



Contents:	Page:	Contents:	Page:
Introduction	2	Threading - UN unified 60° - Full Profile	26
<b>Polygon Inserts and Toolholders</b>	<b>2-15</b>	External Toolholders	27-28
Product Identification - Inserts	3	Product Identification - Toolholders	27
Grooving and Turning	4	Slim Holders	28
Grooving, Circlip Ring Grooves	5	Working Method: Grooving -	
Grooving and Profiling (full radius)	6	Parting Off - Turning - Profiling - Threading	29
Parting Off and Grooving	7-8	Technical Section -	
Back Turning	9	3 Cutting Edges Swiss Line Inserts (19,20 mm)	30
Front Turning	9	<b>Swiss-Line G4</b>	<b>31-40</b>
Threading - Partial Profile 60°	10	Product identification - inserts	32
Threading - Partial Profile 55°	10	Grooving	33
Threading - ISO metric 60° Full Profile	11	Grooving and Profiling (full radius)	34
Threading - UN unified 60° Full Profile	11	Parting Off and Grooving	35
External Toolholders	12-13	Threading-Partial profile 60°	36
Product Identification - Toolholders	12	Threading-Partial profile 55°	36
External Toolholders with Internal Coolant	13	Threading - ISO metric 60° Full Profile	37
Working Method	14	Threading-UN unified 60° Full Profile	38
Technical Section - Polygon Swiss Line	15	External Toolholders	39
<b>3 Cutting Edges Swiss Line Inserts and Toolholders</b>	<b>16-30</b>	Technical Section - G4 Inserts	40
Product Identification - Inserts	17	<b>6 Cutting edges G6 Turning Inserts and Toolholders</b>	<b>41-50</b>
16 mm Inserts and Toolholders	18	Product Identification - Inserts	42
Grooving	18	Grooving	43
Grooving, Circlip Ring Grooves	18	Grooving, Circlip Ring Grooves	44
External Toolholders	19	Grooving and Profiling (full radius)	44
Technical Section -		Parting Off and Grooving	45
3 Cutting Edges Swiss Line Inserts (16 mm)	20	Back Turning	46
19,20 mm Inserts and Toolholders	21	Front Turning	46
Grooving and Turning	21	Threading - Partial Profile 60°	47
Grooving and Profiling (full radius)	22	Threading - Partial Profile 55°	47
Parting Off	23	Threading - ISO metric 60° Full Profile	48
Back Turning	24	Threading - UN unified 60° Full Profile	48
Front Turning	24	External Toolholders	49
Threading - Partial Profile 60°	25	Product Identification - Toolholders	49
Threading - Partial Profile 55°	25	Technical Section - G6 Inserts	50
Threading - ISO metric 60° - Full Profile	26		

## Swiss-Line

- Swiss style lathes are becoming a popular alternative to large lathes and machining centers in many companies.
- CPT offers a large and versatile product line of inserts and toolholders, developed for automatic and Swiss style lathes.
- Designed for economic production of parting, grooving, profiling threading and chamfering.

## Polygon Inserts and Toolholders

**CPT extends the Swiss Line range by offering a new type of polygon inserts and toolholders for external turning, grooving, parting and threading on Swiss-Type machines. Specially designed for small parts machining.**



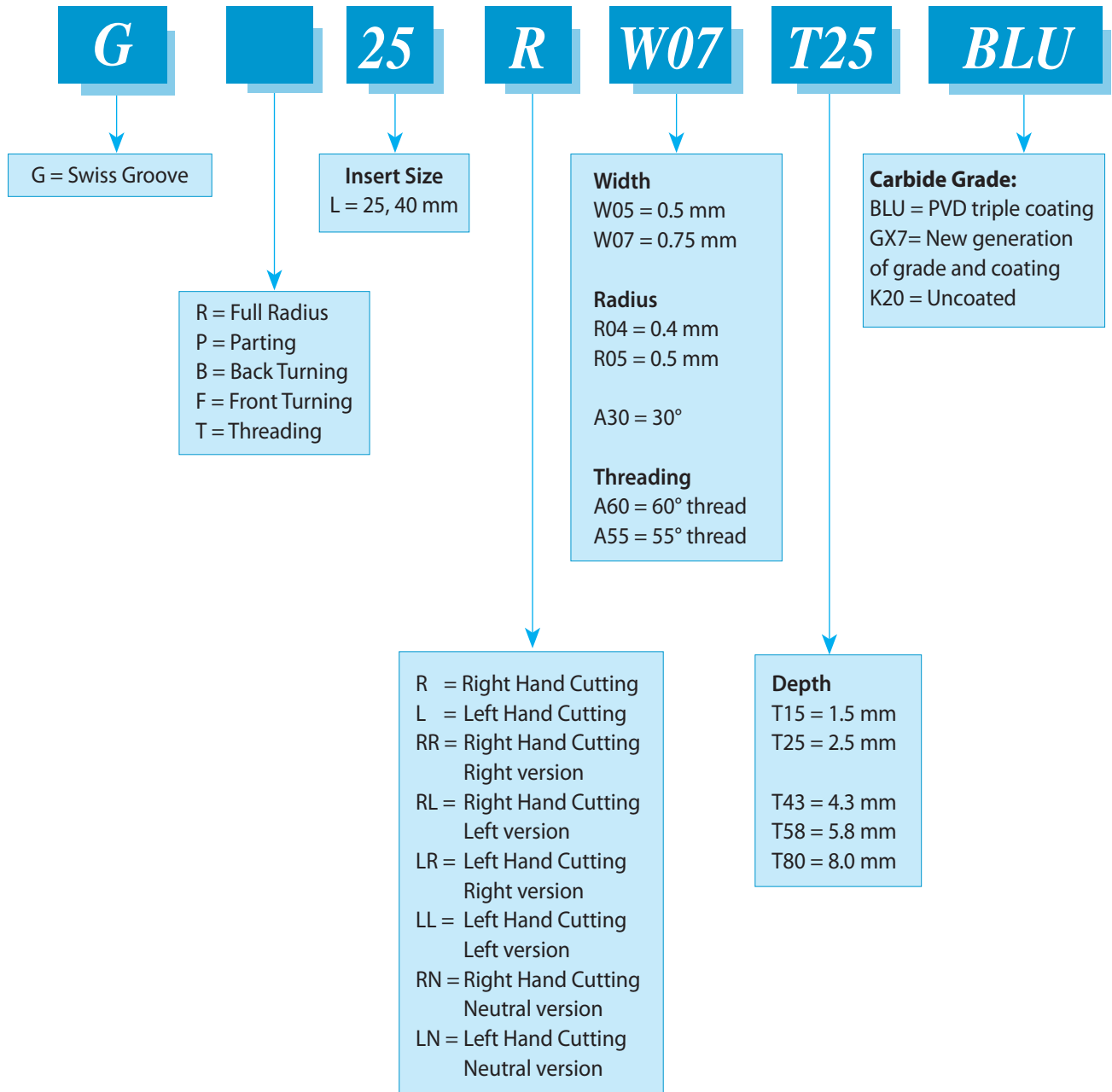
### Features

- High precision ground inserts.
- All inserts can be used with same toolholders.
- A combination of the latest carbide and coating technologies guarantees maximum tool life and improved productivity.
- Compatible with a wide range of materials.
- Coated holders provide abrasive resistance.

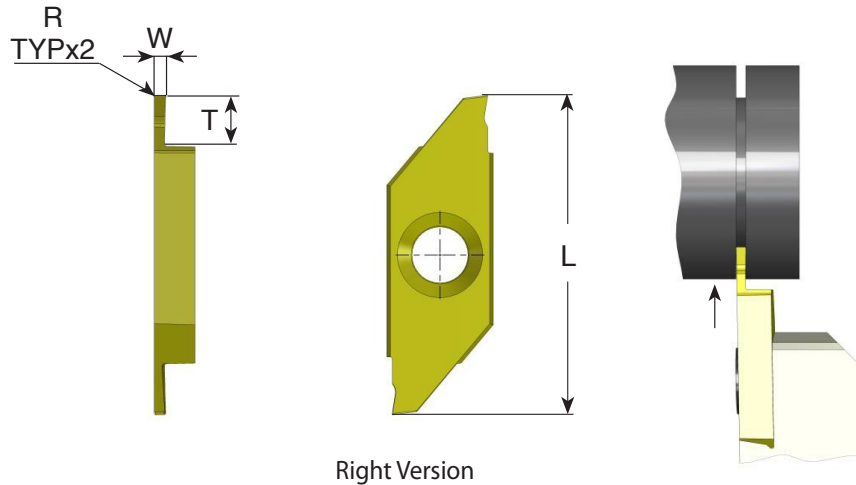
Carbide grades: BLU, GX7, K20

# Product Identification - Ordering Codes

## Polygon Inserts



## Grooving and Turning



### Right hand cutting

Insert Size L	Ordering Code	W ± 0.02	T max	R	Feed mm/rev
25	G25 R W05 T15	0.5	1.5	0	0.01-0.06
	G25 R W07 T25	0.75	2.5	0	0.02-0.07
	G25 R W10 T27	1.0	2.7	0.05	0.02-0.09
	G25 R W12 T30	1.2	3.0	0.05	0.02-0.10
	G25 R W15 T38	1.5	3.8	0.05	0.02-0.12
	G25 R W20 T38	2.0	3.8	0.05	0.02-0.13
	G25 R W25 T38	2.5	3.8	0.05	0.02-0.14
40	G40 R W30 T80	3.0	8.0	0.05	0.02-0.14
	G40 R W40 T80	4.0	8.0	0.05	0.02-0.14

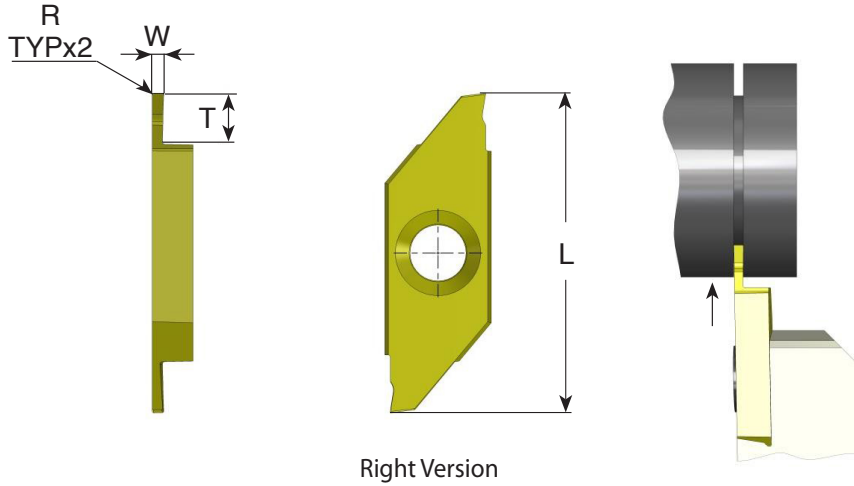
	K20	BLU	GX7*
P		●	●
M	●	●	●
K	●	○	○
N	●		
S	○	○	●
H		≤45 HRc	≤58 HRc

For L.H, specify G25 L instead of G25 R

\* Available for insert size G25... only

# Grooving, Circlip Ring Grooves

## DIN 471/472



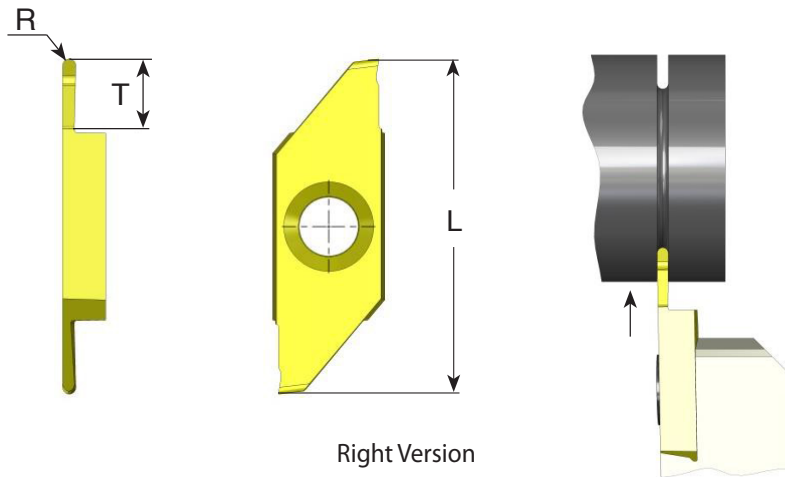
### Right hand cutting

Insert Size L	Ordering Code	Nom` groove width	W-0.05	T max	R	Feed Inch/rev		K20	BLU	GX7
							P	M	K	N
25	GD25 R W05 T16	0.50	0.57	1.6	0	0.01-0.06	●	●	●	●
	GD25 R W06 T17	0.60	0.67	1.7	0	0.01-0.06	●	●	○	○
	GD25 R W07 T19	0.70	0.77	1.9	0	0.02-0.07	●			
	GD25 R W08 T22	0.80	0.87	2.2	0	0.02-0.09	●			
	GD25 R W09 T24	0.90	0.97	2.4	0	0.02-0.09	○	○		●
	GD25 R W12 T31	1.10	1.24	3.1	0.05	0.02-0.10				
	GD25 R W14 T33	1.30	1.44	3.3	0.05	0.02-0.12				
	GD25 R W17 T33	1.60	1.74	3.3	0.05	0.02-0.13				
	GD25 R W19 T39	1.85	1.99	3.9	0.05	0.02-0.13				
	GD25 R W22 T45	2.15	2.29	4.5	0.05	0.02-0.14				
	GD25 R W27 T55	2.65	2.79	5.5	0.05	0.02-0.14				
									≤45 HRc	≤58 HRc

For L.H, specify GD25 L instead of GD25 R  
 Nom` = nominal

● First choice    ○ Alternative

## Grooving and Profiling (full radius)



### Right hand cutting

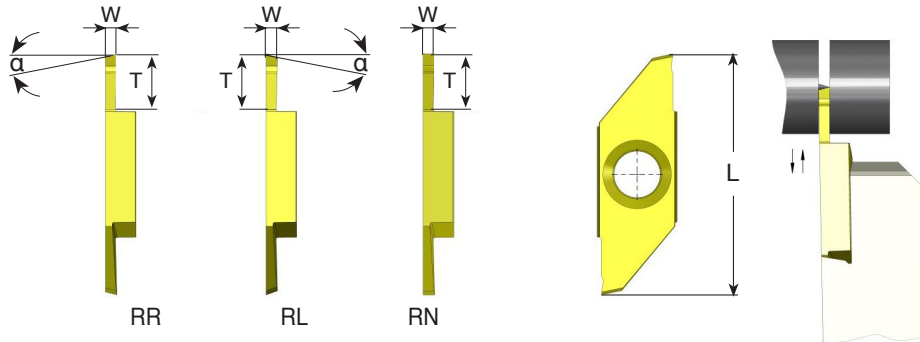
Insert Size L	Ordering Code	R±0.03	T max	Feed mm/rev
25	<b>GR25 R R02 T15</b>	0.25	1.5	0.01-0.06
	<b>GR25 R R04 T25</b>	0.40	2.5	0.02-0.07
	<b>GR25 R R05 T27</b>	0.50	2.7	0.02-0.09

For L.H, specify GR25 **L** instead of GR25 **R**

	K20	BLU	GX7
<b>P</b>		●	●
<b>M</b>	●	●	●
<b>K</b>	●	○	○
<b>N</b>	●		
<b>S</b>	○	○	●
<b>H</b>		≤45 HRc	≤58 HRc

● First choice    ○ Alternative

## Parting Off and Grooving



Right Version

### Right hand cutting

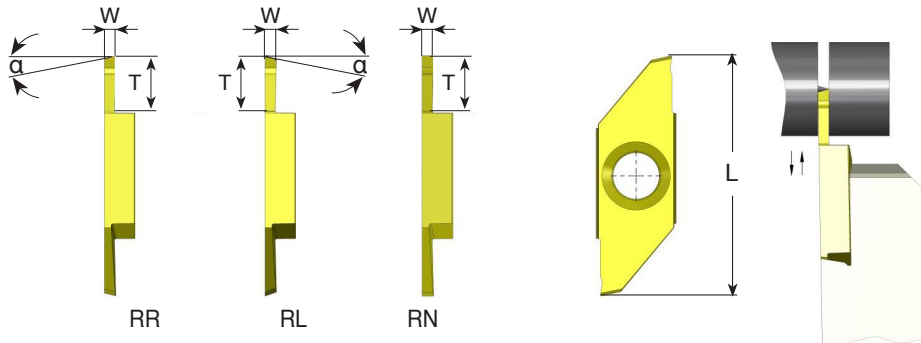
Insert Size L	Ordering Code	W	α°	T max	Feed mm/rev			
						K20	BLU	GX7
25	GP25 RR W05 T30	0.5	15	3.0	0.02-0.06	●	●	●
	GP25 RL W05 T30	0.5	15	3.0	0.02-0.06	●	●	●
	GP25 RN W05 T30	0.5	0	3.0	0.02-0.06	○		○
	GP25 RR W07 T43	0.7	15	4.3	0.02-0.08	●		
	GP25 RL W07 T43	0.7	15	4.3	0.02-0.08	●		
	GP25 RN W07 T43	0.7	0	4.3	0.02-0.08	○		○
	GP25 RR W08 T50	0.8	15	5.0	0.02-0.08	●		
	GP25 RL W08 T50	0.8	15	5.0	0.02-0.08	●		
	GP25 RN W08 T50	0.8	0	5.0	0.02-0.08	○		○
	GP25 RR W10 T58	1.0	15	5.8	0.02-0.13	●		
	GP25 RL W10 T58	1.0	15	5.8	0.02-0.13	●		
	GP25 RN W10 T58	1.0	0	5.8	0.02-0.13	○		○
	GP25 RR W12 T58	1.2	15	5.8	0.02-0.13	●		
	GP25 RL W12 T58	1.2	15	5.8	0.02-0.13	●		
	GP25 RN W12 T58	1.2	0	5.8	0.02-0.13	○		○
	GP25 RR W15 T58	1.5	15	5.8	0.02-0.13	●		
	GP25 RL W15 T58	1.5	15	5.8	0.02-0.13	●		
	GP25 RN W15 T58	1.5	0	5.8	0.02-0.13	○		○
	GP25 RR W18 T58	1.8	15	5.8	0.02-0.13	●		
	GP25 RL W18 T58	1.8	15	5.8	0.02-0.13	●		
	GP25 RN W18 T58	1.8	0	5.8	0.02-0.13	○		○
	GP25 RR W20 T58	2.0	15	5.8	0.02-0.13	●		
	GP25 RL W20 T58	2.0	15	5.8	0.02-0.13	●		
	GP25 RN W20 T58	2.0	0	5.8	0.02-0.13	○		○
GP25 RR W20 T75	2.0	15	7.5	0.02-0.10	●			
GP25 RL W20 T75	2.0	15	7.5	0.02-0.10	●			
GP25 RN W20 T75	2.0	0	7.5	0.02-0.10	○		○	
GP25 RR W25 T58	2.5	15	5.8	0.04-0.13	●			
GP25 RL W25 T58	2.5	15	5.8	0.04-0.13	●			
GP25 RN W25 T58	2.5	0	5.8	0.04-0.13	○		○	

