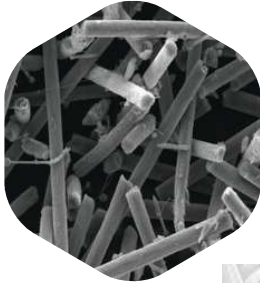




CERAMIC INSERTS

FOR SUPER ALLOY, HARDENED STEEL AND
CAST IRON MACHINING



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Grade Information

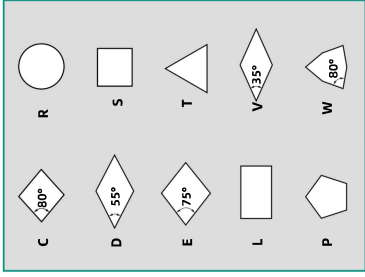
Grade	ISO	Material Features	Applications
DW10	S10	Superior flank wear resistance and notch wear resistance in high-speed machining	Medium machining of super alloy, hardened steel, and cast iron, mainly in the milling operations
DW25	S25	Superior flank wear resistance and notch wear resistance in high-speed machining	High-speed machining of Nickel-based and Cobalt-based alloy, cast iron and hardened steel in continuous or light interrupted cutting
DA10	K10,H10	Outstanding wear resistance and thermal shock resistance	Finishing of cast iron and hardened steel
DA20	K20,H20	Outstanding wear resistance and thermal shock resistance	Semi-finishing of cast iron and hardened steel
DS30	S30	Outstanding wear resistance and thermal shock resistance	Medium and high speed machining of Nickel-based and Cobalt-based alloys under continuous or light interrupted conditions
DS35	S35	Outstanding wear resistance and thermal shock resistance	Medium and high speed machining of Nickel-based and Cobalt-based alloys under continuous or heavy interrupted conditions
DC05	K05,H05	Outstanding wear resistance and thermal shock resistance	Suitable for high-speed continuous machining of cast iron, hardened steel and heat resistant alloy
DC10	K10,H10	Outstanding wear resistance and thermal shock resistance	Suitable for high-speed continuous or light interrupted machining of cast iron, hardened steel and heat resistant alloy.
DN30	K30	Excellent toughness and thermal shock resistance	Suitable for high-speed continuous or light interrupted machining of cast iron

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Insert Denomination

1, Shape



3, Tolerance Class

Code	Metric Inch		Metric Inch		M tolerance
	d	M	d	M	
A	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
F	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
C	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
H	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
E	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
G	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
J	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
K	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
L	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
M	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
N	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$
U	$\pm 0.013 / .0005$	$\pm 0.005 / .0002$	$\pm 0.025 / .0010$	$\pm 0.013 / .0005$	$\pm 0.013 / .0005$

ISO

ANSI

S

S

N

N

G

G

A

A

2, Clearance

Type	Code
N	0°
B	5°
C	7°
P	11°
D	15°
E	20°

4, Insert type

Type	Code
N(E)	H
F	B
R	T
A	W
G	
M	
Special design	X

6, Thickness

Thickness	ANSI	ISO
2.38/3/32"	1.5	02
3.15/1/8"	2	03
3.97/5/32"	2.5	T3
4.76/3/16"	3	04
6.35/1/4"	4	06
7.94/5/16"	5	07
9.525/3/8"	6	09
12.7/1/2"	8	12

5, Cutting Edge Length

Inscribed Circle	ANSI	ISO
6.35/1/4"	2	06
9.525/3/8"	3	09
12.7/1/2"	4	12
15.875/5/8"	5	15
19.05/3/4"	6	19
25.4/1"	8	25

7, Corner Radius

Corner Radius	ANSI	ISO
0.4/1/64"	1	04
0.8/1/32"	2	08
1.2/3/64"	3	12
1.6/1/16"	4	16
2.0/5/64"	5	20
2.4/3/32"	6	24
2.8/7/64"	7	28
3.2/1/8"	8	32

12

4

04

3

12

3

T

T

010

04

20

20

9, Negative Land Width

Code	Description	ISO	Metric Inch	Metric Inch
E	01	002	-	0.02/0.001"
T	02	004	0.05/0.002"	-
S	04	010	0.1/0.004"	-
Z	06	015	0.15/0.006"	-
	08	020	0.2/0.008"	-
	04	010	0.1/0.004"	0.04/0.002"
	08	020	0.2/0.008"	0.04/0.002"
	04	010	0.1/0.004"	0.02/0.001"
	08	020	0.2/0.008"	0.02/0.001"

8, Edge Condition

Edge	ANSI	ISO
Sharp	F	F
Honed	E	E
Chamfered	T	T
Chamfered and Honed	S	S
Double Chamfered	P	P
Double Chamfered and Honed	HD	HD

