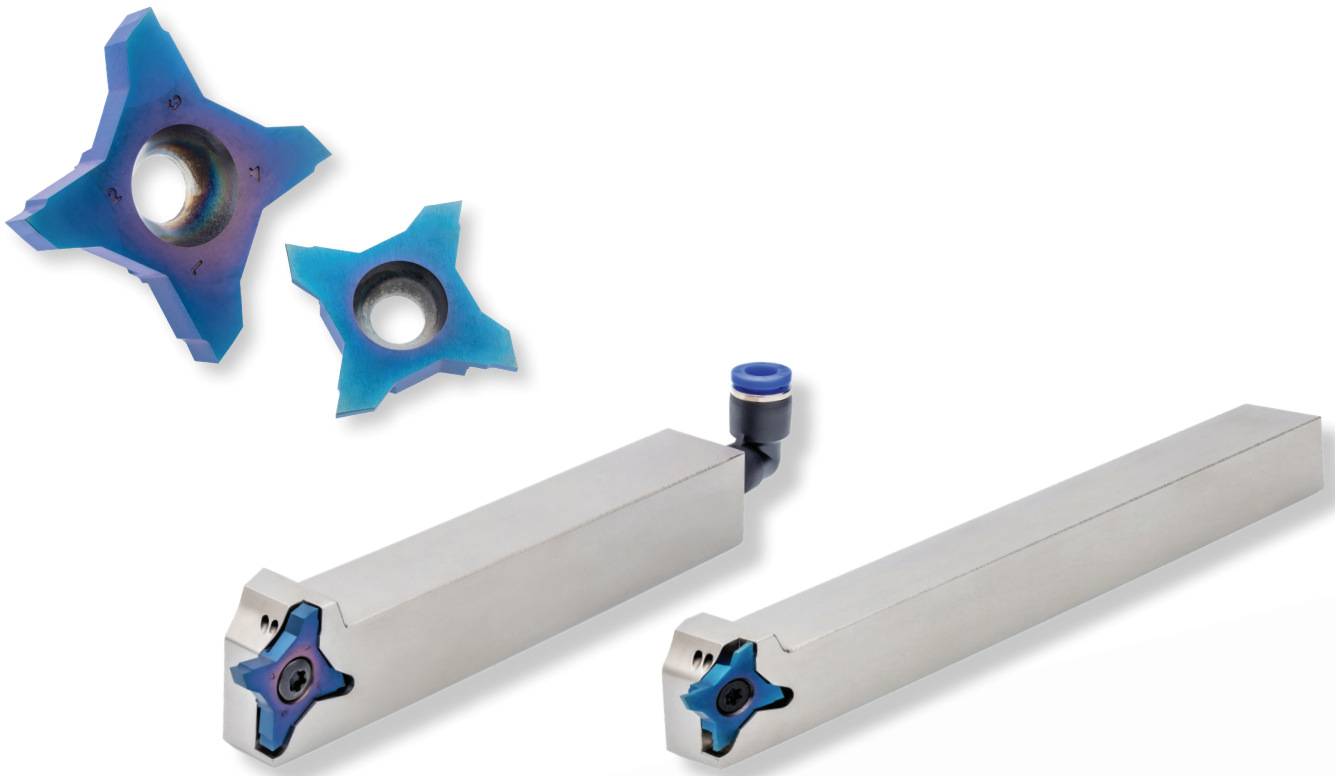


# Swiss-Line G4



# 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
- Coated holders provide abrasive resistance.

