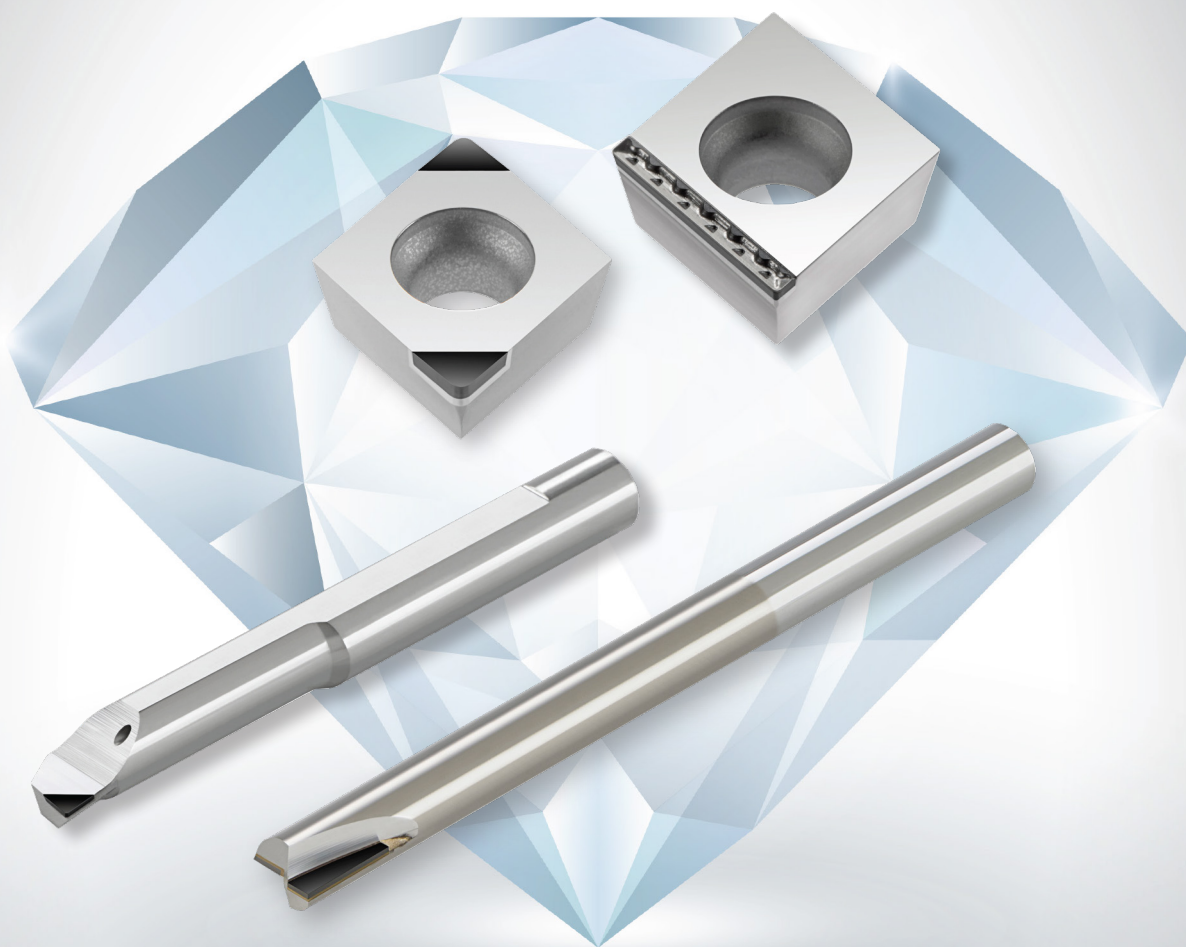

Diamond Tools

CBN



Metric

Company Profile

Carmex Precision Tools Ltd. is a leading manufacturer of high quality cutting tools.

The company was founded in 1988 in Maalot, located in the beautiful North West region of Israel.

Product Lines

Carmex specializes in the production of threading tools for turning and milling. Our product lines include:

- **Thread Turning inserts and toolholders** • **Mill-Thread Solid Carbide**
- **Mill-Thread inserts and toolholders** • **Spiral Mill-Thread** • **Slim MT**
- **Grooving Tools** • **Tiny Tools** • **Swiss Tools** • **CMT Vertical Milling**
- **Thread Whirling** • **End mills** • **Mini Chamfer** • **Taps** • **Diamond Tools**

In addition we have a Dental division producing **Dental Drills** for the Dental Implants Industry.

The company's different product lines are recognized worldwide for their advanced technology, reliable full range lines that offer accurate geometry, excellent cutting performance and extended tool life.

Our products and service we provide live up to the highest standards and outperform them. Carmex also produces special tools in accordance with customer's requirements.

Product Lines

Our unyielding strive for high quality, speedy service and reliability is supported by the following International Standards Certificates:

- ISO 9001:2015 • ISO 14001:2015 • ISO 45001 • ISO 13485:2016 • CE

Stock & Service

Most of our customers' requirements are supplied immediately from our readily available wide range of inventory as well as from our branches, agents and distributor's stocks around the world.

Company Development

In August 2008 Carmex completed its transfer to the new, state-of-the-art modern building. In April 2019 we occupied the second new building. Both buildings includes significant investments in advanced machinery and equipment as part of our strategy to keep our position in the first line of high technology and to support our development plans.

Carmex Branches

In addition to its distributor's chain, Carmex has four independent sales branches. Each of them keeps Carmex's wide range of stock and employs talented, service oriented managers, engineers, technicians and administrators willing to fulfill the customers' needs.

2003 - C.P.T. GmbH, located in Stuttgart Germany.

2004 - Carmex Precision Tools LLC, located in Wisconsin USA serving North America and Mexico.

2008 - Carmex Italia Srl, located in Modena, Italy.

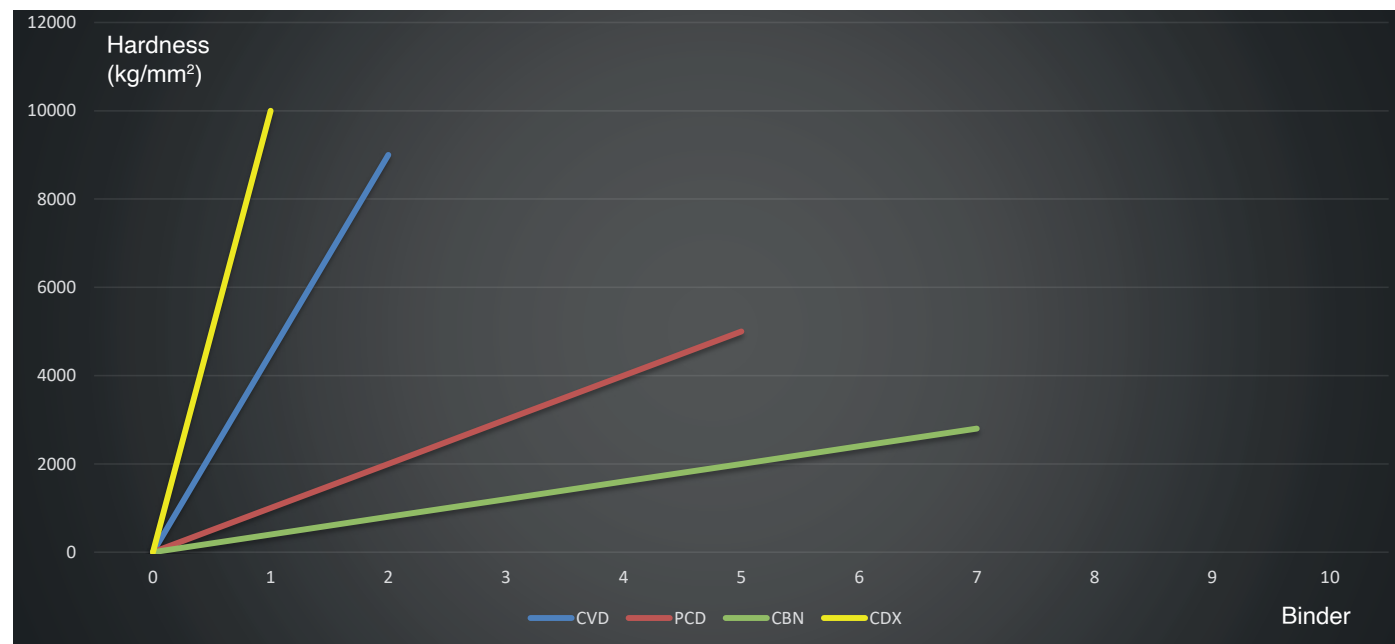
2018 - Carmex India, located in Pune, India.

Carmex is recognized as a high quality cutting tools manufacturer, a service oriented company and as a very competitive supplier that pledge for customer satisfaction.

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Carmex PCD, CVD and PCBN cutting tools are designed for high productivity and longer tool life when machining materials ranging from plastics to brass, cast iron, hardened steel and super alloys. The inserts provide faster machining times compared to grinding and outperform ceramics, thereby reducing production costs.



PCD

PCD (Polycrystalline Diamond) is composed of diamond particles sintered together under high pressure and temperature using a metallic binder. The polycrystalline structure provides exceptional hardness, outstanding wear resistance, and high thermal conductivity, allowing heat to be rapidly transferred away from the cutting edge.

As the hardest known cutting material, PCD offers superior abrasion resistance and extended tool life, particularly in highly abrasive applications.

PCD tools are ideally suited for machining non-ferrous materials, high-silicon aluminum alloys, metal matrix composites (MMCs), carbon fiber reinforced plastics (CFRP), fiberglass composites (GFRP), graphite, and engineering plastics.

CVD

CVD (Chemical Vapor Deposition) Diamond is an advanced cutting material that is harder than PCD and offers up to twice the wear resistance. Its exceptional hardness, thermal conductivity, and abrasion resistance make it ideal for machining highly abrasive and difficult-to-machine materials.

CVD diamond delivers significant advantages when machining long-chipping Aluminum and Magnesium Alloys, High-silicon Aluminum, precious metal alloys, Plastics containing abrasive fillers, Tungsten carbide, and Ceramic green compacts.

