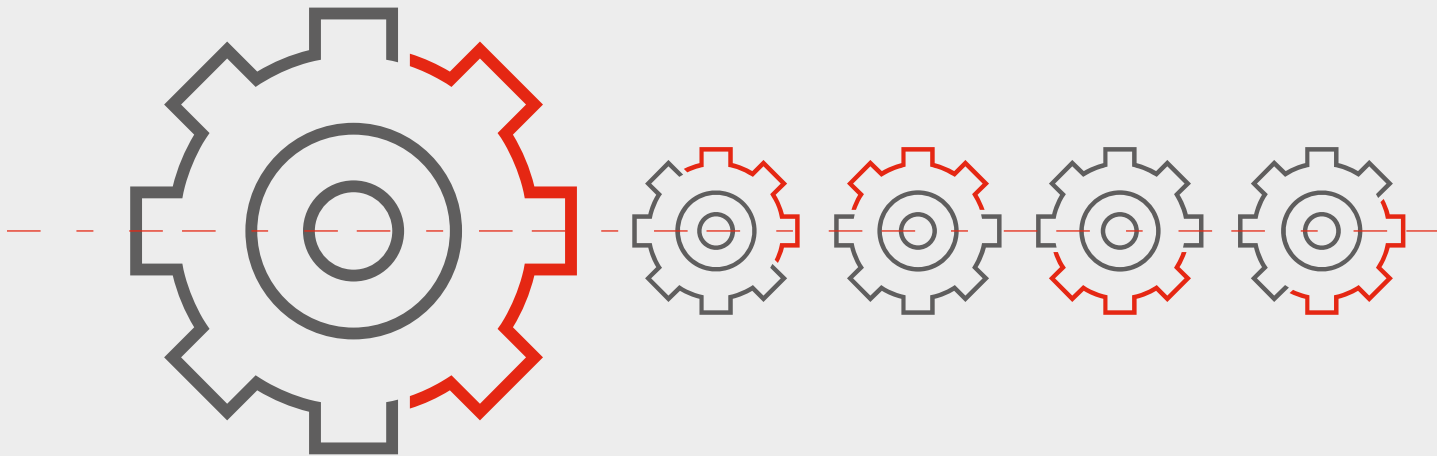
Spare part for clamping block with cooling

Spare parts	Designation	Material number
	Grub screw M6.0x8	11960993
	Clamping screw M6.0x12	11776816

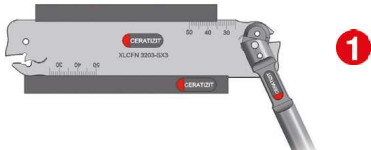




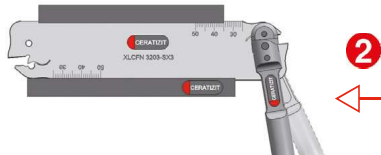
Technical information



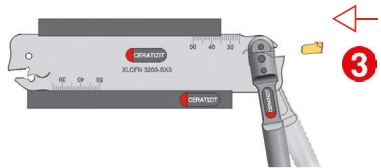
How to use the system?



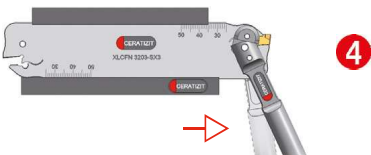
Insert mounting key with handle towards the front into the 2 tool location points



When moving the mounting key in the direction of the arrows the insert seat is opened