10, Negative Land Angle

Description	b
10	10°
15	15°
20	20°
25	25°
30	30°

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CDH

ISO/ANSI	IC	T	H
CDH22/CDH22	12.7/1/2"	6.35/1/4"	3.175/1/8"
CDH33/CDH33	19.05/3/4"	9.525/3/8"	6.35/1/4"
CDH42/CDH42	25.4/1"	12.7/1/2"	6.76/2/66"
CDH515/CDH51	31.75/5/4"	9.525/3/8"	9.93/3/91"

		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K	S	H		K	S	H		K	S	H	
ISO	ANSI	H Metric Inch	DW25	DA10	DA20	DS30	DS35	DC05	DC10	DN30			
CDH 22 HD00710	CDH 22 HD02810	3.175/.125"	▲	▲	▲								
CDH 33 HD01510E2	CDH 33 HD06010E2	6.35/.25"	▲	▲	▲								
CDH 42 HD02015E1	CDH 42 HD08015E1	6.76/.266"	▲	▲	▲								
CDH 512 HD01810	CDH 512 HD07110	9.93/.391"	▲	▲	▲								

▲ 1st choice

● Optional choice, produce according to the requests.

CNGX

ISO/ANSI	IC	T
CNGX 1204/CNGX 43	12.7/1/2"	4.76/3/16"
CNGX 1207/CNGX 45	12.7/1/2"	7.94/5/16"

		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K	S	H		K	S	H		K	S	H	
ISO	ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DS35	DC05	DC10	DN30			
CNGX 120408 502020	CNGX 432 T0820E2	0.8/.031"	▲										
CNGX 120412 502020	CNGX 433 T0820E2	1.2/.047"	▲										
CNGX 120416 502020	CNGX 434 T0820E2	1.6/.063"	▲										
CNGX 120708 T02025	CNGX 452 T0825	0.8/.031"	▲										
CNGX 120712 T02025	CNGX 453 T0825	1.2/.047"	▲										
CNGX 120716 T02025	CNGX 454 T0825	1.6/.063"	▲										

▲ 1st choice

● Optional choice, produce according to the requests.

Note: The edge preparation is not listed in the table. It can be customized.

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CNGA

ISO/ANSI	IC	T
CNGA 1204/CNGA 43	12.7/1/2"	4.76/3/16"
CNGA 1606/CNGA 54	15.875/5/8"	6.35/1/4"
CNGA 1906/CNGA 64	19.05/3/4"	6.35/1/4"

		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K	S	H		K	S	H		K	S	H	
ISO	ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DS35	DC05	DC10	DN30			
CNGA 120404 T00520	CNGA 431 T0220	0.4/.016"	●	▲	●								
CNGA 120408 T00520	CNGA 432 T0220		●	▲	●								
CNGA 120408 T01020	CNGA 432 T0420		●	▲	●								
CNGA 120408 T02025	CNGA 432 T0825	0.8/.031"	●	▲	●								
CNGA 120408 Z02020	CNGA 432 T0820E1		●	▲	●								
CNGA 120412 T00520	CNGA 433 T0220		●	▲	●								
CNGA 120412 T01020	CNGA 433 T0420	1.2/.047"	●	▲	●								
CNGA 120412 T02025	CNGA 433 T0825		●	▲	●								
CNGA 120412 Z02020	CNGA 433 T0820E1		●	▲	●								
CNGA 120416 T00520	CNGA 434 T0220		●	▲	●								
CNGA 120416 T01020	CNGA 434 T0420	1.6/.063"	●	▲	●								
CNGA 120416 T02025	CNGA 434 T0825		●	▲	●								
CNGA 160612 T00520	CNGA 543 T0220	1.2/.047"	●	▲	●								
CNGA 160612 Z02025	CNGA 543 T0825E1		●	▲	●								
CNGA 160616 T00520	CNGA 544 T0220	1.6/.063"	●	▲	●								
CNGA 190612 T00520	CNGA 643 T0220		●	▲	●								
CNGA 190612 T01520	CNGA 643 T0620	1.2/.047"	●	▲	●								
CNGA 190612 Z02025	CNGA 643 T0825E1		●	▲	●								
CNGA 190616 T00520	CNGA 644 T0220	1.6/.063"	●	▲	●								

▲ 1st choice

● Optional choice, produce according to the requests.

Note: The edge preparation is not listed in the table. It can be customized.