The cutting segments are produced from CVD diamond thick films using precision laser cutting technology. These segments are then vacuum brazed onto carbide inserts to create high-performance cutting tools. Both the cutting edges and chip breakers are laser formed, ensuring maximum accuracy and consistency.

A specially designed laser-generated chip breaker minimizes chip contact with the insert surface, significantly reducing heat generation and cutting energy. The controlled chip formation improves process reliability, enhances chip evacuation, and lowers cutting forces, resulting in improved productivity and surface quality.

Crystal Diamond X (CDX)

Crystal Diamond X uses laser-segmented single-crystal diamond cutting elements brazed onto tool carriers using high-vacuum technology. Compared with PCD, tool life can increase by 15–25 times, and by 2–5 times compared with CVD. Suitable for similar applications as PCD and CVD, Crystal Diamond X extends economic machining into demanding materials such as ceramics, glass, glass-ceramics, and hard metals with low cobalt or nickel binder content (<10%).

PCBN

PCBN (Polycrystalline Cubic Boron Nitride) combines exceptional hardness with outstanding thermal stability, making it one of the most advanced cutting materials available. Second only to diamond in hardness, PCBN is the preferred choice for machining hardened ferrous materials where conventional carbide and ceramic tools often reach their performance limits.

PCBN is particularly well suited for machining hardened steels in the range of 45–72 HRC, as well as cast irons, powder metallurgy materials, and various heat-resistant and special alloys. Its excellent hot hardness allows it to maintain cutting-edge integrity at elevated temperatures, enabling machining at significantly higher cutting speeds.

In addition to superior wear resistance, PCBN offers excellent toughness and resistance to thermal shock, ensuring reliable performance in interrupted and demanding cutting operations.

CBN is now considered the second hardest material after Diamond cutting materials!

CBN-CH

Our CBN grade-H is designed for the machining of hardened:

- Steels up to 72 HRC

CH25


- designed for the smooth cut

CH35 | 45 | 65


- are the all-rounders for the smooth to heavily interrupted cut
- 1. Choice ist CBN H65

CH85


- was specially developed for the highly interrupted cut

CBN-CP

The CBN grade-P has been specially developed for turning sintered materials. Among other things, you can machine these materials with this CBN grade:

- Sintered steel
(*hardened sintered steel can be machined with our CBN-H grades)

CP25


- for smooth and slightly interrupted cut

CP45


- for light to heavy interrupted cut

CBN-CK

The CBN grade K has been specially developed for high-speed turning and milling of cast materials. Among other things, you can machine these materials with this CBN grade:

- Grey Cast Iron
- Spheroidal graphite Cast Iron
- Lamellar ball cast joints

CK65


- our all-rounder for the smooth to heavily interrupted cut

CK85


- for light to heavy interrupted cut

CBN-CS

The CBN grade S has been specially developed for turning and milling difficult-to-machine aerospace materials. Among other things, you can machine these materials with this CBN grade:

- Ni, Co, Fe & Cr alloys
- Inconel 718

CS85


- our all-rounder for smooth to heavily interrupted cuts

CBN-CX

The CBN grade-X has been specially developed for hard turning and hard milling of tool Steels up to a hardness of 72HRC. Among other things, you can machine these materials with this CBN grade:

- HSS
- ASP and further PM Steels
- Cold work tool Steels
- Hot work tool Steels
- Solid carbide >20%Co
- Solid carbide steel connections

CX90

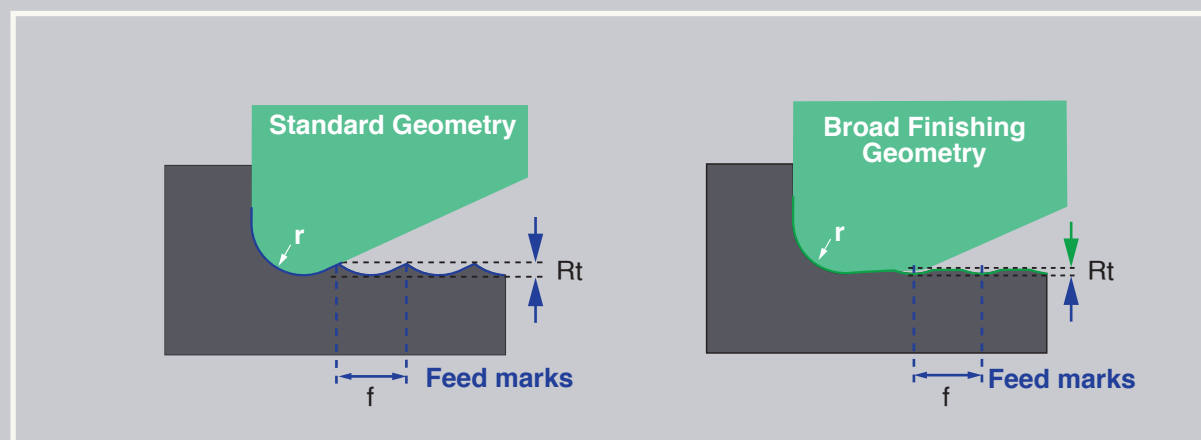

- for smooth and slightly interrupted cut

CX95


- for light to heavy interrupted cut

		1. Choice	Alternative	Carmex CBN Types				
ISO	Werkstoffe			CBN-CP	CBN-CK	CBN-CS	CBN-CH	CBN-CX
H	Cold Work Steel, hardened up to 72 HRC							
	PM- Steels (ASP, CPM, Vanadis, Böhler)							
	Steel, hardened to 72 HRC							
	Hot Work Steel, hardened up to 72 HRC							
	Tool Steel, hardened up to 72 HRC							
P	Sintered Steel							
	Sintered Steel, hardened							
K	Grey Cast Iron (GG)							
	Ductile Cast Iron (GGG)							
	Shell Chilled Cast Iron							
S	Ni-, Co-, Fe- u. Cr-Alloys							
	Titanium Alloys							
M	Stainless Steel, hardened							
N	Carbide, > 20% Co*							
	* for the machining of Carbides							
	we recommend the use of							
	CVD Cutting edges see Catalogue 01							

Wiper cutting inserts:



Advantages when using Wiper geometries

By maintaining the same feed rate, surface quality can be improved by a factor of 2 to 4. Alternatively, the same surface quality can be achieved at feed rates 2 to 4 times higher, resulting in significantly increased productivity.

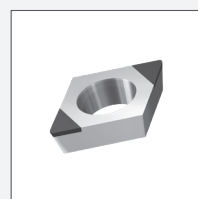
To get the wiper geometry into cutting condition please use the following lead angles at the machine:

C and W Type: 95°

D Type: 93°

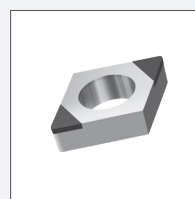
Alternatively, you can use a sharp indexable insert with F geometries.

CCGW ...
(Z2)



Page 12

CNGA ...
(Z2)



Page 18

DCGW ...
(Z2)



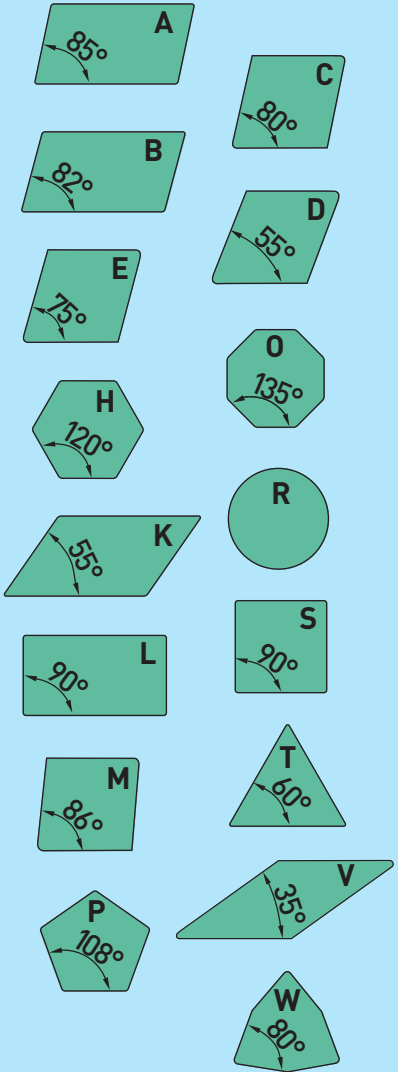
Page 20

WNGA....
(Z3)

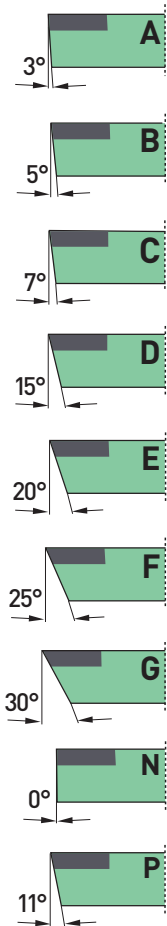


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C

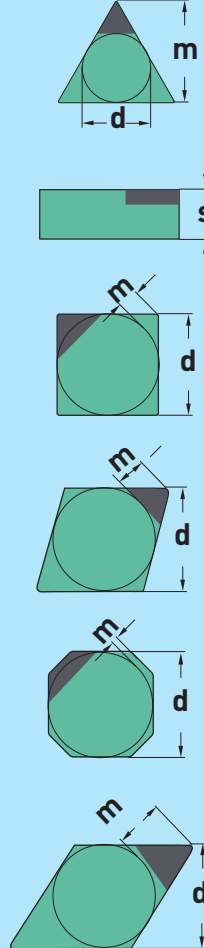


C



Special X

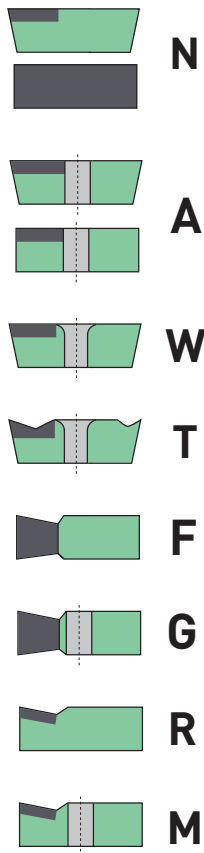
G



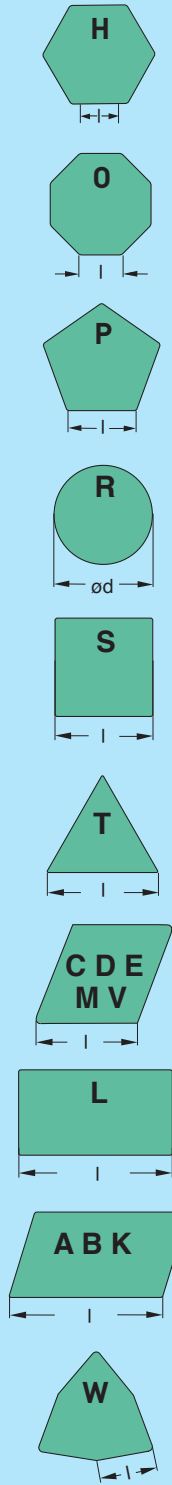
	m	s	d
A	±0.005	±0.025	±0.025
F	±0.005	±0.025	±0.013
C	±0.013	±0.025	±0.025
H	±0.013	±0.025	±0.013
E	±0.025	±0.025	±0.025
G	±0.025	±0.130	±0.025
J	±0.005	±0.025	±0.05 -> ±0.15
K	±0.013	±0.025	±0.05 -> ±0.15
L	±0.025	±0.025	±0.05 -> ±0.15
M*	±0.08 -> ±0.20	±0.130	±0.05 -> ±0.15
N*	±0.08 -> ±0.20	±0.25	±0.05 -> ±0.15
U*	±0.13 -> ±0.38	±0.130	±0.08 -> ±0.15

