



Preview Edition: **WIDIA Value**
ADVANCES 2012

WIDIA 

The Gold Standard for Value •

WIDIA™ Value

WIDIA Value is the cost-effective line of inserts from the brand you already know and trust for quality. Each insert is 100% manufactured by WIDIA to outperform competitive inserts when cutting steel, stainless steel, cast iron, and high-temperature alloys. With a simple grade selection method, and because these inserts can be used in an astounding 80% of all applications, WIDIA Value is perfect for small and midsize turning operations.



WIDIA™ Value

- Engineered to optimise performance.
- Gold coating on every insert.
- Proven grade technologies.

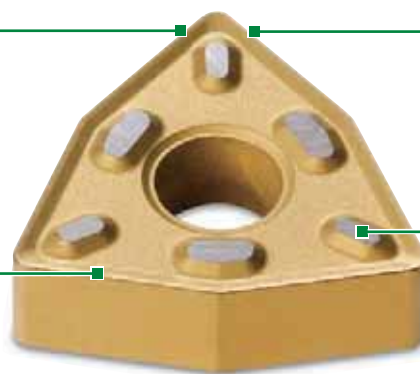
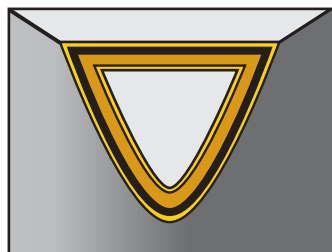
Post-coat treatment

- Improves edge toughness.
- Wide range of applications.

Improved edge toughness

- Provides smooth outer surface to reduce forces, friction, and workpiece sticking.

MT-CVD/CVD-
TiN-TiCN-Al₂O₃-TiN



Post-coat grinding

- Provides secure seating surface.

Getting the Most from Every Insert

WIDIA™ Value products make it simple to get the most out of your inserts, and your money. Every insert is gold, which exposes wear as the tool continues to be used. This makes it easy to detect when an insert is ready to be changed — maximising the product's value and protecting the workpiece. Also, because WIDIA Value inserts can be used in most applications, a single insert can take on any number of tasks, thus reducing your inventory. WIDIA Value products are also reliable enough to cut steel, stainless steel, cast iron, and high-temperature alloys, enabling quick changes in workpiece materials without the need to swap inserts, saving time and money.

Save up to 50%

WIDIA Value inserts were developed to make it easy for small and midsize turning operations to utilise an affordable, quality product. With greater durability than competitively listed products, WIDIA Value inserts ensure an overall reduction of tooling costs. Locate the lowest prices for these inserts by purchasing through our distributor partners or online, where savings can be as much as 50%.



WIDIA Value Options

The WIDIA Value platform offers a quick and easy insert with a simple geometry selection system. This versatile line offers eight grades to choose from, and eight geometries, including negative rake and screw-on. With this many options, it's no wonder WIDIA Value inserts cover 80% of all general turning applications.



Turning • WIDIA Value

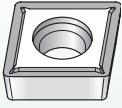
DIN ISO 513	VDI 3323	A • Finishing (ap x f = 1 x 0,1)			B • Medium (ap x f = 2 x 0,2)			C • Roughing (ap x f = 4 x 0,25)			D • Heavy roughing (ap x f = 6 x 0,6)					
Material Group		Cutting Speed • vc m/min														
		min	Start	max	min	Start	max	min	Start	max	min	Start	max	min	Start	max
P	Geometry	2P			2P • 6P			6P • 7N			7N					
	ap [mm]	0,20 – 2,00			0,80 – 5,00			1,00 – 8,00			2,00 – 15,00					
	f [mm]	0,05 – 0,20			0,16 – 0,40			0,20 – 0,60			0,40 – 1,00					
		TN10P			TN10P			TN20P			TN20P			TN30P		
	1	340	490	590	280	400	480	180	260	310	150	220	260	150	210	250
	2	340	480	580	260	370	440	130	190	230	110	160	190	110	150	180
	3	290	420	500	180	260	310	130	180	220	110	150	180	100	140	170
	4	260	370	440	190	270	320	110	150	180	90	130	160	70	100	120
	5	200	280	340	140	200	240	75	110	130	65	90	110	55	80	95
	6	270	390	470	200	290	350	110	160	190	90	130	160	75	110	130
	7	260	370	440	190	270	320	110	150	180	85	120	140	70	100	120
	8	220	320	380	160	230	280	85	120	140	70	100	120	65	90	110
	9	200	280	340	140	200	240	75	110	130	65	90	110	55	80	95
	10	270	390	470	200	290	350	110	160	190	90	130	160	75	110	130
11	200	280	340	130	190	230	75	110	130	65	90	110	55	80	95	
12	150	220	260	140	200	240	110	160	190	110	150	180	100	140	170	
13.1	130	190	230	120	170	200	90	130	160	85	120	140	75	110	130	
13.2	65	95	115	60	85	100	45	65	80	45	60	70	40	55	65	
M	Geometry	2P			2P • 4P			4P • 7N								
	ap [mm]	0,20 – 2,00			0,60 – 5,00			0,50 – 6,00								
	f [mm]	0,05 – 0,20			0,12 – 0,40			0,10 – 0,60								
		TN30M			TN30M			TN30M								
	14.1	180	250	300	150	220	260	140	200	240						
14.2	140	200	240	130	180	220	110	160	190							
14.3	110	150	180	100	140	170	85	120	140							
14.4	90	130	160	75	110	130	70	100	120							
K	Geometry	2P			2P • 6P • ..MA			6P • 7P • ..MA			7N					
	ap [mm]	0,20 – 2,00			1,00 – 8,00			1,00 – 8,00			2,00 – 15,00					
	f [mm]	0,05 – 0,20			0,20 – 0,60			0,20 – 0,60			0,25 – 1,20					
		TN20K			TN20K			TN20K			TN20K					
	15	290	410	490	230	330	400	180	260	310	160	230	280			
	16	230	330	400	180	250	300	140	200	240	120	170	200			
	17	250	360	430	210	300	360	180	250	300	150	220	260			
18	240	340	410	190	270	320	150	210	250	130	180	220				
19	340	490	590	290	410	490	240	340	410	220	310	370				
20	290	410	490	230	330	400	180	260	310	160	230	280				
S	Geometry	2P			2P • .NGP			4P			4P • 6P					
	ap [mm]	0,50 – 4,00			0,50 – 4,00			0,50 – 4,00			0,50 – 6,00					
	f [mm]	0,10 – 0,50			0,10 – 0,50			0,10 – 0,50			0,10 – 0,60					
		TN15U			TN10U			T10U			TN15U					
	31	49	70	85	55	80	95	49	70	85	55	80	95	42	60	70
	32	39	55	65	46	65	80	42	60	70	46	65	80	34	49	60
	33	31	44	55	34	48	60	30	43	50	34	48	60	25	36	43
	34	18	26	31	21	30	36	19	27	32	21	30	36	16	23	27
	35	20	28	34	22	32	38	20	29	35	22	32	38	17	24	29
	36															
37	39	55	65	42	60	70	39	55	65	42	60	70	32	45	55	