For L.H, specify GP25 LR instead of GP25 RR  
 GP25 LL instead of GP25 RL  
 GP25 LN instead of GP25 RN

● First choice

○ Alternative

# Parting Off and Grooving



Right Version

## Right hand cutting

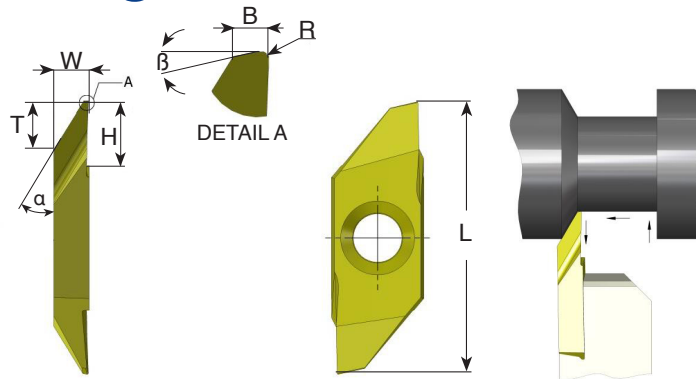
Insert Size L	Ordering Code	W	$\alpha^\circ$	T max	Feed mm/rev
40	GP40 RR W15 T80	1.5	15	8.0	0.03-0.08
	GP40 RL W15 T80	1.5	15	8.0	0.03-0.08
	GP40 RN W15 T80	1.5	0	8.0	0.03-0.08
	GP40 RR W18 T95	1.8	15	9.5	0.03-0.08
	GP40 RL W18 T95	1.8	15	9.5	0.03-0.08
	GP40 RN W18 T95	1.8	0	9.5	0.03-0.08
	GP40 RR W20 T110	2.0	15	11.0	0.03-0.08
	GP40 RL W20 T110	2.0	15	11.0	0.03-0.08
	GP40 RN W20 T110	2.0	0	11.0	0.03-0.08
	GP40 RR W25 T130	2.5	15	13.0	0.03-0.08
	GP40 RL W25 T130	2.5	15	13.0	0.03-0.08
	GP40 RN W25 T130	2.5	0	13.0	0.03-0.08
	GP40 RR W30 T130	3.0	15	13.0	0.03-0.08
	GP40 RL W30 T130	3.0	15	13.0	0.03-0.08
GP40 RN W30 T130	3.0	0	13.0	0.03-0.08	

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GP40 LR instead of GP40 RR  
 GP40 LL instead of GP40 RL  
 GP40 LN instead of GP40 RN



## Back Turning



Right Version

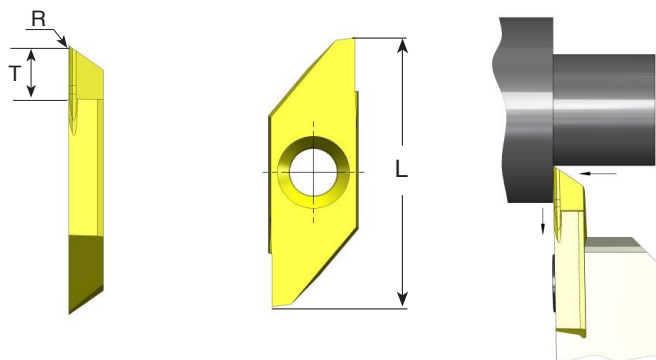
### Right hand cutting

Insert Size L	Ordering Code	$\alpha^\circ$	$\beta^\circ$	R	W	T max	B	H	Feed mm/rev
25	<b>GB25 R A30 R03</b>	30	15	0.03	3.0	4.0	0.5	8.0	0.05-0.12
	<b>GB25 R A30 R10</b>	30	15	0.10	3.0	4.0	0.5	8.0	0.05-0.12
	<b>GB25 R A30 R20</b>	30	15	0.20	3.0	4.0	0.5	8.0	0.05-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GB25 L instead of GB25 R

## Front Turning



Right Version

### Right hand cutting

Insert Size L	Ordering Code	T max	R	Feed mm/rev
25	<b>GF25 R T40</b>	4.0	0.05	0.05-0.12
	<b>GF25 R T40 R10</b>	4.0	0.10	0.05-0.12
	<b>GF25 R T70</b>	7.0	0.05	0.05-0.08

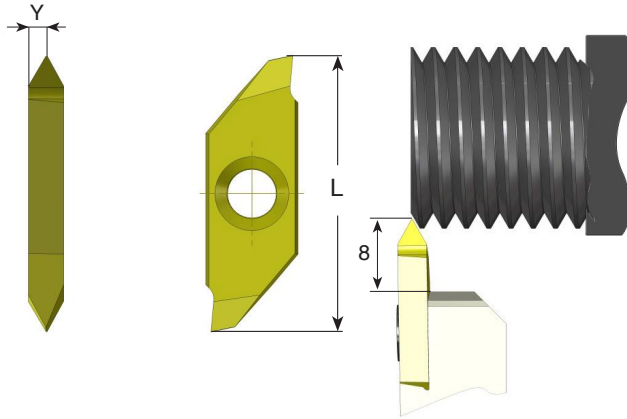
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GF25 L instead of GF25 R

● First choice

○ Alternative

## Threading - Partial Profile 60°



Right Version

### Right hand cutting

Insert Size L	Ordering Code	Pitch Range		Y
		mm	TPI	
25	GT25 R A60	0.25-0.8	100-32	0.7
	GT25 R G60	1.0-3.0	24-8	1.6

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT25 L instead of GT25 R

## Threading - Partial Profile 55°

### Right hand cutting

Insert Size L	Ordering Code	Pitch Range		Y
		mm	TPI	
25	GT25 R A55	0.5-1.5	48-16	1.0
	GT25 R G55	1.75-3.0	14-8	1.6

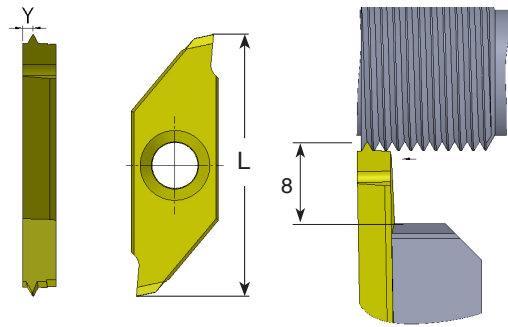
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT25 L instead of GT25 R

● First choice    ○ Alternative

# Threading - ISO metric 60° Full Profile

## External thread



Right Version

### Right hand cutting

Insert Size L	Ordering Code	Pitch mm	Y
25	GT25 R 0.5 ISO	0.5	0.6
	GT25 R 0.6 ISO	0.6	0.6
	GT25 R 0.7 ISO	0.7	0.7
	GT25 R 0.75 ISO	0.75	0.7
	GT25 R 0.8 ISO	0.8	0.7
	GT25 R 1.0 ISO	1.0	0.8
	GT25 R 1.25 ISO	1.25	1.0
	GT25 R 1.5 ISO	1.5	1.1

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT25 L instead of GT25 R

# Threading - UN unified 60° Full Profile

## External thread

### Right hand cutting

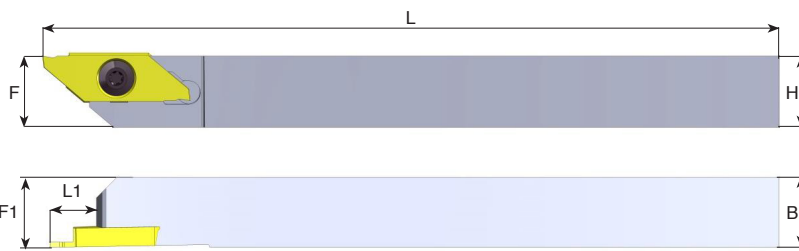
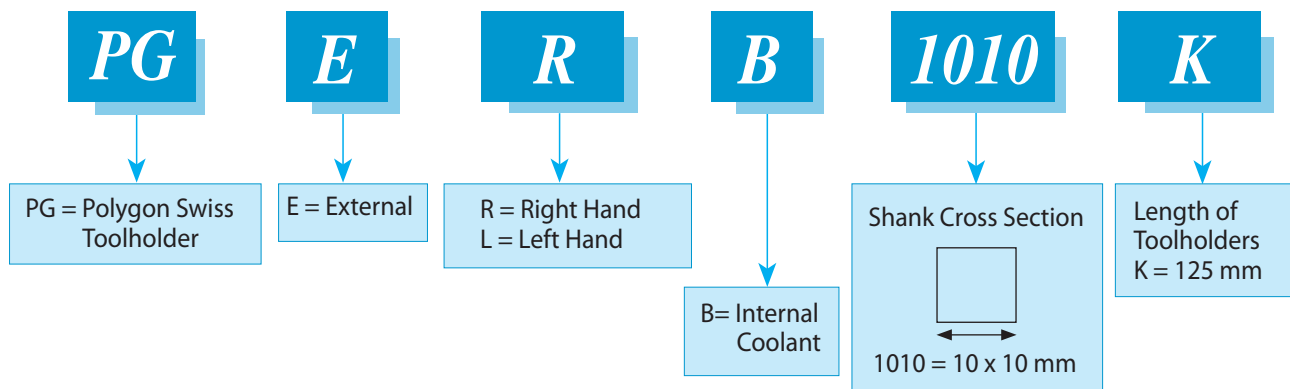
Insert Size L	Ordering Code	Pitch TPI	Y
25	GT25 R 56 UN	56	0.6
	GT25 R 40 UN	40	0.7
	GT25 R 32 UN	32	0.7
	GT25 R 24 UN	24	0.8

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT25 L instead of GT25 R

## External Toolholders

### Product Identification - Ordering Codes



Right Version

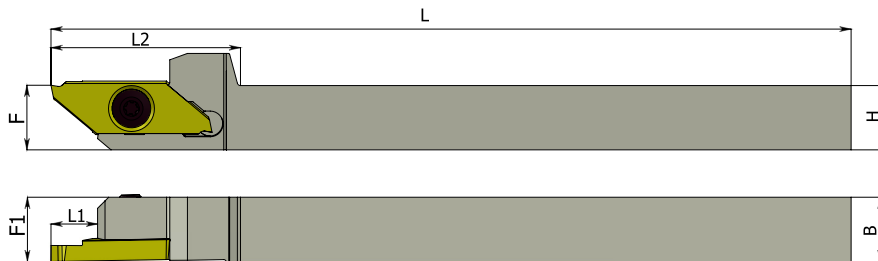


### Right hand cutting

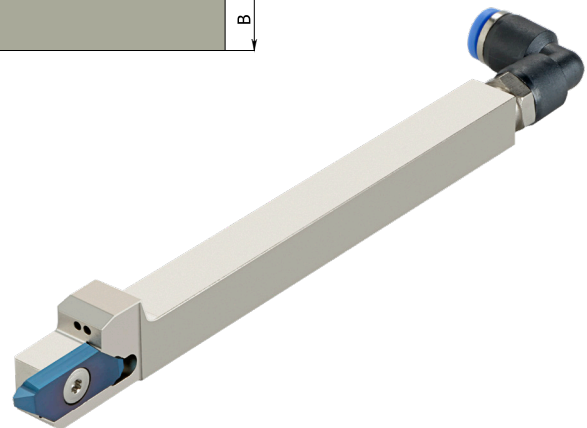
Insert Size	Ordering Code	B	H	L1	L	F	F1	Insert Screw Torx+	Key Torx+
25	<b>PGER 0808 K</b>	8	8	8	125	10	10	S26PD	K11P
	<b>PGER 1010 K</b>	10	10	8	125	10	10	S26PD	K11P
	<b>PGER 1212 K</b>	12	12	8	125	12	12	S26PD	K11P
	<b>PGER 1616 K</b>	16	16	8	125	16	16	S26PD	K11P
	<b>PGER 2020 K</b>	20	20	8	125	20	20	S26PD	K11P
40	<b>PGER 1010 K40</b>	10	10	13	125	10	10	S26PD	K11P
	<b>PGER 1212 K40</b>	12	12	13	125	12	12	S26PD	K11P
	<b>PGER 1616 K40</b>	16	16	13	125	16	16	S26PD	K11P
	<b>PGER 2020 K40</b>	20	20	13	125	20	20	S26PD	K11P
	<b>PGER 2525 M40</b>	25	25	13	150	25	25	S26PD	K11P

For L.H, specify PGE **L** instead of PGE **R**

## External Toolholders with internal coolant



Right Version



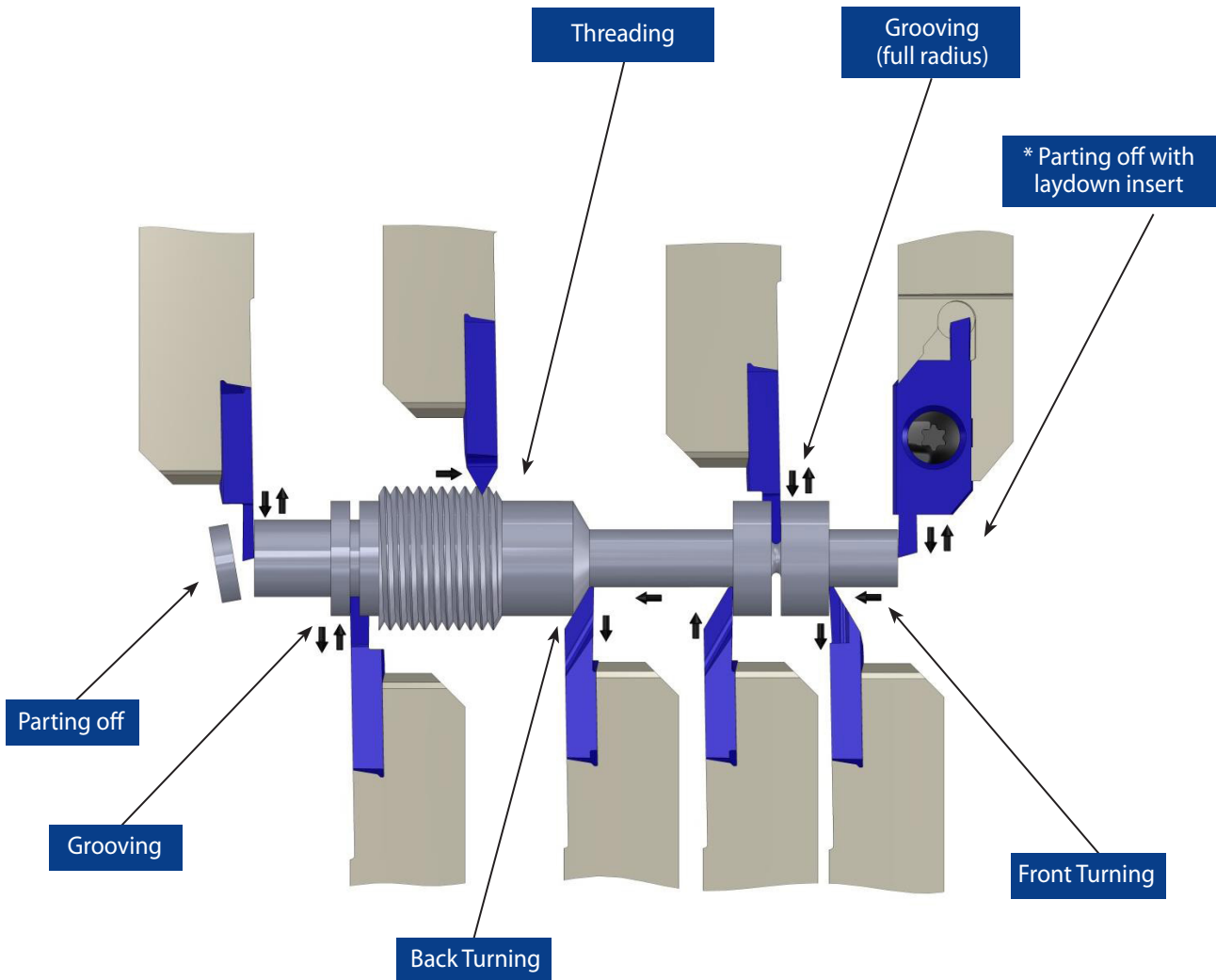
### Right hand cutting

Insert Size	Ordering Code	B	H	L1	L2	L	F	F1	Insert Screw Torx+	Key Torx+	*Coolant connector
25	<b>PGERB 1010 K</b>	10	10	8	30	125	10	10	S26PD	K11P	Ø4 / Ø6
	<b>PGERB 1212 K</b>	12	12	8	30	125	12	12	S26PD	K11P	Ø4 / Ø6
	<b>PGERB 1616 K</b>	16	16	8	30	125	16	16	S26PD	K11P	Ø4 / Ø6

For L.H, specify PGE L B instead of PGE R B

\* Coolant pipe diameter

## Working Method



\* Available upon request (grooving, parting, threading)

## Polygon Swiss Line

### Carbide Grades

#### BLU

PVD triple layer coated Sub-Micron grade for Steel, Stainless Steels, Titanium and hard materials.

#### GX7

New generation of PVD triple layer coated Sub-Micron grade for wide range of materials as: Steel, Stainless Steels, Titanium and hard materials up to 58 HRc. With high toughness for optimized performance.

#### K20

Uncoated Sub-Micron carbide grade for Aluminum and non-ferrous materials, Stainless Steels and Titanium.