ISO/ANSI		IC	T
CNGN1204/CNGA 43		12.7/1/2"	4.76/3/16"
CNGN1207/CNGA 45		12.7/1/2"	7.94/5/16"
CNGN1906/CNGA 64		19.05/3/4"	6.35/1/4"

CNGN

ISO		ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05	DC10	DN30
CNGN 120404 T00520		CNGN 431 T0220	0.4/.016"	▲	▲	▲				
CNGN 120408 T00520		CNGN 432 T0220		▲	▲	▲				
CNGN 120408 T01025		CNGN 432 T0425	0.8/.031"	▲	▲	▲				
CNGN 120408 T02025		CNGN 432 T0825		▲	▲	▲				
CNGN 120408 T02025		CNGN 432 T0825		▲	▲	▲				
CNGN 120408 T02025		CNGN 432 T0825		▲	▲	▲				
CNGN 120412 T00520		CNGN 433 T0220		▲	▲	▲				
CNGN 120412 T01025		CNGN 433 T0425	1.2/.047"	▲	▲	▲				
CNGN 120412 T01025		CNGN 433 T0425		▲	▲	▲				
CNGN 120412 T02025		CNGN 433 T0825		▲	▲	▲				
CNGN 120412 T02025		CNGN 433 T0825		▲	▲	▲				
CNGN 120416 T00520		CNGN 434 T0220	1.6/.063"	▲	▲	▲				
CNGN 120416 T01025		CNGN 434 T0425		▲	▲	▲				
CNGN 120416 T02025		CNGN 434 T0825		▲	▲	▲				
CNGN 120416 T02025		CNGN 434 T0825		▲	▲	▲				
CNGN 120708 T00520		CNGN 452 T0220	0.8/.031"	▲	▲	▲				
CNGN 120716 T00520		CNGN 453 T0220	1.2/.047"	▲	▲	▲				
CNGN 120716 T00520		CNGN 454 T0220	1.6/.063"	▲	▲	▲				
CNGN 190612 T00520		CNGN 643 T0220	1.2/.047"	▲	▲	▲				
CNGN 190616 T00520		CNGN 644 T0220	1.6/.063"	▲	▲	▲				
CNGN 190716 T00520		CNGN 654 T0220		▲	▲	▲				

▲ 1st choice ● Optional choice, produce according to the requests.

Note: The edge preparation is not listed in the table. It can be customized.

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DNGA

ISO/ANSI		IC	T
DNGA 1504/DNGA 43		12.7/1/2"	4.76/3/16"

ISO		ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05	DC10	DN30
DNGA 150404 T00520		DNGA 431 T0220	0.4/.016"	▲	▲	▲				
DNGA 150408 T00520		DNGA 432 T0220		▲	▲	▲				
DNGA 150408 T01025		DNGA 432 T0425	0.8/.031"	▲	▲	▲				
DNGA 150408 T01025		DNGA 432 T0425		▲	▲	▲				
DNGA 150412 T00520		DNGA 433 T0220		▲	▲	▲				
DNGA 150412 T01025		DNGA 433 T0425	1.2/.047"	▲	▲	▲				
DNGA 150412 T02025		DNGA 433 T0825		▲	▲	▲				
DNGA 150416 T00520		DNGA 434 T0220	1.6/.063"	▲	▲	▲				
DNGA 150416 T01025		DNGA 434 T0425		▲	▲	▲				
DNGA 150416 T02025		DNGA 434 T0825		▲	▲	▲				

DNGN

ISO/ANSI		IC	T
DNGN 1504/DNGN 43		12.7/1/2"	4.76/3/16"

ISO		ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05	DC10	DN30
DNGN 150408 T00520		DNGN 432 T0220		▲	▲	▲				
DNGN 150408 T01025		DNGN 432 T0425	0.8/.031"	▲	▲	▲				
DNGN 150408 T02025		DNGN 432 T0825		▲	▲	▲				
DNGN 150412 T00520		DNGN 433 T0220		▲	▲	▲				
DNGN 150412 T01025		DNGN 433 T0425	1.2/.047"	▲	▲	▲				
DNGN 150412 T02025		DNGN 433 T0825		▲	▲	▲				
DNGN 150416 T00520		DNGN 434 T0220	1.6/.063"	▲	▲	▲				
DNGN 150416 T01025		DNGN 434 T0425		▲	▲	▲				
DNGN 150416 T02025		DNGN 434 T0825		▲	▲	▲				

▲ 1st choice ● Optional choice, produce according to the requests.

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LNJ

ISO/ANSI	W	L	T
LNJ6688/LNJ6688	19.02 3/4"	38.1 3/2"	12.7 1/2"

		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K				S				H			
		Cast Iron				Heat-Resistant Alloy				Hardened Steel			
		90°				90°				90°			
ISO	ANSI	R	Metric Inch	DA20	DA10	DW25	DS30	DS35	DC05	DC10	DN30		
LNJ6688 HD0151E1			3.18 1/8"	▲		●							
LNJ6688 HD0201E2				▲		●							

● Optional choice, produce according to the requests.

