

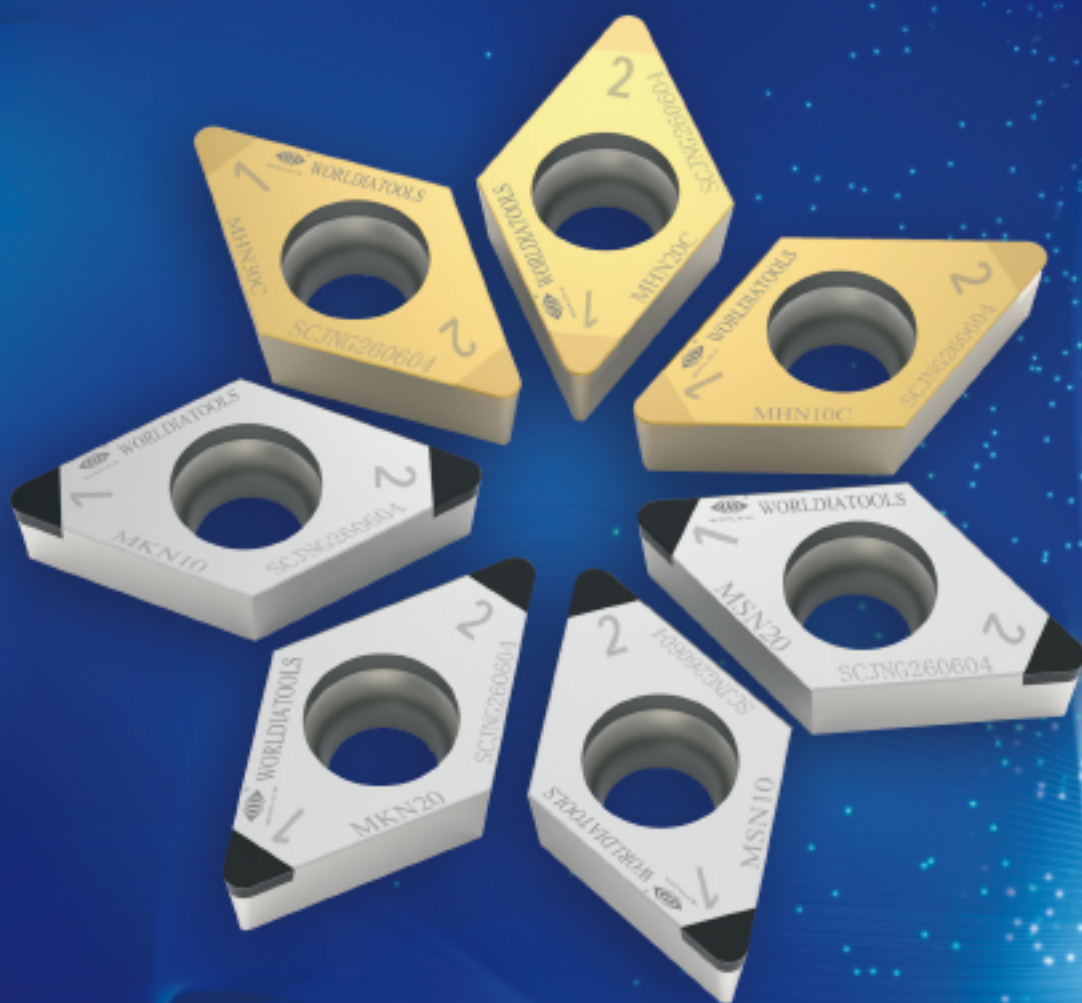


WORLDIA

MN-N2012 EN

PCBN Standard Inserts

7 premium PCBN grades for hardened steel,
cast and ductile iron, powder metal from stock



WORLDIA MANANOVA

Easy Choice Fast Delivery

MANANOVA

Easy Choice Fast Delivery

MANANOVA is the name for Worldia's stock-keeping standard product portfolio. It provides best-in-class high-quality products within a wide range of most-common applications at very attractive prices. Each them has an inventory code which simplifies the order process.