*(M, N, U) The exact tolerance depends on the size of the plate

T



11



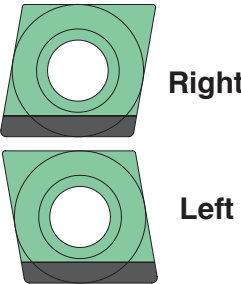
06

	S
01	1.59
T1	1.98
02	2.38
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35

02

	R
00	round insert / inch
01	0.1
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
M0	round insert / metric

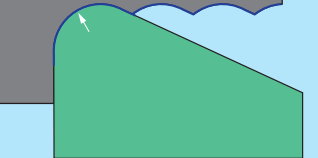
R/L GS



W

PCD
CVD
CDX
CBN

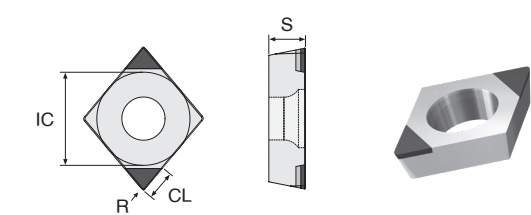
Standard Geometry



Wiper Geometry



Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
6.35	2.38	0.10	3.00	CCGW 060201	*	*	●	*	*
6.35	2.38	0.20	3.00	CCGW 060202	●	●	●	●	●
6.35	2.38	0.40	3.00	CCGW 060204	●	●	●	●	●
6.35	2.38	0.80	3.00	CCGW 060208	●	●	●	●	●
9.52	3.97	0.10	3.00	CCGW 09T301	*	*	●	*	*
9.52	3.97	0.20	3.00	CCGW 09T302	●	●	●	●	●
9.52	3.97	0.40	3.00	CCGW 09T304	●	●	●	●	●
9.52	3.97	0.80	3.00	CCGW 09T308	●	●	●	●	●
12.70	4.76	0.20	3.00	CCGW 120402	●	●	●	●	●
12.70	4.76	0.40	3.00	CCGW 120404	●	●	●	●	●
12.70	4.76	0.80	3.00	CCGW 120408	●	●	●	●	●
12.70	4.76	1.20	3.00	CCGW 120412	●	●	●	●	●

Sharp edge

6.35	2.38	0.20	3.00	CCGW 060202-S	*	*	●	*	*
6.35	2.38	0.40	3.00	CCGW 060204-S	*	*	●	*	*
9.52	3.97	0.20	3.00	CCGW 09T302-S	*	*	●	*	*
9.52	3.97	0.40	3.00	CCGW 09T304-S	*	*	●	*	*

Wiper

9.52	3.97	0.20	3.00	CCGW 09T302-W	●	●	●	●	*
9.52	3.97	0.40	3.00	CCGW 09T304-W	●	●	●	●	●
9.52	3.97	0.80	3.00	CCGW 09T308-W	●	●	●	●	●
12.70	4.76	0.40	3.00	CCGW 120404-W	●	●	●	●	●
12.70	4.76	0.80	3.00	CCGW 120408-W	●	●	●	●	●
12.70	4.76	1.20	3.00	CCGW 120412-W	●	●	●	●	●

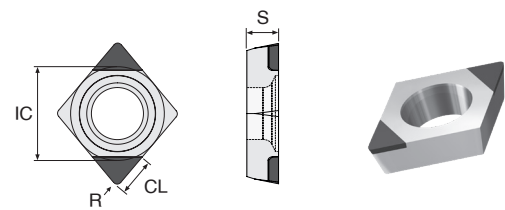
Order example: CCGW 060201 **CP25 CBN** or CCGW 09T301 **CX90 CBN**
CCGW 060202-S **CP25 CBN** or CCGW 120404-W **CX90 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels

CH25	CH35	CH45	CH65	CH85	CX90	CX95	Toolholder
	 	 	 	 	 	 	
●	*	*	*	*	●	*	SCLC... 06 A/E...SCLC.06
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SCLC...09 A/E...SCLC.09
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	SCLC...12 A/E...SCLC.12
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SCLC... 06 A/E...SCLC.06
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	SCLC...09 A/E...SCLC.09
●	*	*	*	*	●	*	
*	*	*	*	*	●	●	SCLC...09 A/E...SCLC.09
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	SCLC...12 A/E...SCLC.12
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	

Neutral



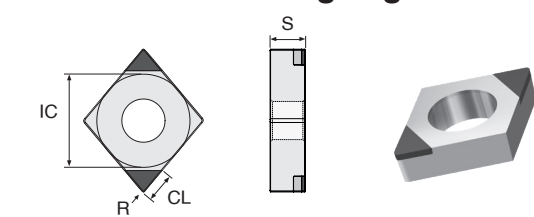
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
3.97	1.00	0.10	1.60	CDGW 040101	*	*	●	*	*
3.97	1.00	0.20	1.60	CDGW 040102	*	*	●	*	*
3.97	1.00	0.40	1.60	CDGW 040104	*	*	●	*	*

Order example: CDGW 040101 **CK65 CBN** or CDGW 040101 **CH65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	A/E...SCLD.04
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

Neutral - two cutting edges



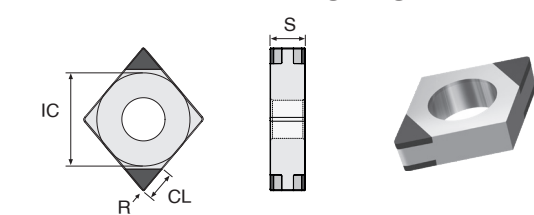
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
12.70	4.76	0.20	3.00	CNGA 120402	•	•	•	•	•
12.70	4.76	0.40	3.00	CNGA 120404	•	•	•	•	•
12.70	4.76	0.80	3.00	CNGA 120408	•	•	•	•	•
12.70	4.76	1.20	3.00	CNGA 120412	•	•	•	•	•

Wiper

12.70	4.76	0.20	3.00	CNGA 120402-W	•	•	•	•	•
12.70	4.76	0.40	3.00	CNGA 120404-W	•	•	•	•	•
12.70	4.76	0.80	3.00	CNGA 120408-W	•	•	•	•	•
12.70	4.76	1.20	3.00	CNGA 120412-W	•	•	•	•	•

Order example: CNGA 120402 **CP25 CBN** or CNGA 120402-W **CS85 CBN**

Neutral - four cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
12.70	4.76	0.20	3.00	CNGA 120402-4	•	•	•	•	*
12.70	4.76	0.40	3.00	CNGA 120404-4	•	•	•	•	*
12.70	4.76	0.80	3.00	CNGA 120408-4	•	•	•	•	*
12.70	4.76	1.20	3.00	CNGA 120412-4	•	•	•	•	*

Wiper

12.70	4.76	0.20	3.00	CNGA 120402-4-W	•	•	•	•	*
12.70	4.76	0.40	3.00	CNGA 120404-4-W	•	•	•	•	*
12.70	4.76	0.80	3.00	CNGA 120408-4-W	•	•	•	•	*
12.70	4.76	1.20	3.00	CNGA 120412-4-W	•	•	•	•	*

Order example: CNGA 120402-4 **CP25 CBN** or CNGA 120402-4-W **CK65 CBN**

* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

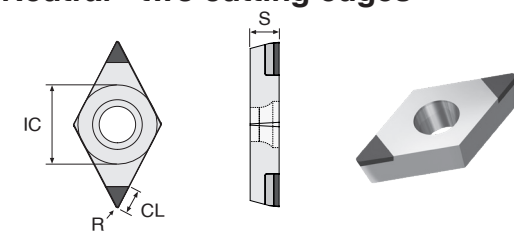
Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	DCLN... 12
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	

•	•	•	•	•	•	•	DCLN... 12
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	DCLN... 12
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

•	*	•	•	•	•	•	DCLN... 12
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

Neutral - two cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
3.10	1.20	0.10	2.00	DCGW 04T001	*	*	●	*	*
3.10	1.20	0.20	2.00	DCGW 04T002	*	*	●	*	*
3.10	1.20	0.40	2.00	DCGW 04T004	*	*	●	*	*
6.35	2.38	0.10	3.00	DCGW 070201	*	*	●	*	*
6.35	2.38	0.20	3.00	DCGW 070202	●	●	●	●	●
6.35	2.38	0.40	3.00	DCGW 070204	●	●	●	●	●
6.35	2.38	0.80	3.00	DCGW 070208	●	●	●	●	●
9.52	3.97	0.10	3.00	DCGW 11T301	*	*	●	*	*
9.52	3.97	0.20	3.00	DCGW 11T302	●	●	●	●	●
9.52	3.97	0.40	3.00	DCGW 11T304	●	●	●	●	●
9.52	3.97	0.80	3.00	DCGW 11T308	●	●	●	●	●