▲ 1st choice

RNGN

ISO/ANSI	IC	T
RNGN 0903/RNGN 32	9.525 3/8"	3.18 1/8"
RNGN 0904/RNGN 33	9.525 3/8"	4.76 3/16"
RNGN 1204/RNGN 43	12.7 1/2"	4.76 3/16"
RNGN 1207/RNGN 45	12.7 1/2"	7.94 5/16"

		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K				S				H			
		Cast Iron				Heat-Resistant Alloy				Hardened Steel			
		90°				90°				90°			
ISO	ANSI	/	DW25	DA20	DA10	DS30	DS35	DC05	DC10	DN30			
RNGN 090300 T00520			▲	▲					●				
RNGN 090400 T00520			▲	▲					●				
RNGN 120400 T00520			▲	▲					●				
RNGN 120400 T01025			▲	▲					●				
RNGN 120700 T00520			▲	▲					●				
RNGN 120700 Z01520			▲	▲					●				
RNGN 150700 T00520			▲	▲					●				
RNGN 190700 T00520			▲	▲					●				
RNGN 250700 T00520			▲	▲					●				
RNGN 250900 T00520			▲	▲					●				

● Optional choice, produce according to the requests.

▲ 1st choice

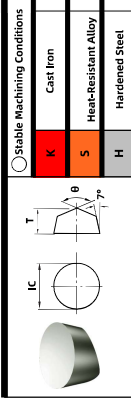
Note: The edge preparation is not listed in the table. It can be customized.

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RCGX

ISO/ANSI	IC	θ
RCGX 0604/RCGX 23	6.35 1/4"	120°
RCGX 0606/RCGX 24	6.35 1/4"	120°
RCGX 0907/RCGX 35	9.525 3/8"	120°
RCGX 1207/RCGX 45	12.7 1/2"	120°



		Stable Machining Conditions				Interrupted Machining Conditions				Severe Interrupted Conditions			
		K				S				H			
		Cast Iron				Heat-Resistant Alloy				Hardened Steel			
		90°				90°				90°			
ISO	ANSI	T	Metric Inch	DA10	DA20	DS30	DS35	DC05	DC10	DN30			
RCGX 060400 T00520			4.76 3/16"	▲	▲								
RCGX 060400 Z00520				▲	▲								
RCGX 060600 T00520			6.35 1/4"	▲	▲								
RCGX 060600 Z00520				▲	▲								
RCGX 090700 T00520				▲	▲								
RCGX 090700 Z01025				▲	▲								
RCGX 090700 Z01025				▲	▲								
RCGX 090700 Z02025				▲	▲								
RCGX 090700 Z02025				▲	▲								
RCGX 120700 T00520			7.94 5/16"	▲	▲								
RCGX 120700 Z00520				▲	▲								
RCGX 120700 T01025				▲	▲								
RCGX 120700 Z01025				▲	▲								
RCGX 120700 Z02025				▲	▲								
RCGX 102 HD1215E1			7.85 0.309"	▲	▲								
RCGX 103 HD1215E1				▲	▲								
RCGX 104 HD1515E1			7.92 0.312"	▲	▲								
RCGX 105 HD2015E1				▲	▲								
RCGX 106 HD2015E1			9.86 0.388"	▲	▲								
RCGX 108 HD1515E1			11.71 0.461"	▲	▲								

● Optional choice, produce according to the requests.

▲ 1st choice

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RPGN

ISO/ANSI	IC	T
RPGN 0602/RPGN 215	6.35/1/4"	2.38/3/32"
RPGN 0603/RPGN 22	6.35/1/4"	3.18/1/8"
RPGN 0903/RPGN 32	9.525/3/8"	3.18/1/8"
RPGN 1204/RPGN 43	12.7/1/2"	4.76/3/16"

Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
IC	T	K	S	H	11°
ISO	ANSI	/	DW25	DA10	DA20
RPGN 060200 T00520R	RPGN 215 T0220				
RPGN 060200 T01020R	RPGN 215 T0420				
RPGN 060300 T00520R	RPGN 22 T0220				
RPGN 060300 T01020R	RPGN 22 T0420				
RPGN 090300 T00520R	RPGN 32 T0220				
RPGN 090300 T01020R	RPGN 32 T0420				
RPGN 120400 T00520R	RPGN 43 T0220				
RPGN 120400 T01020R	RPGN 43 T0420				

● Optional choice, produce according to the requests.