Position the insert pressing it against the location face



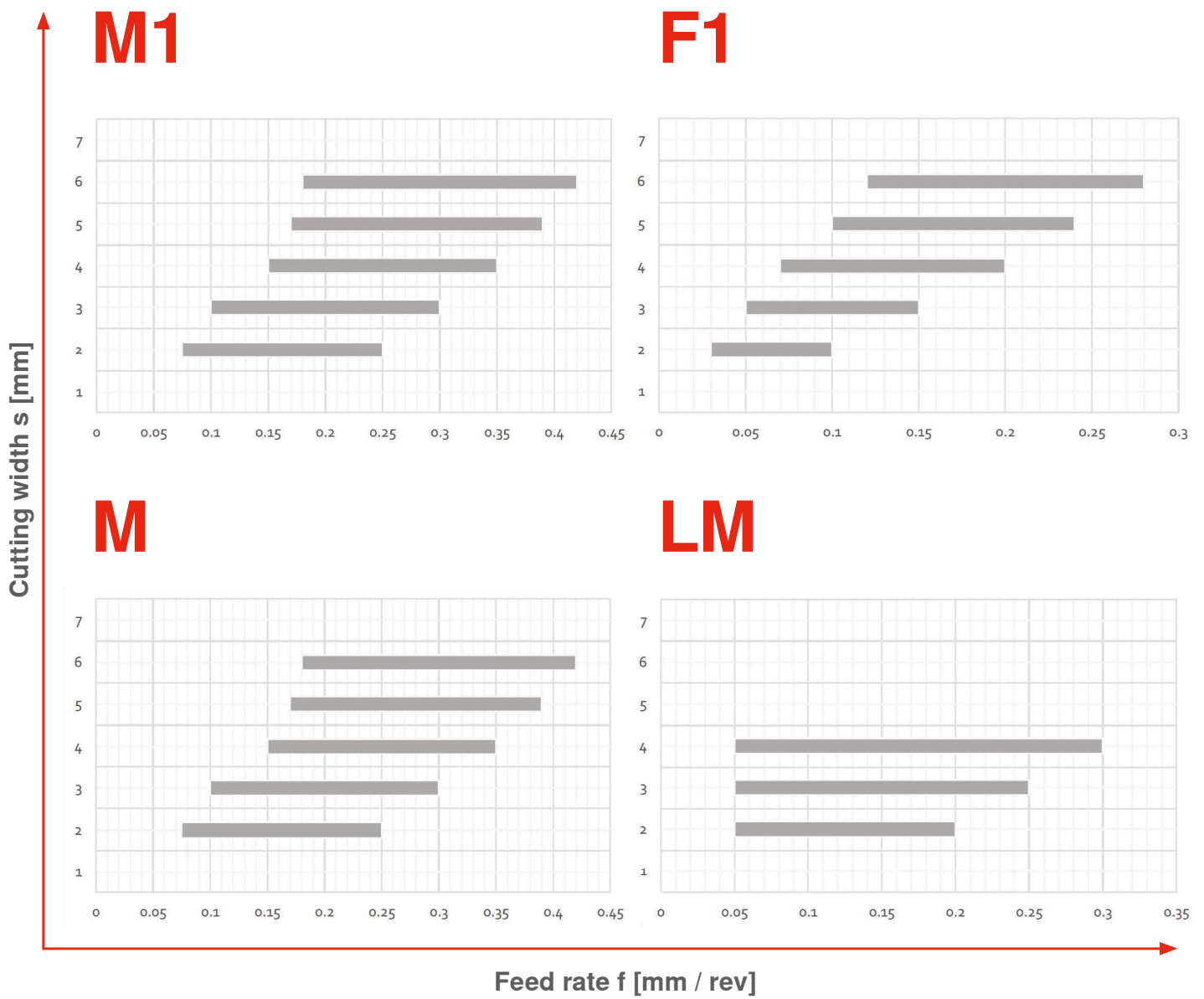
Moving the mounting key forward the insert seat locks and insert is clamped securely

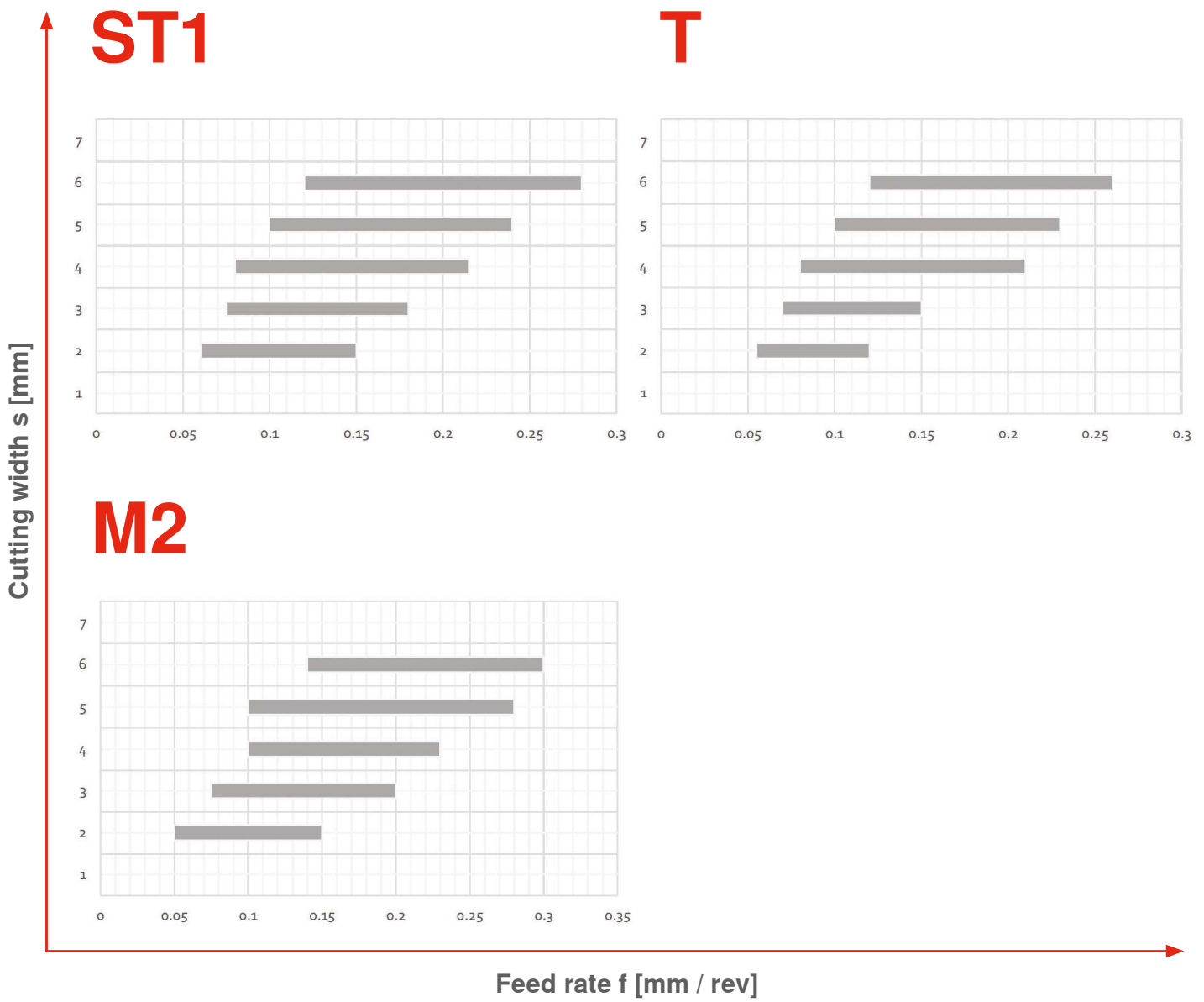
i When changing the inserts, always maintain tension on the key!