Sharp edge

6.35	2.38	0.20	3.00	DCGW 070202-S	*	*	●	*	*
6.35	2.38	0.40	3.00	DCGW 070204-S	*	*	●	*	*
9.52	3.97	0.20	3.00	DCGW 11T302-S	*	*	●	*	*
9.52	3.97	0.40	3.00	DCGW 11T304-S	*	*	●	*	*

Wiper

6.35	2.38	0.40	3.00	DCGW 070204-W	●	●	●	●	●
6.35	2.38	0.80	3.00	DCGW 070208-W	●	●	●	●	●
9.52	3.97	0.40	3.00	DCGW 11T304-W	●	●	●	●	●
9.52	3.97	0.80	3.00	DCGW 11T308-W	●	●	●	●	●

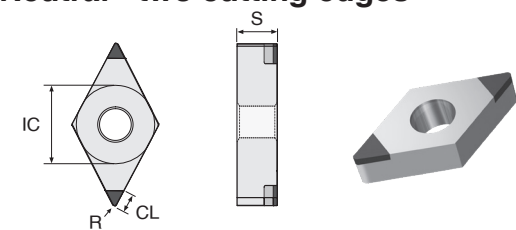
Order example: DCGW 04T001 **CK65 CBN** or DCGW 04T001 **CX90 CBN**
DCGW 070202-S **CK65 CBN** or DCGW 11T304-W **CX90 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels

CH25	CH35	CH45	CH65	CH85	CX90	CX95	Toolholder
	  	  	  	 	 	 	
*	*	*	●	*	●	*	E...SDQC.04 E...SDUC.04
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
●	*	*	*	*	●	*	SDJC... 07 A/E...SDQC.07
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SDJC... 11 A/E...SDQC.11
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SDJC... 07 A/E...SDQC.07
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	SDJC... 11 A/E...SDQC.11
●	*	*	*	*	●	*	
●	●	●	●	●	●	●	SDJC... 07 A/E...SDQC.07
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	SDJC... 11 A/E...SDQC.11
●	●	●	●	●	●	●	

Neutral - two cutting edges



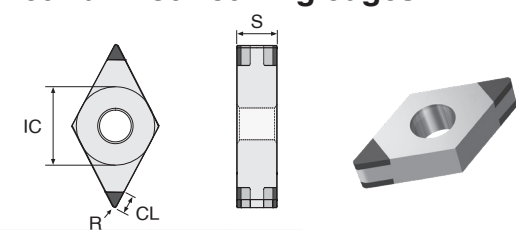
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.10	3.00	DNGA 150401	*	*	•	*	*
12.70	4.76	0.20	3.00	DNGA 150402	•	•	•	•	•
12.70	4.76	0.40	3.00	DNGA 150404	•	•	•	•	•
12.70	4.76	0.80	3.00	DNGA 150408	•	•	•	•	•
12.70	4.76	1.20	3.00	DNGA 150412	•	•	•	•	•

Wiper

12.70	4.76	0.40	3.00	DNGA 150404-W	•	•	•	•	•
12.70	4.76	0.80	3.00	DNGA 150408-W	•	•	•	•	•

Order example: DNGA 150401 **CK65 CBN** or DNGA 150404-W **CS85 CBN**
* Available upon request

Neutral - four cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.20	3.00	DNGA 150402-4	•	•	•	•	*
12.70	4.76	0.40	3.00	DNGA 150404-4	•	•	•	•	*
12.70	4.76	0.80	3.00	DNGA 150408-4	•	•	•	•	*
12.70	4.76	1.20	3.00	DNGA 150412-4	•	•	•	•	*

Wiper

12.70	4.76	0.40	3.00	DNGA 150404-4-W	•	•	•	•	*
12.70	4.76	0.80	3.00	DNGA 150408-4-W	•	•	•	•	*

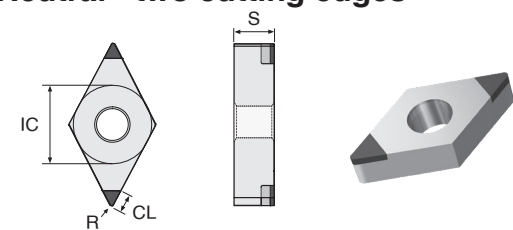
Order example: DNGA 150402-4 **CP25 CBN** or DNGA 150402-4-W **CK65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	DDJN... 15
•	*	*	*	*	•	*	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	DDJN... 15
•	•	•	•	•	•	•	

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	DDJN... 15
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	DDJN... 15
•	*	•	•	•	•	•	

Neutral - two cutting edges



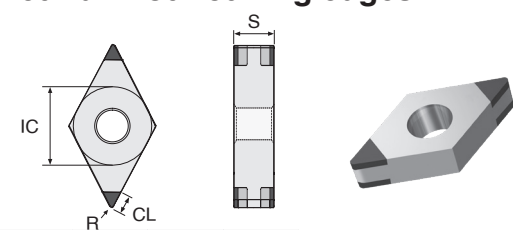
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	6.35	0.10	3.00	DNGA 150601	*	*	•	*	*
12.70	6.35	0.20	3.00	DNGA 150602	•	•	•	•	•
12.70	6.35	0.40	3.00	DNGA 150604	•	•	•	•	•
12.70	6.35	0.80	3.00	DNGA 150608	•	•	•	•	•
12.70	6.35	1.20	3.00	DNGA 150612	•	•	•	•	•

Wiper

12.70	6.35	0.40	3.00	DNGA 150604-W	•	•	•	•	•
12.70	6.35	0.80	3.00	DNGA 150608-W	•	•	•	•	•

Order example: DNGA 150601 **CK65 CBN** or DNGA 150604-W **CS85 CBN**
* Available upon request

Neutral - four cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	6.35	0.20	3.00	DNGA 150602-4	•	•	•	•	*
12.70	6.35	0.40	3.00	DNGA 150604-4	•	•	•	•	*
12.70	6.35	0.80	3.00	DNGA 150608-4	•	•	•	•	*
12.70	6.35	1.20	3.00	DNGA 150612-4	•	•	•	•	*

Wiper

12.70	6.35	0.40	3.00	DNGA 150604-4-W	•	•	•	•	*
12.70	6.35	0.80	3.00	DNGA 150608-4-W	•	•	•	•	*

Order example: DNGA 150602-4 **CP25 CBN** or DNGA 150602-4-W **CK65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

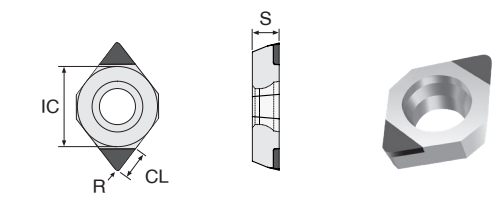
Allrounder - hardened Steels

CH25	CH35	CH45	CH65	CH85	CX90	CX95	Toolholder
	  	  	  	 	 	 	
•	*	*	*	*	•	*	DDJN... 15
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	DDJN... 15
•	•	•	•	•	•	•	

Allrounder - hardened Steels

CH25	CH35	CH45	CH65	CH85	CX90	CX95	Toolholder
	  	  	  	 	 	 	
•	*	•	•	•	•	•	DDJN... 15
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	DDJN... 15
•	*	•	•	•	•	•	

Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
5.56	2.38	0.10	2.00	EPGW 050201	*	*	●	*	*
5.56	2.38	0.20	2.00	EPGW 050202	*	*	●	*	*
5.56	2.38	0.40	2.00	EPGW 050204	*	*	●	*	*

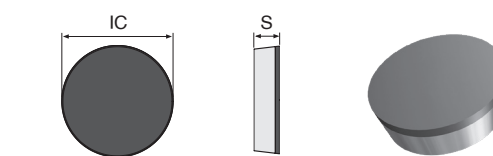
Order example: EPGW 050201 **CK65 CBN** or EPGW 050201 **CH65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	SELP... 05 E...SELP.05
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

RBGN 360°
FullFace

Neutral

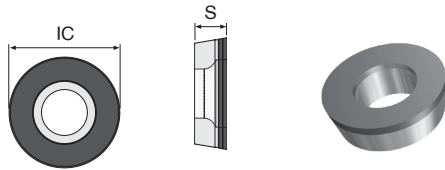


Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
6.00	2.38	-	-	RBGN 0602M0	*	*	●	*	*
8.00	3.18	-	-	RBGN 0803M0	*	*	●	*	*
10.00	3.18	-	-	RBGN 1003M0	*	*	●	*	*
12.00	3.18	-	-	RBGN 1203M0	*	*	●	*	*

Order example: RBGN 0602M0 **CK65 CBN** or RBGN 0602M0 **CH65 CBN**
* Available upon request

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	CRSB... 06 CRSB... 08 CRSB... 10 CRSB... 12
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

Neutral

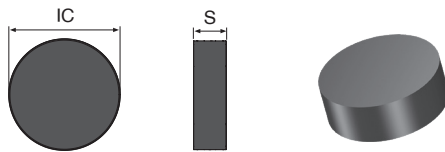


Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
6.00	2.38	-	-	RCGW 0602M0	*	*	●	*	*
8.00	3.18	-	-	RCGW 0803M0	*	*	●	*	*
10.00	3.18	-	-	RCGW 1003M0	*	*	●	*	*
10.00	3.97	-	-	RCGW 10T3M0	*	*	●	*	*
12.00	4.76	-	-	RCGW 1204M0	*	*	●	*	*

Order example: RCGW 0602M0 **CK65 CBN** or RCGW 0602M0 **CH65 CBN**
* Available upon request

RNGN 360°
Solid

Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
6.35	3.18	-	-	RNGN 060300	*	*	●	*	*
6.35	4.76	-	-	RNGN 060400	*	*	●	*	*
9.52	3.18	-	-	RNGN 090300	*	*	●	*	*
9.52	4.76	-	-	RNGN 090400	*	*	●	*	*
12.70	3.18	-	-	RNGN 120300	*	*	●	*	*
12.70	4.76	-	-	RNGN 120400	*	*	●	*	*

