



Carmex
Precision Tools Ltd.

Swiss Line

New Products



Inch 2017

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Polygon Swiss Line

Carmex extends the Swiss Line range by offering a new type of polygon inserts and tool holders for external turning, grooving, parting and threading on Swiss-Type machines. Dedicated especially for small parts machining.



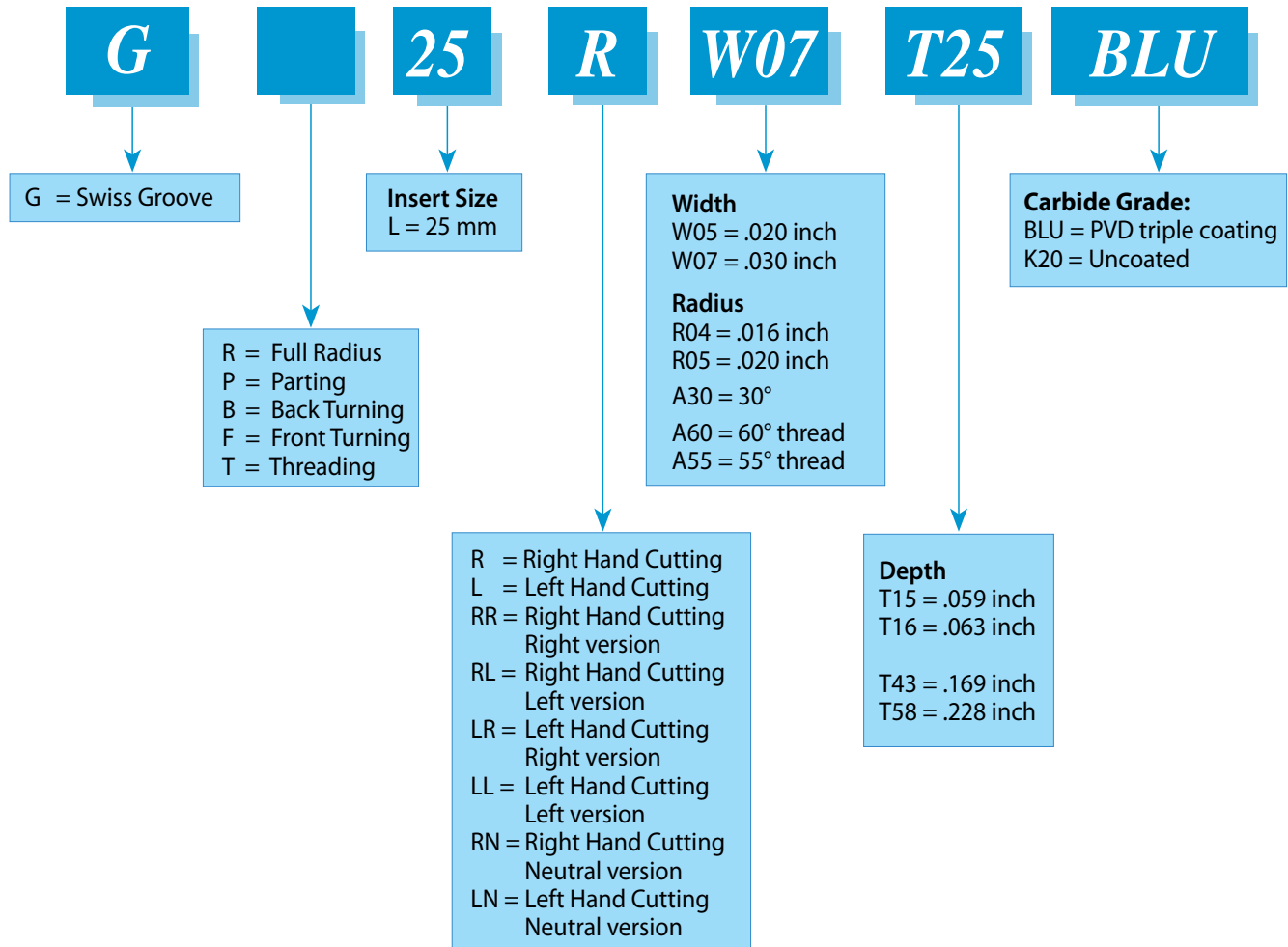
Features

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

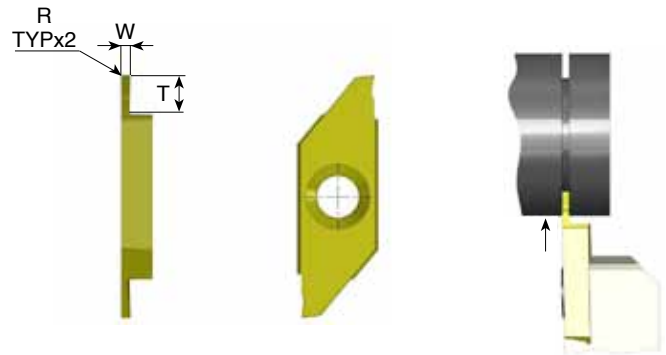
Carbide grade: BLU, K20

Product Identification

Polygon Inserts



Grooving



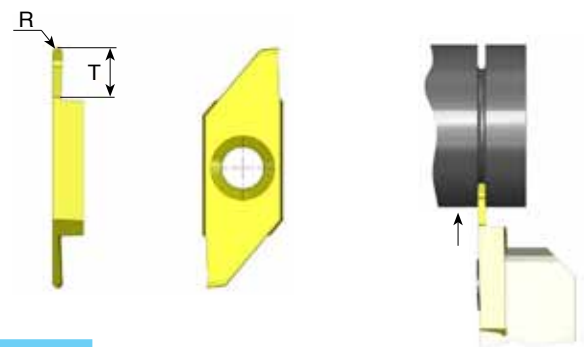
Right hand cutting

Ordering Code	W \pm .001	T max	R	Feed Inch/rev
G25 R W05 T15	.020	.059	0	.0004-.002
G25 R W07 T25	.030	.098	0	.0008-.003
G25 R W10 T27	.039	.106	.002	.0008-.004
G25 R W12 T30	.047	.118	.002	.0008-.004
G25 R W15 T38	.059	.150	.002	.0008-.005
G25 R W20 T38	.079	.150	.002	.0008-.005
G25 R W25 T38	.098	.150	.002	.0008-.006

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