▲ 1st choice

RPGX

ISO/ANSI	IC	θ
RPGX 0604/RPGX 23	6.35/1/4"	120°
RPGX 0907/RPGX 35	9.525/3/8"	120°
RPGX 1207/RPGX 45	12.7/1/2"	120°

Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
IC	T	K	S	H	11°
ISO	ANSI	T	DW25	DA10	DA20
RPGX 060400 T00520	RPGX 23 T0220	4.76/.187"			
RPGX 060400 Z02020	RPGX 23 T0820E1				
RPGX 090700 T00520	RPGX 35 T0220				
RPGX 090700 T01020	RPGX 35 T0420				
RPGX 090700 Z02020	RPGX 35 T0820E1	7.94/.31"			
RPGX 120700 T00520	RPGX 45 T0220				
RPGX 120700 T01020	RPGX 45 T0420				

● Optional choice, produce according to the requests.

▲ 1st choice

Note: The edge preparation is not listed in the table. It can be customized.

Note: The edge preparation is not listed in the table. It can be customized.



SNGA

ISO/ANSI	IC	T
SNGA 1204/SNGA 43	12.7/1/2"	4.96/3/16"
SNGA 1506/SNGA 54	15.875/5/8"	6.35/1/4"
SNGA 1906/SNGA 64	19.05/3/4"	6.35/1/4"

Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
IC	T	K	S	H	90°
ISO	ANSI	R	DW25	DA10	DA20
SNGA 120408 T00520S	IGA 432 T0220	0.8/.031"			
SNGA 120408 T01020S	IGA 432 T0420				
SNGA 120416 T00520S	IGA 434 T0220	1.6/.063"			
SNGA 120416 T02025S	IGA 434 T0825				
SNGA 150612 T00520S	IGA 543 T0220	1.2/.047"			
SNGA 150612 T00525S	IGA 543 T0225				
SNGA 150616 T00520S	IGA 544 T0220	1.6/.063"			
SNGA 150516 T02020S	IGA 544 T0820				
SNGA 190616 T02025S	IGA 644 T0825				

● Optional choice, produce according to the requests.

▲ 1st choice

SNGX

ISO/ANSI	IC	T
SNGX 1204/SNGX 43	12.7/1/2"	4.76/3/16"
SNGX 1207/SNGX 45	12.7/1/2"	7.94/5/16"

Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
IC	T	K	S	H	90°
ISO	ANSI	R	DW25	DA10	DA20
SNGX 120408 S02020	SNGX 432 T0820E2	0.8/.031"			
SNGX 120412 S02020	SNGX 433 T0820E2	1.2/.047"			
SNGX 120416 S02020	SNGX 434 T0820E2	1.6/.063"			
SNGX 120708 T02025	SNGX 452 T0825	0.8/.031"			
SNGX 120712 T02025	SNGX 453 T0825	1.2/.047"			
SNGX 120716 T02025	SNGX 454 T0825	1.6/.063"			

● Optional choice, produce according to the requests.

▲ 1st choice

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SPGN

SPGN 0903/SPGN 32	9.525/3/8"	3.18/1/8"
SPGN 1204/SPGN 43	12.7/1/2"	4.76/3/16"
SPGN 1904/SPGN 63	19.05/3/4"	4.76/3/16"

TNGA

ISO/ANS	IC	T
TNGA1604/TNGA 33	9.525/3/8"	4.76/3/16
TNGA 2204/TNGA 43	12.7/1/2"	4.76/3/16

L

- **Optional choice, produce according to the requests.**

● **Optional choice, produce according to the requests.**

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TNGN		ISO/ANSI		IC		T	
TNGN 1604/TNGN 33		9.525/3/8"		4.76/3/16"			
TNGN 2204/TNGN 43		12.7/1/2"		4.76/3/16"			
TNGN 2207/TNGN 45		12.7/1/2"		7.94/5/16"			

		Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
ISO	ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05
TNGN 160408 T00520	TNGN 332 T0220		▲	▲	▲		
TNGN 220408 T00520	TNGN 432 T0220	0.8/.031"	▲	▲	▲		
TNGN 220408 S02025	TNGN 432 T0825E2		▲	▲	▲		
TNGN 220412 T00520	TNGN 433 T0220	1.2/.047"	▲	▲	▲		
TNGN 220412 S02025	TNGN 433 T0825E2		▲	▲	▲		
TNGN 220416 T00520	TNGN 434 T0220	1.6/.063"	▲	▲	▲		
TNGN 220416 S02025	TNGN 434 T0820E2		▲	▲	▲		
TNGN 220712 T00520	TNGN 453 T0220	1.2/.047"	▲	▲	▲		
TNGN 220716 T00520	TNGN 454 T0220	1.6/.063"	▲	▲	▲		

▲ 1st choice

● Optional choice, produce according to the requests.