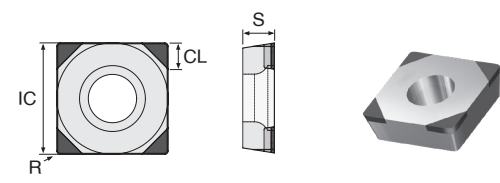
Order example: RNGN 060300 **CK65 CBN** or RNGN 120300 **CH65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	
*	*	*	●	*	●	*	SRGC... 06 E...SRLC.06
*	*	*	●	*	●	*	SRGC... 08 E...SRLC.08
*	*	*	●	*	●	*	SRGC... 10 E...SRLC.10
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	SRGC... 12

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	
*	*	*	●	*	●	*	CRSN... 06
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	CRSN... 09
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	CRSN... 12
*	*	*	●	*	●	*	

Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
9.52	3.97	0.20	3.00	SCGW 09T302-4	●	●	●	●	*
9.52	3.97	0.40	3.00	SCGW 09T304-4	●	●	●	●	*
9.52	3.97	0.80	3.00	SCGW 09T308-4	●	●	●	●	*
12.70	4.76	0.20	3.00	SCGW 120402-4	●	●	●	●	*
12.70	4.76	0.40	3.00	SCGW 120404-4	●	●	●	●	*
12.70	4.76	0.80	3.00	SCGW 120408-4	●	●	●	●	*
12.70	4.76	1.20	3.00	SCGW 120412-4	●	●	●	●	*

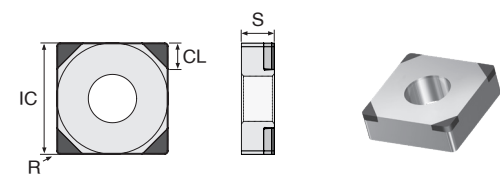
Order example: SCGW 09T302-4 CP25 CBN or SCGW 120402-4 CH25 CBN

* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	
●	*	●	●	●	●	●	-
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	-
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	

Neutral - four cutting edges



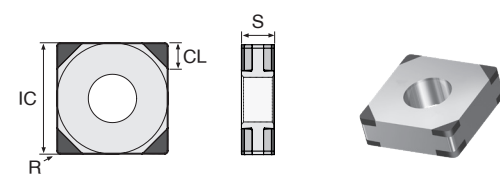
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.40	3.00	SNGA 120404-4	•	•	•	•	*
12.70	4.76	0.80	3.00	SNGA 120408-4	•	•	•	•	*
12.70	4.76	1.20	3.00	SNGA 120412-4	•	•	•	•	*

Order example: SNGA 120404-4 **CP25 CBN** or SNGA 120404-4 **CH85 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	CSSN... 12
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

Neutral - eight cutting edges

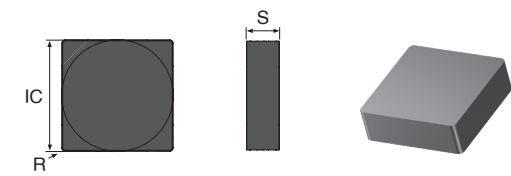


Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.40	3.00	SNGA 120404-8	•	•	•	•	*
12.70	4.76	0.80	3.00	SNGA 120408-8	•	•	•	•	*
12.70	4.76	1.20	3.00	SNGA 120412-8	•	•	•	•	*

Order example: SNGA 120404-8 **CP65 CBN** or SNGA 120408-8 **CH25 CBN**
* Available upon request

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	CSSN... 12
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

Neutral



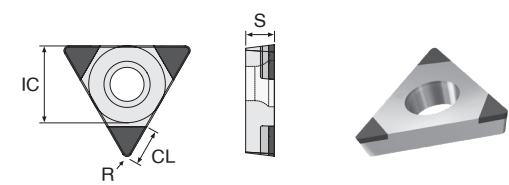
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
9.52	3.18	0.40	3.00	SNGN 090304	*	*	●	*	*
9.52	3.18	0.80	3.00	SNGN 090308	*	*	●	*	*
9.52	3.18	1.20	3.00	SNGN 090312	*	*	●	*	*
12.70	4.76	0.40	3.00	SNGN 120404	*	*	●	*	*
12.70	4.76	0.80	3.00	SNGN 120408	*	*	●	*	*
12.70	4.76	1.20	3.00	SNGN 120412	*	*	●	*	*
12.70	4.76	1.60	3.00	SNGN 120416	*	*	●	*	*

Order example: SNGN 090304 **CK65 CBN** or SNGN 120404 **CH65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	
*	*	*	●	*	●	*	CSSN... 09
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	CSSN... 12
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

Neutral



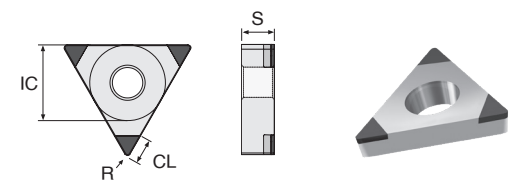
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
5.56	2.38	0.10	3.00	TCGW 090201	*	*	*	*	*
5.56	2.38	0.20	3.00	TCGW 090202	●	●	●	●	●
5.56	2.38	0.40	3.00	TCGW 090204	●	●	●	●	●
5.56	2.38	0.80	3.00	TCGW 090208	●	●	●	●	●
6.35	2.38	0.10	3.00	TCGW 110201	*	*	*	*	*
6.35	2.38	0.20	3.00	TCGW 110202	●	●	●	●	●
6.35	2.38	0.40	3.00	TCGW 110204	●	●	●	●	●
6.35	2.38	0.80	3.00	TCGW 110208	●	●	●	●	●
9.52	3.97	0.20	3.00	TCGW 16T302	●	●	●	●	●
9.52	3.97	0.40	3.00	TCGW 16T304	●	●	●	●	●
9.52	3.97	0.80	3.00	TCGW 16T308	●	●	●	●	●

Order example: TCGW 090201 **CH25 CBN** or TCGW 110202 **CP25 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	
●	*	*	*	*	*	*	STGC...09
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	*	*	STGC...11
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	STGC...16
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	

Neutral - three cutting edges



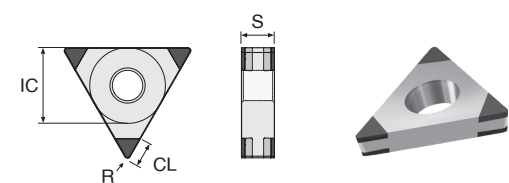
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
9.52	4.76	0.20	3.00	TNGA 160402	•	•	•	•	•
9.52	4.76	0.40	3.00	TNGA 160404	•	•	•	•	•
9.52	4.76	0.80	3.00	TNGA 160408	•	•	•	•	•
9.52	4.76	1.20	3.00	TNGA 160412	•	•	•	•	•

Order example: TNGA 160402 **CP25 CBN** or TNGA 160404 **CX90 CBN**

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	MTJN... 16
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	

Neutral - six cutting edges

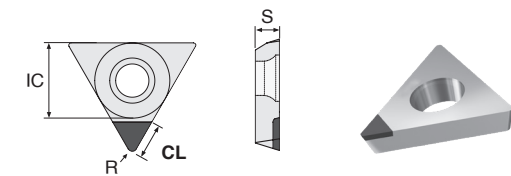


Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
9.52	4.76	0.20	3.00	TNGA 160402-6	•	•	•	•	*
9.52	4.76	0.40	3.00	TNGA 160404-6	•	•	•	•	*
9.52	4.76	0.80	3.00	TNGA 160408-6	•	•	•	•	*
9.52	4.76	1.20	3.00	TNGA 160412-6	•	•	•	•	*

Order example: TNGA 160402-6 **CP25 CBN** or TNGA 160404-6 **CX90 CBN**
* Available upon request

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	MTJN... 16
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

Neutral



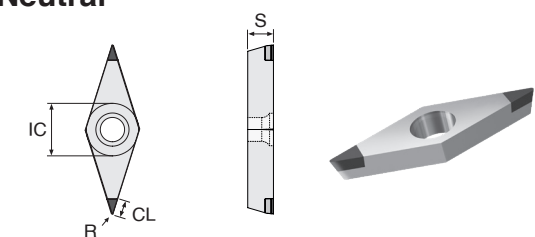
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
3.97	1.98	0.10	2.00	TPGW 06T101	*	*	●	*	*
3.97	1.98	0.20	2.00	TPGW 06T102	*	*	●	*	*
3.97	1.98	0.40	2.00	TPGW 06T104	*	*	●	*	*

Order example: TPGW 06T101 **CK65 CBN** or TPGW 06T101 **CH65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
							E...STXP.06
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

Neutral



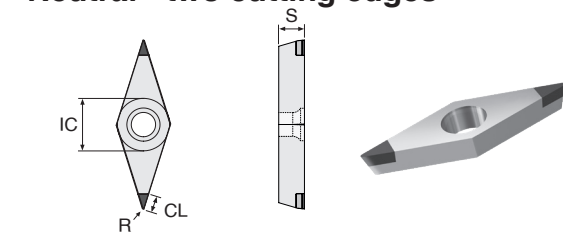
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
3.97	2.38	0.10	3.00	VBGW 070201	*	*	●	*	*
3.97	2.38	0.20	3.00	VBGW 070202	●	●	●	●	●
3.97	2.38	0.40	3.00	VBGW 070204	●	●	●	●	●
6.35	2.38	0.10	3.00	VBGW 110201	*	*	●	*	*
6.35	2.38	0.20	3.00	VBGW 110202	●	●	●	●	●
6.35	2.38	0.40	3.00	VBGW 110204	●	●	●	●	●
6.35	2.38	0.80	3.00	VBGW 110208	●	●	●	●	●
9.52	4.76	0.10	3.00	VBGW 160401	*	*	●	*	*
9.52	4.76	0.20	3.00	VBGW 160402	●	●	●	●	●
9.52	4.76	0.40	3.00	VBGW 160404	●	●	●	●	●
9.52	4.76	0.80	3.00	VBGW 160408	●	●	●	●	●

Order example: VBGW 070201 **CK65 CBN** or VBGW 070201 **CH25 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
							-
●	*	*	*	*	●	*	SVJB... 11 SVVBN... 11
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SVJB... 16 SVVBN... 16
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	