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

Grooving and Profiling (full radius)



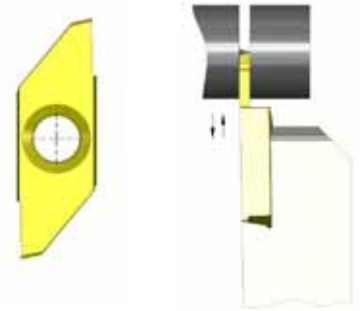
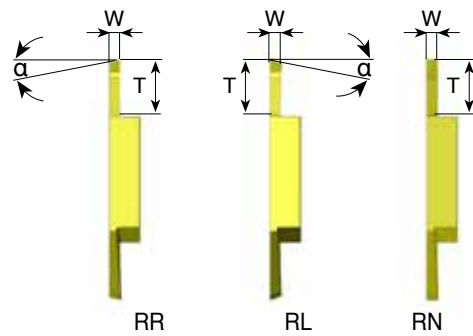
Right hand cutting

Ordering Code	R \pm .001	T max	Feed Inch/rev
GR25 R R02 T15	.010	.059	.0004-.002
GR25 R R04 T25	.016	.098	.0004-.003
GR25 R R05 T27	.020	.106	.0004-.004

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

● First choice ○ Alternative

Parting Off



Right hand cutting

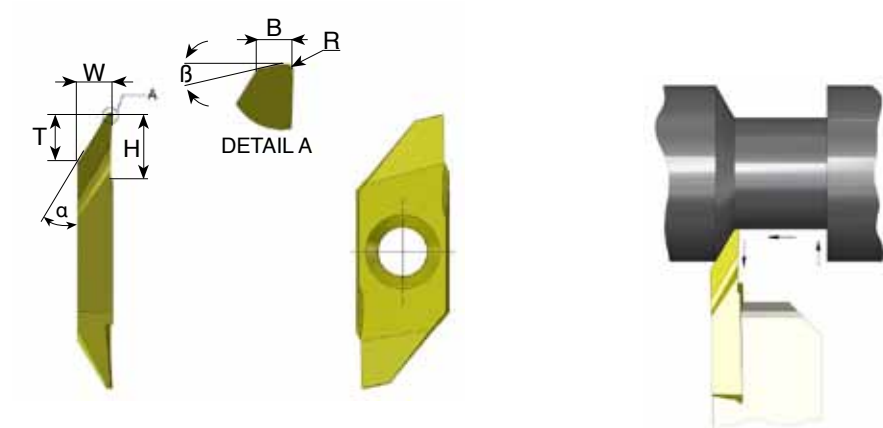
Ordering Code	W	α°	T max	Feed Inch/rev
GP25 RR W07 T43	.028	15	.169	.0008-.003
GP25 RL W07 T43	.028	15	.169	.0008-.003
GP25 RN W07 T43	.028	0	.169	.0008-.003
GP25 RR W15 T58	.059	15	.228	.0008-.005
GP25 RL W15 T58	.059	15	.228	.0008-.005
GP25 RN W15 T58	.059	0	.228	.0008-.005
GP25 RR W20 T58	.079	15	.228	.0008-.005
GP25 RL W20 T58	.079	15	.228	.0008-.005
GP25 RN W20 T58	.079	0	.228	.0008-.005
GP25 RR W25 T58	.098	15	.228	.002-.005
GP25 RL W25 T58	.098	15	.228	.002-.005
GP25 RN W25 T58	.098	0	.228	.002-.005