VNGA		ISO/ANSI		IC		T	
VNGA 1604/VNGA 33		9.525/3/8"		4.76/3/16"			
VNGA 2204/VNGA 43		12.7/1/2"		4.76/3/16"			

		Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
ISO	ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05
VNGA 160404 T00520	VNGA 331 T0220	0.4/.016"	▲	▲	▲		
VNGA 160408 T00520	VNGA 332 T0220	0.8/.031"	▲	▲	▲		
VNGA 160412 T00520	VNGA 333 T0220	1.2/.047"	▲	▲	▲		
VNGA 220408 T00520	VNGA 432 T0220	0.8/.031"	▲	▲	▲		
VNGA 220412 T00520	VNGA 433 T0220	1.2/.047"	▲	▲	▲		

▲ 1st choice

● Optional choice, produce according to the requests.

Note: The edge preparation is not listed in the table. It can be customized.

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VGV		ISO/ANSI		T		L	
VGV 417/VGV 41		4.75/.187"		12.7/.500"			
VGV 627/VGV 62		6.35/.250"		19.05/.750"			
VGV 837/VGV 83		8.56/.337"		25.4/1.00"			

		Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions	
ISO	ANSI	R Metric Inch	DW25	DA10	DA20	DS30	DC05
VGV 4125-1 E004	VGV 4125-1 E02	0.4/.016"	▲	▲	▲		
VGV 4125-1 T00520	VGV 4125-1 T0220	3.18/.125"	▲	▲	▲		
VGV 4125-2 E004	VGV 4125-2 E02	0.8/.031"	▲	▲	▲		
VGV 4156-1 E004	VGV 4156-1 E02	0.4/.016"	▲	▲	▲		
VGV 4156-1 T00520	VGV 4156-1 T0220	3.96/.156"	▲	▲	▲		
VGV 4156-2 E004	VGV 4156-2 E02	0.8/.031"	▲	▲	▲		
VGV 4187-1 E004	VGV 4187-1 E02	0.4/.016"	▲	▲	▲		
VGV 4187-1 T00520	VGV 4187-1 T0220	4.75/.187"	▲	▲	▲		
VGV 4187-2 E004	VGV 4187-2 E02	0.8/.031"	▲	▲	▲		
VGV 6218-1 E004	VGV 6218-1 E02	0.4/.016"	▲	▲	▲		
VGV 6218-1 T00520	VGV 6218-1 T0220	5.54/.218"	▲	▲	▲		
VGV 6218-2 E004	VGV 6218-2 E02	0.8/.031"	▲	▲	▲		
VGV 6250-1 E004	VGV 6250-1 E02	0.4/.016"	▲	▲	▲		
VGV 6250-1 T00520	VGV 6250-1 T0220	6.35/.250"	▲	▲	▲		
VGV 6250-1 Z0102	VGV 6250-1 T0420E		▲	▲	▲		
VGV 6250-2 E004	VGV 6250-2 E02	0.8/.031"	▲	▲	▲		
VGV 6250-3 E004	VGV 6250-3 E02	1.2/.047"	▲	▲	▲		
VGV 6281-4 E004	VGV 6281-4 E02	1.6/.063"	▲	▲	▲		
VGV 6281-4 T00520	VGV 6281-4 T0220	7.14/.281"	▲	▲	▲		
VGV 8312-2 E004	VGV 8312-2 E02	0.8/.031"	▲	▲	▲		
VGV 8312-2 T00520	VGV 8312-2 T0220	7.92/.312"	▲	▲	▲		
VGV 8312-4 E004	VGV 8312-4 E02	1.6/.063"	▲	▲	▲		
VGV 8312-4 T00520	VGV 8312-4 T0220		▲	▲	▲		
VGV 8375-2 E004	VGV 8375-2 E02	0.8/.031"	▲	▲	▲		
VGV 8375-2 T00520	VGV 8375-2 T0220	9.53/.375"	▲	▲	▲		
VGV 8375-4 E004	VGV 8375-4 E02	1.6/.063"	▲	▲	▲		
VGV 8375-4 T00520	VGV 8375-4 T0220		▲	▲	▲		

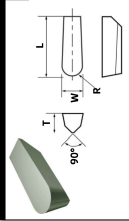
▲ 1st choice

● Optional choice, produce according to the requests.

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ISO/ANSI	T	L
VGW 41/VGW 41	4.75"/.187"	12.7/-.500"
VGW 62/VGW 62	6.35"/.250"	19.05/-.750"
VGW 83/VGW 83	8.56"/.337"	25.4/1.00"