DIN ISO 513	VDI 3323	A • Finishing (ap x f = 1 x 0,1)			B • Medium (ap x f = 2 x 0,2)			C • Roughing (ap x f = 4 x 0,25)									
Material Group		Cutting Speed • vc m/min															
		min	Start	max	min	Start	max	min	Start	max							
P	Geometry ap [mm] f [mm]	1P 0,20 – 2,00 0,05 – 0,20			1P 0,30 – 4,50 0,08 – 0,35			1P 0,70 – 5,00 0,12 – 0,40									
		TN10P			TN10P			TN20P									
	1	340	490	590	280	400	480	180	260	310							
	2	340	480	580	260	370	440	130	190	230							
	3	290	420	500	180	260	310	130	180	220							
	4	260	370	440	190	270	320	110	150	180							
	5	200	280	340	140	200	240	75	110	130							
	6	270	390	470	200	290	350	110	160	190							
	7	260	370	440	190	270	320	110	150	180							
	8	220	320	380	160	230	280	85	120	140							
	9	200	280	340	140	200	240	75	110	130							
	10	270	390	470	200	290	350	110	160	190							
	11	200	280	340	130	190	230	75	110	130							
	12	150	220	260	140	200	240	110	160	190							
13.1	130	190	230	120	170	200	90	130	160								
13.2	65	95	115	60	85	100	45	65	80								
M	Geometry ap [mm] f [mm]	1P 0,20 – 2,00 0,05 – 0,20			1P 0,30 – 4,50 0,08 – 0,35			1P 0,30 – 4,50 0,08 – 0,35			1P 0,30 – 4,50 0,08 – 0,35						
		TN30M			TN30M			TN15U			TN30M			TN15U			
	14.1	180	250	300	150	220	260	140	190	230	140	200	240	110	150	180	
	14.2	140	200	240	130	180	220	110	160	190	110	160	190	85	120	140	
	14.3	110	150	180	100	140	170	85	120	140	85	120	140	65	90	110	
14.4	90	130	160	75	110	130	70	95	110	70	100	120	55	80	95		
K	Geometry ap [mm] f [mm]	1P 0,20 – 2,00 0,05 – 0,20			1P 0,30 – 4,50 0,08 – 0,35			1P 1,00 – 8,00 0,10 – 0,50									
		TN20K			TN20K			TN20K									
	15	290	410	490	230	330	400	180	260	310							
	16	230	330	400	180	250	300	140	200	240							
	17	250	360	430	210	300	360	180	250	300							
	18	240	340	410	190	270	320	150	210	250							
19	340	490	590	290	410	490	240	340	410								
20	290	410	490	230	330	400	180	260	310								
S	Geometry ap [mm] f [mm]	1P 0,30 – 2,00 0,08 – 0,20			1P 0,30 – 4,50 0,08 – 0,35			1P 0,30 – 4,50 0,08 – 0,35									
		TN15U			TN10U			TN15U			TN10U			TN15U			
	31	49	70	85	55	80	95	46	65	80	49	70	85	42	60	70	
	32	39	55	65	46	65	80	35	50	60	42	60	70	34	49	60	
	33	31	44	55	34	48	60	28	40	48	30	43	50	25	36	43	
	34	18	26	31	21	30	36	16	23	28	19	27	32	16	23	27	
	35	20	28	34	22	32	38	18	25	30	20	29	35	17	24	29	
	36																
	37	39	55	65	42	60	70	35	50	60	39	55	65	32	45	55	

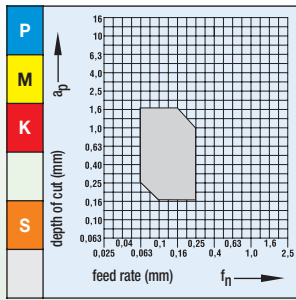
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Positive and Negative Inserts

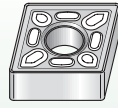
1P



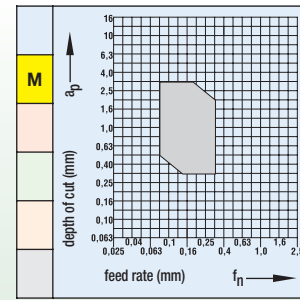
Preferred for light finishing. Low cutting forces and reduced power requirements due to positive rake angle. Good chip control over a wide range.