Please refer to Worldia's general PCBN Turning Inserts catalogue for more grades, geometries, tip sizes, cutting edge designs and coatings.



Contents

ISO Turning 03

Product range overview of indexable inserts
for ISO turning - Inserts description

PCBN Insert 06

Providing stable , universal , high efficient
cutting effects - MANANOVA EASY CHOICE

Definition Key - Material designation

Example

M	H	N	10	C
MANANOVA	1	2	3	4

1
Application Materials
P Steel
M Stainless Steel
K Cast Iron
S Power Metal
H Hardened Steel
N Non-ferrous Metal

2
Cutting Tool Material
D PCD
N PCBN

3
Material Code
10
20
30

4
Coating
C Coated
Without Uncoated

Material Introduction - Easy choice for PCBN Grade

ISO H: Hardened Steel

ISO K: Cast Iron

ISO S: Powder Metal

- Continuous cutting
- ◐ Light interrupted cutting
- ▣ Medium interrupted cutting
- ✱ Heavy interrupted cutting

PCBN Grade	ISO H			ISO K		ISO S	
	MHN10C	MHN20C	MHN30C	MKN10	MKN20	MSN10	MSN20
	Hardened Steel (●)	Hardened Steel (◐◐)	Hardened Steel (✱)	Cast Iron	Ductile Iron	Powder Metal	Powder Metal
vc	180(150~250) m/min	100(50~150) m/min	80(30~120) m/min	600(300~800) m/min	300(150~450) m/min	300(200~500) m/min	500(300~800) m/min
fn	0.1(0.03~0.2) mm/r	0.1(0.03~0.2) mm/r	0.1(0.03~0.2) mm/r	0.1(0.03~0.3) mm/r	0.1(0.03~0.3) mm/r	0.1(0.03~0.3) mm/r	0.1(0.03~0.3) mm/r
%	45~55	60~70	85~95	85~95	60~70	60~70	85~95
Grain size	1~2 μm	1~2 μm	2~3 μm	2~3 μm	1~2 μm	1~2 μm	2~3 μm
Bond	TiC	TiN	Co/W	Co/W	TiCN	TiCN	Co/W
First Choice	●	◐ ▣	✱	● ▣ ✱	◐ ▣ ✱	● ▣ ✱	● ▣ ✱

- Continuous
- ◐ Light interrupted
- ▣ Medium interrupted
- ✱ Heavy interrupted

Definition Key - Identification Code

ANSI C - C C G W 2 1.5 0.5 - 1 N

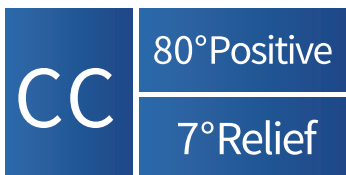
ISO C - C C G W 06 02 02 - 1 N

1		2	3	4	5	6	7	8		9	10
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1		2		3		4		5	
Insert Style		Insert Shape		Clearance Angle		Tolerances		Pattern Type	
Without	Standard	A	85°	M	86°	G	ISO mm	A	
C	Chip breaker	B	82°	O	135°	m	±0.025	N	
L	Full Length	C	80°	P	108°	IC	±0.025	T	
F	Full Face	D	55°	R	90°	S	±0.130	W	
S	Solid	E	75°	S	90°	R	±0.03	R	
W	Wiper	H	120°	T	60°				
H	Heavy cutting	K	55°	V	35°				
		L	90°	W	80°				