Feed rate recommendation







Feed rate recommendation

T

Geometry T	0.5 a _p (mm)	1 a _p (mm)	1.5 a _p (mm)	2 a _p (mm)	2.5 a _p (mm)	3 a _p (mm)	3.5 a _p (mm)
Cutting width	avance f mm/tr						
2	0.10 – 0.15	0.05 – 0.15	0.05 – 0.12	0.05 – 0.10			
3	0.10 – 0.17	0.05 – 0.17	0.05 – 0.17	0.05 – 0.15	0.05 – 0.12		
4	0.10 – 0.20	0.07 – 0.20	0.07 – 0.20	0.07 – 0.20	0.07 – 0.17	0.07 – 0.15	
5	0.10 – 0.25	0.10 – 0.25	0.07 – 0.25	0.07 – 0.25	0.07 – 0.22	0.07 – 0.20	
6	0.15 – 0.30	0.15 – 0.30	0.15 – 0.30	0.15 – 0.30	0.15 – 0.30	0.15 – 0.25	0.15 – 0.22

M2

Geometry T	0.5 a _p (mm)	1 a _p (mm)	1.5 a _p (mm)	2 a _p (mm)	2.5 a _p (mm)	3 a _p (mm)
Cutting width	avance f mm/tr					
2	0.05 – 0.17	0.05 – 0.13	0.05 – 0.10			
3	0.07 – 0.20	0.07 – 0.20	0.07 – 0.18	0.07 – 0.15		
4	0.10 – 0.25	0.10 – 0.25	0.10 – 0.25	0.10 – 0.22	0.10 – 0.18	
5	0.12 – 0.27	0.12 – 0.27	0.12 – 0.27	0.12 – 0.25	0.12 – 0.22	
6	0.15 – 0.30	0.15 – 0.30	0.15 – 0.30	0.15 – 0.30	0.15 – 0.25	0.15 – 0.20

M / MM

Geometry T	0.5 a _p (mm)	1 a _p (mm)	1.5 a _p (mm)	2 a _p (mm)	2.5 a _p (mm)	3 a _p (mm)
Cutting width	avance f mm/tr					
2	0.15 – 0.30	0.15 – 0.27				
3	0.15 – 0.35	0.15 – 0.35	0.15 – 0.30			
4	0.15 – 0.40	0.15 – 0.40	0.15 – 0.40	0.15 – 0.30		
5	0.15 – 0.50	0.15 – 0.50	0.15 – 0.50	0.15 – 0.40	0.15 – 0.35	
6	0.20 – 0.70	0.20 – 0.70	0.20 – 0.70	0.20 – 0.60	0.20 – 0.50	0.20 – 0.40