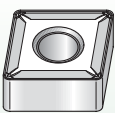
4P



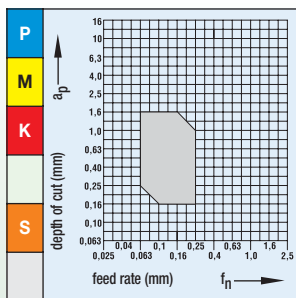
For medium-duty turning operations. Soft-cutting chipbreaker. Used in applications producing varying chip sections, such as profile or copy turning. Good dimensional accuracy. For soft steel materials and stainless steels



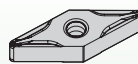
2P



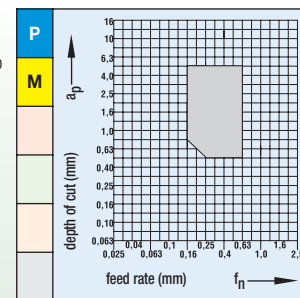
For finish turning, producing smooth, accurate surfaces. Very good chip control, especially at low depths of cut.



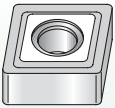
6P



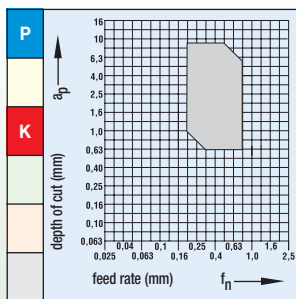
For medium to rough turning. Outstanding chip control due to specially configured chipbreaker element in corner area. Good chip forming with low depths of cut.



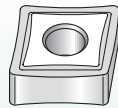
7N



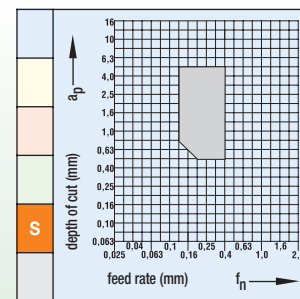
For medium-duty to roughing. Outstanding chip control. High edge strength for interrupted cuts, forging skin or scale. Preferred for all cast iron such as grey, malleable, and nodular.



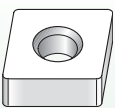
..GP



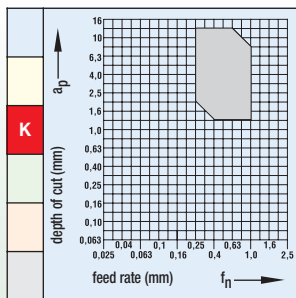
For light machining to light roughing.



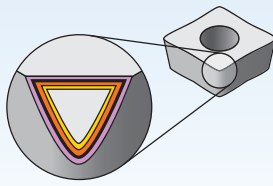
..MA



Flat top geometry for machining cast iron. For finishing to roughing applications.



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Coatings provide high-speed capability and are engineered for finishing to light roughing.

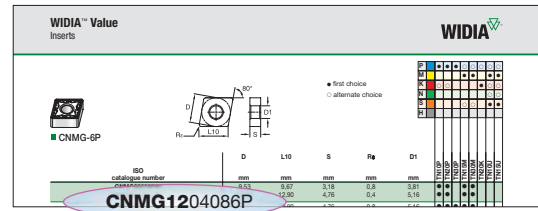
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

Grade	Coating		Grade Description	05 10 15 20 25 30 35 40 45										
	TN	HC		P	M	K	N	S	H	P	M	K	N	S
TN10P			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Ideal for light finishing to medium machining applications. Superior wear resistance.	P										
				K										
TN20P			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Great general-purpose turning grade for steels. Ideal for semi-finishing to moderately heavy roughing.	P										
				K										
TN30P			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Tough carbide grade. Ideal for roughing and heavy roughing applications.	P										
TN15M			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Ideal for finishing to medium machining of austenitic stainless steels.	P										
				M										
TN30M			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Ideal for general-purpose machining of stainless steels.	P										
				M										
TN20K			Coated carbide. MTCVD-TiN-TiCN-Al ₂ O ₃ -TiN. Great when used for straight or lightly interrupted cut applications of ductile and cast irons.	P										
				K										
TN10U			Coated carbide. PVD-TiAlN-TiN. Ideal for finishing of difficult to machine alloys and stainless steels.	P										
				M										
TN15U			Uncoated carbide. Excellent abrasion resistance for machining cast irons, austenitic stainless steels, and most high-temperature alloys.	K										
				N										
				S										

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How Do Catalogue Numbers Work?

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



C

Insert Shape

- H** Hexagon 120°
- O** Octagon 135°
- P** Pentagon 108°
- R** Round
- S** Square 90°
- T** Triangular 60°
- C** Rhomboid 80°
- D** 55°
- E** 75°
- M** 86°
- V** 35°
- W** Trigon 80° with enlarged corner angles
- L** Rectangular 90°
- A** Parallelogram 85°
- B** 82°
- N/K** 55°

N

Insert Clearance Angle

- A** 3°
- B** 5°
- C** 7°
- D** 15°
- E** 20°
- F** 25°
- G** 30°
- N** 0°
- P** 11°
- O** Indicated for other clearance angles requiring descriptions.

M

Tolerance Class

Tolerances apply prior to edge prep and coating

D = Theoretical diameter of the insert inscribed circle
S = Thickness
B = See figures below

G

Insert Features

- N**
- R**
- F**
- A**
- M**
- G**
- W**
- T**
- Q**
- U**
- B**
- H**
- C**
- J**
- X** Special Design