VGW...R

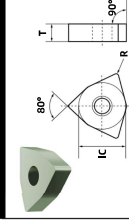


		Stable Machining Conditions		Interrupted Machining Conditions		Severe Interrupted Conditions				
		K	Cast Iron							
		S	Heat-Resistant Alloy							
		H	Hardened Steel							
IS	ANSI	R	W	DA10	DA20	DS30	DS35	DC05	DC10	DN30
O		Metric	Inch	DW25						
VGW 4125-R E004	VGW 4125-R E02	1.59/.063	3.18/.125	▲	●			●		
VGW 4125-R T0052L	VGW 4125-R T0220			▲	●			●		
VGW 4156-R E004	VGW 4156-R E02			▲	●			●		
VGW 4156-R T0052L	VGW 4156-R T0220			▲	●			●		
VGW 4156-R Z0202L	VGW 4156-R T0820E	1.98/.078	3.96/.156	▲	●			●		
VGW 4187-R E004	VGW 4187-R E02			▲	●			●		
VGW 4187-R T0052L	VGW 4187-R T0220	2.38/.094	4.75/.187	▲	●			●		
VGW 6218-R E004	VGW 6218-R E02	2.77/.109	5.54/.218	▲	●			●		
VGW 6218-R T0052L	VGW 6218-R T0220			▲	●			●		
VGW 6250-R E004	VGW 6250-R E02	3.18/.125	6.35/.250	▲	●			●		
VGW 6250-R T0052L	VGW 6250-R T0220			▲	●			●		
VGW 6281-R E004	VGW 6281-R E02			▲	●			●		
VGW 6281-R T0052L	VGW 6281-R T0220	3.58/.141	7.14/.281	▲	●			●		
VGW 8312-R E004	VGW 8312-R E02			▲	●			●		
VGW 8312-R T0052L	VGW 8312-R T0220	3.96/.156	7.92/.312	▲	●			●		
VGW 8375-R E004	VGW 8375-R E02			▲	●			●		
VGW 8375-R T0052L	VGW 8375-R T0220	4.76/.188	9.52/.375	▲	●			●		

● **Optional choice, produce according to the requests.**

Note: The edge preparation is not listed in the table. It can be customized.

WNGA

[illegible]

- **Optional choice, produce according to the requests.**

▲ 1st choice

ZT

[illegible]

- **Optional choice, produce according to the requests.**

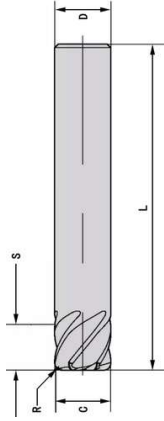
▲ 1st choice

Note: The edge preparation is not listed in the tablet can be customized



Solid Ceramic End Mills

Straight Shank



		Stable Machining Conditions			Interrupted Machining Conditions			Severe Interrupted Conditions		
		K	S	H	Cast Iron	Heat-Resistant Alloy	Hardened Steel			
Metric / Inch Product code		D	R	C	S	L	F	Grade		
		Shank Diameter 4.0 / .157"	Corner Radius 0.50 / .0197"	Cutting Edge Diameter 4.0 / .157"	Effective Cutting Length (Near Axial Cutting Depth) 3.0 / .118"	Overall Length 50.0 / 1.968"	Number of Flutes 4	DW10	DW25	
TB-D4R0.5C4S3L50F4		6.0 / .236"	0.75 / .0295"	6.0 / .236"	4.5 / .177"	50.0 / 1.968"	4	▲	●	
TB-D6R0.75C6S4.5L50F4		8.0 / .315"	1.00 / .0394"	8.0 / .315"	6.0 / .236"	60.0 / 2.362"	4	▲	●	
TB-D8R1.0C8S6.0L60F4		10.0 / .394"	1.25 / .0492"	10.0 / .394"	7.5 / .295"	65.0 / 2.559"	4	▲	●	
TB-D10R1.25C10S7.5L65F4		12.0 / .472"	1.50 / .0590"	12.0 / .472"	9.0 / .354"	70.0 / 2.756"	4	▲	●	
TB-D12R1.5C12S9L70F4		16.0 / .630"	1.75 / .0689"	16.0 / .630"	12.0 / .472"	75.0 / 2.952"	4	▲	●	
TB-D16R1.75C16S12L75F4		20.0 / .787"	1.75 / .0689"	20.0 / .787"	15.0 / .590"	80.0 / 3.149"	4	▲	●	
TB-D20R2.0C20S15L80F4		4.0 / .157"	0.50 / .0197"	4.0 / .157"	3.0 / .118"	50.0 / 1.968"	6	▲	●	
TB-D4R0.5C4S3L50F6		6.0 / .236"	0.75 / .0295"	6.0 / .236"	4.5 / .177"	50.0 / 1.968"	6	▲	●	
TB-D6R0.75C6S4.5L50F6		8.0 / .315"	1.00 / .0394"	8.0 / .315"	6.0 / .236"	60.0 / 2.362"	6	▲	●	
TB-D8R1.0C8S6.0L60F6		10.0 / .394"	1.25 / .0492"	10.0 / .394"	7.5 / .295"	65.0 / 2.559"	6	▲	●	
TB-D10R1.25C10S7.5L65F6		12.0 / .472"	1.50 / .0590"	12.0 / .472"	9.0 / .354"	70.0 / 2.756"	6	▲	●	
TB-D12R1.5C12S9L70F6		16.0 / .630"	1.75 / .0689"	16.0 / .630"	12.0 / .472"	75.0 / 2.952"	6	▲	●	
TB-D16R1.75C16S12L75F6		20.0 / .787"	1.75 / .0689"	20.0 / .787"	15.0 / .590"	80.0 / 3.149"	6	▲	●	
TB-D20R2.0C20S15L80F6										