Neutral - two cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
3.10	1.59	0.10	2.00	VCGW 050101	*	*	●	*	*
3.10	1.59	0.20	2.00	VCGW 050102	*	*	●	*	*
3.10	1.59	0.40	2.00	VCGW 050104	*	*	●	*	*
3.97	2.38	0.10	3.00	VCGW 070201	*	*	●	*	*
3.97	2.38	0.20	3.00	VCGW 070202	●	●	●	●	●
3.97	2.38	0.40	3.00	VCGW 070204	●	●	●	●	●
6.35	3.18	0.10	3.00	VCGW 110301	*	*	●	*	*
6.35	3.18	0.20	3.00	VCGW 110302	●	●	●	●	●
6.35	3.18	0.40	3.00	VCGW 110304	●	●	●	●	●
6.35	3.18	0.80	3.00	VCGW 110308	●	●	●	●	●
9.52	4.76	0.10	3.00	VCGW 160401	*	*	●	*	*
9.52	4.76	0.20	3.00	VCGW 160402	●	●	●	●	●
9.52	4.76	0.40	3.00	VCGW 160404	●	●	●	●	●
9.52	4.76	0.80	3.00	VCGW 160408	●	●	●	●	●
9.52	4.76	1.20	3.00	VCGW 160412	●	●	●	●	●

Sharp edge

3.97	2.38	0.20	3.00	VCGW 070202-S	*	*	●	*	*
3.97	2.38	0.40	3.00	VCGW 070204-S	*	*	●	*	*
6.35	3.18	0.20	3.00	VCGW 110302-S	*	*	●	*	*
6.35	3.18	0.40	3.00	VCGW 110304-S	*	*	●	*	*
9.52	4.76	0.20	3.00	VCGW 160402-S	*	*	●	*	*
9.52	4.76	0.40	3.00	VCGW 160404-S	*	*	●	*	*

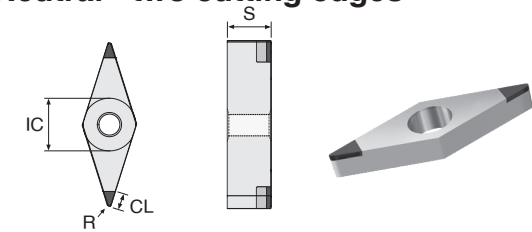
Order example: VCGW 050101 **CK65 CBN** or VCGW 160401 **CX90 CBN**
VCGW 070202-S **CK65 CBN** or VCGW 160404-S **CH25 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels

CH25	CH35	CH45	CH65	CH85	CX90	CX95	Toolholder
	  	  	  	 	 	 	
*	*	*	●	*	●	*	E...SVLC.05 E...SVVC.05 E...SVXC.05
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
●	*	*	*	*	●	*	SVHC... 07 SVJC... 07 SVVCN... 07 E...SVQC.07
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SVHC... 11 SVJC... 11 SVVCN... 11 E...SVQC.11
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SVHC... 16 SVJC... 16 SVVCN... 16 E...SVQC.16
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	●	●	●	●	●	●	
●	*	*	*	*	●	*	SVHC... 07 SVJC... 07 SVVCN... 07 E...SVQC.07
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	SVHC... 11 SVJC... 11 SVVCN... 11 E...SVQC.11
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	SVHC... 16 SVJC... 16 SVVCN... 16 E...SVQC.16
●	*	*	*	*	●	*	

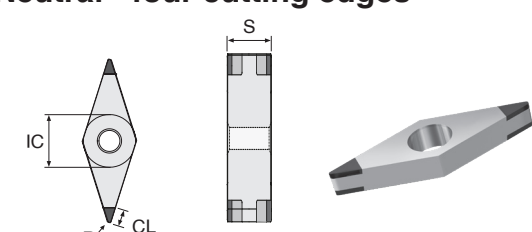
Neutral - two cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
9.52	4.76	0.20	3.00	VNGA 160402	•	•	•	•	•
9.52	4.76	0.40	3.00	VNGA 160404	•	•	•	•	•
9.52	4.76	0.80	3.00	VNGA 160408	•	•	•	•	•
9.52	4.76	1.20	3.00	VNGA 160412	•	•	•	•	•

Order example: VNGA 160402 **CP25 CBN** or VNGA 160404 **CK65 CBN**

Neutral - four cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
9.52	4.76	0.20	3.00	VNGA 160402-4	•	•	•	•	*
9.52	4.76	0.40	3.00	VNGA 160404-4	•	•	•	•	*
9.52	4.76	0.80	3.00	VNGA 160408-4	•	•	•	•	*
9.52	4.76	1.20	3.00	VNGA 160412-4	•	•	•	•	*

Order example: VNGA 160402-4 **CP25 CBN** or VNGA 160404-4 **CX90 CBN**

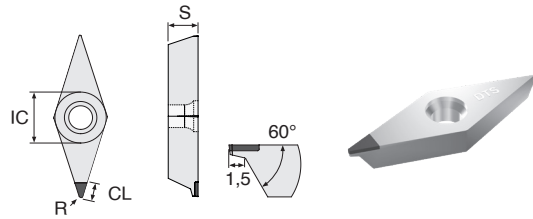
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
							MVJN... 16 MNVNN... 16
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
							MVJN... 16 MNVNN... 16
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	
•	*	•	•	•	•	•	

Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL						
9.52	4.76	0.10	3.00	VXGW 160401	*	*	●	*	*
9.52	4.76	0.20	3.00	VXGW 160402	*	*	●	*	*
9.52	4.76	0.40	3.00	VXGW 160404	*	*	●	*	*

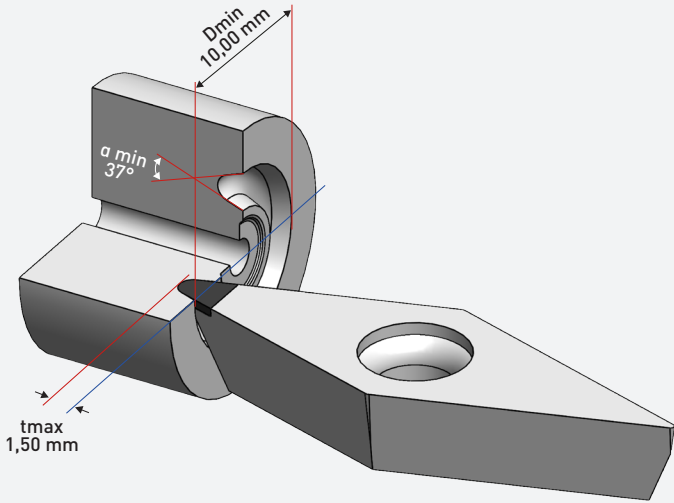
Order example: VXGW 160401 **CK65 CBN** or VXGW 160402 **CH25 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
							SVJX... 16 SVVXN... 16
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	
●	*	*	*	*	●	*	

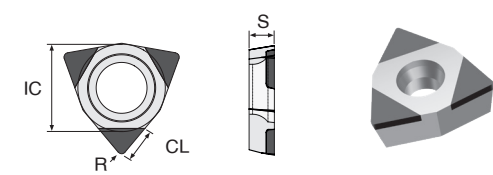
Face / Axial machining:

The VXGW cutting insert is designed for face and axial contour machining, enabling precise machining of profiles with a minimum external diameter of 10 mm and a maximum groove depth of 1.5 mm.



The insert is supplied as standard with CBN grades K65, H25, and X90. Additional CBN grades are also available upon request to meet specific application requirements.

Neutral



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
3.97	1.59	0.10	1.60	WCGW 020101	*	*	●	*	*
3.97	1.59	0.20	1.60	WCGW 020102	*	*	●	*	*
3.97	1.59	0.40	1.60	WCGW 020104	*	*	●	*	*

Order example: WCGW 020101 **CK65 CBN** or WCGW 020102 **CH65 CBN**
* Available upon request

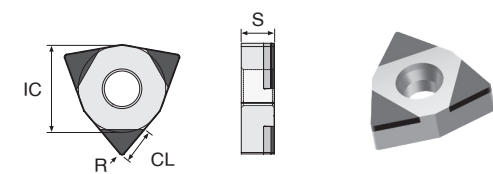
 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	E...SWUC.02
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	
*	*	*	●	*	●	*	

WNGA 80°

three cutting edges with extended cutting edge for roughing and finishing

Neutral

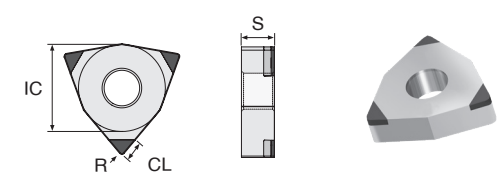


Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	  	 	  
12.70	4.76	0.10	6.50	WNGA 080404-L	*	*	●	*	*
12.70	4.76	0.20	6.50	WNGA 080408-L	*	*	●	*	*
12.70	4.76	0.40	6.50	WNGA 080412-L	*	*	●	*	*

Order example: WNGA 080404-L **CK65 CBN** or WNGA 080412-L **CX90 CBN**
* Available upon request

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	  	 	DWLN... 08
*	*	*	*	*	●	*	
*	*	*	*	*	●	*	
*	*	*	*	*	●	*	

Neutral - three cutting edges



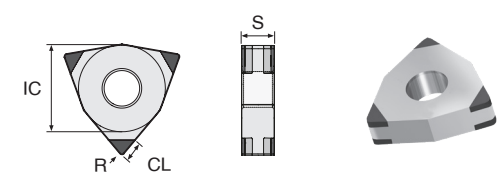
Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.20	3.00	WNGA 080402	●	●	●	●	●
12.70	4.76	0.40	3.00	WNGA 080404	●	●	●	●	●
12.70	4.76	0.80	3.00	WNGA 080408	●	●	●	●	●
12.70	4.76	1.20	3.00	WNGA 080412	●	●	●	●	*

Wiper

12.70	4.76	0.40	3.00	WNGA 080404-W	●	●	●	●	*
12.70	4.76	0.80	3.00	WNGA 080408-W	●	●	●	●	*
12.70	4.76	1.20	3.00	WNGA 080412-W	●	●	●	●	*

Order example: WNGA 080402 **CP25 CBN** or WNGA 080408-W **CH25 CBN**
* Available upon request

Neutral - six cutting edges



Dimensions				Ordering Code	CP25	CP45	CK65	CK85	CS85
IC	S	R	CL		 	 	 	 	  
12.70	4.76	0.20	3.00	WNGA 080402-6	●	●	●	●	*
12.70	4.76	0.40	3.00	WNGA 080404-6	●	●	●	●	*
12.70	4.76	0.80	3.00	WNGA 080408-6	●	●	●	●	*
12.70	4.76	1.20	3.00	WNGA 080412-6	●	●	●	●	*