Cutting speed recommendation

M1, F1, T, M, M2

Work piece material	Type of treatment/alloy	Hardness HB	Coated carbide			
			CTP1340 v _c [m/min]	CTCP320ST v _c [m/min]	CTPP345 v _c [m/min]	
P	Steel	non alloyed steel 0.15% – 0.45% C	150 – 250	80 – 180	110 – 190	80 – 150
		low alloyed steel tempered	250 – 300	60 – 150	110 – 180	70 – 120
		high alloyed steel tempered	350	50 – 120	70 – 160	60 – 100
		corrosion resistant steel annealed	200	50 – 200	120 – 200	90 – 160
M	Stainless steel	annealed pearlitic	200	50 – 200	120 – 200	100 – 180
		quenched austenitic	180	50 – 180	100 – 170	80 – 150
		quenched duplex	230 – 260	50 – 100	70 – 110	70 – 110
		hardened martensitic	330	50 – 80	60 – 90	60 – 90
K	Cast iron	grey cast iron	180	100 – 200	90 – 180	–
		spheroidal	160	100 – 180	100 – 160	–
		malleable pearlitic	130	80 – 160	80 – 150	–

ST1, MM

Work piece material	Type of treatment/alloy	Hardness HB	Coated carbide			
			CTP1340 v _c [m/min]	CTCP320ST v _c [m/min]	CTPP345 v _c [m/min]	
M	Stainless steel	annealed pearlitic	200	50 – 200	120 – 200	100 – 180
		quenched austenitic	180	50 – 180	100 – 170	80 – 150
		quenched duplex	230 – 260	50 – 100	70 – 110	70 – 110
		hardened martensitic	330	50 – 80	60 – 90	60 – 90
S	Exotic	Fe base	200	–	–	20 – 45
		Nickel or cobalt base	250	–	–	15 – 25
		Titanium	Rm 440	–	–	50 – 120

**LM**Work
piece
material

Type of treatment/alloy

Hardness HB

Uncoated carbide

CTWN315
 v_c [m/min]

	Type of treatment/alloy	Hardness HB	Uncoated carbide CTWN315 v_c [m/min]
N	Non-ferrous		
	Aluminium wrought alloys	100	200 – 2000
	Aluminium cast alloys < 12% Si	90	400 – 1500
	Copper alloys (bronze)	90	200 – 600

Maximal torque for screws

Designation	max. torque/Nm	Material
7812115/M6X20 DIN 912	7	4493
7802115/M6X25 DIN 912-12.9	7	22485
7897218/M4.0X18/T20	4	11007006
M6X6 DIN 913	0	11040843
7897221/M3.5X14.0/T15	3.2	11081190
10010029/M6X12 DIN 912-12.9	7	11776816
M0102554/M4.0X16/T20 SCREW	4	12003031
7897203/M4.0X14/T15	4	195068
7897209/M4.0X11/T15	4	219981
7897205/M5.0X18/T20	5	195069
7897210/M5.0X13.5/T20	5	219982

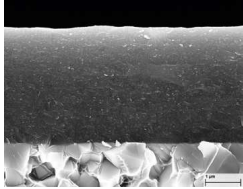
Grade overview



Grade description

CTP1340

HC-P30 | HC-M25 | HC-K30 | HC-S30



Specification:

Composition: Co 9.0 %; mixed carbides 2.0 %; WC balance | Grain size: 0.7-1 μm |
Hardness: HV₃₀ 1590 | Coating specification: PVD TiAlN

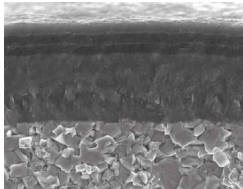
Recommended application:

The universal high-performance grade for steel, austenitic steel, cast iron and heat-resistant alloys.

- ▲ Excellent suitability for universal application
- ▲ High cutting edge stability

CTCP320ST

HC-P35 | HC-K35 | HC-M30



Specification:

Composition: Co 10.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1 μm |
Hardness: HV₃₀ 1400 | Coating specification: CVD TiCN-Al₂O₃ multi-layer

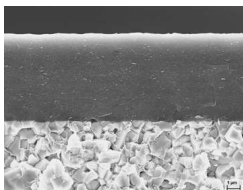
Recommended application:

The reliable choice for the machining of steel and cast iron.

- ▲ Excellent wear resistance
- ▲ Good resistance to oxidation
- ▲ High toughness
- ▲ Good heat resistance

CTPP345

HC-P45 | HC-M40 | HC-S40



Specification:

Composition: Co 12.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1-1.5 μm |
Hardness: HV₃₀ 1380 | Coating specification: PVD TiAlTaN

Recommended application:

The reliable solution for steel and austenitic steels under unstable conditions.

- ▲ Ideal for stainless steel
- ▲ Excellent toughness
- ▲ Good wear resistance
- ▲ High application security



CTWN715



HW-K15

Specification:

Composition: Co 6.0% | WC balance; other: 0.20% | Grain size: 0.8-1.3 μm | Hardness: HV₃₀ 1650

Recommended application:

The uncoated carbide grade for the machining of aluminium and other non-ferrous metals.