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

* 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

Back Turning



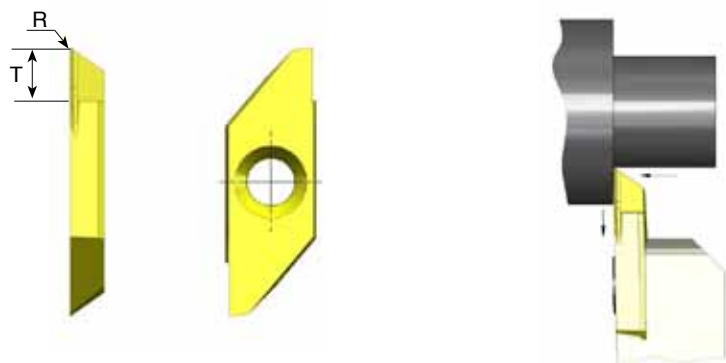
Right hand cutting

Ordering Code	α°	β°	R	W	T _{max}	B	H	Feed Inch/rev
GB25 R A30 R03	30	15	.001	.118	.157	.020	.315	.002-.005
GB25 R A30 R10	30	15	.004	.118	.157	.020	.315	.002-.005

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

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

Front Turning



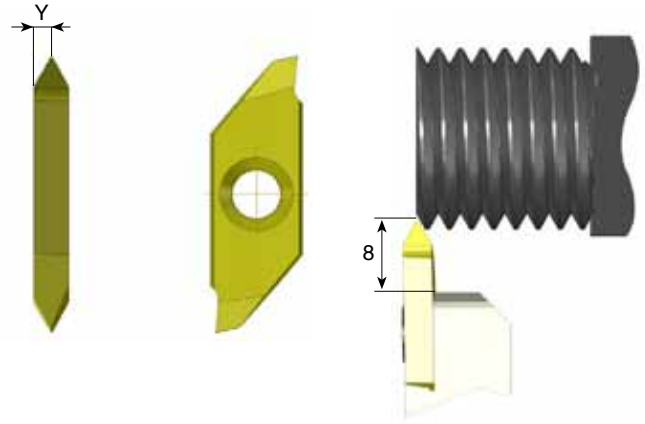
Right hand cutting

Ordering Code	T _{max}	R	Feed Inch/rev
GF25 R T40	.157	.002	.002-.005