## Cutting Data

ISO Standard	Materials	Cutting Speed m/min		
		K20	BLU	GX7*
<b>P</b>	Low & Medium Carbon Steels <0.55%C	-	80-150	70-160
	High Carbon Steels ≥0.55%C	-	70-120	60-130
	Alloy Steels, Treated Steels	-	40-80	40-100
<b>M</b>	Stainless Steel-Free Cutting	30-80	60-120	60-140
	Stainless Steel-Austenitic	20-70	30-90	30-120
	Cast Steels	30-80	50-120	50-140
<b>K</b>	Cast Iron	50-120	60-130	60-140
<b>N</b>	Aluminum ≤12%Si, Copper	120-250	-	-
	Aluminum >12%Si	90-200	-	-
	Synthetics, Duroplastics, Thermoplastics	70-150	-	-
<b>S</b>	Nickel Alloys, Titanium Alloys	20-50	30-70	30-90
<b>H</b>	Hardened Steel, 45-50HRc	-	20-50	20-70
	Hardened Steel, 50-58HRc	-	-	20-60

\* Available for grooving and parting off, with G25 insert size

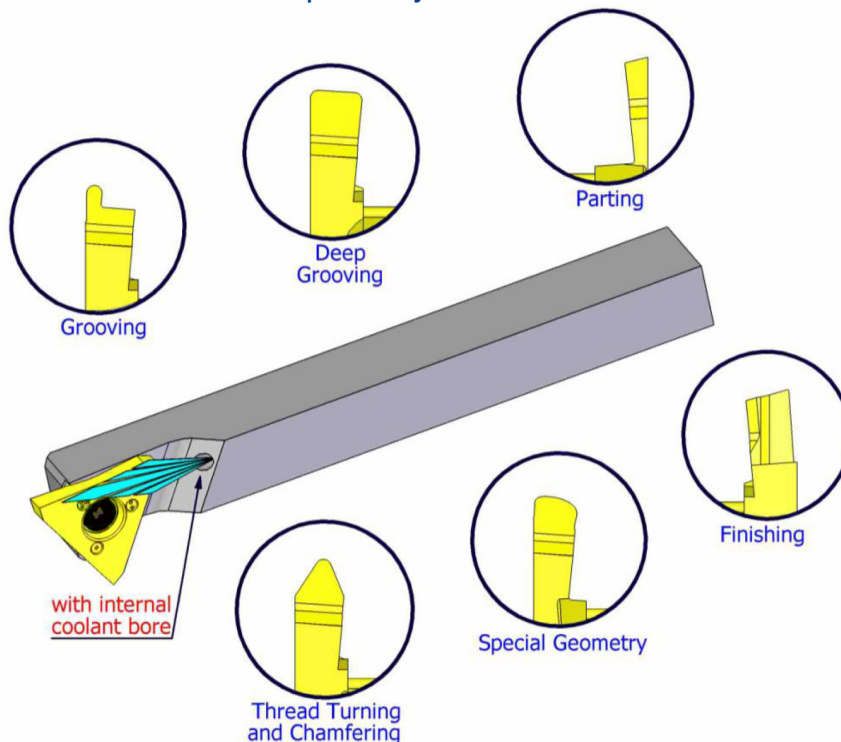
## 3 Cutting Edges Swiss Line Inserts and Toolholders

- Swiss style lathes are becoming a popular alternative to large lathes and machining centers in many companies
- CPT offers a large and versatile product line of inserts and toolholders, developed for automatic and Swiss style lathes
- Designed for economic production of parting, grooving, profiling and chamfering

### Advantages

Advanced sub-micron grade (K10-K30) - a combination of strength, toughness, wear resistance and edge sharpness

- Grounded cutting edges
- Advanced and unique PVD triple coating, for high wear and heat resistance
- For most types of material, including Stainless Steels, Titanium and Super Alloys

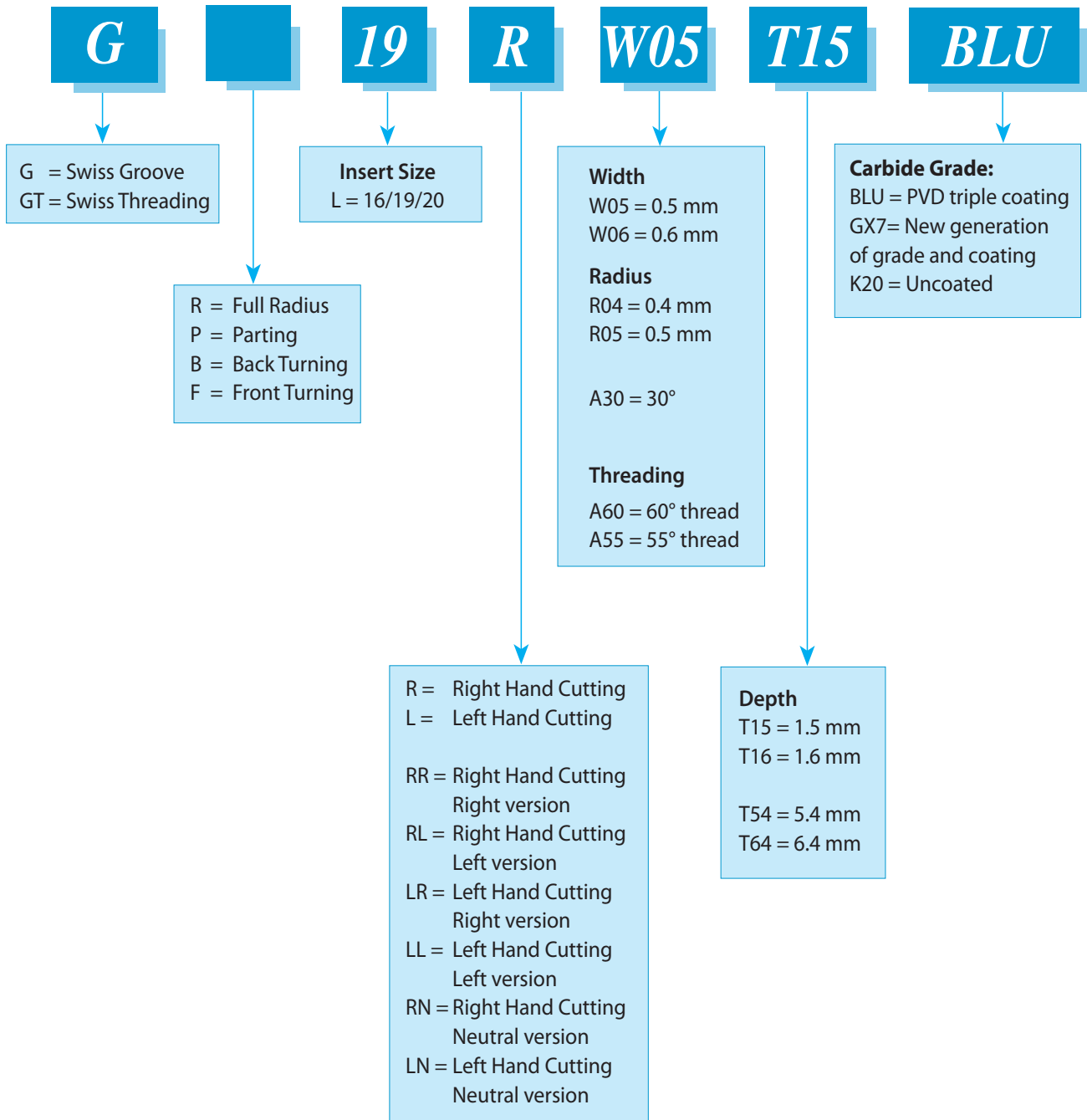


- Three cutting edges
- The insert can be indexed directly on the machine
- Internal coolant to the cutting edge



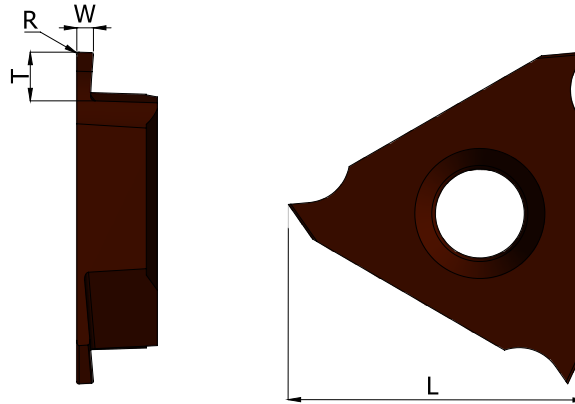
# Product Identification - Ordering Codes

## Inserts



# 16 mm Inserts and Toolholders

## Grooving



Right Version

### Right hand cutting

Insert Size L	Ordering Code	W ±0.02	T max	R	Feed mm/rev	
					Radial	Axial
16	G16 R W05 T12	0.5	1.2	0.05	0.01-0.06	0.02-0.08
	G16 R W10 T20	1.0	2.0	0.05	0.02-0.07	0.02-0.10
	G16 R W15 T25	1.5	2.5	0.10	0.03-0.08	0.02-0.10
	G16 R W20 T25	2.0	2.5	0.15	0.05-0.10	0.02-0.15
	G16 R W25 T25	2.5	2.5	0.20	0.05-0.10	0.02-0.15

	K20	GX7
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤58 HRc

For L.H, specify G16 L instead of G16 R

## Grooving, Circlip Ring Grooves DIN 471/472

### Right hand cutting

Insert Size L	Ordering Code	Nom` groove width	W-0.05	T max	R	Feed mm/rev	
						Radial	Axial
16	G16 R W07 T20	0.7	0.77	2.0	0	0.01-0.06	0.02-0.08
	G16 R W08 T20	0.8	0.87	2.0	0	0.01-0.06	0.02-0.08
	G16 R W09 T25	0.9	0.97	2.5	0	0.02-0.07	0.02-0.10
	G16 R W12 T25	1.1	1.24	2.5	0.05	0.02-0.07	0.02-0.10
	G16 R W14 T25	1.3	1.44	2.5	0.05	0.03-0.08	0.02-0.10
	G16 R W17 T25	1.6	1.74	2.5	0.05	0.03-0.08	0.02-0.10

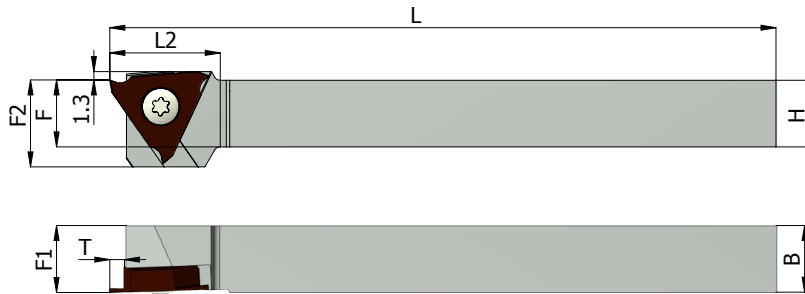
	K20	GX7
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤58 HRc

For L.H, specify G16 L instead of G16 R

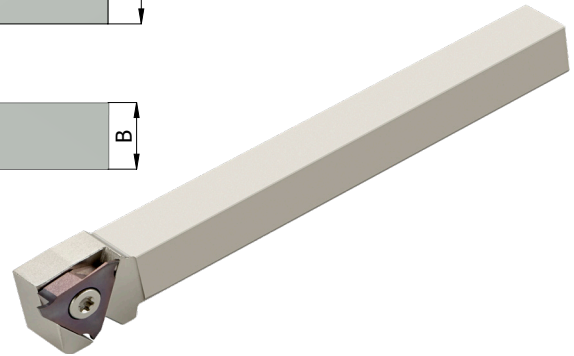
Nom` = nominal

● First choice    ○ Alternative

## External Toolholders



Right Version



### Right hand cutting

Ordering Code	B	H	T	L2	L	F	F1	F2	Insert Screw Torx+	Key Torx+
<b>VGER 0810 K</b>	10	8	2.6	17	125	8	10	13	S16PS	K16P
<b>VGER 1010 K</b>	10	10	2.6	17	125	10	10	13	S16PS	K16P
<b>VGER 1212 K</b>	12	12	2.6	17	125	12	12	13	S16P	K16P
<b>VGER 1616 K</b>	16	16	2.6	17	125	16	16	16	S16P	K16P

For L.H, specify VGE L instead of VGE R

## 3 Cutting Edges Swiss Line Inserts (16 mm)

### Carbide Grades

#### GX7

New generation of PVD triple layer coated Sub-Micron grade for wide range of materials as: Steel, Stainless Steels, Titanium and hard materials up to 58 HRc. With high toughness for optimized performance.

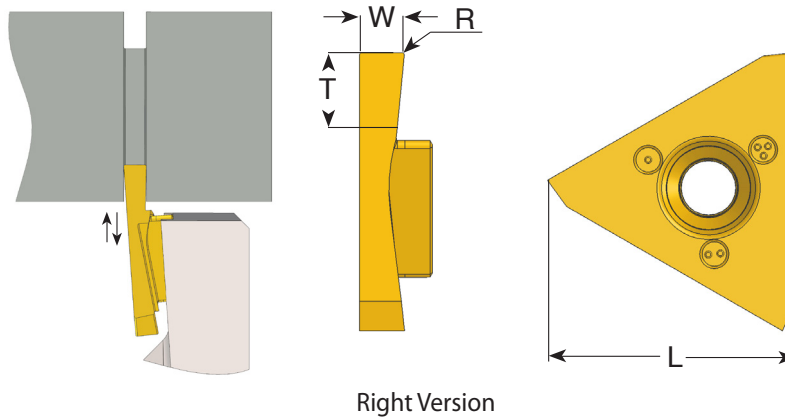
#### K20

Uncoated Sub-Micron carbide grade for Aluminum and non-ferrous materials, Stainless Steels and Titanium.

### Cutting Data

ISO Standard	Materials	Cutting Speed m/min	
		K20	GX7
<b>P</b>	Low & Medium Carbon Steels <0.55%C	-	80-150
	High Carbon Steels ≥0.55%C	-	70-120
	Alloy Steels, Treated Steels	-	40-80
<b>M</b>	Stainless Steel-Free Cutting	30-80	60-120
	Stainless Steel-Austenitic	20-70	30-90
	Cast Steels	30-80	50-120
<b>K</b>	Cast Iron	50-120	50-120
<b>N</b>	Aluminum ≤12%Si, Copper	120-250	-
	Aluminum >12%Si	90-200	-
	Synthetics, Duroplastics, Thermoplastics	70-150	-
<b>S</b>	Nickel Alloys, Titanium Alloys	20-50	30-70
<b>H</b>	Hardened Steel, 45-58HRc	-	20-50

# 19,20 mm Inserts and Toolholders



## Grooving and Turning

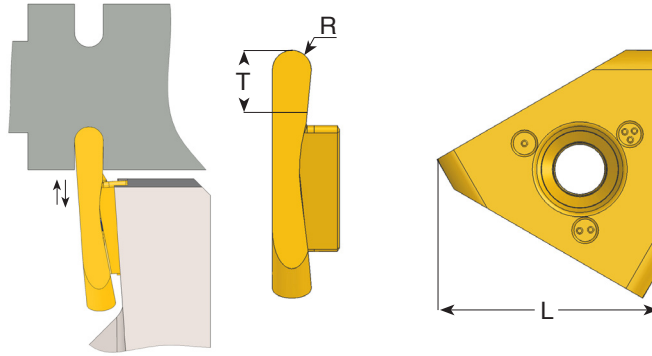
### Right hand cutting

Insert Size L	Ordering Code	W ±0.02	T max	R	Feed mm/rev	
					Radial	Axial
19	G19 R W05 T15	0.5	1.5	0	0.01-0.06	0.02-0.10
	G19 R W06 T16	0.6	1.6	0	0.01-0.06	0.02-0.10
	G19 R W07 T17	0.75	1.7	0	0.01-0.06	0.02-0.10
	G19 R W08 T18	0.8	2.0	0.05	0.01-0.06	0.02-0.10
	G19 R W10 T22	1.0	2.5	0.05	0.02-0.07	0.02-0.10
	G19 R W12 T24	1.2	3.0	0.05	0.02-0.07	0.02-0.10
	G19 R W14 T28	1.4	3.0	0.05	0.03-0.08	0.02-0.10
	G19 R W15 T30	1.5	3.0	0.05	0.03-0.08	0.02-0.10
	G19 R W17 T34	1.7	4.0	0.05	0.04-0.09	0.02-0.20
20	G20 R W20 T40	2.0	4.0	0.1	0.05-0.10	0.02-0.20
	G20 R W22 T45	2.25	5.0	0.1	0.05-0.10	0.02-0.20
	G20 R W25 T50	2.5	6.0	0.1	0.05-0.10	0.02-0.20
	G20 R W30 T60	3.0	6.0	0.1	0.05-0.10	0.02-0.20

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G19 L instead of G19 R

## Grooving and Profiling (full radius)



Right Version

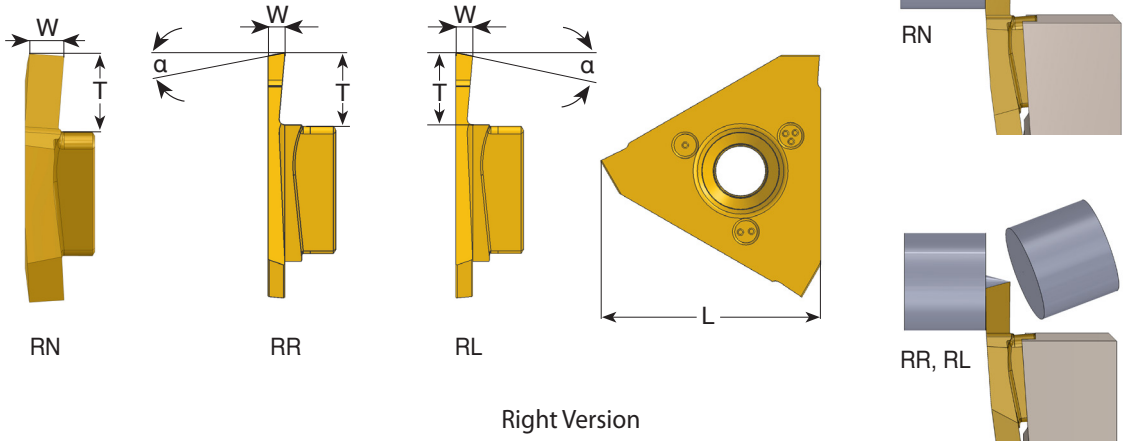
### Right hand cutting

Insert Size L	Ordering Code	R ±0.03	T max	Feed mm/rev	
				Radial	Axial
19	GR19 R R02 T15	0.25	1.5	0.01-0.06	0.02-0.10
	GR19 R R04 T18	0.40	2.0	0.01-0.06	0.02-0.10
	GR19 R R05 T22	0.50	2.5	0.02-0.07	0.02-0.10
	GR19 R R06 T26	0.60	3.0	0.02-0.07	0.02-0.10
	GR19 R R08 T33	0.80	3.5	0.04-0.09	0.02-0.20
	GR19 R R10 T40	1.00	4.0	0.05-0.10	0.02-0.20
20	GR20 R R12 T50	1.25	6.0	0.05-0.10	0.02-0.20
	GR20 R R15 T60	1.50	6.0	0.05-0.10	0.02-0.20