Wiper

12.70	4.76	0.40	3.00	WNGA 080404-6-W	●	●	●	●	*
12.70	4.76	0.80	3.00	WNGA 080408-6-W	●	●	●	●	*
12.70	4.76	1.20	3.00	WNGA 080412-6-W	●	●	●	●	*

Order example: WNGA 080404-6 **CP25 CBN** or WNGA 080408-6-W **CK65 CBN**
* Available upon request

 continuous cut  light interrupted cut  heavy interrupted cut

Allrounder - hardened Steels							Toolholder
CH25	CH35	CH45	CH65	CH85	CX90	CX95	
	  	  	  	 	 	 	
●	*	●	●	●	●	●	DWLN... 08
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	DWLN... 08
●	*	●	●	●	●	●	
●	*	●	●	●	●	●	

	Grades		CP25			CP45		
			 			 		
ISO	Material		Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)
P	Sintered steel	min.	200	0.01	0.01	180	0.01	0.01
		max.	400	2.60	0.30	300	2.00	0.30

	Grades		CK65			CK85		
			 			 		
ISO	Material		Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)
K	Grey Cast Iron	min.	500	0.01	0.01	450	0.01	0.01
		max.	2,500	2.80	0.40	1,400	2.80	0.35
	Ductile graphite iron	min.	250	0.01	0.01	200	0.01	0.01
		max.	1,200	2.80	0.35	1,000	2.80	0.30

	Grades		CS85					
			  					
ISO	Material		Vc (m/min)	Ap (mm)	Feed (mm/rev)			
S	Ni-, Co-, Fe- and Cr-Alloys	min.	80	0.01	0.01			
		max.	350	0.50	0.30			
	Titanium	min.	80	0.01	0.01			
		max.	240	0.50	0.30			



continuous cut



light interrupted cut



heavy interrupted cut

Cooling recommendation

When machining with CBN inserts, proper coolant application is essential for achieving optimal cutting performance, process stability, and tool life.

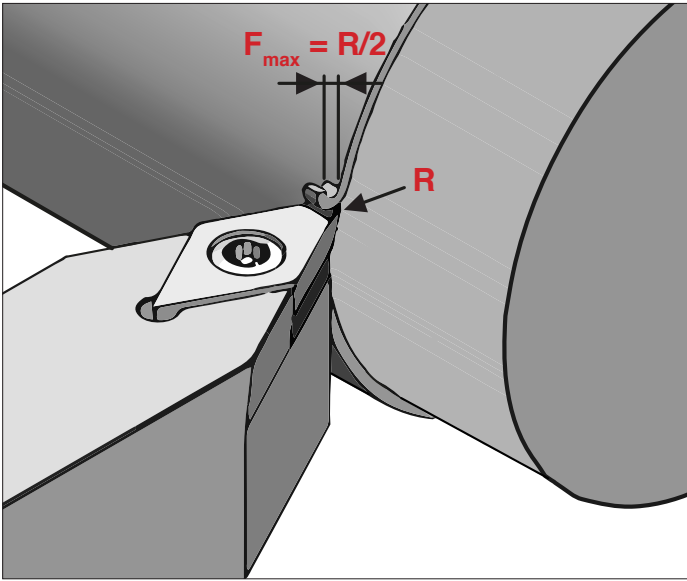
The following recommendations are provided according to the specific cutting conditions:

		Dry	Air	Emulsion	Oil
P		4. Choice	3. Choice	1. Choice	2. Choice
		2. Choice	1. Choice		
		2. Choice	1. Choice		
K		4. Choice	3. Choice	1. Choice	2. Choice
		2. Choice	1. Choice		
		2. Choice	1. Choice		
S			3. Choice	1. Choice	2. Choice
			2. Choice	1. Choice	
		2. Choice	1. Choice	3. Choice	

Technical Note

⚠ Do not use the maximum depth of cut (Ap) in combination with the maximum feed rate (f).

RNGN and SNGN solid inserts enable significantly higher cutting depths and feed rates compared with conventional inserts.



	Grades		CH25			CH35			CH45			CH65			CH85		
						  			  			  			 		
ISO	Material		Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)
H	Steel hardened up to 72 HRC	min.	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	80	0.01	0.01
		max.	300	1.50	0.50	260	1.50	0.50	260	1.00	0.40	240	1.00	0.40	220	1.00	0.40
	Ball Bearing and Spring Steel	min.	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	80	0.01	0.01
		max.	400	1.00	0.30	360	1.00	0.50	360	0.50	0.50	360	0.50	0.50	200	0.40	0.30
	Case hardened Steel	min.	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	80	0.01	0.01
		max.	300	1.50	0.50	260	1.50	0.50	260	1.00	0.40	240	1.00	0.40	220	1.00	0.40
	Cast Iron, hardened	min.	80	0.01	0.01	80	0.01	0.01	80	0.01	0.01	80	0.01	0.01	60	0.01	0.01
		max.	220	1.50	0.50	200	1.00	0.50	200	1.00	0.50	200	1.00	0.50	180	0.50	0.30
	Sintered Steel, hardened	min.	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	100	0.01	0.01	80	0.01	0.01
		max.	300	1.50	0.50	260	1.50	0.50	260	1.00	0.40	240	1.00	0.40	220	1.00	0.40
	Hard and Soft Machining	min.	80	0.01	0.01	80	0.01	0.01	80	0.01	0.01	80	0.01	0.01	80	0.01	0.01
		max.	400	1.50	0.40	360	1.50	0.30	300	1.50	0.30	300	1.50	0.30	260	1.00	0.30

	Grades		CK65			CK85		
			 			 		
ISO	Material		Vc (m/min)	Ap (mm)	Feed (mm/rev)	Vc (m/min)	Ap (mm)	Feed (mm/rev)
X	Tool Steel, hardened up to 72 HRC	min.	100	0.01	0.01	60	0.01	0.01
		max.	260	1.00	0.40	180	0.50	0.30
	Cold and hot work tool Steel, hardened up to 72 HRC	min.	60	0.01	0.01	60	0.01	0.01
		max.	250	0.50	0.40	180	0.30	0.30
	Powder metallurgical Steel, hardened up to 72 HRC	min.	60	0.01	0.01	60	0.01	0.01
		max.	220	0.50	0.40	180	0.30	0.30
	Stainless Steel, hardened	min.	80	0.01	0.01	60	0.01	0.01
		max.	200	2.00	0.40	160	0.50	0.30
	Stellite	min.	60	0.01	0.01	40	0.01	0.01
		max.	160	0.50	0.30	120	0.30	0.30

 continuous cut

 light interrupted cut

 heavy interrupted cut

Cooling recommendation

When machining with CBN inserts, proper coolant application is essential for achieving optimal cutting performance, process stability, and tool life.

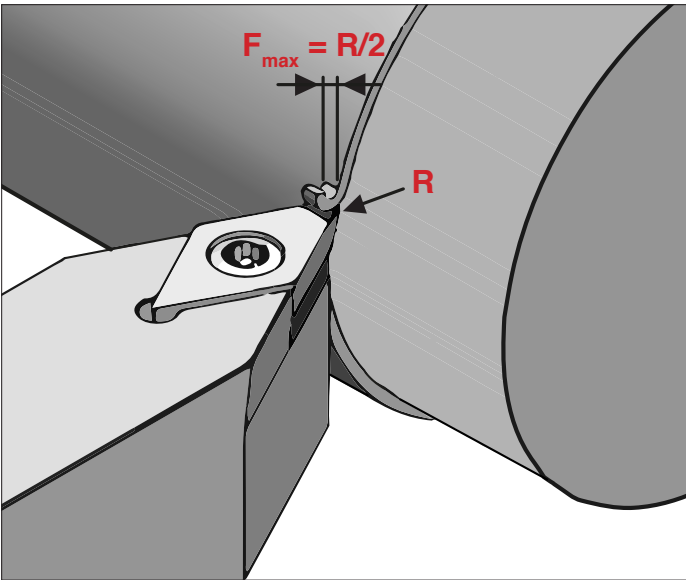
The following recommendations are provided according to the specific cutting conditions:

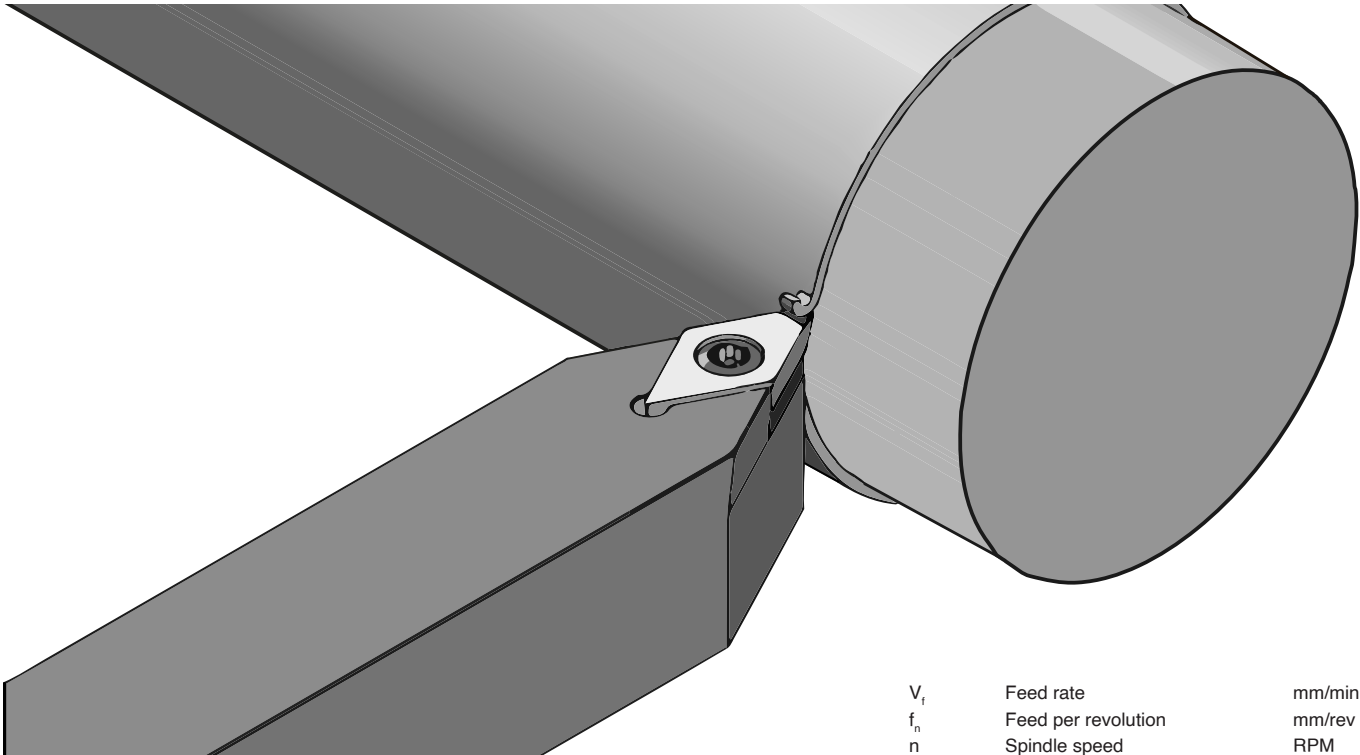
		Dry	Air	Emulsion	Oil
H		4. Choice	3. Choice	1. Choice	2. Choice
		2. Choice	1. Choice	3. Choice	
		2. Choice	1. Choice		
X		4. Choice	3. Choice	1. Choice	2. Choice
		2. Choice	1. Choice		
		2. Choice	1. Choice		