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

- First choice
- Alternative

Threading - Partial Profile 60°



Right hand cutting

Ordering Code	Pitch Range		Y
	mm	TPI	
GT25 R A60	0.25-0.8	100-32	.028
GT25 R G60	1.0-3.0	24-8	.063

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

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

Threading - Partial Profile 55°

Right hand cutting

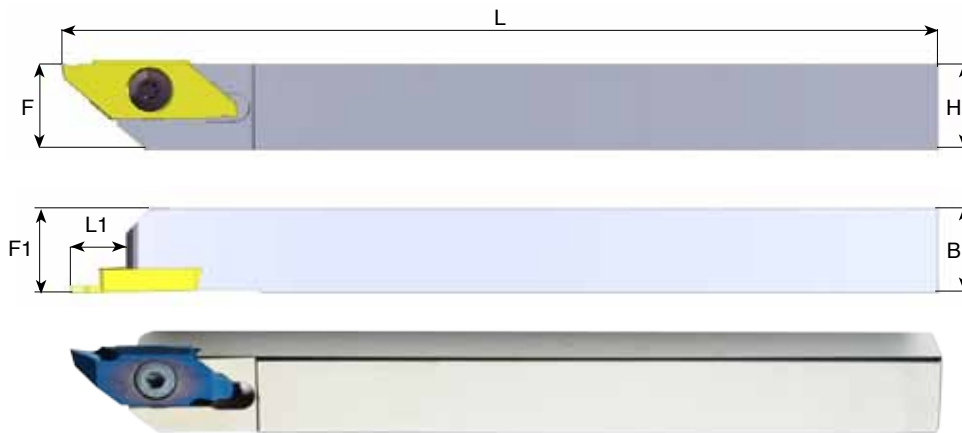
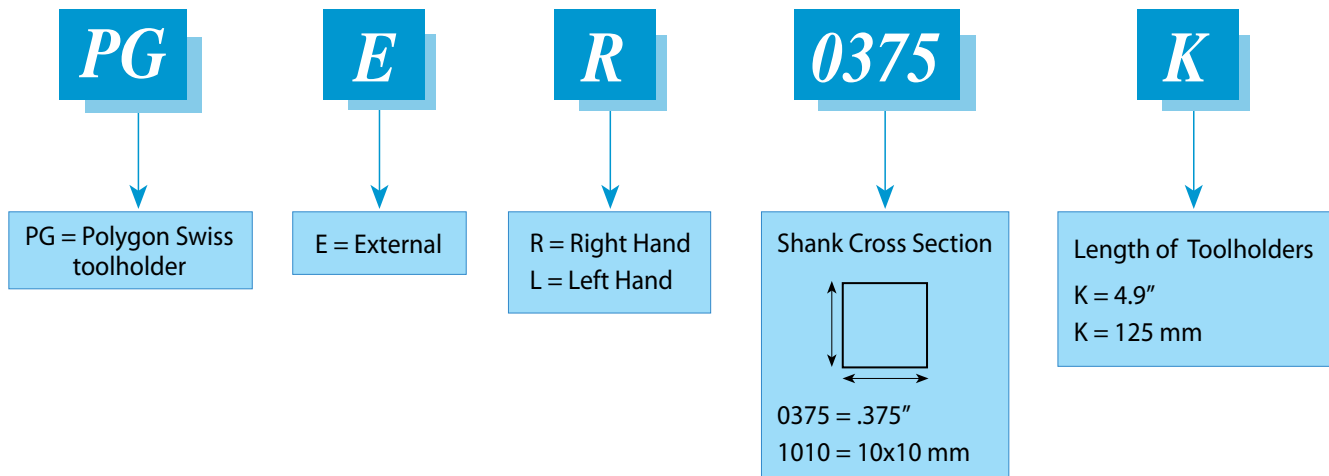
Ordering Code	Pitch Range		Y
	mm	TPI	
GT25 R A55	0.5-1.5	48-16	.039
GT25 R G55	1.75-3.0	14-8	.063