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GR19 L instead of GR19 R

## Parting Off



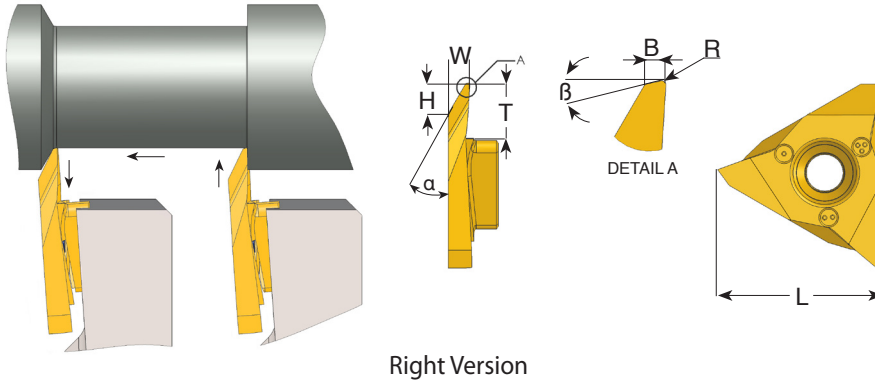
### Right hand cutting

Insert Size L	Ordering Code	W	$\alpha^\circ$	T max	Feed mm/rev Radial
19	GP19 RR W10 T54	1.0	15	5.4	0.02-0.09
	GP19 RL W10 T54	1.0	15	5.4	
	GP19 RN W10 T54	1.0	0	5.4	
	GP19 RR W12 T54	1.2	15	5.4	0.02-0.09
	GP19 RL W12 T54	1.2	15	5.4	
	GP19 RN W12 T54	1.2	0	5.4	
20	GP20 RR W15 T64	1.5	15	6.4	0.04-0.10
	GP20 RL W15 T64	1.5	15	6.4	
	GP20 RN W15 T64	1.5	0	6.4	
	GP20 RR W18 T64	1.8	15	6.4	0.04-0.10
	GP20 RL W18 T64	1.8	15	6.4	
	GP20 RN W18 T64	1.8	0	6.4	
	GP20 RR W20 T64	2.0	15	6.4	0.05-0.12
	GP20 RL W20 T64	2.0	15	6.4	
	GP20 RN W20 T64	2.0	0	6.4	
	GP20 RR W25 T64	2.5	15	6.4	0.05-0.12
	GP20 RL W25 T64	2.5	15	6.4	
	GP20 RN W25 T64	2.5	0	6.4	
	GP20 RR W30 T64	3.0	15	6.4	0.05-0.12
	GP20 RL W30 T64	3.0	15	6.4	
GP20 RN W30 T64	3.0	0	6.4		

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GP19 LR instead of GP19 RR  
 GP19 LL instead of GP19 RL  
 GP19 LN instead of GP19 RN

## Back Turning



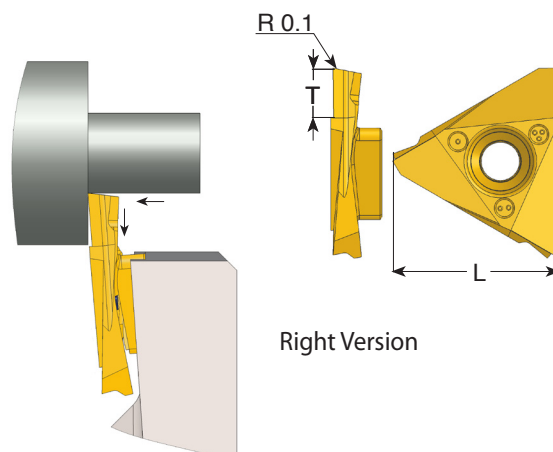
### Right hand cutting

Insert Size L	Ordering Code	$\alpha^\circ$	$\beta^\circ$	R	W	H	B	T max	Feed mm/rev
19	<b>GB19 R A30</b>	30	12	0.1	3.4	4.3	0.5	5.4	0.05-0.15
20	<b>GB20 R A30</b>	30	12	0.1	3.4	4.3	0.5	6.4	0.05-0.15

For L.H, specify GB19 L instead of GB19 R

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

## Front Turning



### Right hand cutting

Insert Size L	Ordering Code	T max	Feed mm/rev
19	<b>GF19 R T54</b>	5.4	0.05-0.15
20	<b>GF20 R T64</b>	6.4	0.05-0.15

For L.H, specify GF19 L instead of GF19 R

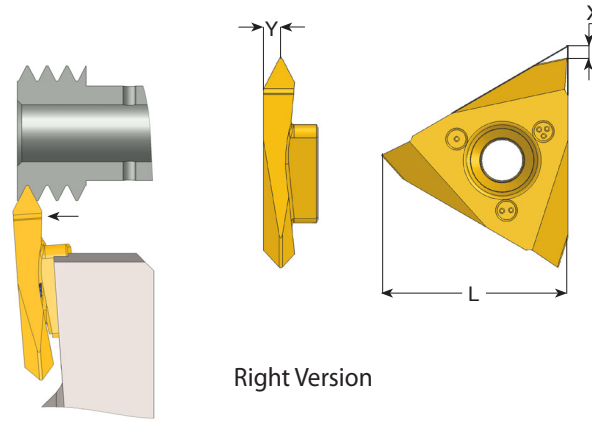
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

● First choice    ○ Alternative



# Threading - Partial Profile 60°

## External Thread



### Right hand cutting

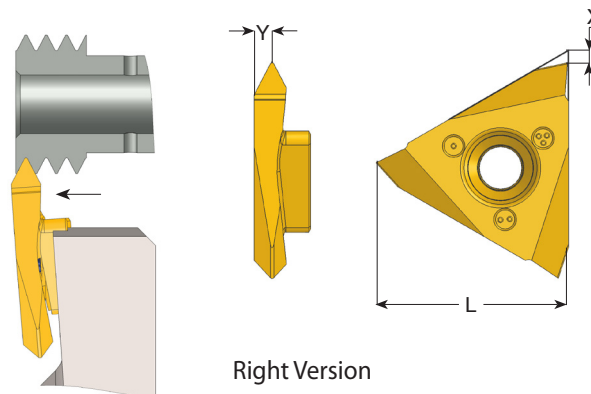
Insert Size L	mm	TPI	Ordering Code	X	Y
19	0.5-1.5	48-16	<b>GT19 R A60</b>	2.8	1.1
	1.75-3.0	14-8	<b>GT19 R G60</b>	2.8	1.7
	0.5-3.0	48-8	<b>GT19 R AG60</b>	2.8	1.7

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT19 L instead of GT19 R

# Threading - Partial Profile 55°

## External Thread



### Right hand cutting

Insert Size L	mm	TPI	Ordering Code	X	Y
19	0.5-1.5	48-16	<b>GT19 R A55</b>	2.8	1.0
	1.75-3.0	14-8	<b>GT19 R G55</b>	2.8	1.7
	0.5-3.0	48-8	<b>GT19 R AG55</b>	2.8	1.7

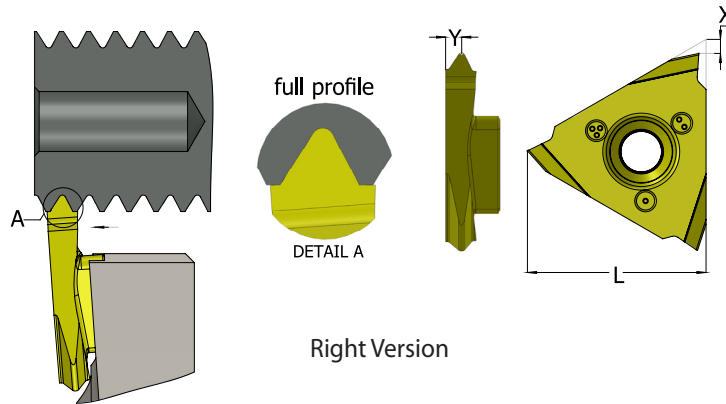
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT19 L instead of GT19 R

● First choice    ○ Alternative

# Threading - ISO metric 60° Full Profile

## External Thread



Right Version

### Right hand cutting

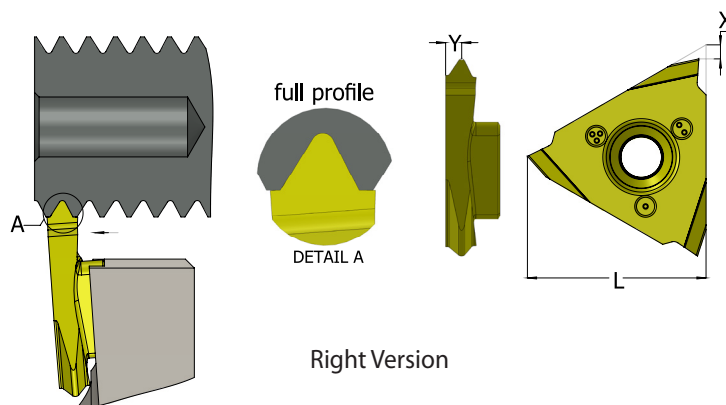
Insert Size L	mm	Ordering Code	X	Y
19	0.5	GT19 R 0.5 ISO	2.8	0.6
	0.7	GT19 R 0.7 ISO	2.8	0.7
	0.75	GT19 R 0.75 ISO	2.8	0.7
	0.8	GT19 R 0.8 ISO	2.8	0.7
	1.0	GT19 R 1.0 ISO	2.8	0.8
	1.25	GT19 R 1.25 ISO	2.8	1.0
	1.5	GT19 R 1.5 ISO	2.8	1.1
	1.75	GT19 R 1.75 ISO	2.8	1.3

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT19 L instead of GT19 R

# Threading - UN unified 60° Full Profile

## External Thread



Right Version

### Right hand cutting

Insert Size L	TPI	Ordering Code	X	Y
19	72	GT19 R 72UN	2.8	0.4
	56	GT19 R 56UN	2.8	0.6
	40	GT19 R 40UN	2.8	0.7
	32	GT19 R 32UN	2.8	0.7
	24	GT19 R 24UN	2.8	0.8
	20	GT19 R 20UN	2.8	1.0

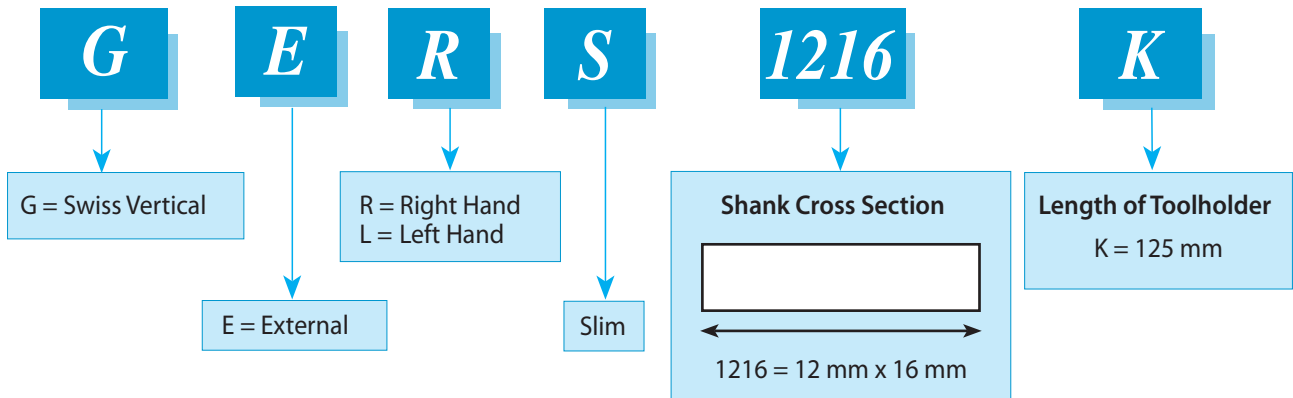
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify GT19 L instead of GT19 R

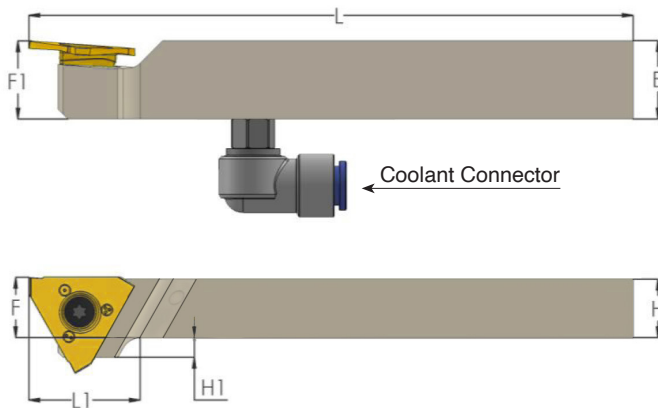
● First choice    ○ Alternative

# External Toolholders

## Product Identification - Ordering Codes



- Coolant through toolholders, for external turning in Swiss type lathes machines.
- The high pressure coolant is directed towards the insert cutting edge, in order to evacuate the chips created and avoid build up edge.
- Includes a coolant connector for fast attachment on the machine.



Right Version

### Right hand cutting

Ordering Code	B	H	L1	L	F	F1	H1	Insert Screw	Torx Key	*Coolant connector
**GER 0816 K	16	8	17	125	8	16	8	S21	K21	-
GER 1016 K	16	10	17	125	10	16	6	S21	K21	Ø4 / Ø6
GER 1216 K	16	12	17	125	12	16	4	S21	K21	Ø4 / Ø6
GER 1616 K	16	16	-	125	16	16	0	S21	K21	Ø4 / Ø6
GER 2020 K	20	20	-	125	20	20	0	S21	K21	Ø4 / Ø6
GER 2525 M	25	25	-	150	25	25	0	S21	K21	Ø4 / Ø6

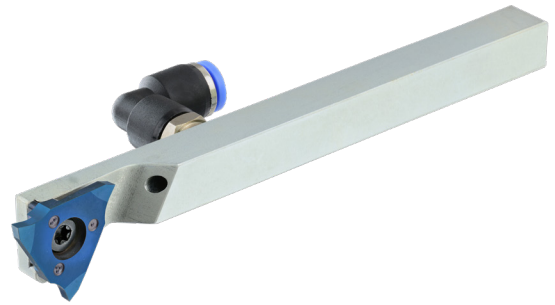
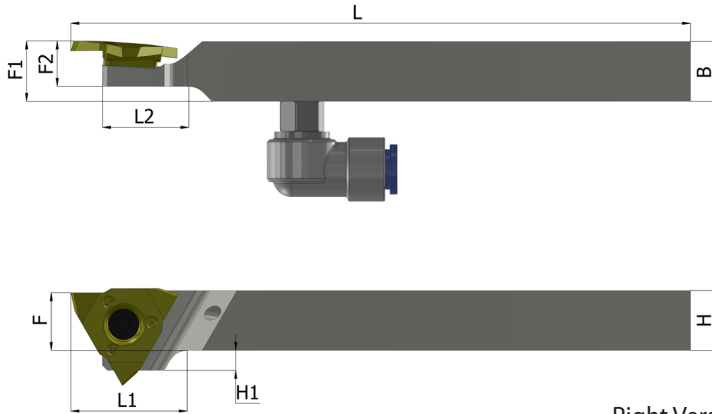
For L.H, specify GE L instead of GE R

\* Coolant pipe diameter

\*\* Without coolant

# Slim Holders

For cut off, when using sub-spindle



Right Version

## Right hand cutting

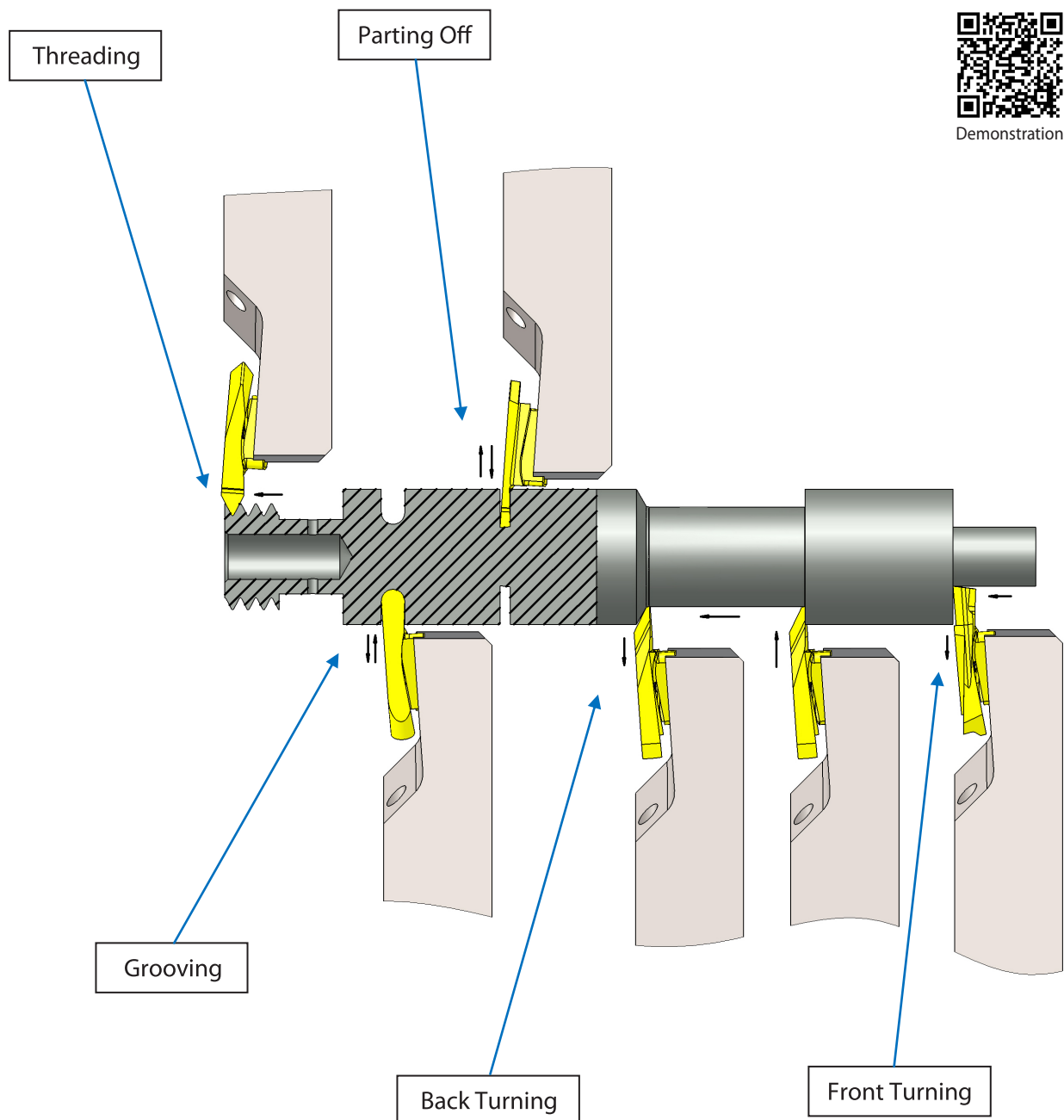
Ordering Code	B=H	L1	L2	L	F	F1	F2	H1	Insert Screw	Torx Key	*Coolant connector
<b>GERS 1010 K</b>	10	17	11	125	10	10	10.0	6	S21XS	K21	Ø4 / Ø6
<b>GERS 1212 K</b>	12	17	11	125	12	12	9.5	4	S21XS	K21	Ø4 / Ø6
<b>GERS 1616 K</b>	16	-	11	125	16	16	9.5	0	S21XS	K21	Ø4 / Ø6
<b>GERS 2020 K</b>	20	-	11	125	20	20	9.5	0	S21XS	K21	Ø4 / Ø6

For L.H, specify GELS instead of GERS

\* Coolant pipe diameter

# Working Method

## Grooving - Parting Off - Turning - Profiling - Threading



## 3 Cutting Edges Swiss Line Inserts (19,20 mm)

### Carbide Grades

#### BLU

PVD triple layer coated Sub-Micron grade for Steel, Stainless Steels, Titanium and hard materials.