Technical Note

⚠ Do not use the maximum depth of cut (Ap) in combination with the maximum feed rate (f).

RNGN and SNGN solid inserts enable significantly higher cutting depths and feed rates compared with conventional inserts.





V_f	Feed rate	mm/min
f_n	Feed per revolution	mm/rev
n	Spindle speed	RPM
v_c	Cutting speed	m/min
D_c	Cutter diameter	mm
t_c	Cutting Time	min
l_m	Cutting length	mm
Q	Stock removal rate	cm ³ /min
a_p	Cutting depth	mm

► Cutting speed

$$V_c = \frac{D_c \times \pi \times n}{1000}$$

[m/min]

► Spindle speed

$$n = \frac{v_c \times 1000}{\pi \times D_c}$$

[RPM]

► Feed per revolution

$$f_n = \frac{V_f}{n}$$

[mm/rev]

► Cutting time

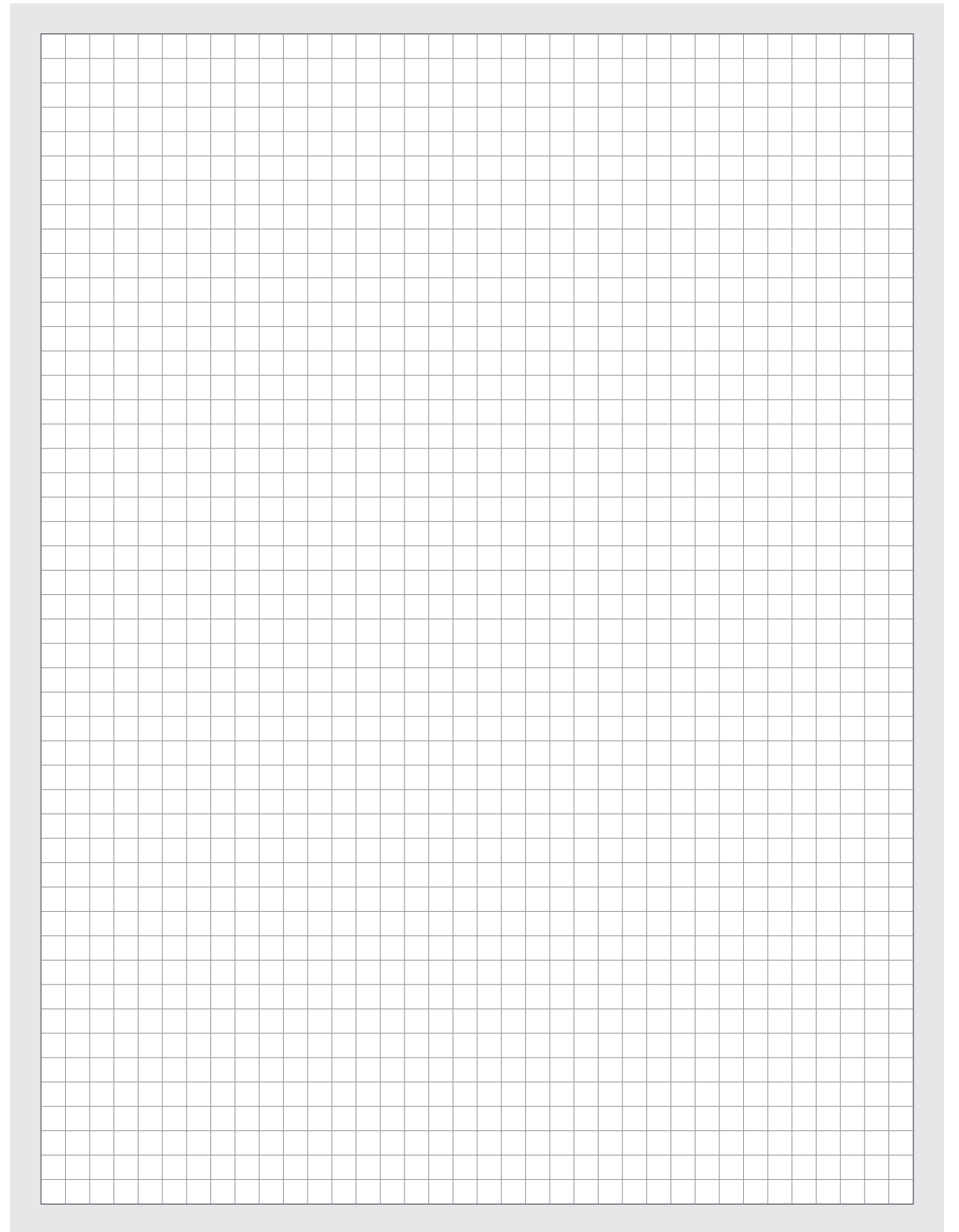
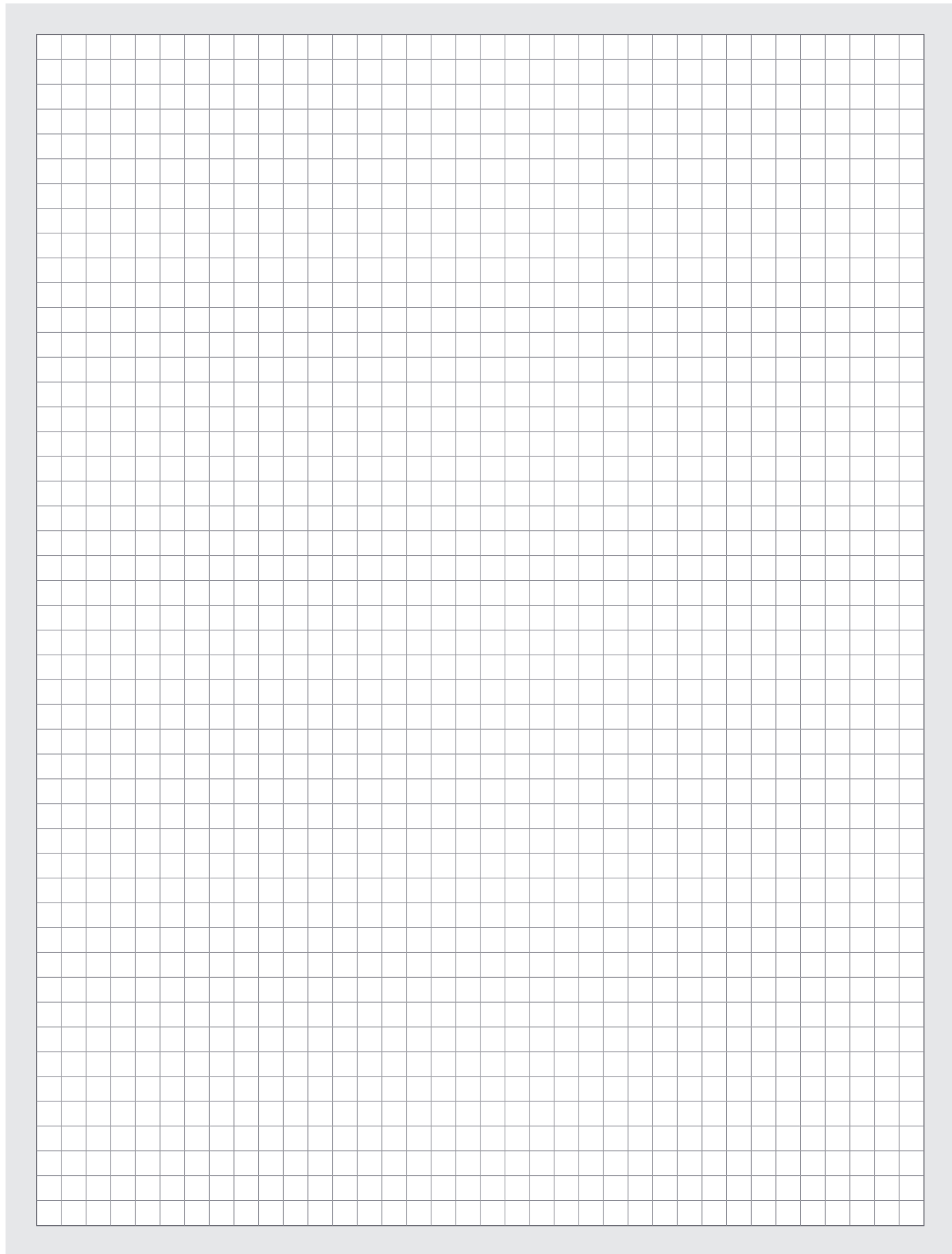
$$t_c = \frac{l_m}{f_n \times n}$$

[min]

► Stock removal rate

$$Q = v_c \times a_p \times f_n$$

[cm³/min]





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