6		7		8		9	
Inscribed Circle Diameter		Insert Thickness		Nose Radius		Cutting Edges	
IC (mm)	C D T V W	ISO mm	ANSI inch	ISO mm	ANSI inch	1 single	
ISO						2 double	
3.970		01 = 1.59	1 1/16	00 = 0.0	0 .000	3 triple	
4.760		02 = 2.38	1.5 3/32	01 = 2.1	0.2 .004		
5.560		T2 = 2.78		02 = 0.2	0.5 .008		
6.350	06 07 11 11	03 = 3.18	2 1/8	04 = 0.4	1 1/64		
7.940		T3 = 3.97	2.5 5/32	08 = 0.8	2 1/32		
9.525	09 11 16 16	04 = 4.76	3 3/16	12 = 1.2	3 3/64		
12.700	12 15 08	05 = 5.56	3.5 7/32	16 = 1.6	4 1/16		
15.875		06 = 6.35	4 1/4	20 = 2.0	5 5/64		
		07 = 7.94	5 5/16	24 = 2.4	6 3/32		
		09 = 9.525	6 3/8	28 = 2.8	7 7/64		

10	
Cutting Direction	
N	
R	
L	

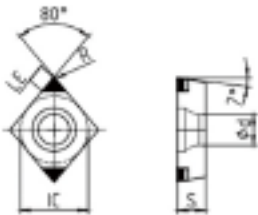


Application material:

H - Hardened Steel
K - Cast Iron
K - Ductile Iron(NCI)
S - Powder Metal

Symbol mark:

● Continuous
◐ Light interrupted
◑ Medium interrupted
✱ Heavy interrupted

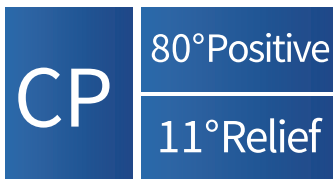
CCGW	Shape		Dimensions						Applications											
			Tips	IC mm	S mm	R mm	Φd mm	LE mm	H 	H 	H 	K 	K 	S 	S 					
	Coated								Coated	Coated										
	MHN 10C	MHN 20C							MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20							
ISO Code ANSI Code																				
 MHN Series	CCGW 060202	CCGW21.50.5	2N	6.35	2.38	0.2	2.8	2.2	MN 00536	MN 00555	MN 00556	MN 00086	MN 00087	MN 00088	MN 00729					
	CCGW 060204	CCGW21.51	2N	6.35	2.38	0.4	2.8	2.2	MN 00529	MN 00557	MN 00558	MN 00092	MN 00093	MN 00094	MN 00730					
	CCGW 060208	CCGW21.52	2N	6.35	2.38	0.8	2.8	2.2	MN 00559	MN 00560	MN 00561	MN 00098	MN 00099	MN 00100	MN 00730					
 MKN Series	CCGW 09T302	CCGW32.50.5	2N	9.525	3.97	0.2	4.4	2.2	MN 00562	MN 00547	MN 00563	MN 00104	MN 00105	MN 00106	MN 00732					
	CCGW 09T304	CCGW32.51	2N	9.525	3.97	0.4	4.4	2.2	MN 00511	MN 00540	MN 00532	MN 00110	MN 00111	MN 00112	MN 00733					
	CCGW 09T308	CCGW32.52	2N	9.525	3.97	0.8	4.4	2.2	MN 00494	MN 00545	MN 00533	MN 00116	MN 00117	MN 00118	MN 00734					
	CCGW 09T312	CCGW32.53	2N	9.525	3.97	1.2	4.4	2.2	MN 00564	MN 00565	MN 00566	MN 00122	MN 00123	MN 00124	MN 00735					
 MSN Series	CCGW 120408	CCGW432	2N	12.7	4.76	0.8	5.5	2.2	MN 00812	MN 00725										

Items with order code MNXXXX on stock

PCBN Insert

CPGW-CNGA

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Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

Symbol mark:

● Continuous

⦿ Light interrupted

⦿ Medium interrupted

⦿ Heavy interrupted

CPGW	Shape		Dimensions						Applications							



MHN Series



MSN Series

CPGW060204

CPGW21.51

2N

6.35

2.38

0.4

2.8

2.2

MN
00821

CPGW060204

CPGW21.51

2N

6.35

2.38

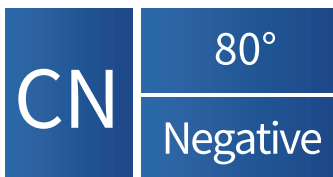
0.4

2.8

2.2

MN
00822

Items with order code MNXXXXX on stock



Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

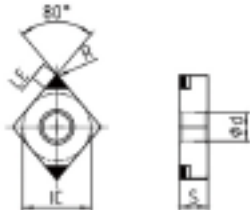
Symbol mark:

● Continuous

⦿ Light interrupted

⦿ Medium interrupted

⦿ Heavy interrupted

CNGA	Shape		Dimensions						Applications								
			Tips	IC mm	S mm	R mm	Φd mm	LE mm	H	H	H	K	K	S	S		
									●	●	★	●	●	●	●	●	●
												★	★	★	★	★	★
ISO Code ANSI Code								Coated	Coated	Coated							
									MHN 10C	MHN 20C	MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20		



MHN Series



MKN Series



MSN Series

CNGA 120402

CNGA430.5

2N

12.7

4.76

0.2

5.16

2.2

MN
00780

MN
00781

CNGA 120404

CNGA431

2N

12.7

4.76

0.4

5.16

2.2

MN
00525

MN
00497

MN
00567

MN
00128

MN
00129

MN
00130

MN
00736

CNGA 120408

CNGA432

2N

12.7

4.76

0.8

5.16

2.2

MN
00509

MN
00498

MN
00510

MN
00134

MN
00135

MN
00136

MN
00737

CNGA 120408

CNGA432

4N

12.7

4.76

0.8

5.16

2.2

MN
00522

MN
00568

MN
00569

MN
00140

MN
00141

MN
00142

CNGA 120412

CNGA433

2N

12.7

4.76

1.2

5.16

2.2

MN
00669

MN
00807

MN
00654

MN
00777

CNGA 120416

CNGA434

2N

12.7

4.76

1.6

5.16

2.2

MN
00823

MN
00824

CNGA 120416

CNGA434

4N

12.7

4.76

1.6

5.16

2.2

MN
00825

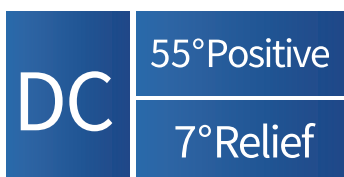
MN
00826

Items with order code MNXXXXX on stock

PCBN Insert

DCGW

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Application material:

H - Hardened Steel
K - Cast Iron
K - Ductile Iron (NCI)
S - Powder Metal

Symbol mark:

● Continuous
◐ Light interrupted
◑ Medium interrupted
✱ Heavy interrupted

DCGW	Shape		Dimensions						Applications							



MHN Series

DCGW070202	DCGW21.50.5	2N	6.35	2.38	0.2	2.8	2.2	MN 00787	MN 00788					MN 00703	
DCGW 070204	DCGW21.51	2N	6.35	2.38	0.4	2.8	2.2	MN 00554	MN 00548	MN 00570	MN 00146	MN 00147	MN 00148	MN 00738	
DCGW 070208	DCGW21.52	2N	6.35	2.38	0.8	2.8	2.2	MN 00571	MN 00572	MN 00573	MN 00152	MN 00153	MN 00154	MN 00739	



MKN Series

DCGW 11T302	DCGW32.50.5	2N	9.525	3.97	0.2	4.4	2.2	MN 00550	MN 00574	MN 00575	MN 00118	MN 00159	MN 00160	MN 00740	
DCGW 11T304	DCGW32.51	2N	9.525	3.97	0.4	4.4	2.2	MN 00520	MN 00549	MN 00515	MN 00164	MN 00165	MN 00166	MN 00741	
DCGW 11T308	DCGW32.52	2N	9.525	3.97	0.8	4.4	2.2	MN 00576	MN 00521	MN 00577	MN 00170	MN 00171	MN 00172	MN 00742	