- ▲ Optimal suitable for aluminium
- ▲ High wear resistance
- ▲ High heat resistance
- ▲ Low tendency to adhesion



CERATIZIT designation system

Designation system for inserts

GD Double-sided GO One-sided GS Single-sided GA Axial	R Right L Left N Neutral	15 1.5 mm 20 2 mm 30 3 mm 40 4 mm 50 5 mm 60 6 mm 80 8 mm 100 10 mm	00 0° 04 4° 06 6° 15 15°
Insert system	Hand	Insert width	Clearance angle

GD 24 N T - 30 . 02 - 00 - M1

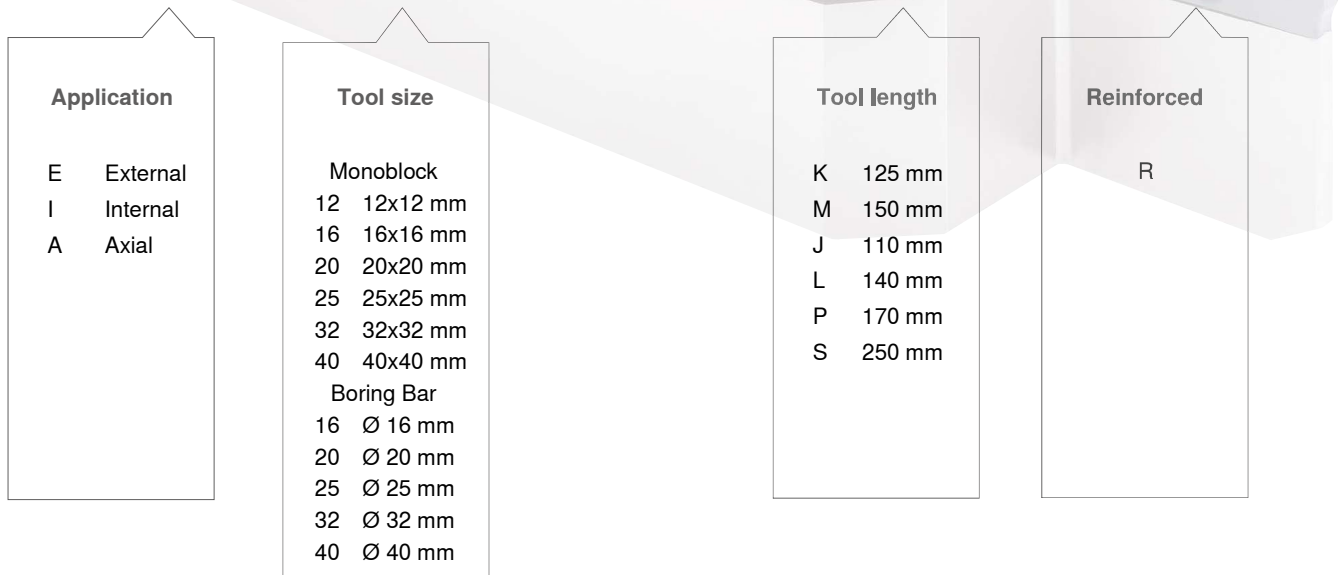
Insert length 24 24 mm 35 35 mm	Insert shape / application T Trapezoidal R Radius S Special	Corner radius 0.00 00 0.20 02 0.30 03 0.40 04	Chipbreaker GD/GO M1 F1 ST1 T LM M (Radius) MM Radius) GS M1 M2 ST1 LM M (Radius) MM Radius)
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Designation system for Monoblocks tools