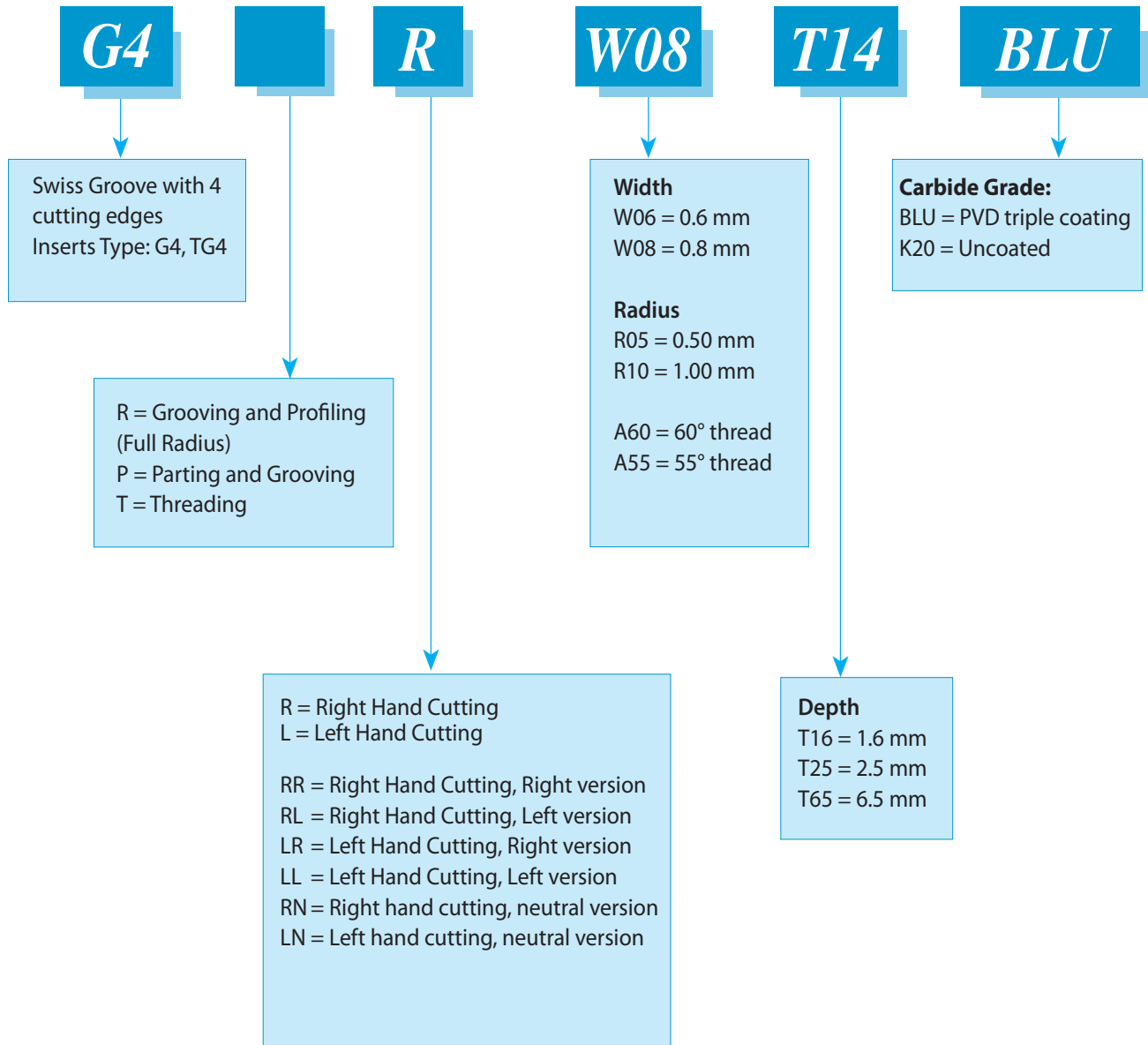
## Application

- 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 100mm diameter.