MSN Series

DCGW11T312	DCGW32.53	2N	9.525	3.97	1.2	4.4	2.2	MN 00827	MN 00828						
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Items with order code MNXXXXX on stock

PCBN Insert

DNGA

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Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

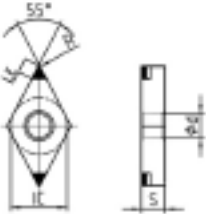
Symbol mark:

● Continuous

⦿ Light interrupted

⦿ Medium interrupted

⦿ Heavy interrupted

DNGA	Shape		Dimensions						Applications							
																
	Coated	Coated							Coated							
ISO Code	ANSI Code	Tips	IC mm	S mm	R mm	Φd mm	LE mm	MHN 10C	MHN 20C	MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20		
 MHN Series	DNGA 150404	DNGA431	2N	12.7	4.76	0.4	5.16	2.2	MN 00578	MN 00541	MN 00579	MN 00176	MN 00177	MN 00178	MN 00743	
	DNGA 150408	DNGA432	2N	12.7	4.76	0.8	5.16	2.2	MN 00580	MN 00546	MN 00528	MN 00183	MN 00184	MN 00185	MN 00744	
	DNGA 150408	DNGA432	4N	12.7	4.76	0.8	5.16	2.2			MN 00829					
	DNGA 150412	DNGA433	2N	12.7	4.76	1.2	5.16	2.2	MN 00581	MN 00582	MN 00583	MN 00189	MN 00190	MN 00191	MN 00745	
 MKN Series	DNGA 150604	DNGA441	2N	12.7	6.35	0.4	5.16	2.2	MN 00584	MN 00585	MN 00586	MN 00195	MN 00196	MN 00197	MN 00746	
	DNGA 150604	DNGA441	4N	12.7	6.35	0.4	5.16	2.2		MN 00814						
 MSN Series	DNGA 150608	DNGA442	2N	12.7	6.35	0.8	5.16	2.2	MN 00524	MN 00514	MN 00513	MN 00201	MN 00202	MN 00203	MN 00747	
	DNGA 150608	DNGA442	4N	12.7	6.35	0.8	5.16	2.2				MN 00676	MN 00677			
	DNGA 150612	DNGA443	2N	12.7	6.35	1.2	5.16	2.2		MN 00830	MN 00668					
	DNGA 150612	DNGA443	4N	12.7	6.35	1.2	5.16	2.2	MN 00704							

Items with order code MNXXXXX on stock

TC

60°Positive

7°Relief

Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

Symbol mark:

● Continuous

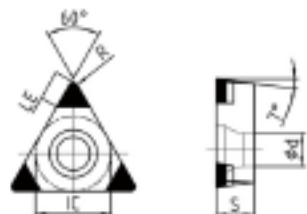
◐ Light interrupted

◑ Medium interrupted

✱ Heavy interrupted

TCGW

Shape



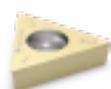
ISO Code

ANSI Code

Dimensions

Applications

Tips	IC mm	S mm	R mm	Φd mm	LE mm	H Coated MHN 10C	H Coated MHN 20C	H Coated MHN 30C	K MKN 10	K MKN 20	S MSN 10	S MSN 20
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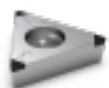
MHN Series

TCGW 090202	TCGW1.81.50.5	3N	5.56	2.38	0.2	2.4	2.2	MN 00815							MN 00748
TCGW 090204	TCGW1.81.51	3N	5.56	2.38	0.4	2.4	2.2	MN 00587	MN 00588	MN 00589	MN 00207	MN 00208	MN 00209		
TCGW 090208	TCGW1.81.52	3N	5.56	2.38	0.8	2.4	2.2	MN 00590	MN 00591	MN 00592	MN 00213	MN 00214	MN 00215		MN 00749