#### K20

Uncoated Sub-Micron carbide grade for Aluminum and non-ferrous materials, Stainless Steels and Titanium.

### Cutting Data

ISO Standard	Materials	Cutting Speed m/min	
		K20	BLU
<b>P</b>	Low & Medium Carbon Steels <0.55%C	-	80-150
	High Carbon Steels ≥0.55%C	-	70-120
	Alloy Steels, Treated Steels	-	40-80
<b>M</b>	Stainless Steel-Free Cutting	30-80	60-120
	Stainless Steel-Austenitic	20-70	30-90
	Cast Steels	30-80	50-120
<b>K</b>	Cast Iron	50-120	-
<b>N</b>	Aluminum ≤12%Si, Copper	120-250	-
	Aluminum >12%Si	90-200	-
	Synthetics, Duroplastics, Thermoplastics	70-150	-
<b>S</b>	Nickel Alloys, Titanium Alloys	20-50	30-70
<b>H</b>	Hardened Steel, 45-50HRc	-	20-50

## 4 Cutting Edges G4 Turning Insert and Toolholders

For grooving, parting-off and threading applications

### Benefits

- High productivity and cost efficient due to four cutting edges
- High precision thanks to the fully ground profile

### Features

- Strong and stable clamping due to unique insert shape and holder pocket.
- High repeatability.
- Maximum versatility - a single holder for large range of inserts.
- Can be used with high machining parameters, and provides high surface finish.
- Internal coolant provides the coolant liquid towards the cutting edge.

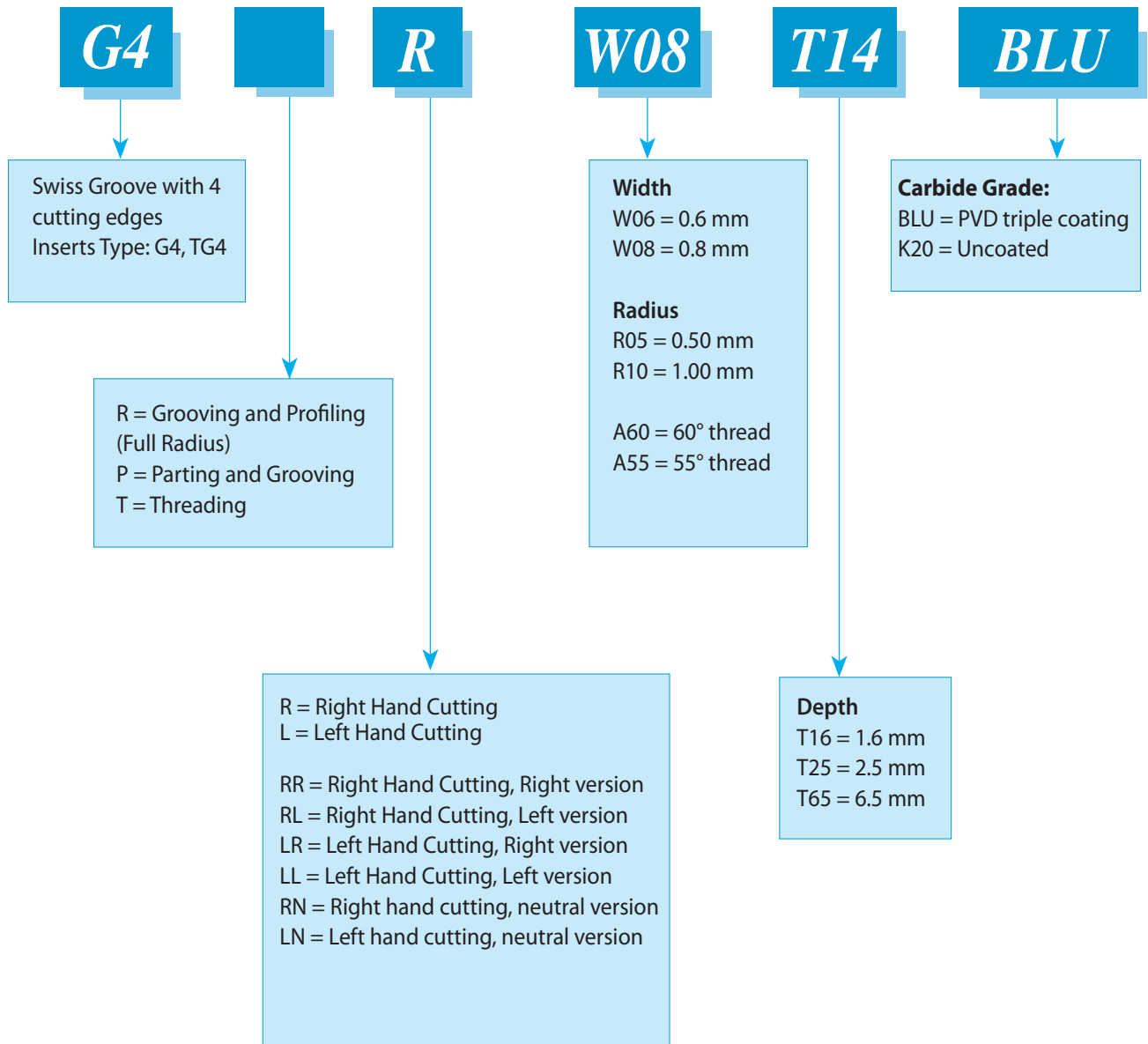
### Application

- Multi-function inserts for grooving, parting, turning and threading.
- Fits to a large range of diameters, from very small applications with a thin wall up to 100 mm diameter.

Carbide grades: BLU, K20

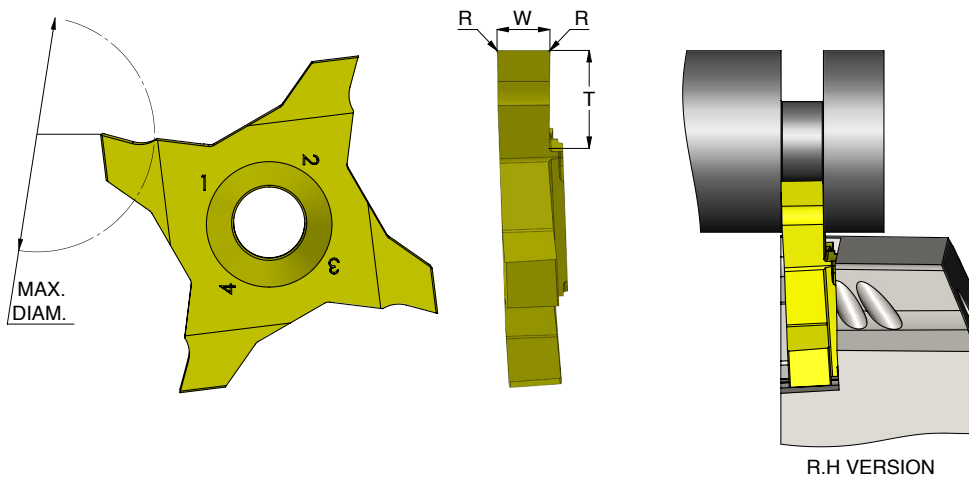
# Product Identification - Ordering Codes

## G4 Inserts





## Grooving

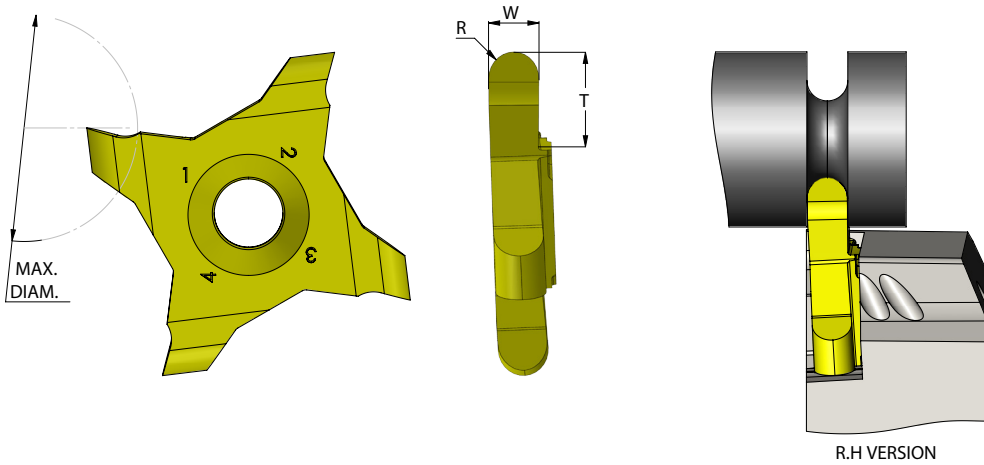


Insert Type	Ordering Code	W±0.02	T max	R	max DIAM.	Feed mm/rev
G4	<b>G4 R W05 T16</b>	0.5	1.6	0	100	0.01-0.06
	<b>G4 R W06 T16</b>	0.6	1.6	0	100	0.01-0.06
	<b>G4 R W07 T18</b>	0.7	1.8	0	100	0.01-0.06
	<b>G4 R W08 T20</b>	0.8	2.0	0	100	0.02-0.07
	<b>G4 R W10 T25</b>	1.0	2.5	0.05	100	0.02-0.09
	<b>G4 R W12 T30</b>	1.2	3.0	0.05	100	0.02-0.09
	<b>G4 R W14 T30</b>	1.4	3.0	0.05	100	0.02-0.12
	<b>G4 R W15 T30</b>	1.5	3.0	0.05	100	0.02-0.12
	<b>G4 R W16 T35</b>	1.6	3.5	0.05	100	0.02-0.12
	<b>G4 R W17 T40</b>	1.7	4.0	0.05	100	0.02-0.12
	<b>G4 R W20 T40</b>	2.0	4.0	0.05	100	0.02-0.13
TG4	<b>TG4 R W22 T50</b>	2.25	5.0	0.05	100	0.02-0.14
	<b>TG4 R W25 T50</b>	2.5	5.0	0.05	100	0.02-0.14
	<b>TG4 R W27 T55</b>	2.75	5.5	0.05	100	0.02-0.12
	<b>TG4 R W30 T65</b>	3.0	6.5	0.10	100	0.02-0.12
	<b>TG4 R W32 T65</b>	3.18	6.5	0.10	100	0.02-0.12
	<b>TG4 R W35 T65</b>	3.5	6.5	0.10	100	0.02-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G4 L instead of G4 R

## Grooving and Profiling (full radius)

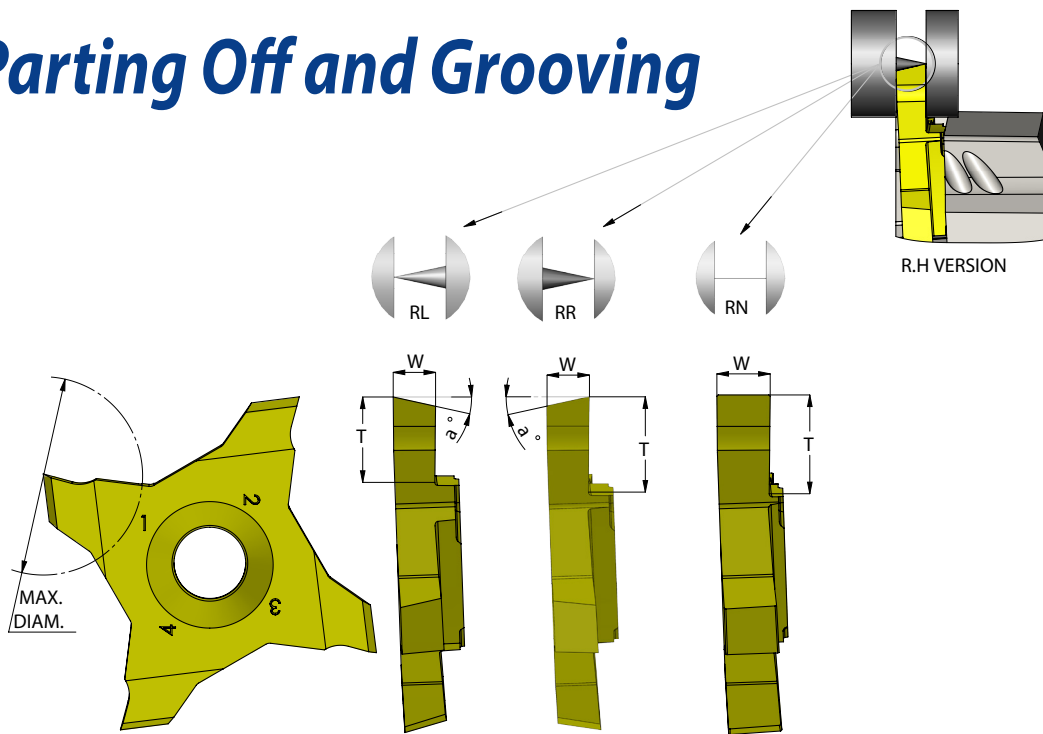


Insert Type	Ordering Code	R $\pm$ 0.03	W	T max	max DIAM.	Feed mm/rev
G4	<b>G4R R R02 T15</b>	0.25	0.5	1.5	100	0.01-0.06
	<b>G4R R R04 T20</b>	0.40	0.8	2.0	100	0.01-0.06
	<b>G4R R R05 T25</b>	0.50	1.0	2.5	100	0.02-0.09
	<b>G4R R R07 T38</b>	0.75	1.5	3.8	100	0.02-0.09
	<b>G4R R R10 T45</b>	1.00	2.0	4.5	100	0.02-0.13
TG4	<b>TG4R R R12 T50</b>	1.25	2.5	5.0	100	0.02-0.13
	<b>TG4R R R15 T65</b>	1.50	3.0	6.5	100	0.02-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify TG4R L instead of TG4R R

## Parting Off and Grooving

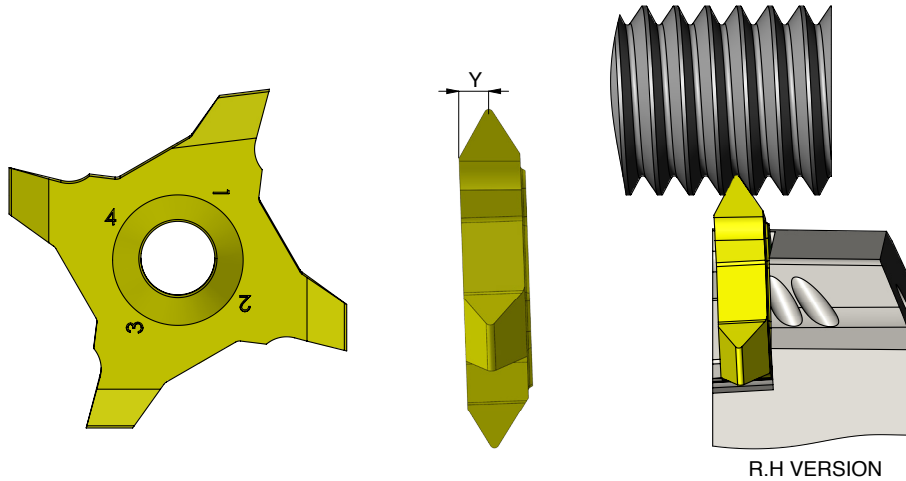


Insert Type	Ordering Code	W	$\alpha^\circ$	T max	max DIAM. Parting off	max DIAM. Grooving	Feed mm/rev
G4	G4P RR W05 T30	0.5	15	3.0	6.0	100	0.02-0.06
	G4P RL W05 T30	0.5	15	3.0	6.0	100	0.02-0.06
	G4P RN W05 T30	0.5	0	3.0	6.0	100	0.02-0.06
	G4P RR W07 T43	0.7	15	4.3	8.0	100	0.02-0.09
	G4P RL W07 T43	0.7	15	4.3	8.0	100	0.02-0.09
	G4P RN W07 T43	0.7	0	4.3	8.0	100	0.02-0.09
	G4P RR W08 T45	0.8	15	4.5	9.0	100	0.02-0.09
	G4P RL W08 T45	0.8	15	4.5	9.0	100	0.02-0.09
	G4P RN W08 T45	0.8	0	4.5	9.0	100	0.02-0.09
TG4	TG4P RR W10 T58	1.0	15	5.8	11.6	100	0.02-0.09
	TG4P RL W10 T58	1.0	15	5.8	11.6	100	0.02-0.09
	TG4P RN W10 T58	1.0	0	5.8	11.6	100	0.02-0.09
	TG4P RR W15 T65	1.5	15	6.5	13.0	100	0.02-0.13
	TG4P RL W15 T65	1.5	15	6.5	13.0	100	0.02-0.13
	TG4P RN W15 T65	1.5	0	6.5	13.0	100	0.02-0.13
	TG4P RR W20 T65	2.0	15	6.5	13.0	100	0.02-0.13
	TG4P RL W20 T65	2.0	15	6.5	13.0	100	0.02-0.13
	TG4P RN W20 T65	2.0	0	6.5	13.0	100	0.02-0.13
	TG4P RR W25 T65	2.5	15	6.5	13.0	100	0.02-0.13
	TG4P RL W25 T65	2.5	15	6.5	13.0	100	0.02-0.13
	TG4P RN W25 T65	2.5	0	6.5	13.0	100	0.02-0.13