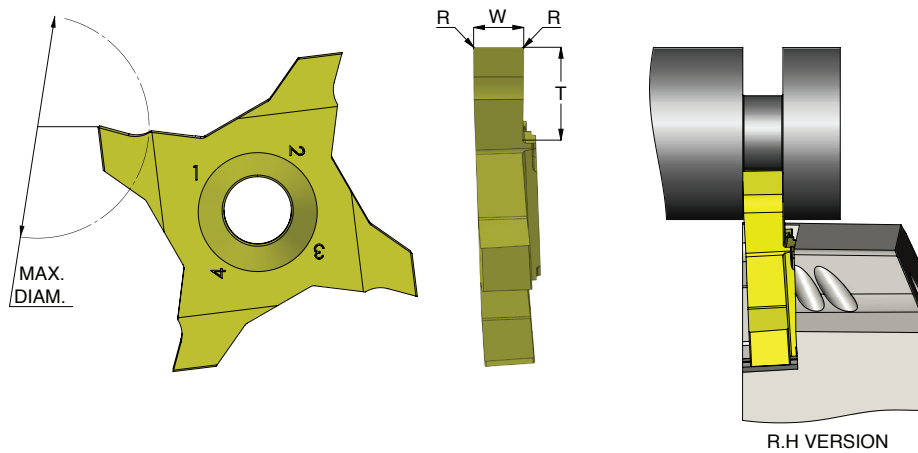
Carbide grades: BLU, K20

## Product Identification - Ordering Codes

### G4 Inserts



## Grooving

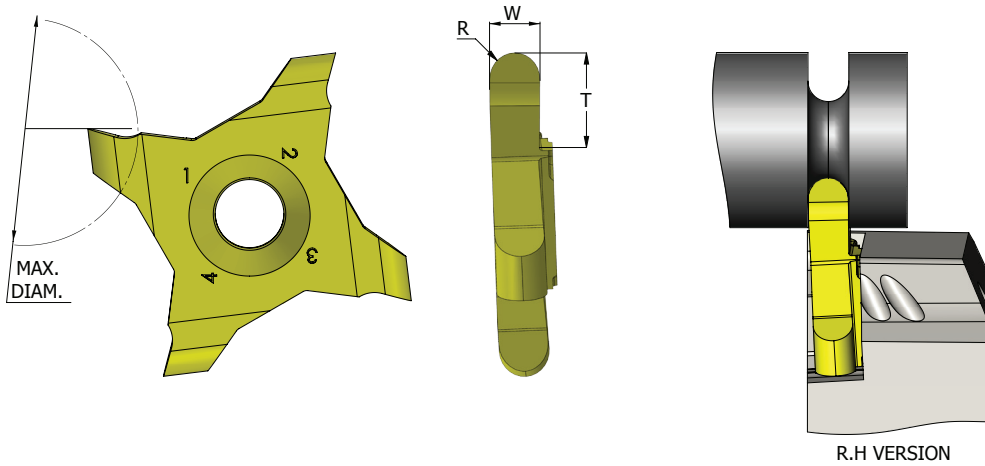


Insert Type	Ordering Code	W±0.02	T max	R	max DIAM.	Feed mm/rev
G4	<b>G4 R W05 T16</b>	0.5	1.6	0	100	0.01-0.06
	<b>G4 R W06 T16</b>	0.6	1.6	0	100	0.01-0.06
	<b>G4 R W07 T18</b>	0.7	1.8	0	100	0.01-0.06
	<b>G4 R W08 T20</b>	0.8	2.0	0	100	0.02-0.07
	<b>G4 R W10 T25</b>	1.0	2.5	0.05	100	0.02-0.09
	<b>G4 R 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)