12

Size

"D"	Code for metric cutting edge length "L10"							
	mm	C	D	R	S	T	V	W
3,97	S4	04	03	03	06	-	-	-
4,76	04	05	04	04	08	08	S3	-
5,56	05	06	05	05	09	09	03	-
6,00	-	-	06	-	-	-	-	-
6,35	06	07	06	06	11	11	04	-
7,94	08	09	07	07	13	13	05	-
8,00	-	-	08	-	-	-	-	-
9,52	09	11	09	09	16	16	06	-
10,00	-	-	10	-	-	-	-	-
11,11	11	13	11	11	19	19	07	-
12,00	-	-	12	-	-	-	-	-
12,70	12	15	12	12	22	22	08	-
14,29	14	17	14	14	24	24	09	-
15,88	16	19	15	15	27	27	10	-
16,00	-	-	16	-	-	-	-	-
17,46	17	21	17	17	30	30	11	-
19,05	19	23	19	19	33	33	13	-
20,00	-	-	20	-	-	-	-	-
22,22	22	27	22	22	38	38	15	-
25,00	-	-	25	-	-	-	-	-
25,40	25	31	25	25	44	44	17	-
31,75	32	38	31	31	54	54	21	-
32,00	-	-	32	-	-	-	-	-

tolerance class	tolerance on "D"	tolerance on "B"	tolerance on "S"
C	±0,025	±0,013	±0,025
H	±0,013	±0,013	±0,025
E	±0,025	±0,025	±0,025
G	±0,025	±0,025	±0,13
M	See tables in size column		±0,13
U	See tables in size column		±0,13

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

WIDIA™ Value Inserts

Legend: ● Test choice, ○ alternate choice

ISO catalogue number	D	L10	S	Rn	D1	T	1	2	3	4	5	6	7	8	9	10	11	12
mm	mm	mm	mm	mm	mm	mm												
CNMG1204086P	12,0	4,76	0,4	0,8	0,4	0,15	●	●	●	●	●	●	●	●	●	●	●	●

04

Thickness
S

symbol	thickness
mm	mm
—	0,79
T0	1,00
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52
11	11,11
12	12,70

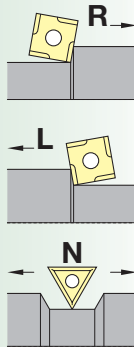
08

Corner Radius "Rc"

symbol	corner radius
mm	mm
X0	0,04
01	0,1
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
20	2,0
24	2,4
28	2,8
32	3,2
00	round insert
M0	

Hand of Insert
(optional)

R = Right hand
L = Left hand
N = Neutral



Cutting Edge
(optional)

F	Sharp
E	Rounded
T	Chamfered
S	Chamfered and Rounded
K	Double-Chamfered
P	Double-Chamfered and Rounded

6P

Chipbreaker
(optional)

1P Finishing Finishing

2P Finishing

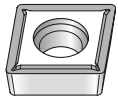
..GP Medium Machining

4P Medium Machining

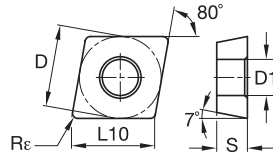
6P Medium Roughing

..MA Roughing

7N Heavy Roughing



■ CCGT-1P

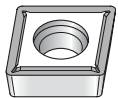


● first choice
○ alternate choice

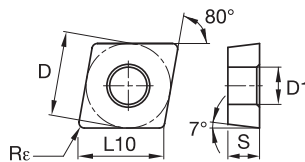
P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○



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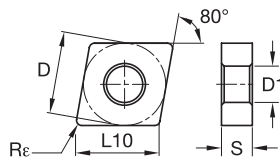
■ CCMT-1P



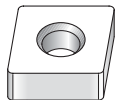
ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
CCMT0602021P	6,35	6,45	2,38	0,2	2,80	●	●	●	●	●	●	●	●
CCMT0602041P	6,35	6,45	2,38	0,4	2,80	●	●	●	●	●	●	●	●
CCMT0602081P	6,35	6,45	2,38	0,8	2,80	●	●	●	●	●	●	●	●
CCMT09T3021P	9,53	9,67	3,97	0,2	4,40	●	●	●	●	●	●	●	●
CCMT09T3041P	9,53	9,67	3,97	0,4	4,40	●	●	●	●	●	●	●	●
CCMT09T3081P	9,53	9,67	3,97	0,8	4,40	●	●	●	●	●	●	●	●
CCMT1204041P	12,70	12,90	4,76	0,4	5,50	●	●	●	●	●	●	●	●
CCMT1204081P	12,70	12,90	4,76	0,8	5,50	●	●	●	●	●	●	●	●



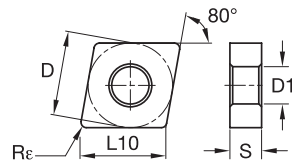
■ CNGP



ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
CNGP120401	12,70	12,90	4,76	0,1	5,16							●	
CNGP120402	12,70	12,90	4,76	0,2	5,16							●	
CNGP120404	12,70	12,90	4,76	0,4	5,16							●	●
CNGP120408	12,70	12,90	4,76	0,8	5,16							●	●
CNGP120412	12,70	12,90	4,76	1,2	5,16							●	●



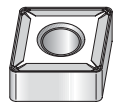
■ CNMA



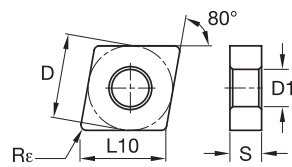
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

ISO catalogue number	D	L10	S	Rε	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
CNMA120404	12,70	12,90	4,76	0,4	5,16						●		
CNMA120408	12,70	12,90	4,76	0,8	5,16						●		
CNMA120412	12,70	12,90	4,76	1,2	5,16						●		
CNMA120416	12,70	12,90	4,76	1,6	5,16						●		
CNMA160612	15,88	16,12	6,35	1,2	6,35						●		
CNMA160616	15,88	16,12	6,35	1,6	6,35						●		
CNMA190612	19,05	19,34	6,35	1,2	7,93						●		
CNMA190616	19,05	19,34	6,35	1,6	7,93						●		



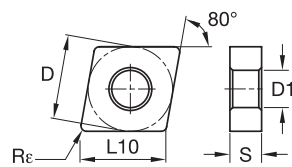
■ CNMG-2P



ISO catalogue number	D	L10	S	Rε	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
CNMG1204042P	12,70	12,90	4,76	0,4	5,16	●	●		●	●	●	●	●
CNMG1204082P	12,70	12,90	4,76	0,8	5,16	●	●		●	●	●	●	●
CNMG1204122P	12,70	12,90	4,76	1,2	5,16	●	●		●	●	●	●	●