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

● First choice ○ Alternative

External Toolholders - Polygon

Product Identification



Right hand - Inch Holders

Ordering Code	B	H	L1	L	F	F1	Insert Screw Torx +	Key Torx +
PGER 0375 K	.375	.375	.31	4.9	.38	.38	S26P	K11P
PGER 0500 K	.500	.500	.31	4.9	.50	.50	S26P	K11P
PGER 0625 K	.625	.625	.31	4.9	.63	.63	S26P	K11P

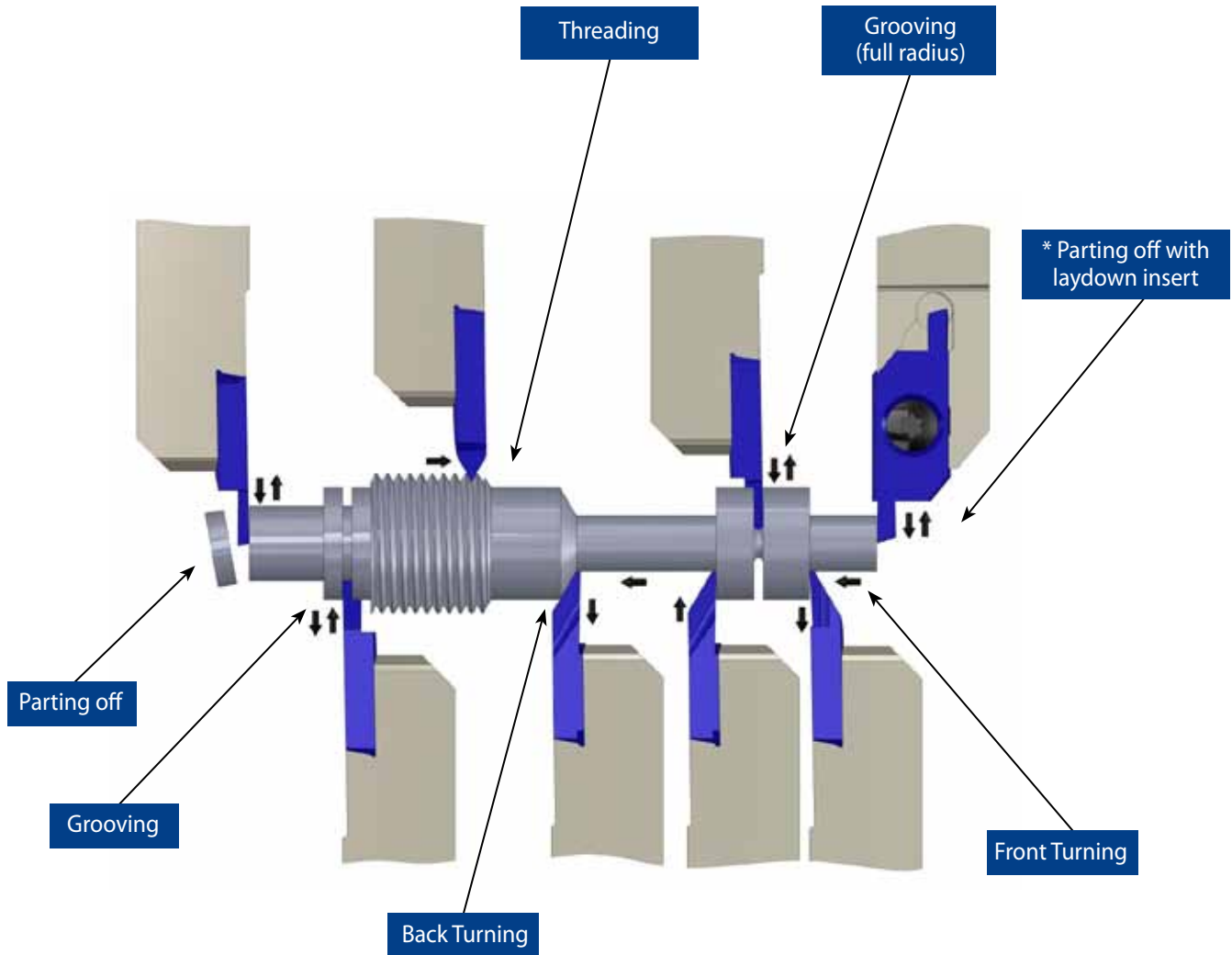
Right hand - Metric Holders

Ordering Code	B	H	L1	L	F	F1	Insert Screw Torx +	Key Torx +
PGER 1010 K	10	10	8	125	10	10	S26P	K11P
PGER 1212 K	12	12	8	125	12	12	S26P	K11P
PGER 1616 K	16	16	8	125	16	16	S26P	K11P

* For L.H, specify **PGEL** instead of **PGER**

Coated holders provides high abrasive resistance

Working method



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

Cutting Data

Polygon Swiss Line

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.

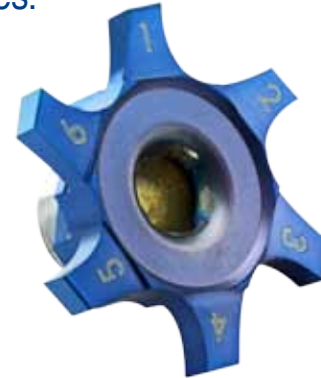
ISO Standard	Material	Cutting Speed ft/min	
		K20	BLU
P	Low and Medium Carbon Steels <0.55%C	-	260-490
	High Carbon Steels ≥0.55%C	-	230-395
	Alloy Steels, Treated Steels	-	130-260
M	Stainless Steel-Free Cutting	100-260	200-395
	Stainless Steel-Austenitic	65-230	100-295
	Cast Steels	100-260	165-395
K	Cast Iron	165-395	200-490
N	Aluminum ≤12%Si, Copper	395-820	-
	Aluminum >12%Si	295-656	-
	Synthetics, Duroplastics, Thermoplastics	230-490	-
S	Nickel Alloys, Titanium Alloys.	65-165	100-230
H	Hardened Steel, ≤45 HRc	-	65-165

6 Cutting Edges Turning Insert - G6

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.