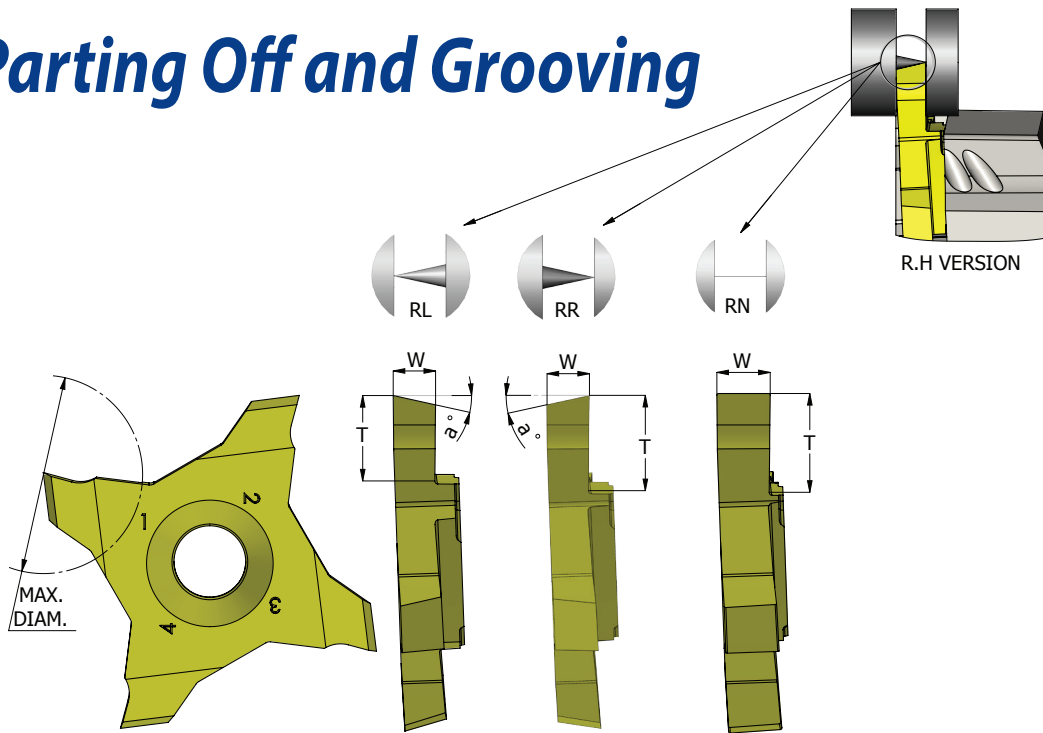


Insert Type	Ordering Code	R $\pm$ 0.03	W	T max	max DIAM.	Feed mm/rev
G4	<b>G4R R R02 T15</b>	0.25	0.5	1.5	100	0.01-0.06
	<b>G4R R R04 T20</b>	0.40	0.8	2.0	100	0.01-0.06
	<b>G4R R R05 T25</b>	0.50	1.0	2.5	100	0.02-0.09
	<b>G4R R R07 T38</b>	0.75	1.5	3.8	100	0.02-0.09
	<b>G4R R R10 T45</b>	1.00	2.0	4.5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

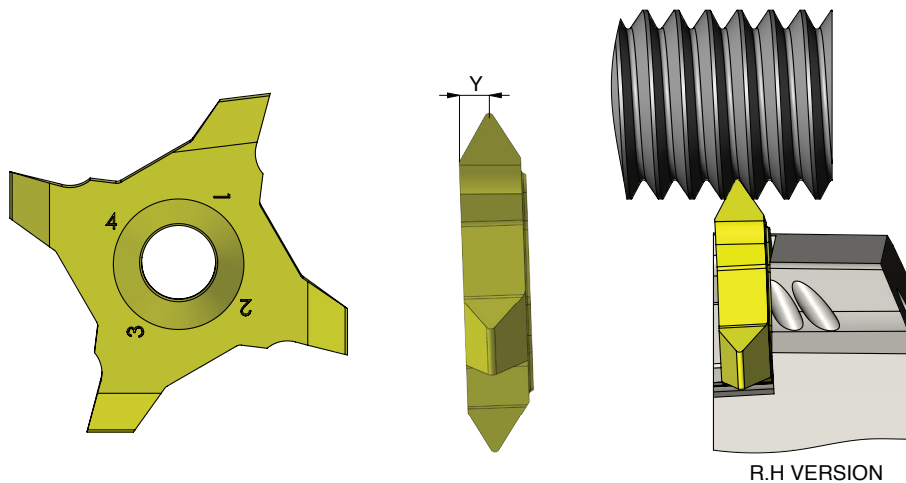


Insert Type	Ordering Code	W	$\alpha^\circ$	T max	max DIAM. Parting off	max DIAM. Grooving	Feed mm/rev
G4	G4P RR W05 T30	0.5	15	3.0	6.0	100	0.02-0.06
	G4P RL W05 T30	0.5	15	3.0	6.0	100	0.02-0.06
	G4P RN W05 T30	0.5	0	3.0	6.0	100	0.02-0.06
	G4P RR W07 T43	0.7	15	4.3	8.0	100	0.02-0.09
	G4P RL W07 T43	0.7	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