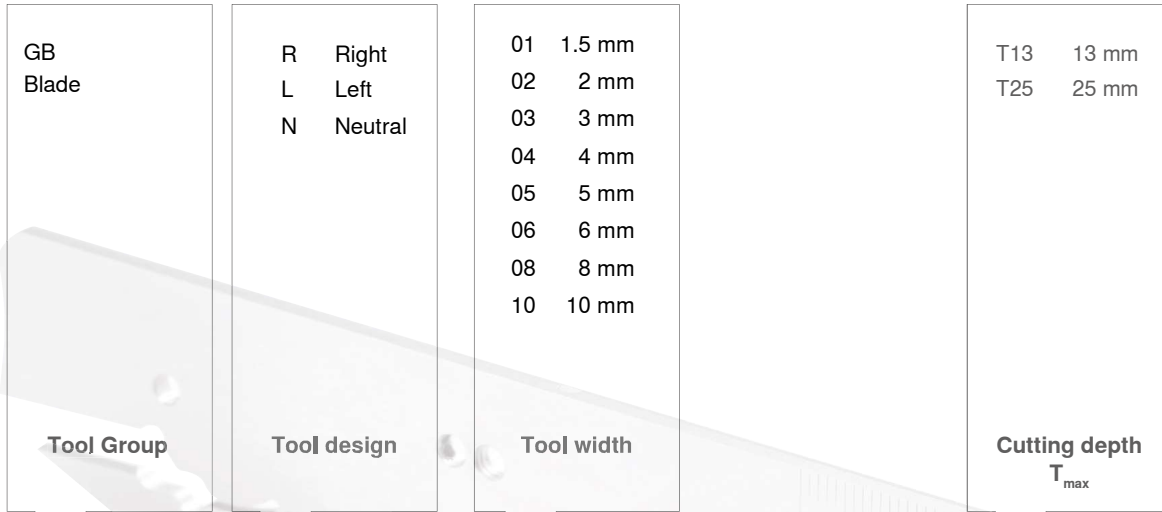


GM E R - 16 - GD24 02 - K - T13 - R - C





Designation system for blades



GB Blade	R Right L Left N Neutral	01 1.5 mm 02 2 mm 03 3 mm 04 4 mm 05 5 mm 06 6 mm 08 8 mm 10 10 mm	T13 13 mm T25 25 mm
Tool Group	Tool design	Tool width	Cutting depth T _{max}

GB E R - 26 03 - GO24 02 T13 - C

Application E External I Internal A Axial	Tool size Blades 26 26 mm 32 32 mm	Insert type GO24 GD24 GS GA	Insert width 01 1.5 mm 02 2 mm 03 3 mm 04 4 mm 05 5 mm 06 6 mm 08 8 mm 10 10 mm	Coolant C
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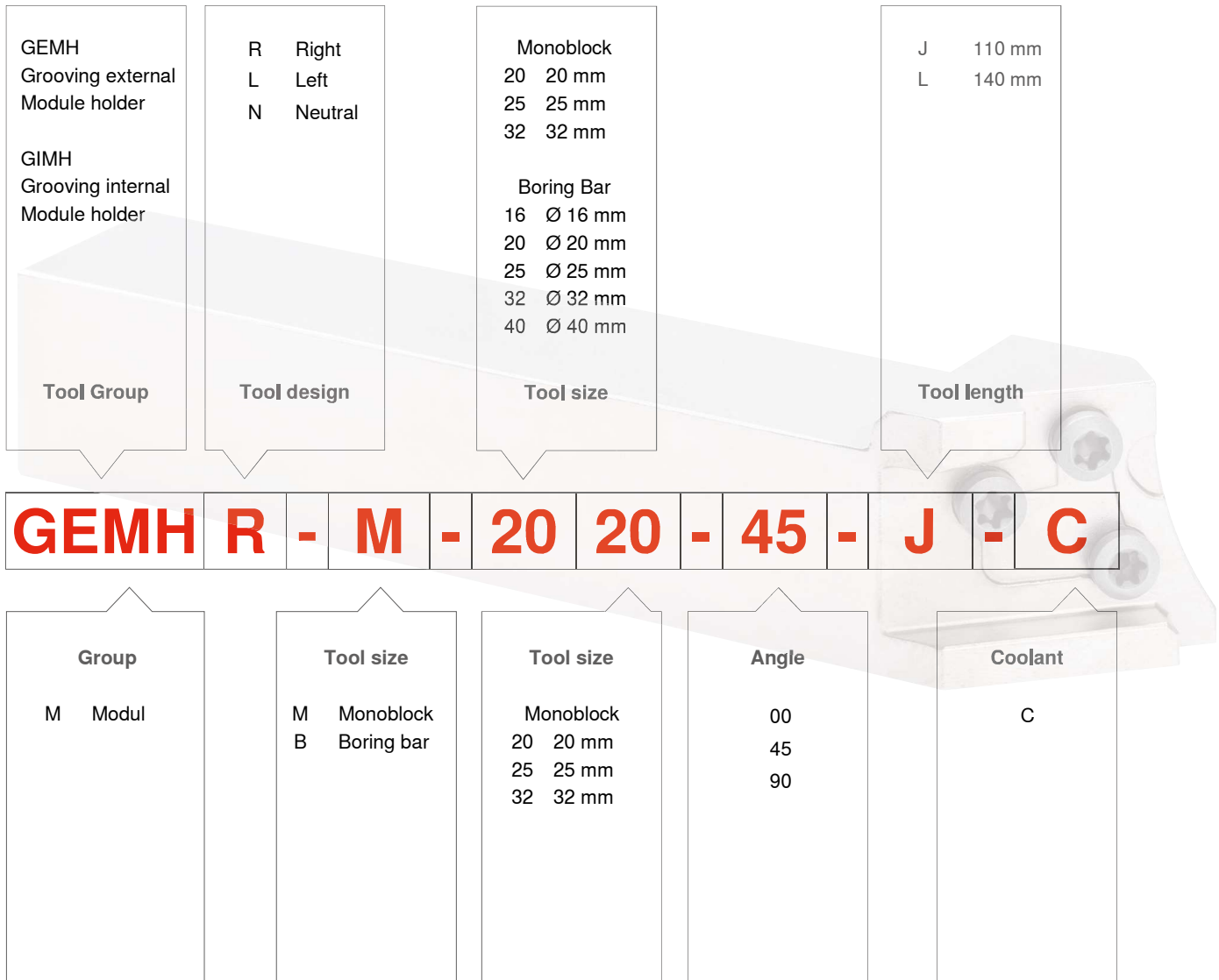
Designation system for moduls