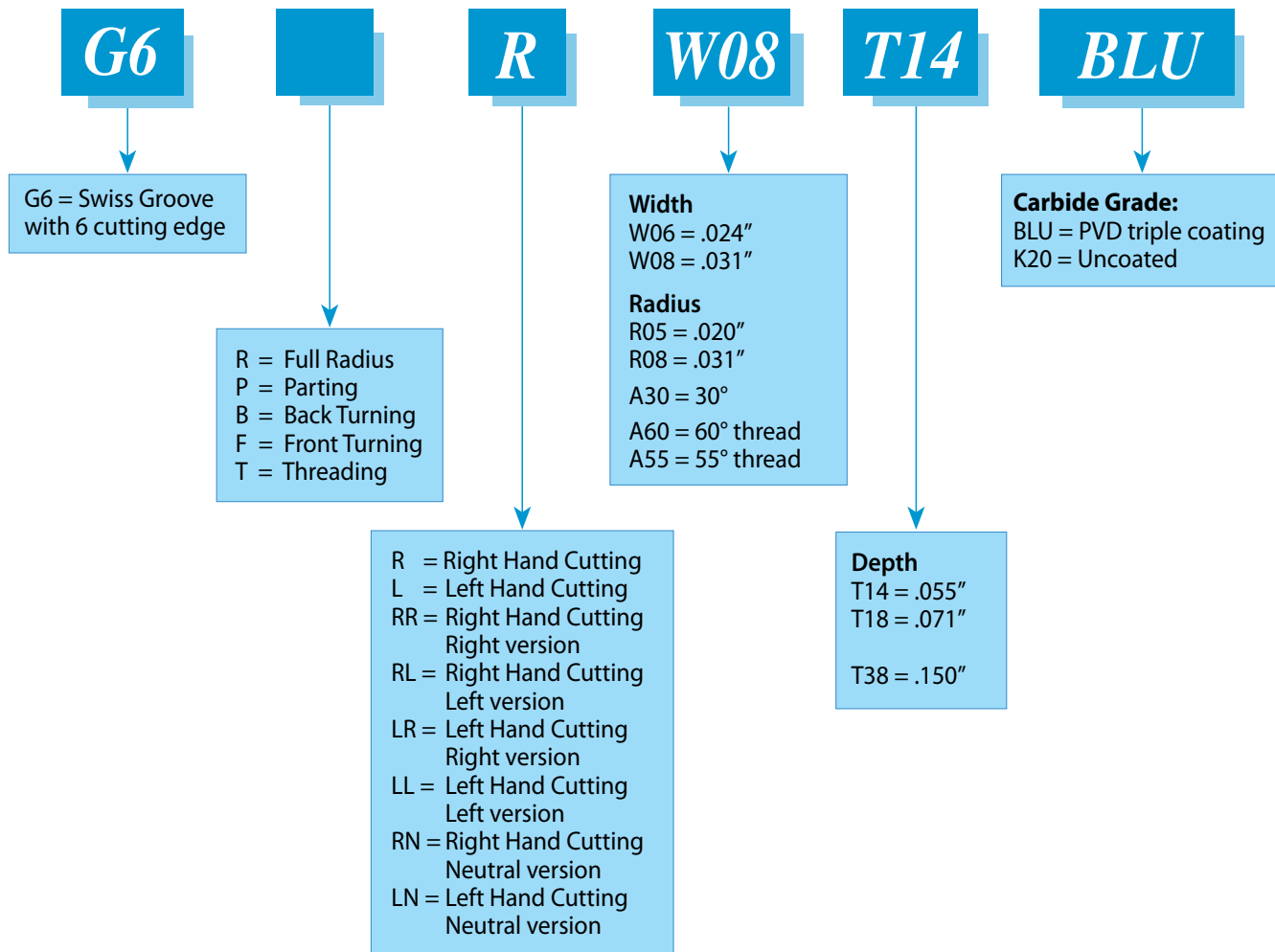
Application

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

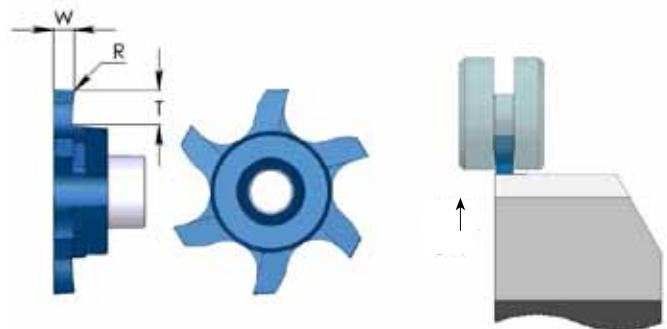
Carbide grade: BLU, K20.

Product Identification

G6 Inserts



Grooving



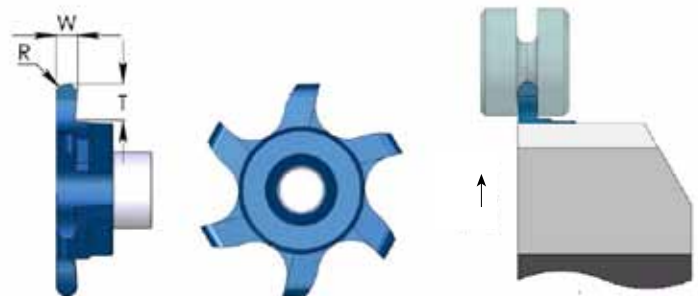
Right hand cutting

Ordering Code	W \pm .001	T max	R	Feed Inch/rev
G6 R W06 T11	.024	.043	0	.0004-.002
G6 R W08 T14	.031	.055	0	.0008-.003
G6 R W10 T18	.039	.071	.002	.0008-.004
G6 R W15 T33	.059	.130	.002	.0008-.005
G6 R W20 T38	.079	.150	.004	.0008-.005
G6 R W25 T38	.098	.150	.004	.0008-.006

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

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

Grooving and Profiling (full radius)