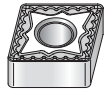


■ CNMG-4P

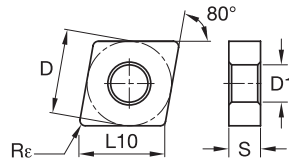


ISO catalogue number	D	L10	S	Rε	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
CNMG1204044P	12,70	12,90	4,76	0,4	5,16				●	●			
CNMG1204084P	12,70	12,90	4,76	0,8	5,16				●	●			
CNMG1204124P	12,70	12,90	4,76	1,2	5,16				●	●			
CNMG1606124P	15,88	16,12	6,35	1,2	6,35				●	●			
CNMG1906124P	19,05	19,34	6,35	1,2	7,93				●	●			

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■ CNMG-6P



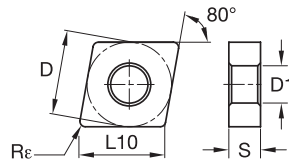
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○

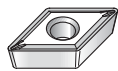
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
CNMG0903086P	9,53	9,67	3,18	0,8	3,81	●	●	●	●	●	●	●	●
CNMG1204046P	12,70	12,90	4,76	0,4	5,16	●	●	●	●	●	●	●	●
CNMG1204086P	12,70	12,90	4,76	0,8	5,16	●	●	●	●	●	●	●	●
CNMG1204126P	12,70	12,90	4,76	1,2	5,16	●	●	●	●	●	●	●	●
CNMG1606126P	15,88	16,12	6,35	1,2	6,35	●	●	●	●	●	●	●	●
CNMG1906126P	19,05	19,34	6,35	1,2	7,93	●	●	●	●	●	●	●	●



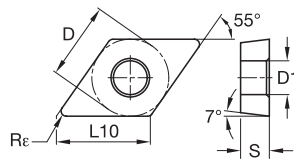
■ CNMG-7N



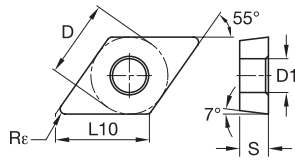
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
CNMG1204047N	12,70	12,90	4,76	0,4	5,16	●	●	●	●	●	●	●	●
CNMG1204087N	12,70	12,90	4,76	0,8	5,16	●	●	●	●	●	●	●	●
CNMG1204127N	12,70	12,90	4,76	1,2	5,16	●	●	●	●	●	●	●	●
CNMG1204167N	12,70	12,90	4,76	1,6	5,16	●	●	●	●	●	●	●	●
CNMG1606127N	15,88	16,12	6,35	1,2	6,35	●	●	●	●	●	●	●	●
CNMG1606167N	15,88	16,12	6,35	1,6	6,35	●	●	●	●	●	●	●	●
CNMG1906087N	19,05	19,34	6,35	0,8	7,93	●	●	●	●	●	●	●	●
CNMG1906127N	19,05	19,34	6,35	1,2	7,93	●	●	●	●	●	●	●	●
CNMG1906167N	19,05	19,34	6,35	1,6	7,93	●	●	●	●	●	●	●	●
CNMG2509247N	25,40	25,79	9,53	2,4	9,12	●	●	●	●	●	●	●	●



■ DCGT-1P



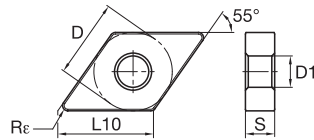
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
DCGT0702011P	6,35	7,75	2,38	0,1	2,80	○	○	○	○	○	○	○	○
DCGT11T3011P	9,53	11,63	3,97	0,1	4,40	○	○	○	○	○	○	○	○
DCGT1504081P	12,70	15,50	4,76	0,8	5,50	○	○	○	○	○	○	○	○



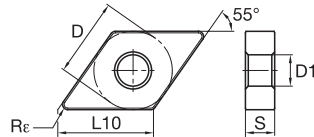
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●

	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
DCMT0702021P	6,35	7,75	2,38	0,2	2,80	●	●						
DCMT0702041P	6,35	7,75	2,38	0,4	2,80	●	●						
DCMT11T3021P	9,53	11,63	3,97	0,2	4,40	●	●						
DCMT11T3041P	9,53	11,63	3,97	0,4	4,40	●	●						
DCMT11T3081P	9,53	11,63	3,97	0,8	4,40	●	●						
DCMT11T3121P	9,53	11,63	3,97	1,2	4,40	●	●						
DCMT1504041P	12,70	15,50	4,76	0,4	5,50	●	●						
DCMT1504081P	12,70	15,50	4,76	0,8	5,50	●	●						



	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
DNGP150401	12,70	15,50	4,76	0,1	5,16							●	●
DNGP150402	12,70	15,50	4,76	0,2	5,16							●	●
DNGP150404	12,70	15,50	4,76	0,4	5,16							●	●
DNGP150408	12,70	15,50	4,76	0,8	5,16							●	●

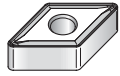


	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
DNMA150408	12,70	15,50	4,76	0,8	5,16							●	●
DNMA150412	12,70	15,50	4,76	1,2	5,16							●	●
DNMA150608	12,70	15,50	6,35	0,8	5,16							●	●
DNMA150612	12,70	15,50	6,35	1,2	5,16							●	●

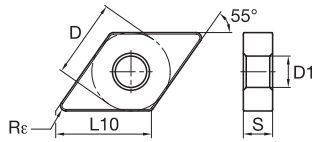
Turning • WIDIA Value

● first choice
○ alternate choice

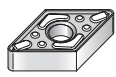
P	●	●	●	○	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○