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRC

For L.H, specify G4P LR instead of G4P RR  
 For L.H, specify G4P LL instead of G4P RL  
 For L.H, specify G4P LN instead of G4P RN

## Threading-Partial profile 60°



Insert Type	Ordering Code	Pitch		Y
		mm	TPI	
G4	<b>G4T R AF60</b>	0.25-0.8	100-32	0.7
	<b>G4T R A60</b>	0.5-1.5	46-16	1.1
	<b>G4T R G60</b>	1.75-3.0	14-8	1.8
	<b>G4T R AG60</b>	0.5-3.0	48-8	1.8

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

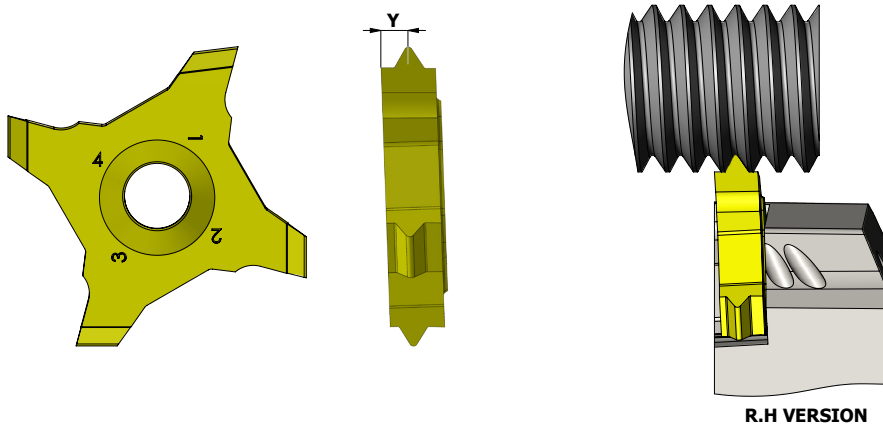
For L.H, specify G4T **L** instead of G4T **R**

## Threading-Partial profile 55°

Insert Type	Ordering Code	Pitch		Y
		mm	TPI	
G4	<b>G4T R A55</b>	0.5-1.5	46-16	1.1
	<b>G4T R G55</b>	1.75-3.0	14-8	1.8
	<b>G4T R AG55</b>	0.5-3.0	48-8	1.8

For L.H, specify G4T **L** instead of G4T **R**

## Threading - ISO metric 60° Full Profile

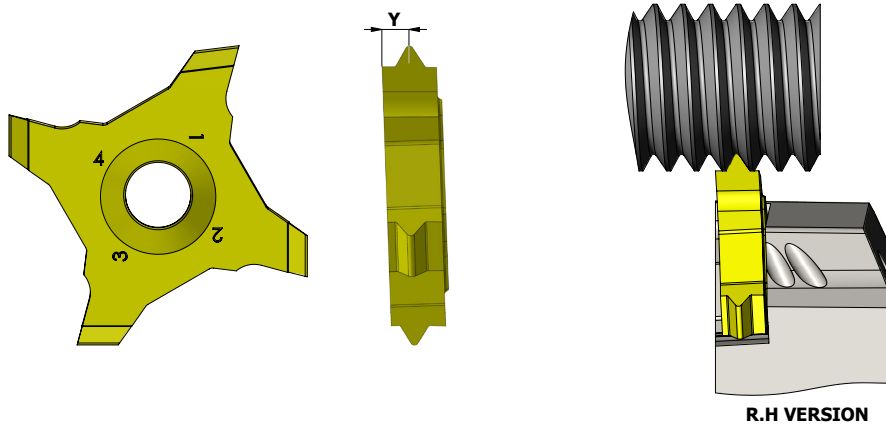


Insert Type	Ordering Code	Pitch mm	Y
G4	G4T R 0.5 ISO	0.5	0.6
	G4T R 0.6 ISO	0.6	0.6
	G4T R 0.7 ISO	0.7	0.7
	G4T R 0.75 ISO	0.75	0.7
	G4T R 0.8 ISO	0.8	0.7
	G4T R 1.0 ISO	1.0	0.8
	G4T R 1.25 ISO	1.25	1.0
	G4T R 1.5 ISO	1.5	1.1
TG4	TG4T R 1.75 ISO	1.75	1.2
	TG4T R 2.0 ISO	2.0	1.3
	TG4T R 3.0 ISO	3.0	1.7

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G4T L instead of G4T R

# Threading-UN unified 60° Full Profile

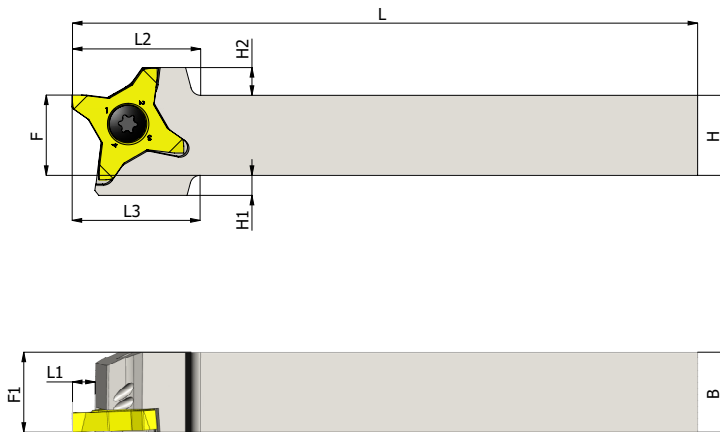


Insert Type	Ordering Code	Pitch TPI	Y
G4	G4T R 72 UN	72	0.3
	G4T R 64 UN	64	0.4
	G4T R 56 UN	56	0.6
	G4T R 40 UN	40	0.7
	G4T R 32 UN	32	0.7
	G4T R 28 UN	28	0.8
	G4T R 24 UN	24	0.8
	G4T R 20 UN	20	0.9
	G4T R 18 UN	18	1.0
TG4	TG4T R 16 UN	16	1.1
	TG4T R 14 UN	14	1.2
	TG4T R 13 UN	13	1.3
	TG4T R 12 UN	12	1.4

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G4T L instead of G4T R

## External Toolholders



Insert Type	Ordering Code	B	H	L1	L2	L3	L	F	F1	H1	H2	Insert Screw Torx+	Key Torx+	** Coolant Connector mm
G4	<b>*G4ER 1212 K</b>	12	12	4.5	18	18	125	12	12	4	4	S16P	IP10	---
	<b>G4ER 1616 K</b>	16	16	4.5	18	---	125	16	16	---	4	S16P	IP10	Ø4/Ø6
	<b>G4ER 2020 K</b>	20	20	4.5	18	---	125	20	20	---	4	S16P	IP10	Ø4/Ø6
	<b>G4ER 2525 M</b>	25	25	4.5	18	---	150	25	25	---	4	S16P	IP10	Ø4/Ø6
TG4	<b>TG4ER 1616 K</b>	16	16	6.5	26	26	125	16	16	4	6	S22P	IP20	Ø4/Ø6
	<b>TG4ER 2020 K</b>	20	20	6.5	26	---	125	20	20	---	6	S22P	IP20	Ø4/Ø6
	<b>TG4ER 2525 M</b>	25	25	6.5	26	---	150	25	25	---	6	S22P	IP20	Ø4/Ø6

\* Without internal coolant

\*\* Diameter of coolant pipe (Default Ø4)

For L.H, specify G4EL... instead of G4ER...

specify TG4EL... instead of TG4ER...

Coated holders provide a high abrasive resistance

## Carbide Grades

**BLU** PVD triple layer coated Sub-Micron grade for Steel, Stainless Steels, Super Alloys and hard materials up to 45 HRc.

**K20** Uncoated Sub-Micron carbide grade for Aluminum and non-ferrous materials, Stainless Steels and Titanium.

## Cutting Data

ISO Standard	Materials	Cutting Speed m/min	
		K20	BLU
<b>P</b>	Low & Medium Carbon Steels <0.55%C	-	80-150
	High Carbon Steels ≥0.55%C	-	70-120
	Alloy Steels, Treated Steels	-	40-80
<b>M</b>	Stainless Steel-Free Cutting	30-80	60-120
	Stainless Steel-Austenitic	20-70	30-90
	Cast Steels	30-80	50-120
<b>K</b>	Cast Iron	50-120	60-130
<b>N</b>	Aluminum ≤12%Si, Copper	120-250	-
	Aluminum >12%Si	90-200	-
	Synthetics, Duroplastics, Thermoplastics	70-150	-
<b>S</b>	Nickel Alloys, Titanium Alloys	20-50	30-70
<b>H</b>	Hardened Steel, ≤45HRc	-	20-50

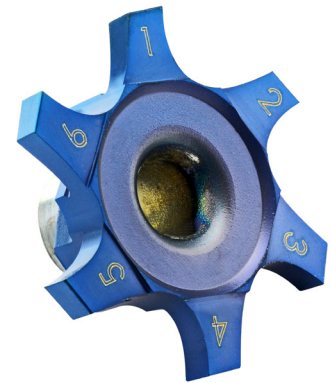


## 6 Cutting Edges G6 Turning Inserts and Toolholders

For grooving, parting-off and threading

### Benefits

- High productivity and cost efficiency due to six cutting edges
- One holder for all insert types - Maximum versatility
- High precision thanks to the fully ground profile



### Features

- Strong and stable clamping due to the unique insert shape
- Can be used with high machining parameters, and provides high surface finish
- Internal coolant provides the coolant liquid towards the cutting edge

### Application

- Multi-function inserts for grooving, parting, turning and threading
- Fits a large range of diameters from very small applications with a thin wall up to 60 mm diameter

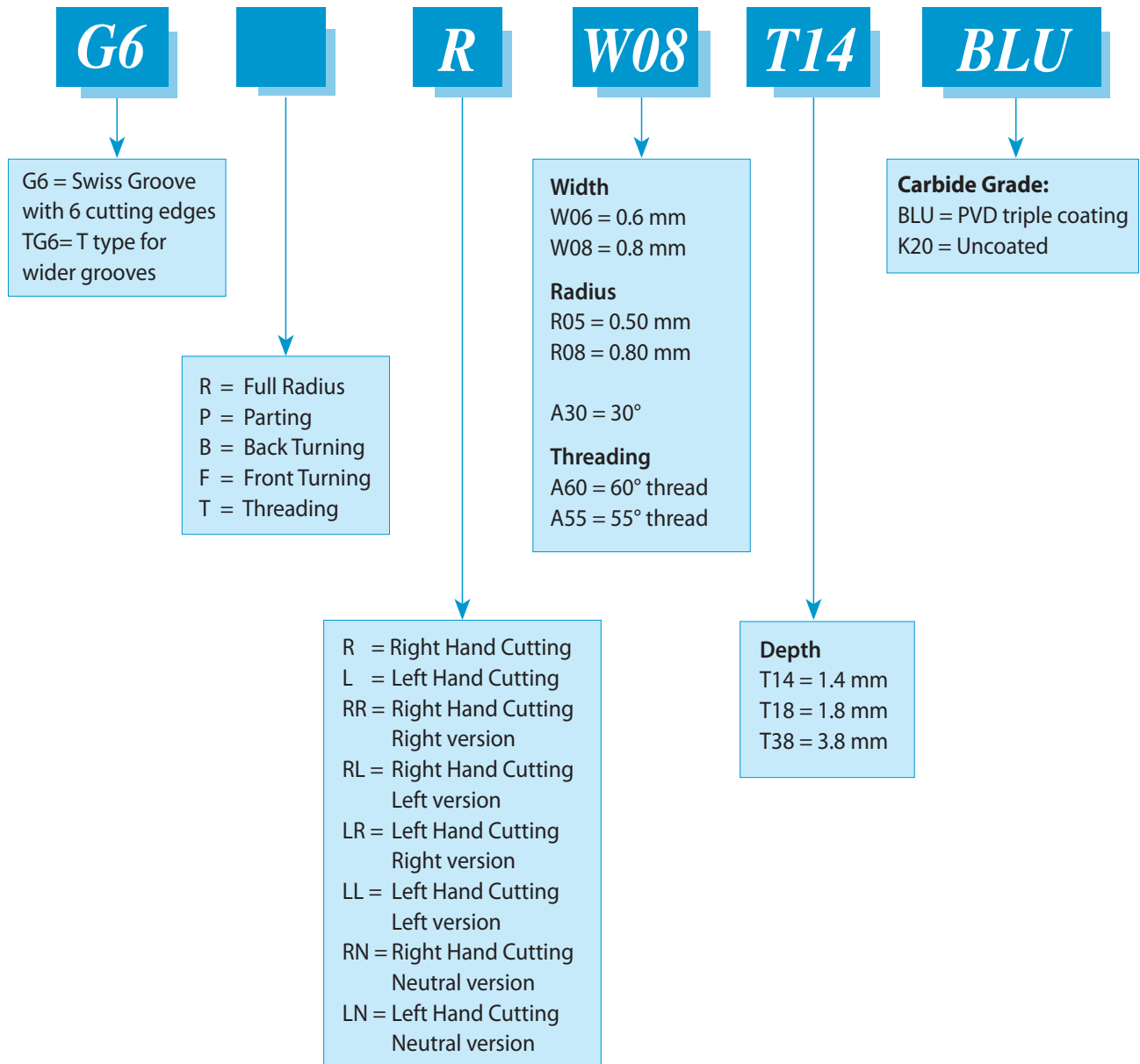
Carbide grades: BLU, K20



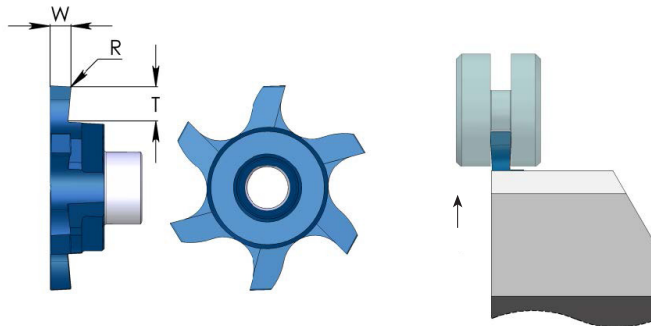
Demonstration

# Product Identification - Ordering Codes

## G6 Inserts



## Grooving



Right Version

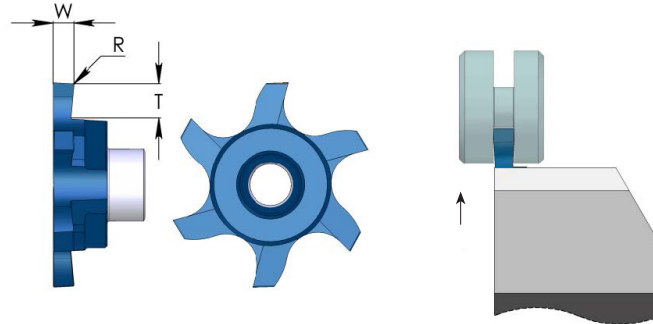
### Right hand cutting

Insert Type	Ordering Code	W±0.02	T max	R	Feed mm/rev
G6	<b>G6 R W06 T11</b>	0.6	1.1	0	0.01-0.06
	<b>G6 R W08 T14</b>	0.8	1.4	0	0.02-0.07
	<b>G6 R W10 T18</b>	1.0	1.8	0.05	0.02-0.09
	<b>G6 R W15 T33</b>	1.5	3.3	0.05	0.02-0.12
	<b>G6 R W20 T38</b>	2.0	3.8	0.10	0.02-0.13
	<b>G6 R W25 T38</b>	2.5	3.8	0.10	0.02-0.14
TG6	<b>TG6 R W30 T38</b>	3.0	3.8	0.10	0.02-0.12
	<b>TG6 R W40 T38</b>	4.0	3.8	0.10	0.02-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6 L instead of G6 R

# Grooving, Circlip Ring Grooves DIN 471/472



Right Version

## Right hand cutting

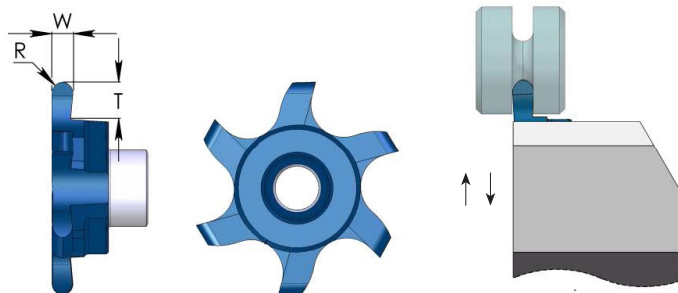
Insert Type	Ordering Code	Nom` groove width	W-0.05	T max	R	Feed mm/rev
G6	<b>G6D R W12 T31</b>	1.10	1.24	3.1	0.05	0.02-0.09
	<b>G6D R W14 T33</b>	1.30	1.44	3.3	0.05	0.02-0.12
	<b>G6D R W17 T33</b>	1.60	1.74	3.3	0.05	0.02-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6D L instead of G6D R

Nom` = nominal

# Grooving and Profiling (full radius)



Right Version

## Right hand cutting

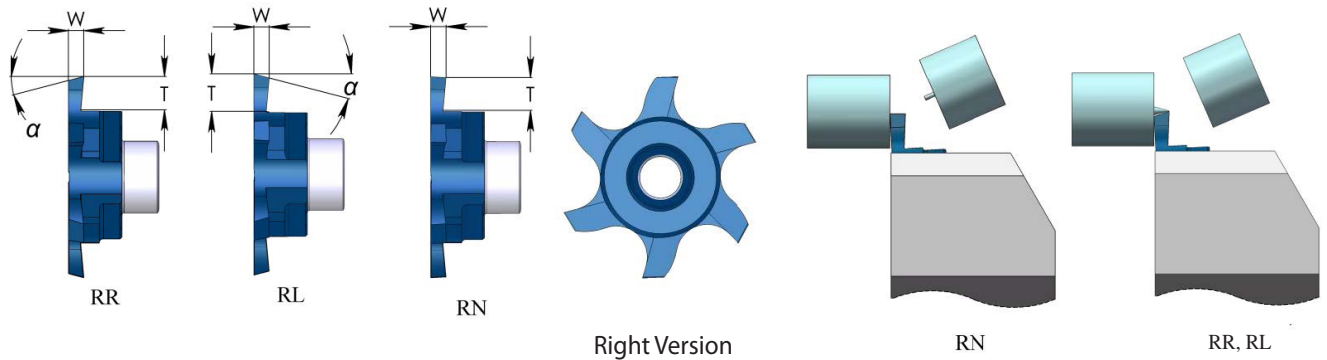
Insert Type	Ordering Code	R±0.03	W	T max	Feed mm/rev
G6	<b>G6R R R05 T25</b>	0.50	1.0	2.5	0.02-0.09
	<b>G6R R R08 T30</b>	0.80	1.6	3.0	0.02-0.09
	<b>G6R R R10 T38</b>	1.00	2.0	3.8	0.02-0.13
	<b>G6R R R12 T38</b>	1.25	2.5	3.8	0.02-0.14
TG6	<b>TG6R R R15 T38</b>	1.5	3.0	3.8	0.02-0.12
	<b>TG6R R R20 T38</b>	2.0	4.0	3.8	0.02-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6R L instead of G6R R