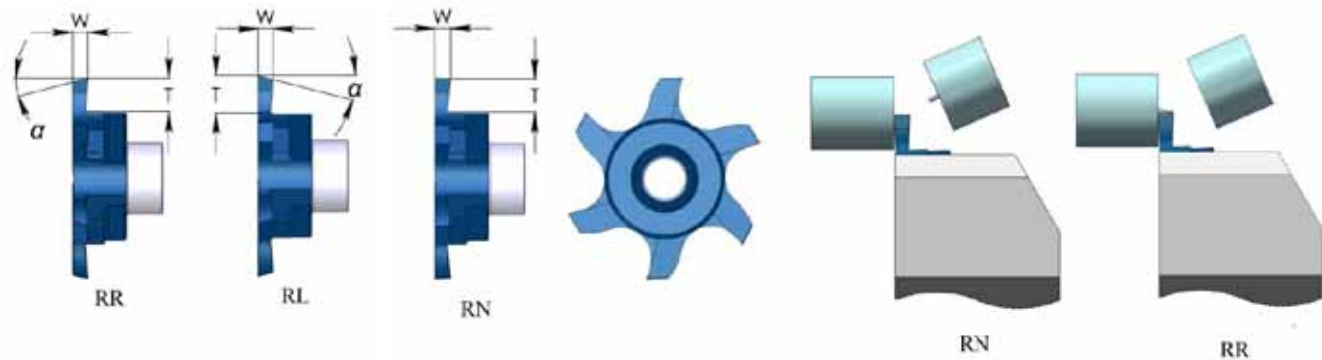
Right hand cutting

Ordering Code	R \pm .001	T max	Feed Inch/rev
G6R R R05 T25	.020	.098	.0008-.004
G6R R R08 T30	.031	.118	.0008-.004
G6R R R10 T38	.039	.150	.0008-.005
G6R R R12 T38	.049	.150	.0008-.006

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

- First choice
- Alternative

Parting Off



Right hand cutting

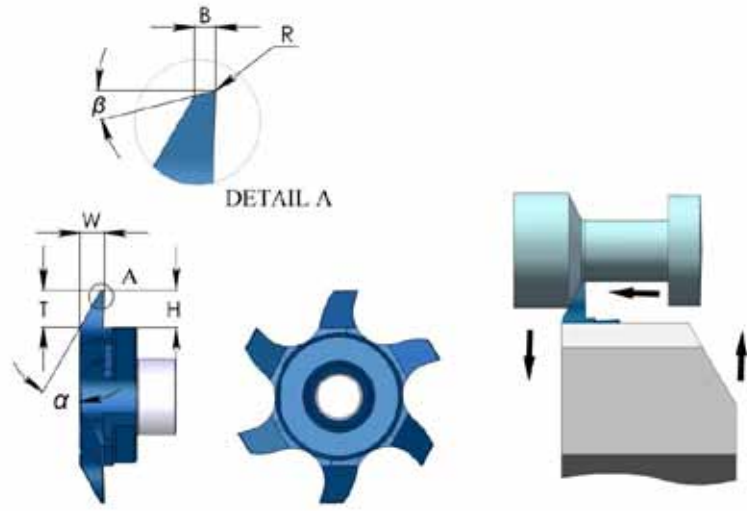
Ordering Code	W	α°	T max	Feed Inch/rev
G6P RR W10 T38	.039	15	.150	.0008-.004
G6P RL W10 T38	.039	15	.150	.0008-.004
G6P RN W10 T38	.039	0	.150	.0008-.004
G6P RR W15 T38	.059	15	.150	.0008-.005
G6P RL W15 T38	.059	15	.150	.0008-.005
G6P RN W15 T38	.059	0	.150	.0008-.005
G6P RR W20 T38	.079	15	.150	.0008-.005
G6P RL W20 T38	.079	15	.150	.0008-.005
G6P RN W20 T38	.079	0	.150	.0008-.005

	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

● First choice ○ Alternative

Back Turning



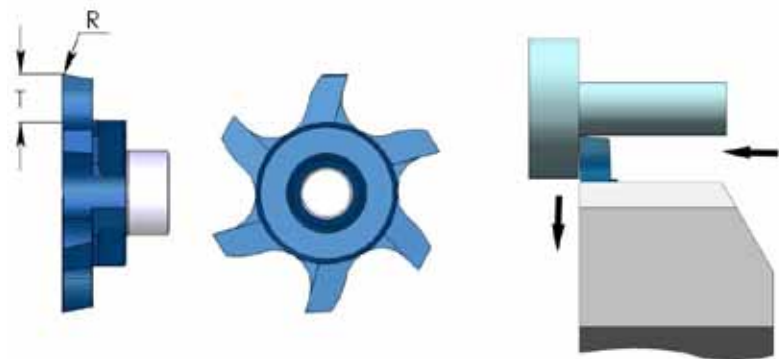
Right hand cutting

Ordering Code	α°	β°	R	W	T _{max}	B	H	Feed Inch/rev
G6B R A30	30	12	.004	.106	.150	.02	.150	.002-.005

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

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

Front Turning



Right hand cutting

Ordering Code	T _{max}	R	Feed Inch/rev
G6F R T38	.150	.004	.002-.005

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

- First choice
- Alternative

Threading - Partial Profile 60°



Right hand cutting

Ordering Code	Pitch Range		Y
	mm	TPI	
G6T R A60	0.5-1.5	48-16	.031
G6T R G60	1.75-3.0	14-8	.059
G6T R AG60	0.5-3.0	48-8	.059

* 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 hand cutting

Ordering Code	Pitch Range		Y
	mm	TPI	
G6T R A55	0.5-1.5	48-16	.031
G6T R G55	1.75-3.0	14-8	.059
G6T R AG55	0.5-3.0	48-8	.059

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

● First choice ○ Alternative

External Toolholders - G6

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. Including a coolant connector for fast attachment on the machine.