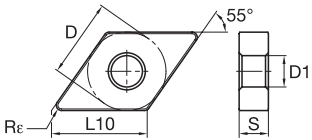
■ DNMG-2P



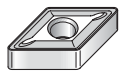
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
DNMG1504042P	12,70	15,50	4,76	0,4	5,16	●	●	○	○	○	○	○	○
DNMG1504082P	12,70	15,50	4,76	0,8	5,16	●	●	○	○	○	○	○	○
DNMG1506042P	12,70	15,50	6,35	0,4	5,16	●	●	○	○	○	○	○	○
DNMG1506082P	12,70	15,50	6,35	0,8	5,16	●	●	○	○	○	○	○	○
DNMG1506122P	12,70	15,50	6,35	1,2	5,16	●	●	○	○	○	○	○	○



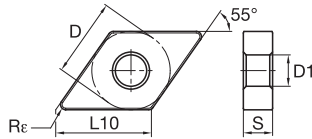
■ DNMG-4P



ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
DNMG1504044P	12,70	15,50	4,76	0,4	5,16	○	○	○	○	○	○	○	○
DNMG1504084P	12,70	15,50	4,76	0,8	5,16	○	○	○	○	○	○	○	○
DNMG1506044P	12,70	15,50	6,35	0,4	5,16	○	○	○	○	○	○	○	○
DNMG1506084P	12,70	15,50	6,35	0,8	5,16	○	○	○	○	○	○	○	○
DNMG1506124P	12,70	15,50	6,35	1,2	5,16	○	○	○	○	○	○	○	○



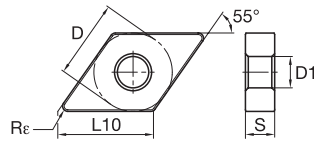
■ DNMG-6P



ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
DNMG1104086P	9,53	11,63	4,76	0,8	3,81	●	●	○	○	○	○	○	○
DNMG1504046P	12,70	15,50	4,76	0,4	5,16	●	●	○	○	○	○	○	○
DNMG1504086P	12,70	15,50	4,76	0,8	5,16	●	●	○	○	○	○	○	○
DNMG1504126P	12,70	15,50	4,76	1,2	5,16	●	●	○	○	○	○	○	○
DNMG1506046P	12,70	15,50	6,35	0,4	5,16	●	●	○	○	○	○	○	○
DNMG1506086P	12,70	15,50	6,35	0,8	5,16	●	●	○	○	○	○	○	○
DNMG1506126P	12,70	15,50	6,35	1,2	5,16	●	●	○	○	○	○	○	○
DNMG1906126P	15,88	19,38	6,35	1,2	6,35	○	○	○	○	○	○	○	○



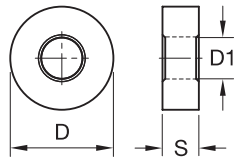
Turning • WIDIA Value



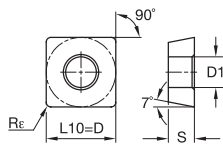
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
DNMG1504047N	12,70	15,50	4,76	0,4	5,16	●	●	●	○	○	○	○	○
DNMG1504087N	12,70	15,50	4,76	0,8	5,16	●	●	●	○	○	○	○	○
DNMG1504127N	12,70	15,50	4,76	1,2	5,16	●	●	●	○	○	○	○	○
DNMG1506087N	12,70	15,50	6,35	0,8	5,16	●	●	●	○	○	○	○	○
DNMG1506127N	12,70	15,50	6,35	1,2	5,16	●	●	●	○	○	○	○	○
DNMG1906127N	15,88	19,38	6,35	1,2	6,35	●	●	●	○	○	○	○	○

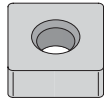


ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
RNMG12047N	12,70	—	4,76	—	5,16	●	●	●	○	○	○	○	○
RNMG19067N	19,05	—	6,35	—	7,93	●	●	●	○	○	○	○	○

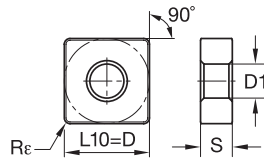


ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
SCMT09T3041P	9,53	9,53	3,97	0,4	4,40	●	●	●	○	○	○	○	○
SCMT09T3081P	9,53	9,53	3,97	0,8	4,40	●	●	●	○	○	○	○	○
SCMT1204041P	12,70	12,70	4,76	0,4	5,50	●	●	●	○	○	○	○	○
SCMT1204081P	12,70	12,70	4,76	0,8	5,50	●	●	●	○	○	○	○	○

Turning • WIDIA Value



■ SNMA

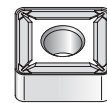


● first choice
○ alternate choice

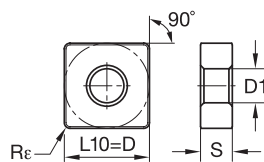
P	●	●	●	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



Turning • WIDIA Value



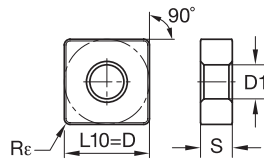
■ SNMG-2P



ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
SNMG0903082P	9,53	9,53	3,18	0,8	3,81	●	●				●	●	
SNMG1204082P	12,70	12,70	4,76	0,8	5,16	●	●		●		●	●	●



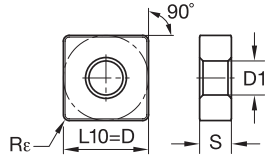
■ SNMG-4P



ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
SNMG1204084P	12,70	12,70	4,76	0,8	5,16				●	●			
SNMG1204124P	12,70	12,70	4,76	1,2	5,16				●	●			



■ SNMG-6P



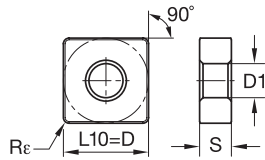
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

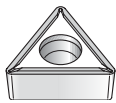
ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
SNMG0903086P	9,53	9,53	3,18	0,8	3,81	●	●	●	○	○	○	○	○
SNMG1204046P	12,70	12,70	4,76	0,4	5,16	●	●	●	○	○	○	○	○
SNMG1204086P	12,70	12,70	4,76	0,8	5,16	●	●	●	○	○	○	○	○
SNMG1204126P	12,70	12,70	4,76	1,2	5,16	●	●	●	○	○	○	○	○
SNMG1906126P	19,05	19,05	6,35	1,2	7,93	●	●	●	○	○	○	○	○