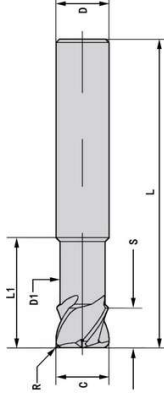
▲ 1st choice

● Optional choice, produce according to the requests.



Solid Ceramic End Mills

Reduced Neck Shank



		Stable Machining Conditions			Interrupted Machining Conditions			Severe Interrupted Conditions			
		K	S	H	Cast Iron	Heat-Resistant Alloy	Hardened Steel	K	S	H	
Metric / Inch Product code		D	R	C	S	D1	L1	L	F	Grade	
		Shank Diameter	Corner Radius	Cutting Edge Diameter	Effective Cutting Length (less Depth of Cut)	Reduced Neck				Number of Flutes	DW70
SJ-D4R0.5C4S3L50F4		4.0 / .157"	0.50 / .0197"	4.0 / .157"	3.0 / .118"	3.80 / .015"	6.0 / .236"	50.0 / 1.968"	4	▲	●
SJ-D6R0.75C6S4.5L50F4		6.0 / .236"	0.75 / .0295"	6.0 / .236"	4.5 / .177"	5.80 / .228"	9.0 / .354"	50.0 / 1.968"	4	▲	●
SJ-D8R1.0C8S6.0L60F4		8.0 / .315"	1.00 / .0394"	8.0 / .315"	6.0 / .236"	7.70 / .303"	12.0 / .472"	60.0 / 2.362"	4	▲	●
SJ-D10R1.25C10S7.5L65F4		10.0 / .394"	1.25 / .0492"	10.0 / .394"	7.5 / .295"	9.60 / .378"	15.0 / .590"	65.0 / 2.559"	4	▲	●
SJ-D12R1.5C12S9L70F4		12.0 / .472"	1.50 / .0590"	12.0 / .472"	9.0 / .354"	11.50 / .453"	18.0 / .708"	70.0 / 2.756"	4	▲	●
SJ-D16R1.75C16S12L75F4		16.0 / .630"	1.75 / .0689"	16.0 / .630"	12.0 / .472"	15.40 / .606"	24.0 / .945"	75.0 / 2.952"	4	▲	●
SJ-D20R2.0C20S15L80F4		20.0 / .787"	1.75 / .0689"	20.0 / .787"	15.0 / .590"	15.40 / .606"	30.0 / 1.181"	80.0 / 3.149"	4	▲	●
SJ-D4R0.5C4S3L50F6		4.0 / .157"	0.50 / .0197"	4.0 / .157"	3.0 / .118"	3.80 / .015"	6.0 / .236"	50.0 / 1.968"	6	▲	●
SJ-D6R0.75C6S4.5L50F6		6.0 / .236"	0.75 / .0295"	6.0 / .236"	4.5 / .177"	5.80 / .228"	9.0 / .354"	50.0 / 1.968"	6	▲	●
SJ-D8R1.0C8S6.0L60F6		8.0 / .315"	1.00 / .0394"	8.0 / .315"	6.0 / .236"	7.70 / .303"	12.0 / .472"	60.0 / 2.362"	6	▲	●
SJ-D10R1.25C10S7.5L65F6		10.0 / .394"	1.25 / .0492"	10.0 / .394"	7.5 / .295"	9.60 / .378"	15.0 / .590"	65.0 / 2.559"	6	▲	●
SJ-D12R1.5C12S9L70F6		12.0 / .472"	1.50 / .0590"	12.0 / .472"	9.0 / .354"	11.50 / .453"	18.0 / .708"	70.0 / 2.756"	6	▲	●
SJ-D16R1.75C16S12L75F6		16.0 / .630"	1.75 / .0689"	16.0 / .630"	12.0 / .472"	15.40 / .606"	24.0 / .945"	75.0 / 2.952"	6	▲	●
SJ-D20R2.0C20S15L80F6		20.0 / .787"	1.75 / .0689"	20.0 / .787"	15.0 / .590"	15.40 / .606"	30.0 / 1.181"	80.0 / 3.149"	6	▲	●

▲ 1st choice

● Optional choice, produce according to the requests.

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