Product Identification

G6

E

R

0500

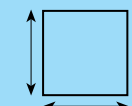
K

G6 = Swiss toolholder

E = External

R = Right Hand
L = Left Hand

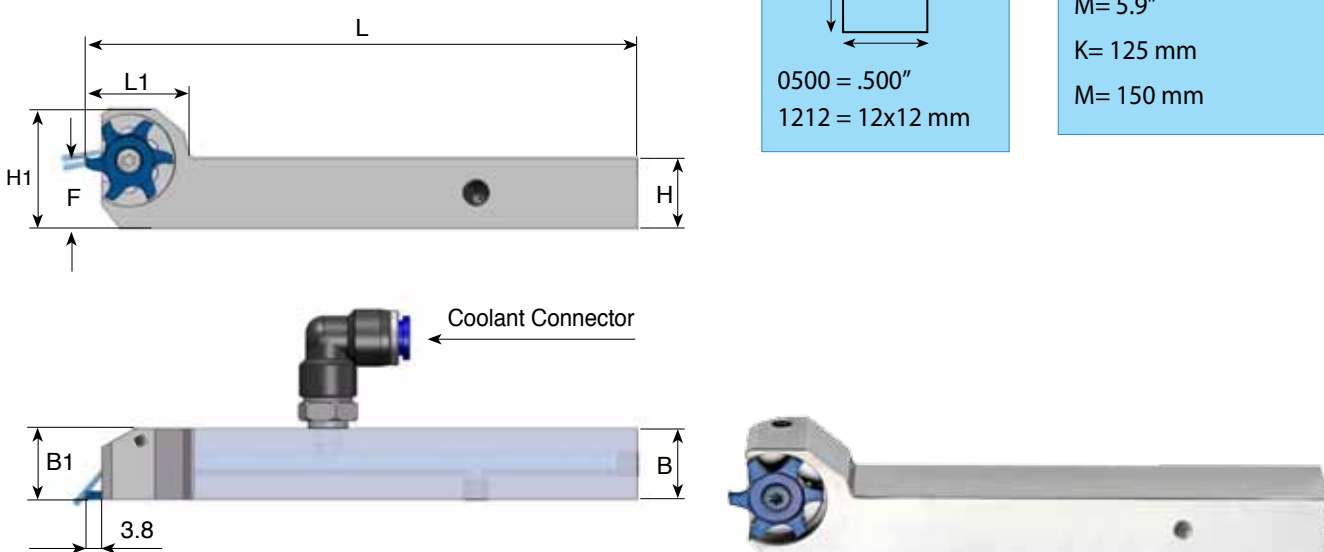
Shank Cross Section



0500 = .500"
1212 = 12x12 mm

Length of Toolholders

K = 4.9"
M = 5.9"
K = 125 mm
M = 150 mm



Right hand – Inch Holders

Ordering Code	B	H	L1	L	H1	F	B1	Insert Screw Torx +	Torx + Key	**Coolant connector (mm)
*G6ER 0500 K	.500	.500	.8	4.9	.9	.500	.63	S16LP	K16P	Ø4 / Ø6
G6ER 0625 K	.625	.625	.8	4.9	1.1	.625	.63	S16LP	K16P	Ø4 / Ø6
G6ER 0750 K	.750	.750	.8	4.9	1.2	.750	.75	S16LP	K16P	Ø4 / Ø6
G6ER 1000 M	1.000	1.000	.8	5.9	1.4	1.000	1.000	S16LP	K16P	Ø4 / Ø6

* Without internal coolant

** Coolant pipe diameter

For L.H, specify G6EL instead of G6ER

Coated holders provides high abrasive resistance

Right hand – Metric Holders

Ordering Code	B	H	L1	L	H1	F	B1	Insert Screw Torx +	Torx + Key	**Coolant connector (mm)
* G6ER 1212 K	12	12	20	125	23	12	16	S16LP	K16P	Ø4 / Ø6
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

* Without internal coolant

** Coolant pipe diameter

For L.H, specify G6EL instead of G6ER

Coated holders provides high abrasive resistance

Cutting Data

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.

ISO Standard	Material	Cutting Speed ft/min	
		K20	BLU
P	Low and Medium Carbon Steels <0.55%C	-	260-490
	High Carbon Steels ≥0.55%C	-	230-395
	Alloy Steels, Treated Steels	-	130-260
M	Stainless Steel-Free Cutting	100-260	200-395
	Stainless Steel-Austenitic	65-230	100-295
	Cast Steels	100-260	165-395
K	Cast Iron	165-395	200-430
N	Aluminum ≤12%Si, Copper	395-820	-
	Aluminum >12%Si	295-655	-
	Synthetics, Duroplastics, Thermoplastics	230-490	-
S	Nickel Alloys, Titanium Alloys.	65-165	100-230
H	Hardened Steel, ≤45 HRc	-	65-165



Carmex
Precision Tools Ltd.

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Carmex Swiss Line N.P. 03/2017 Inch

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