● First choice    ○ Alternative

## Parting Off and Grooving



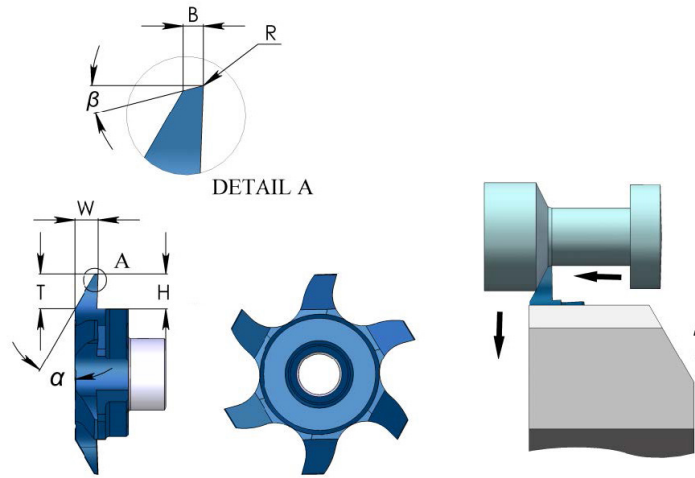
### Right hand cutting

Insert Type	Ordering Code	W	$\alpha^\circ$	T max	Feed mm/rev
G6	G6P RR W08 T38	0.8	15	3.8	0.02-0.09
	G6P RL W08 T38	0.8	15	3.8	0.02-0.09
	G6P RN W08 T38	0.8	0	3.8	0.02-0.09
	G6P RR W10 T38	1.0	15	3.8	0.02-0.09
	G6P RL W10 T38	1.0	15	3.8	0.02-0.09
	G6P RN W10 T38	1.0	0	3.8	0.02-0.09
	G6P RR W15 T38	1.5	15	3.8	0.02-0.13
	G6P RL W15 T38	1.5	15	3.8	0.02-0.13
	G6P RN W15 T38	1.5	0	3.8	0.02-0.13
	G6P RR W20 T38	2.0	15	3.8	0.02-0.13
	G6P RL W20 T38	2.0	15	3.8	0.02-0.13
	G6P RN W20 T38	2.0	0	3.8	0.02-0.13

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6P LR instead of G6P RR  
 G6P LL instead of G6P RL  
 G6P LN instead of G6P RN

## Back Turning



Right Version

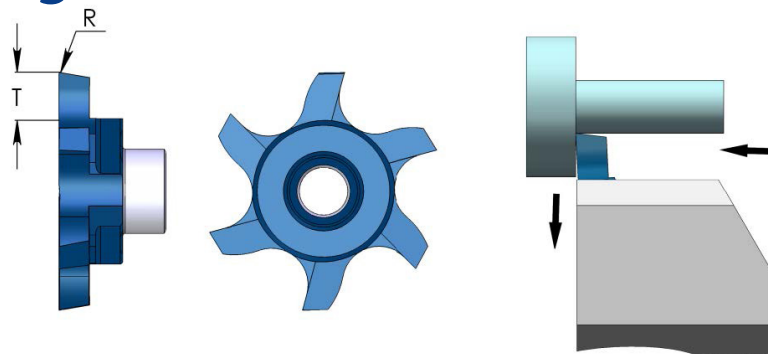
### Right hand cutting

Insert Type	Ordering Code	$\alpha^\circ$	$\beta^\circ$	R	W	H	B	T max	Feed mm/rev
G6	<b>G6B R A30</b>	30	12	0.1	2.6	3.8	0.5	3.8	0.05-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6B L instead of G6B R

## Front Turning



Right Version

### Right hand cutting

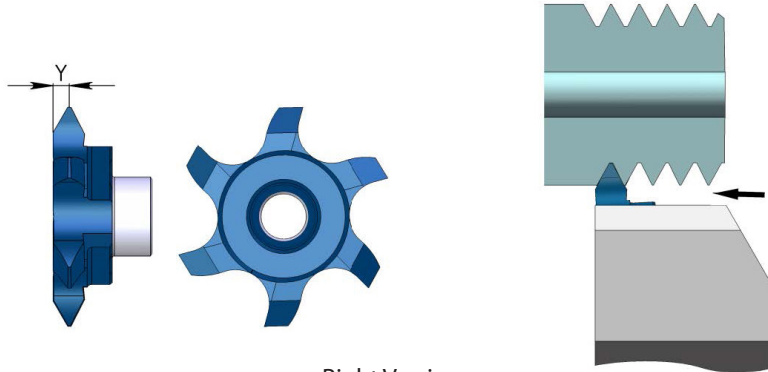
Insert Type	Ordering Code	T max	R	Feed mm/rev
G6	<b>G6F R T38</b>	3.8	0.1	0.05-0.12

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6F L instead of G6F R

● First choice    ○ Alternative

## Threading - Partial Profile 60°



Right Version

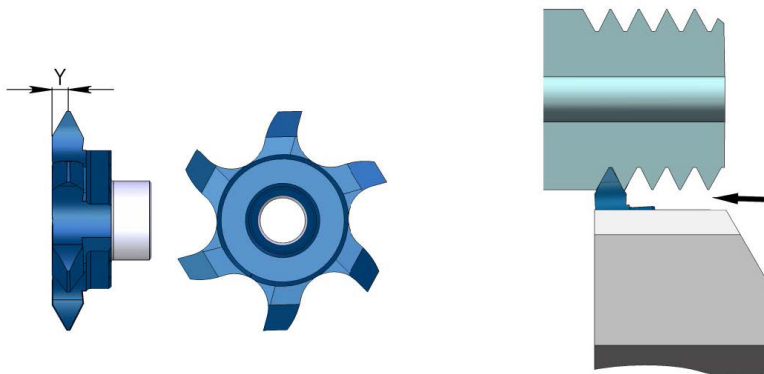
### Right hand cutting

Insert Type	Ordering Code	Pitch Range		Y
		mm	TPI	
G6	G6T R A60	0.5-1.5	48-16	0.8
	G6T R G60	1.75-3.0	14-8	1.5
	G6T R AG60	0.5-3.0	48-8	1.5

For L.H, specify G6T L instead of G6T R

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

## Threading - Partial Profile 55°



Right Version

### Right hand cutting

Insert Type	Ordering Code	Pitch Range		Y
		mm	TPI	
G6	G6T R A55	0.5-1.5	48-16	0.8
	G6T R G55	1.75-3.0	14-8	1.5
	G6T R AG55	0.5-3.0	48-8	1.5

For L.H, specify G6T L instead of G6T R

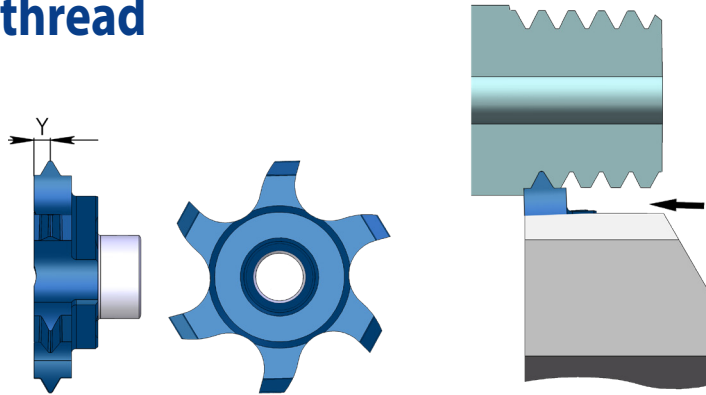
	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

● First choice

○ Alternative

## Threading - ISO metric 60° Full Profile

### External thread



Right Version

### Right hand cutting

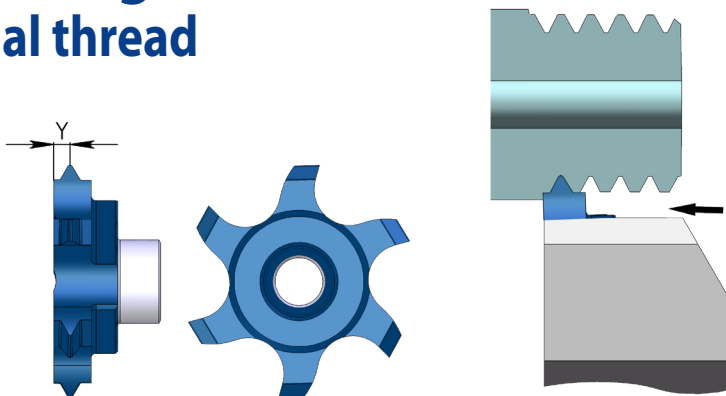
Insert Type	Ordering Code	Pitch mm	Y
G6	G6T R 1.0 ISO	1.0	0.7
	G6T R 1.5 ISO	1.5	1.0
	G6T R 2.0 ISO	2.0	1.3

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6T L instead of G6T R

## Threading - UN unified 60° Full Profile

### External thread



Right Version

### Right hand cutting

Insert Type	Ordering Code	Pitch TPI	Y
G6	G6T R 56 UN	56	0.6
	G6T R 40 UN	40	0.7
	G6T R 32 UN	32	0.7
	G6T R 24 UN	24	0.7

	K20	BLU
P		●
M	●	●
K	●	○
N	●	
S	●	●
H		≤45 HRc

For L.H, specify G6T L instead of G6T R

● First choice    ○ Alternative



## External Toolholders - For G6 Inserts

Coolant through toolholders, for external turning in Swiss type lathes machines. The high pressure coolant is directed towards the insert cutting edge in order to evacuate the chips created and avoid build up edge.

Includes a coolant connector for fast attachment on the machine.

## Product Identification - Ordering Codes

G6

T

E

R

1212

K

↓

G6 = Swiss toolholder

↓

T = Type

↓

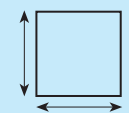
E = External

↓

R = Right Hand  
L = Left Hand

↓

Shank Cross Section



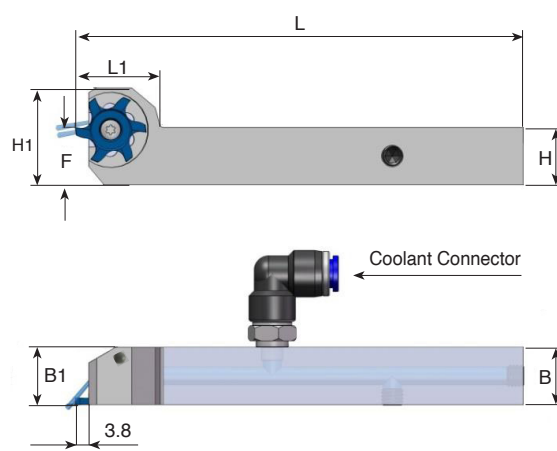
1212 = 12x12 mm

↓


Length of Toolholders

K = 125 mm

M = 150 mm



Right Version



### Right hand cutting

Insert Type	Ordering Code	B	H	L1	L	H1	F	B1	Insert Screw Torx +	Torx + Key	**Coolant connector (mm)
G6	*G6ER 1212 K	12	12	20	125	23	12	16	S16LP	K16P	---
	G6ER 1616 K	16	16	20	125	27	16	16	S16LP	K16P	Ø4 / Ø6
	G6ER 2020 K	20	20	20	125	31	20	20	S16LP	K16P	Ø4 / Ø6
	G6ER 2525 M	25	25	20	150	36	25	25	S16LP	K16P	Ø4 / Ø6
TG6	*TG6ER 1212 K	12	12	20	125	23	12	18	S16LP	K16P	---
	TG6ER 1616 K	16	16	20	125	27	16	18	S16LP	K16P	Ø4 / Ø6
	TG6ER 2020 K	20	20	20	125	31	20	20	S16LP	K16P	Ø4 / Ø6
	TG6ER 2525 M	25	25	20	150	36	25	25	S16LP	K16P	Ø4 / Ø6

\* Without internal coolant

\*\* Coolant pipe diameter, standard packing with Ø4 mm

For L.H, specify G6EL instead of G6ER

Coated holders provide high abrasive resistance

# G6 Inserts

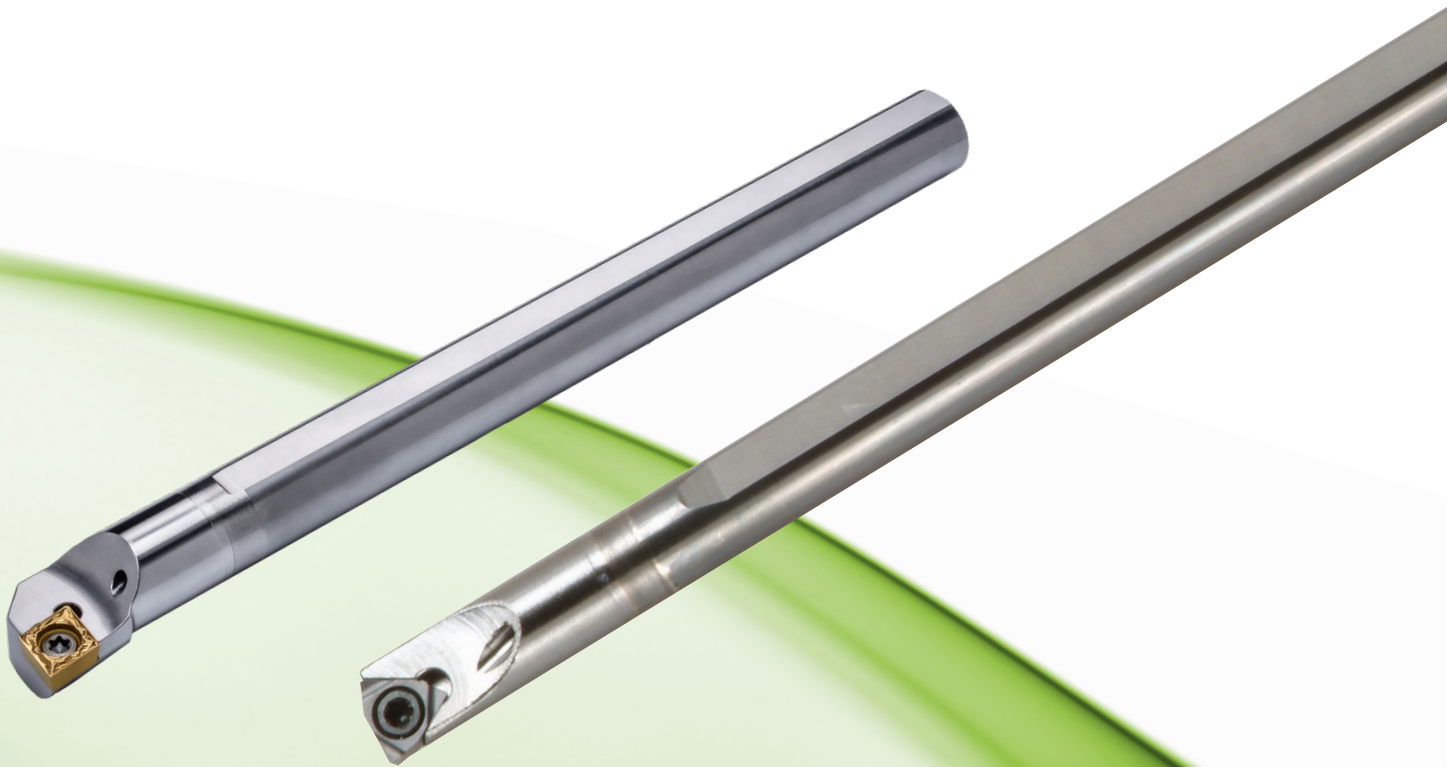
## Carbide Grades

**BLU** PVD triple layer coated Sub-Micron grade for Steel, Stainless Steels, Titanium and hard materials.

**K20** Uncoated Sub-Micron carbide grade for Aluminum and non-ferrous materials, Stainless Steels and Titanium.

## Cutting Data

ISO Standard	Material	Cutting Speed m/min	
		K20	BLU
<b>P</b>	Low and Medium Carbon Steels <0.55%C	-	80-150
	High Carbon Steels ≥0.55%C	-	70-120
	Alloy Steels, Treated Steels	-	40-80
<b>M</b>	Stainless Steel-Free Cutting	30-80	60-120
	Stainless Steel-Austenitic	20-70	30-90
	Cast Steels	30-80	50-120
<b>K</b>	Cast Iron	50-120	60-130
<b>N</b>	Aluminum ≤12%Si, Copper	120-250	-
	Aluminum >12%Si	90-200	-
	Synthetics, Duroplastics, Thermoplastics	70-150	-
<b>S</b>	Nickel Alloys, Titanium Alloys.	20-50	30-70
<b>H</b>	Hardened Steel, ≤45 HRc	-	20-50



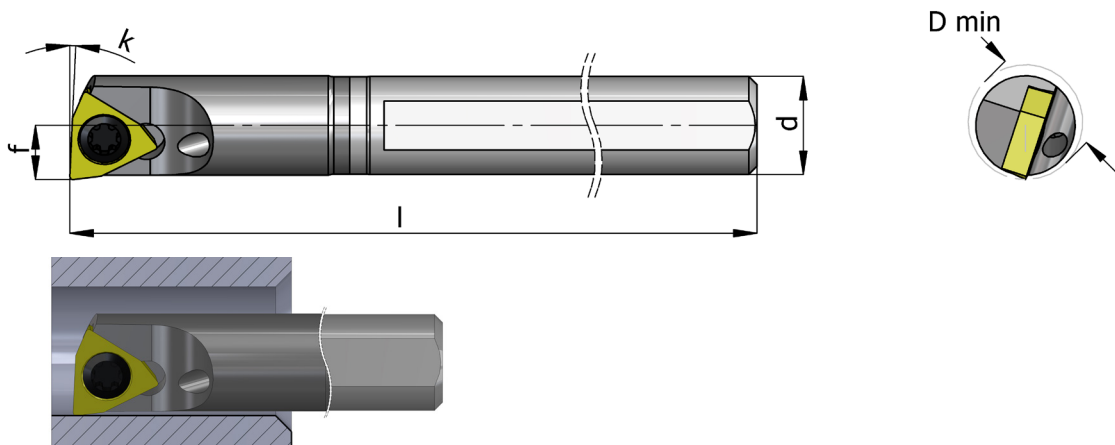
Contents:	Page:	Contents:	Page:
Carbide Shank Turning Toolholder	2	Boring bar, SDUCR/L type Lead angle $k=3^\circ$	4
Boring bar, SWUBR/L type Lead angle $k=3^\circ$ and Inserts	2	Boring bar, STFPR/L type Lead angle $k=1^\circ$	5
Boring bar, SCLCR/L type Lead angle $k=5^\circ$	3		

## Carbide Shank Turning Toolholder

High performance Carbide Shank turning toolholders for internal machining from 6 mm (.236") minimum diameter and larger.