<p>GE External Grooving</p> <p>GA Axial Grooving</p> <p>GI Internal Grooving</p> <p>Tool Group</p>	<p>R Right</p> <p>L Left</p> <p>N Neutral</p> <p>Tool design</p>	<p>01 1.5 mm</p> <p>02 2 mm</p> <p>03 3 mm</p> <p>04 4 mm</p> <p>05 5 mm</p> <p>06 6 mm</p> <p>08 8 mm</p> <p>10 10 mm</p> <p>Tool width</p>	<p>24</p> <p>35</p> <p>Insert type</p>	<p>T13 13 mm</p> <p>T25 25 mm</p> <p>Cutting depth T_{max}</p>	<p>40–50 D_{min} = Ø 40 mm</p> <p>D_{max} = Ø 50 mm</p> <p>Diameter range D_{min} – D_{max}</p>
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GE M R - 20 03 - GO 24 02 T13 - 40-50 - C

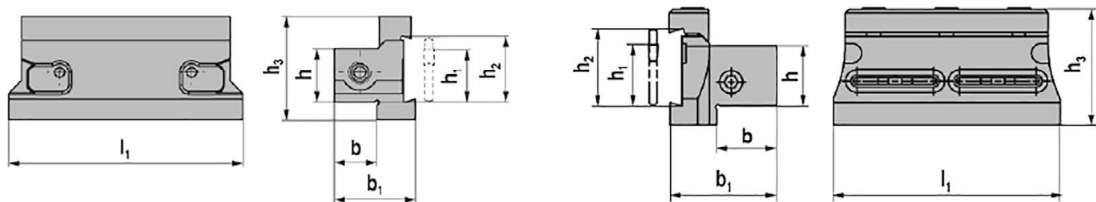
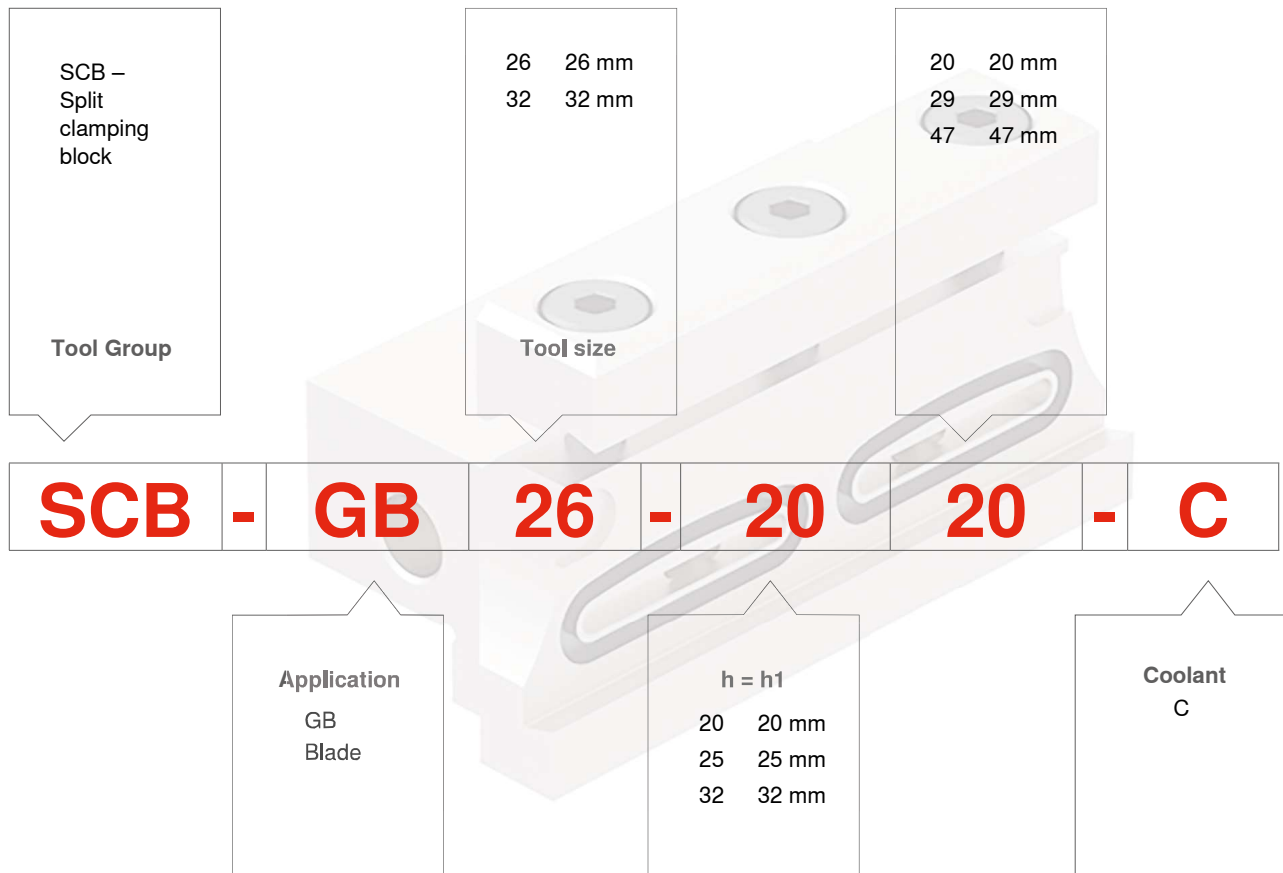
<p>Group</p> <p>M Module</p>	<p>Tool size</p> <p>20 20 mm</p> <p>25 25 mm</p>	<p>Insert type</p> <p>GO</p> <p>GD</p> <p>GS</p> <p>GA</p>	<p>Insert width</p> <p>01 1.5 mm</p> <p>02 2 mm</p> <p>03 3 mm</p> <p>04 4 mm</p> <p>05 5 mm</p> <p>06 6 mm</p> <p>08 8 mm</p> <p>10 10 mm</p>	<p>Coolant</p> <p>C</p>
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Designation system for module holders