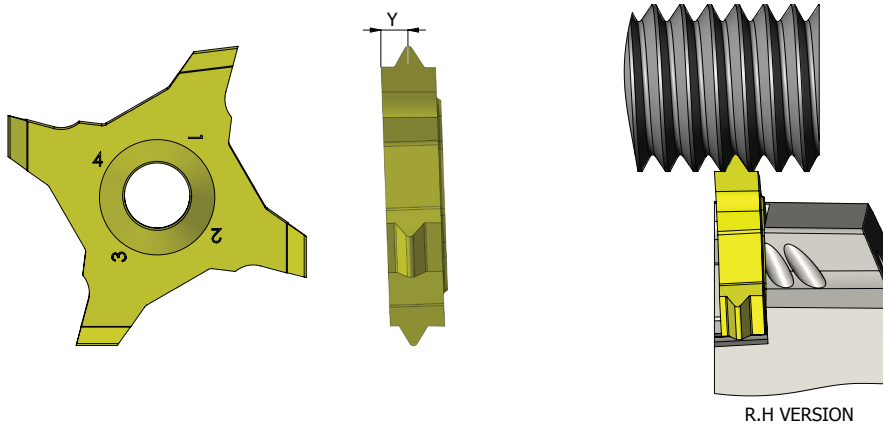
For L.H, specify G4T L instead of G4T R

## 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



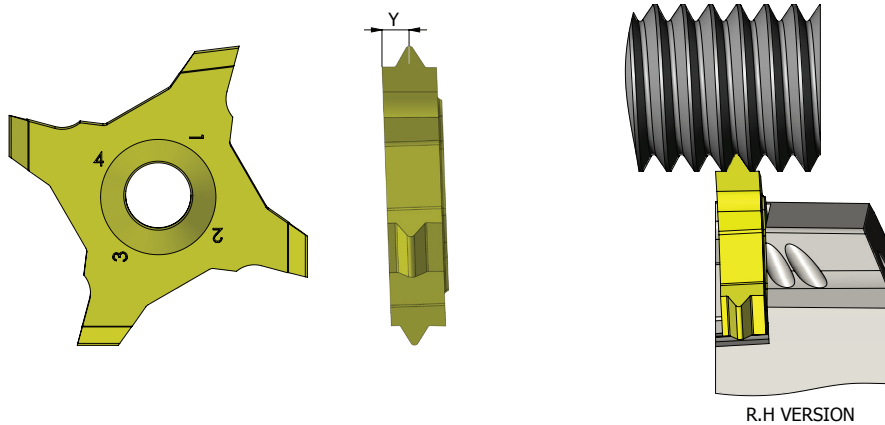
Insert Type	Ordering Code	Pitch mm	Y
G4	<b>G4T R 0.5ISO</b>	0.5	0.6
	<b>G4T R 0.6ISO</b>	0.6	0.6
	<b>G4T R 0.7ISO</b>	0.7	0.7
	<b>G4T R 0.75ISO</b>	0.75	0.7
	<b>G4T R 0.8ISO</b>	0.8	0.7
	<b>G4T R 1.0ISO</b>	1.0	0.8
	<b>G4T R 1.25ISO</b>	1.25	1.0
	<b>G4T R 1.5ISO</b>	1.5	1.1
TG4	<b>TG4T R 1.75ISO</b>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

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

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



## Threading-UN unified 60° Full Profile



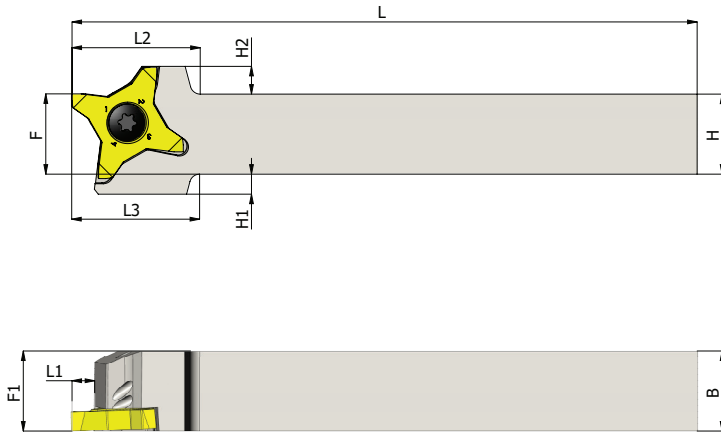
Insert Type	Ordering Code	Pitch TPI	Y
G4	G4T R 72UN	72	0.3
	G4T R 64UN	64	0.4
	G4T R 56UN	56	0.6
	G4T R 40UN	40	0.7
	G4T R 32UN	32	0.7
	G4T R 28UN	28	0.8
	G4T R 24UN	24	0.8
	G4T R 20UN	20	0.9
	G4T R 18UN	18	1.0
	TG4	TG4T R 16UN	16
TG4T R 14UN		14	1.2
TG4T R 13UN		13	1.3
TG4T R 12UN		12	1.4

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

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

# External Toolholders

Coated holders provide high abrasive resistance



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 Left Hand:

specify G4EL...instead of G4ER...

specify TG4EL...instead of TG4ER...

## 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



1 Hacharoshet St., Maalot Industrial Zone 2101805, Israel  
Tel: (972) 4-9077400, Fax: (972) 4-9077440  
E-mail: [info@carmex.com](mailto:info@carmex.com) Website: [carmex.com](http://carmex.com)  
Postal address: P.O. Box 404, Maalot 2101302, Israel