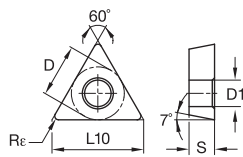
■ SNMG-7N



ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
SNMG1204087N	12,70	12,70	4,76	0,8	5,16	●	●	●	○	○	○	○	○
SNMG1204127N	12,70	12,70	4,76	1,2	5,16	●	●	●	○	○	○	○	○
SNMG1204167N	12,70	12,70	4,76	1,6	5,16	●	●	●	○	○	○	○	○
SNMG1506127N	15,88	15,88	6,35	1,2	6,35	●	●	●	○	○	○	○	○
SNMG1506167N	15,88	15,88	6,35	1,6	6,35	●	●	●	○	○	○	○	○
SNMG1906127N	19,05	19,05	6,35	1,2	7,93	●	●	●	○	○	○	○	○
SNMG1906167N	19,05	19,05	6,35	1,6	7,93	●	●	●	○	○	○	○	○

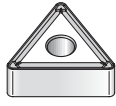


■ TCGT-1P

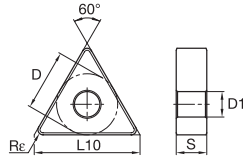


ISO catalogue number	D mm	L10 mm	S mm	Re mm	D1 mm	TN10P	TN20P	TN30P	TN15M	TN80M	TN20K	TN10U	TN15U
TCGT1102011P	6,35	11,00	2,38	0,1	2,80	○	○	○	○	○	○	○	○
TCGT1102041P	6,35	11,00	2,38	0,4	2,80	○	○	○	○	○	○	○	○
TCGT16T3021P	9,53	16,50	3,97	0,2	4,40	○	○	○	○	○	○	○	○
TCGT16T3041P	9,53	16,50	3,97	0,4	4,40	○	○	○	○	○	○	○	○
TCGT16T3081P	9,53	16,50	3,97	0,8	4,40	○	○	○	○	○	○	○	○

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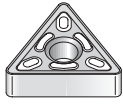
■ TNMG-2P



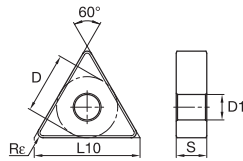
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○	○
M	●	●	●	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○

ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
TNMG1604042P	9,53	16,50	4,76	0,4	3,81	●	●	○	○	○	○	○	○
TNMG1604082P	9,53	16,50	4,76	0,8	3,81	●	●	○	○	○	○	○	○
TNMG1604122P	9,53	16,50	4,76	1,2	3,81	●	●	○	○	○	○	○	○
TNMG2204082P	12,70	22,00	4,76	0,8	5,16	●	●	○	○	○	○	○	○



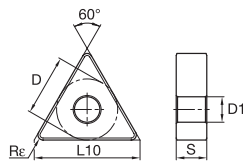
■ TNMG-4P



ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
TNMG1604044P	9,53	16,50	4,76	0,4	3,81				●	●			
TNMG1604084P	9,53	16,50	4,76	0,8	3,81				●	●			
TNMG1604124P	9,53	16,50	4,76	1,2	3,81				●	●			
TNMG2204044P	12,70	22,00	4,76	0,4	5,16				●	●			
TNMG2204084P	12,70	22,00	4,76	0,8	5,16				●	●			

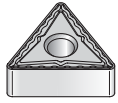


■ TNMG-6P

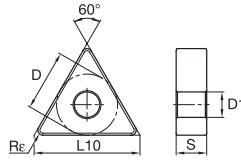


ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
TNMG1604046P	9,53	16,50	4,76	0,4	3,81	●	●	○	○	○	○	○	○
TNMG1604086P	9,53	16,50	4,76	0,8	3,81	●	●	○	○	○	○	○	○
TNMG1604126P	9,53	16,50	4,76	1,2	3,81	●	●	○	○	○	○	○	○
TNMG2204046P	12,70	22,00	4,76	0,4	5,16	●	●	○	○	○	○	○	○
TNMG2204086P	12,70	22,00	4,76	0,8	5,16	●	●	○	○	○	○	○	○

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■ **TNMG-7N**



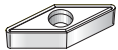
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○

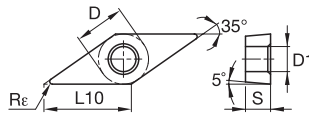


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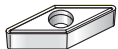
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
TNMG1604047N	9,53	16,50	4,76	0,4	3,81	●	●	●	○	○	○	○	○
TNMG1604087N	9,53	16,50	4,76	0,8	3,81	●	●	●	○	○	○	○	○
TNMG1604127N	9,53	16,50	4,76	1,2	3,81	●	●	●	○	○	○	○	○
TNMG2204047N	12,70	22,00	4,76	0,4	5,16	●	●	●	○	○	○	○	○
TNMG2204087N	12,70	22,00	4,76	0,8	5,16	●	●	●	○	○	○	○	○
TNMG2204127N	12,70	22,00	4,76	1,2	5,16	●	●	●	○	○	○	○	○
TNMG2706127N	15,88	27,50	6,35	1,2	6,35	●	●	●	○	○	○	○	○
TNMG3309247N	19,05	33,00	9,53	2,4	7,93	●	●	●	○	○	○	○	○



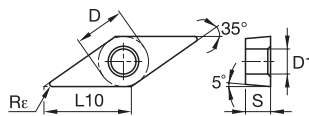
■ **VBGT-1P**



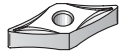
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
VBGT1103011P	6,35	11,07	3,18	0,1	2,80	○	○	○	○	○	○	○	○
VBGT1103021P	6,35	11,07	3,18	0,2	2,80	○	○	○	○	○	○	○	○
VBGT1103041P	6,35	11,07	3,18	0,4	2,80	○	○	○	○	○	○	○	○
VBGT1604011P	9,53	16,61	4,76	0,1	4,40	○	○	○	○	○	○	○	○
VBGT1604021P	9,53	16,61	4,76	0,2	4,40	○	○	○	○	○	○	○	○
VBGT1604041P	9,53	16,61	4,76	0,4	4,40	○	○	○	○	○	○	○	○