Designation system for clamping blocks



Production





The carbide formula for success

Composite materials with valuable properties

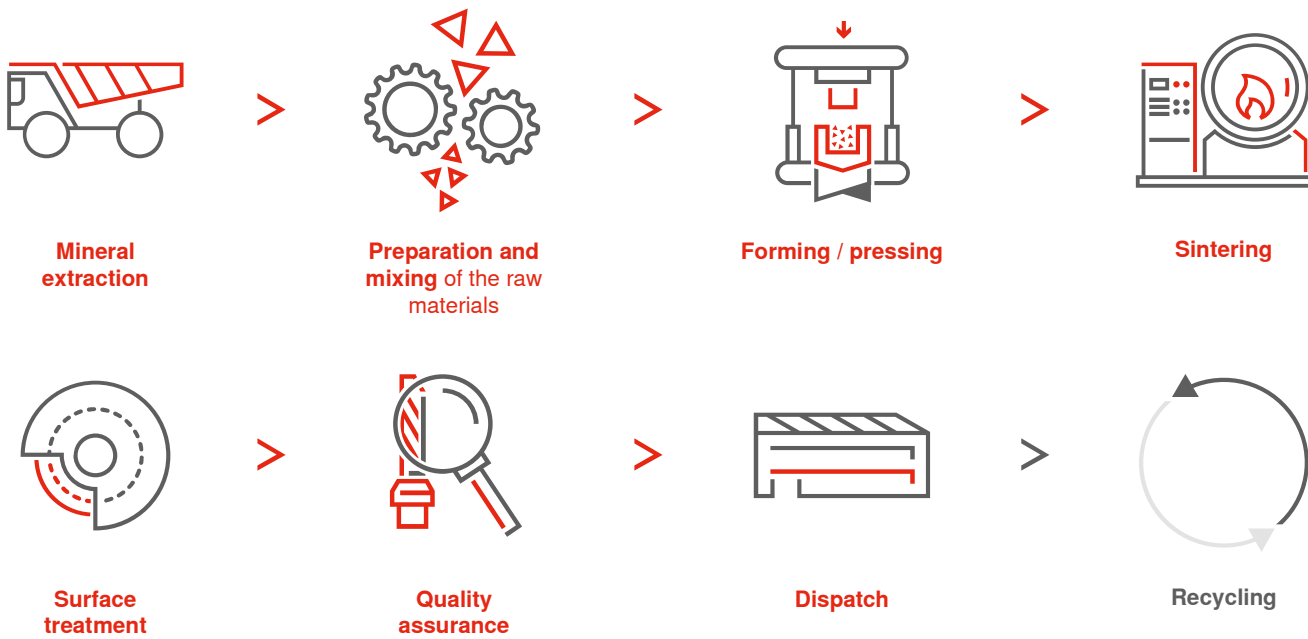
Cemented carbides are composite materials consisting of a hard component and a comparatively soft binder metal, such as cobalt. The performance characteristics of carbide are determined by hardness, transverse rupture strength and fracture toughness. With regard to their application, important parameters for the optimisation of the characteristics here are the cobalt content and the grain size of the metal binder phase. The tungsten carbide grains have an average size of 0.5 up to several micrometres (μm). The cobalt fills the gaps between the carbide grains. On the one hand, when extremely high toughness is required, the cobalt content can amount up to 30%. On the other, the cobalt content is reduced and the grain size decreased to the submicron range (for example $0.3 \mu\text{m}$), in order to guarantee maximum wear resistance.





Passion for cemented carbide

From the ore to the ready-to-use-tool





Notes





Notes