- Unique Carbide type for high rigidity
- Cylindrical shank
- Internal coolant supply to the cutting edge
- Screw clamping design

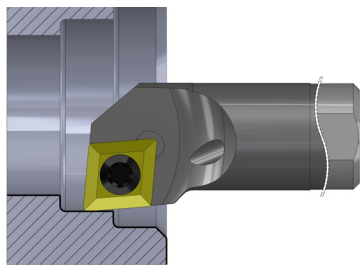
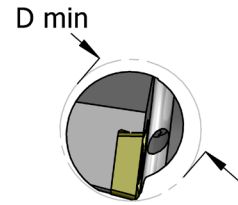
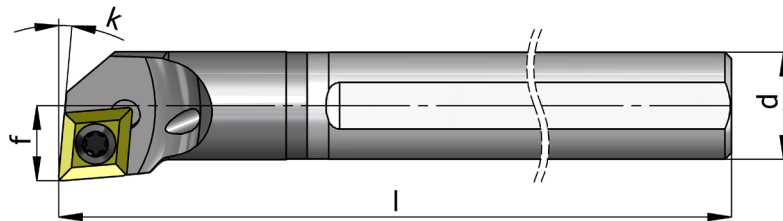
### Boring bar, SWUBR/L type Lead angle $k=3^\circ$ and Inserts



Ordering Code	R. Hand L. Hand	d	Min Bore Dia	l	f	k	Insert Screw	Torx Key	Insert
<b>E06H SWUBR-06</b> <i>*(SIR 0006 H06CT)</i>	R	6	6.5	100	3.2	3°	S06	K06	WBMT 06 01 02L <i>*(06 IR TURN BMA)</i>
<b>E06H SWUBL-06</b>	L	6	6.5	100	3.2	3°	S06	K06	WBMT 06 01 02R <i>*(06 IL TURN BMA)</i>
<b>E08K SWUBR-06</b> <i>*(SIR 0008 K06CT)</i>	R	8	8.6	125	4.2	3°	S06	K06	WBMT 06 01 02L <i>*(06 IR TURN BMA)</i>
<b>E08K SWUBL-06</b>	L	8	8.6	125	4.2	3°	S06	K06	WBMT 06 01 02R <i>*(06 IL TURN BMA)</i>
<b>E10M SWUBR-06</b> <i>*(SIR 0010 M06CT)</i>	R	10	11.0	150	5.5	3°	S06	K06	WBMT 06 01 02L <i>*(06 IR TURN BMA)</i>
<b>E10M SWUBL-06</b>	L	10	11.0	150	5.5	3°	S06	K06	WBMT 06 01 02R <i>*(06 IL TURN BMA)</i>

\*Old item description

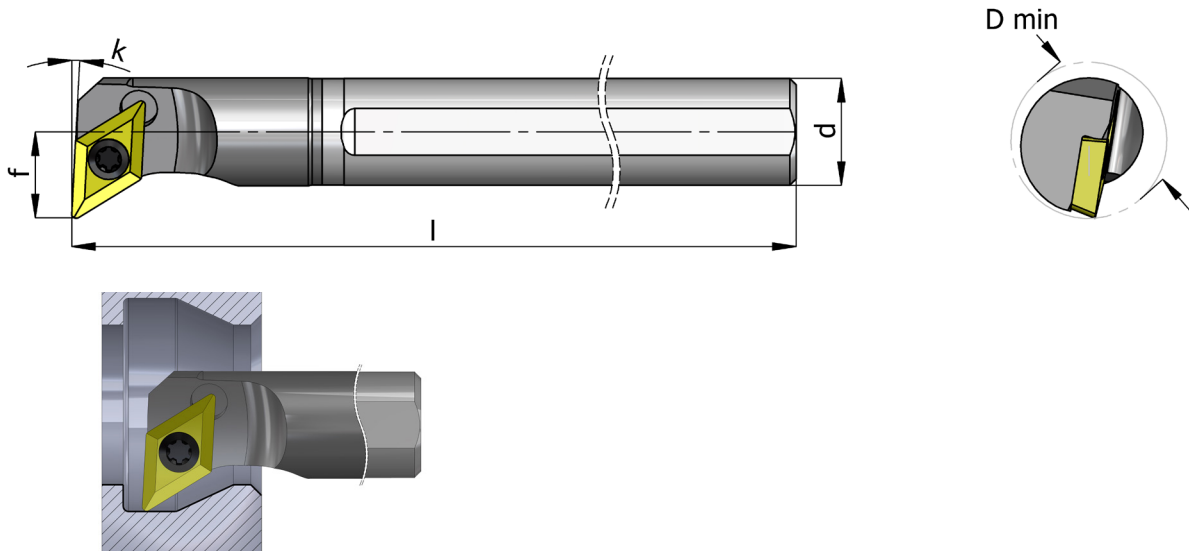
## Boring bar, SCLCR/L type Lead angle $k=5^\circ$



Ordering Code	R. Hand L. Hand	d	Min Bore Dia	l	f	k	Insert Screw	Torx Key	Insert*
<b>E08K SCLCR-06</b>	R	8	10.0	125	4.9	5°	S09	K07	CCMT 06 02 04
<b>E08K SCLCL-06</b>	L	8	10.0	125	4.9	5°	S09	K07	CCMT 06 02 04
<b>E10M SCLCR-06</b>	R	10	14.0	150	6.9	5°	S09	K07	CCMT 06 02 04
<b>E10M SCLCL-06</b>	L	10	14.0	150	6.9	5°	S09	K07	CCMT 06 02 04
<b>E12P SCLCR-06</b>	R	12	16.0	170	8.9	5°	S09	K07	CCMT 06 02 04
<b>E12P SCLCL-06</b>	L	12	16.0	170	8.9	5°	S09	K07	CCMT 06 02 04
<b>E16R SCLCR-06</b>	R	16	20.0	200	10.9	5°	S09	K07	CCMT 06 02 04
<b>E16R SCLCL-06</b>	L	16	20.0	200	10.9	5°	S09	K07	CCMT 06 02 04
<b>E16R SCLCR-09</b>	R	16	20.0	200	10.9	5°	S20	K22	CCMT 09 T3 08
<b>E16R SCLCL-09</b>	L	16	20.0	200	10.9	5°	S20	K22	CCMT 09 T3 08

\*CPT doesn't offer the inserts

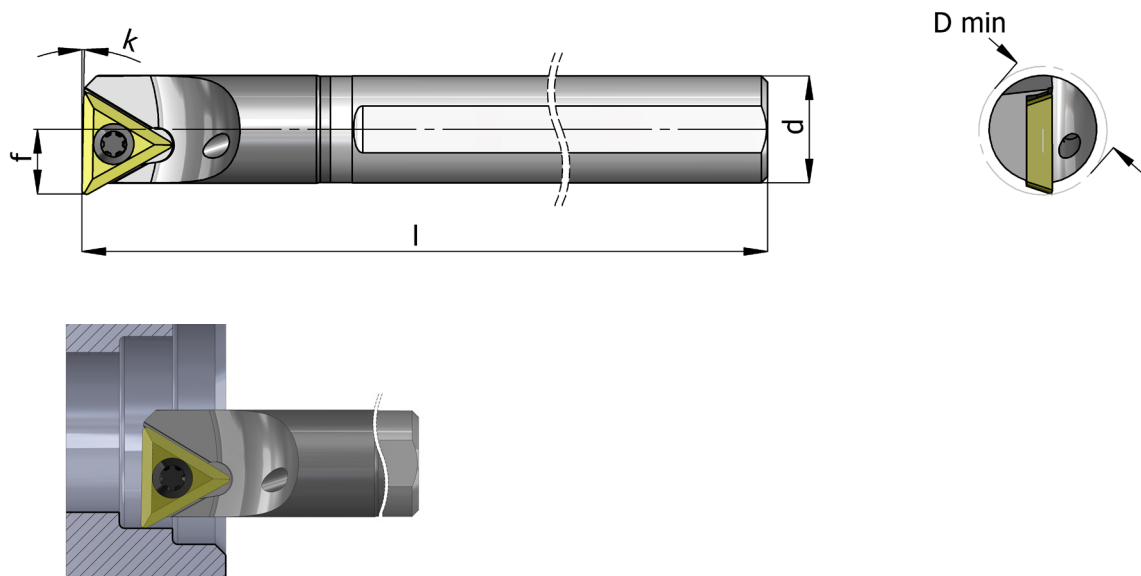
## Boring bar, SDUCR/L type Lead angle $k=3^\circ$



Ordering Code	R. Hand L. Hand	d	Min Bore Dia	l	f	k	Insert Screw	Torx Key	Insert*
<b>E10M SDUCR-07</b>	R	10	14.0	150	7.9	3°	S09	K07	DCMT 07 02 04
<b>E10M SDUCL-07</b>	L	10	14.0	150	7.9	3°	S09	K07	DCMT 07 02 04
<b>E12P SDUCR-07</b>	R	12	16.0	170	8.9	3°	S09	K07	DCMT 07 02 04
<b>E12P SDUCL-07</b>	L	12	16.0	170	8.9	3°	S09	K07	DCMT 07 02 04
<b>E16R SDUCR-07</b>	R	16	20.0	200	10.9	3°	S09	K07	DCMT 07 02 04
<b>E16R SDUCL-07</b>	L	16	20.0	200	10.9	3°	S09	K07	DCMT 07 02 04

\*CPT doesn't offer the inserts

## Boring bar, *STFPR/L type* Lead angle $k=1^\circ$



Ordering Code	R. Hand L. Hand	d	Min Bore Dia	l	f	k	Insert Screw	Torx Key	Insert*
<b>E10M STFPR-11</b>	R	10	11.0	150	5.9	1°	S18	K07	TPGB 11 03 04
<b>E10M STFPL-11</b>	L	10	11.0	150	5.9	1°	S18	K07	TPGB 11 03 04
<b>E12P STFPR-11</b>	R	12	14.0	170	6.9	1°	S18	K07	TPGB 11 03 04
<b>E12P STFPL-11</b>	L	12	14.0	170	6.9	1°	S18	K07	TPGB 11 03 04

\*CPT doesn't offer the inserts







Demonstration

## For Perfect Long Threads on Swiss Type Machines

- Single pass working ability reduces machining time and increases productivity
- A high accuracy Holder-Insert system along with special cutting edge geometry leads to a high quality surface finish
- Multi-Insert holders reduce cycle time and increase tool life
- Whirling toolholders consist of 6 to 8 inserts
- Whirling inserts consist of three cutting edges with high indexability
- Whirling inserts can produce single or double start threads in one pass

### Contents:

Thread Whirling Advantages  
Applications  
Product Identification

Page:

2  
2  
3

### Contents:

Case Study  
Specials

Page:

4  
4

**Thread Whirling** is a fast and an accurate way to thread long, small diameter parts in exotic materials such as titanium, stainless steel and inconel.

Cutting is the result of the whirling ring rotating eccentrically at high speed about the slowly rotating workpiece. The advancement of the workpiece rotationally and the advancement of the tool head longitudinally correspond to the thread pitch required.

## Advantages

Thread Whirling offers several advantages over single point threading:

Enables production of small diameter long threads when used on Swiss type machines. The thread whirling spindle works close to the guide bushing for increased support and rigidity.

### Increased Productivity

Thread Whirling is performed in a single pass, resulting in a shorter machining time.

This eliminates multiple passes required for a single point threading.

Thread whirling allows working at high feed rates and consequently results in short cycle times.

### Very high surface quality and accurate geometry

The use of 6 to 8 cutting edges, higher concentricity, special cutting edge geometry and ideal chip removal, enable top quality surfaces to be produced without burrs.

### Long tool life

Whirling inserts have a stronger cutting edge than single point tools, since cutter side clearance is achieved by rotating the whirling spindle, not by relieving material under the cutting edge.

### Faster Setup

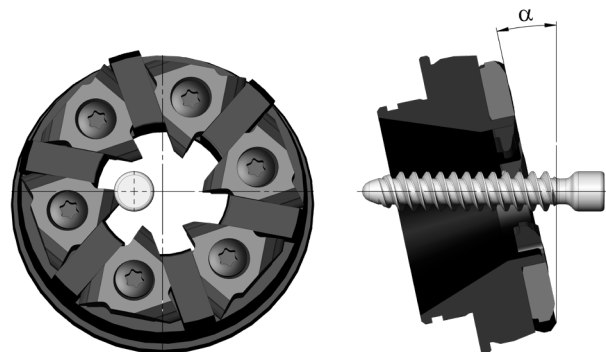
Thread whirling eliminates special support devices and expensive startup development costs.

### Compensation of large helix angles

Large helix angles can be compensated by adjusting the whirling unit.

### Short Delivery Time

Up to 3 weeks.



## Applications

CPT supports and offers high quality Thread Whirling tools for a wide range of applications, such as: Bone screws, Dental implants, Orthopedic screws, automotive parts, semiconductor small parts, etc.

CPT holds in stock thread whirling holders that are compatible with all

**Swiss Type machines** such as STAR, Citizen, Tornos, Hanwha, Tsugami, Nexturn, and **Whirling units** as PCM, WTO, H&F, MADAULA, etc.

**Machine** details and **Whirling unit** details are needed in order to offer a suitable toolholder.

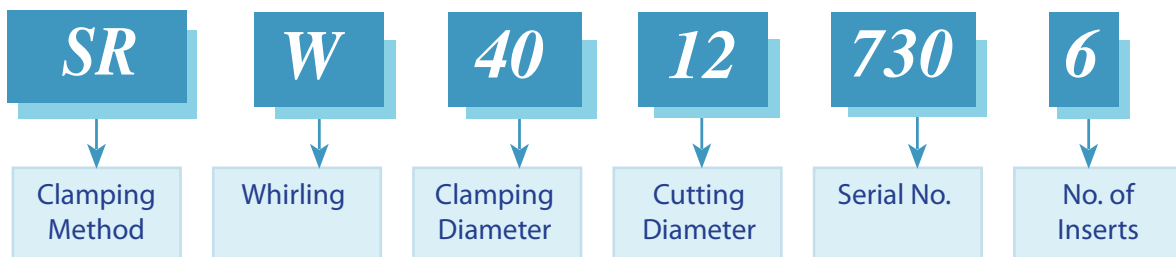
Machine		Whirling Unit	Whirling Holder Ordering Code	Z	D	d1	Insert Size
Type	Model						
Star	SR20 / ECAS20	Star	SRW4012 730 - 6	6	12	40	18W
			SRW4012 425 - 8	8			11W
	SR20 / ECAS20	WTO	SRW4295 557 - 6	6	9.5	42	18W
			SRW4212 717 - 8	8	12	42	11W
Citizen	M20 / M32	PCM	SRW4512 719 - 6	6	12	45	18W
			SRW4512 427 - 8	8			11W

\* The above table serves as an example.

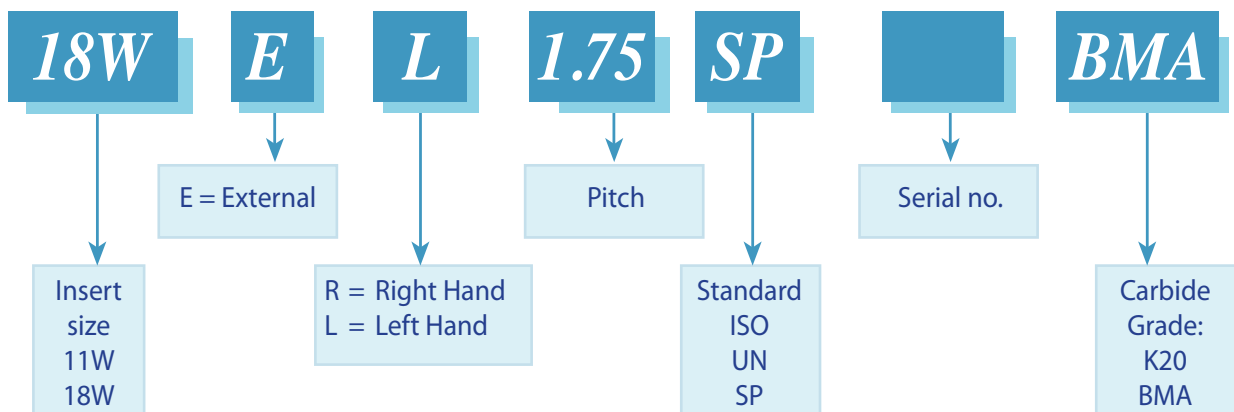


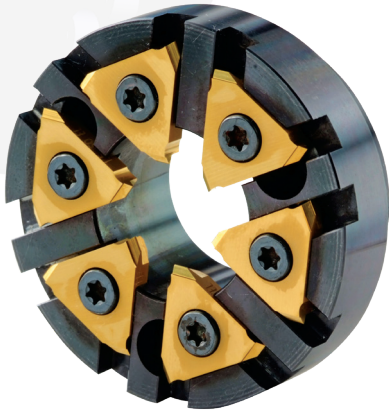
## Product Identification - Ordering Codes

### Toolholders



### Inserts





## Case Study

Machine:	STAR SR20
Whirling unit:	STAR
Application:	Dental Implant
Material:	Ti-6Al-4V ELI
CPT holder:	SRW4012 730-6
Vc [m/min]:	65
Tooth load [mm/tooth]:	0.03
No. of parts:	25,000 +



## SPECIALS ARE OUR SPECIALTY

CPT produce special tools in accordance with the customer's requirements