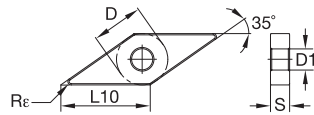
■ **VBMT-1P**



ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
VBMT1103021P	6,35	11,07	3,18	0,2	2,80	○	○	○	○	○	○	○	○
VBMT1103041P	6,35	11,07	3,18	0,4	2,80	○	○	○	○	○	○	○	○
VBMT1103081P	6,35	11,07	3,18	0,8	2,80	○	○	○	○	○	○	○	○
VBMT1604021P	9,53	16,61	4,76	0,2	4,40	○	○	○	○	○	○	○	○
VBMT1604041P	9,53	16,61	4,76	0,4	4,40	○	○	○	○	○	○	○	○
VBMT1604081P	9,53	16,61	4,76	0,8	4,40	○	○	○	○	○	○	○	○



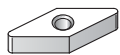
■ VNGP



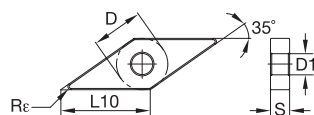
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

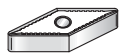
ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
VNGP160401	9,53	16,61	4,76	0,1	3,81							●	●
VNGP160402	9,53	16,61	4,76	0,2	3,81							●	●
VNGP220404	12,70	22,14	4,76	0,4	5,16							●	●
VNGP220408	12,70	22,14	4,76	0,8	5,16							●	●



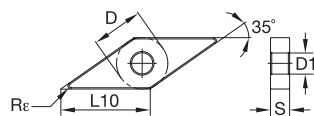
■ VNMA



ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
VNMA160408	9,53	16,61	4,76	0,8	3,81						●		



■ VNMG-2P

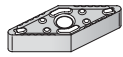


ISO catalogue number	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
	mm	mm	mm	mm	mm								
VNMG1604042P	9,53	16,61	4,76	0,4	3,81	●	●	●	●	●	●	●	●
VNMG1604082P	9,53	16,61	4,76	0,8	3,81	●	●	●	●	●	●	●	●

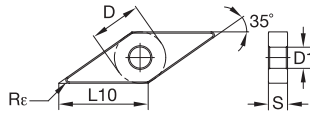
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Turning • WIDIA Value



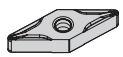
■ VNMG-4P



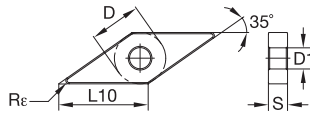
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○

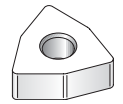
	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
VNMG1604044P	9,53	16,61	4,76	0,4	3,81				●	●			
VNMG1604084P	9,53	16,61	4,76	0,8	3,81				●	●			



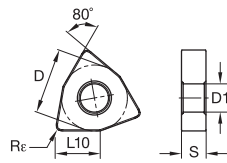
■ VNMG-6P



	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
VNMG1604086P	9,53	16,61	4,76	0,8	3,81	●	●		●	●			



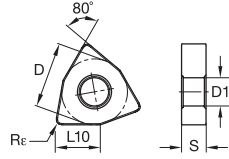
■ WNMA



	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
WNMA060408	9,53	6,52	4,76	0,8	3,81							●	
WNMA080408	12,70	8,69	4,76	0,8	5,16							●	
WNMA080412	12,70	8,69	4,76	1,2	5,16							●	



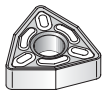
■ **WNMG-2P**



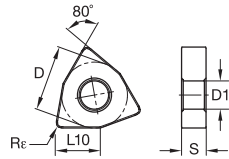
● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

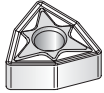
	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
WNMG0804042P	12,70	8,69	4,76	0,4	5,16	●	●	●	●	●	●	●	●
WNMG0804082P	12,70	8,69	4,76	0,8	5,16	●	●	●	●	●	●	●	●



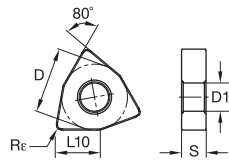
■ **WNMG-4P**



	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
WNMG0804044P	12,70	8,69	4,76	0,4	5,16				●	●			
WNMG0804084P	12,70	8,69	4,76	0,8	5,16				●	●			
WNMG0804124P	12,70	8,69	4,76	1,2	5,16				●				



■ **WNMG-6P**

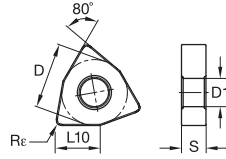


	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
WNMG0604086P	9,53	6,52	4,76	0,8	3,81	●	●	●	●	●	●	●	●
WNMG0804086P	12,70	8,69	4,76	0,8	5,16	●	●	●	●	●	●	●	●
WNMG0804126P	12,70	8,69	4,76	1,2	5,16	●	●	●	●	●	●	●	●

Turning • WIDIA Value



■ **WNMG-7N**



● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



Turning • WIDIA Value

	D	L10	S	Re	D1	TN10P	TN20P	TN30P	TN15M	TN30M	TN20K	TN10U	TN15U
ISO catalogue number	mm	mm	mm	mm	mm								
WNMG0804087N	12,70	8,69	4,76	0,8	5,16	●	●	●	○	○	○	○	○
WNMG0804127N	12,70	8,69	4,76	1,2	5,16	●	●	●	○	○	○	○	○
WNMG0804167N	12,70	8,69	4,76	1,6	5,16	●	●	○	○	○	○	○	○