MKN Series

TCGW 110204	TCGW21.51	3N	6.35	2.38	0.4	2.8	2.2	MN 00552	MN 00593	MN 00594	MN 00219	MN 00220	MN 00221	MN 00750
TCGW 110208	TCGW21.52	3N	6.35	2.38	0.8	2.8	2.2	MN 00526	MN 00595	MN 00596	MN 00225	MN 00226	MN 00227	MN 00751



MSN Series

TCGW 110304	TCGW221	3N	6.35	3.18	0.4	2.8	2.2	MN 00597	MN 00598	MN 00599	MN 00231	MN 00232	MN 00233	MN 00752
TCGW 110308	TCGW222	3N	6.35	3.18	0.8	2.8	2.2	MN 00600	MN 00601	MN 00534	MN 00237	MN 00238	MN 00239	MN 00753

TCGW 16T304	TCGW32.5 1	3N	9.525	3.97	0.4	4.4	2.2	MN 00816						
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Items with order code MNXXXXX on stock

PCBN Insert

TNGA

WORLDIA MANANOVA
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TN

60°

Negative

Application material:

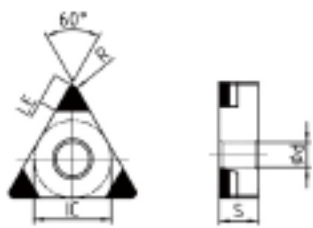
H - Hardened Steel
K - Cast Iron
K - Ductile Iron(NCI)
S - Powder Metal

Symbol mark:

● Continuous
⦿ Light interrupted
⦿ Medium interrupted
⦿ Heavy interrupted

TNGA

Shape



ISO Code

ANSI Code

Dimensions

Applications

Tips	IC mm	S mm	R mm	Φd mm	LE mm	H	H	H	K	K	S	S
						●	⦿	⦿	⦿	⦿	⦿	⦿
						Coated	Coated	Coated				
						MHN 10C	MHN 20C	MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20



MHN Series



MKN Series



MSN Series

TNGA 160402	TNGA330	3N	9.525	4.76	0.2	3.81	2.2	MN 00842	MN 00843				
TNGA 160404	TNGA331	3N	9.525	4.76	0.4	3.81	2.2	MN 00503	MN 00504		MN 00507		MN 00841
TNGA 160408	TNGA332	3N	9.525	4.76	0.8	3.81	2.2	MN 00602	MN 00495	MN 00519	MN 00243	MN 00244	MN 00245
TNGA 160412	TNGA333	3N	9.525	4.76	1.2	3.81	2.2	MN 00603	MN 00604	MN 00605	MN 00249	MN 00250	MN 00251
TNGA 160416	TNGA334	3N	9.525	4.76	1.6	3.81	2.2		MN 00831	MN 00832			

Items with order code MNXXXXX on stock

PCBN Insert

TPGW

WORLDIA MANANOVA
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TP

60°Positive

11°Relief

Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

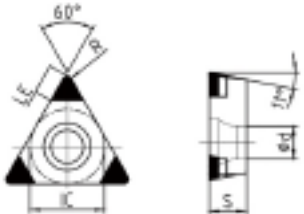
Symbol mark:

● Continuous

⬤ Light interrupted

⬤ Medium interrupted

⬤ Heavy interrupted

TPGW	Shape		Dimensions						Applications							
			Tips	IC mm	S mm	R mm	Φd mm	LE mm								
	Coated	Coated							Coated							
	MHN 10C	MHN 20C							MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20			
	ISO Code	ANSI Code														
 MHN Series	TPGW 080202	TPGW1.51.50.5	3N	4.76	2.38	0.2	2.4	2.2	MN 00671							
	TPGW 080204	TPGW1.51.51	3N	4.76	2.38	0.4	2.4	2.2	MN 00539	MN 00606	MN 00530	MN 00255	MN 00256	MN 00257	MN 00756	
	TPGW 080208	TPGW1.51.52	3N	4.76	2.38	0.8	2.4	2.2	MN 00607	MN 00608	MN 00609	MN 00261	MN 00262	MN 00263	MN 00757	
 MKN Series	TPGW 090202	TPGW1.81.50.5	3N	5.56	2.38	0.2	2.8	2.2	MN 00610	MN 00611	MN 00612	MN 00267	MN 00268	MN 00269	MN 00758	
	TPGW 090204	TPGW1.81.51	3N	5.56	2.38	0.4	2.8	2.2	MN 00613	MN 00614	MN 00531	MN 00279	MN 00280		MN 00759	
 MSN Series	TPGW 110204	TPGW21.51	3N	6.35	2.38	0.4	2.8	2.2	MN 00615	MN 00616	MN 00535	MN 00273	MN 00274	MN 00275	MN 00760	
	TPGW 110208	TPGW21.52	3N	6.35	2.38	0.8	2.8	2.2	MN 00618	MN 00619	MN 00620	MN 00285	MN 00286	MN 00287	MN 00761	
	TPGW 110302	TPGW220.5	3N	6.35	3.18	0.2	3.3	2.2	MN 00621	MN 00622	MN 00623	MN 00291	MN 00292	MN 00293	MN 00762	
	TPGW 110304	TPGW221	3N	6.35	3.18	0.4	3.3	2.2	MN 00553	MN 00624	MN 00625	MN 00297	MN 00298	MN 00299	MN 00763	
	TPGW 110308	TPGW222	3N	6.35	3.18	0.8	3.3	2.2	MN 00833	MN 00834						

Items with order code MNXXXXX on stock

PCBN Insert

VCGW

WORLDIA MANANOVA
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VC	35°Positive
	7°Relief

Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

Symbol mark:

● Continuous

◐ Light interrupted

◑ Medium interrupted

✱ Heavy interrupted

VCGW	Shape		Dimensions						Applications							

Items with order code MNXXXXX on stock

PCBN Insert

VBGW

WORLDIA MANANOVA
Easy Choice Fast Delivery

VB	35°Positive
	5°Relief

Application material:

H - Hardened Steel

K - Cast Iron

K - Ductile Iron(NCI)

S - Powder Metal

Symbol mark:

● Continuous

◐ Light interrupted

◑ Medium interrupted

✱ Heavy interrupted

VBGW	Shape		Dimensions						Applications												
			Tips	IC mm	S mm	R mm	Φd mm	LE mm	H	H	H	K	K	S	S						
									●	◐◑	✱	●◐◑ ◑✱	●◐◑ ◑✱	●◐◑ ◑✱	●◐◑ ◑✱						
	Coated								Coated	Coated											
	ISO Code		ANSI Code						MHN 10C	MHN 20C	MHN 30C	MKN 10	MKN 20	MSN 10	MSN 20						



MHN Series

VBGW110302	VBGW220.5	2N	6.35	3.18	0.2	2.8	2.2	MN 00775	MN 00776
VBGW110304	VBGW221	2N	6.35	3.18	0.4	2.8	2.2	MN 00782	MN 00783



MKN Series

VBGW160402	VBGW330.5	2N	9.525	4.76	0.2	4.4	2.2	MN 00695	MN 00687	MN 00680	MN 00681	MN 00693	MN 00694	MN 00797
VBGW160404	VBGW331	2N	9.525	4.76	0.4	4.4	2.2	MN 00690	MN 00686	MN 00679	MN 00678	MN 00692	MN 00691	MN 00798
VBGW160408	VBGW332	2N	9.525	4.76	0.8	4.4	2.2	MN 00696	MN 00688	MN 00683	MN 00682	MN 00698	MN 00697	MN 00799
VBGW160412	VBGW333	2N	9.525	4.76	1.2	4.4	2.2	MN 00701	MN 00689	MN 00684	MN 00685	MN 00699	MN 00700	



MSN Series

Items with order code MNXXXXX on stock

PCBN Insert

VNGA-MNGA

WORLDIA MANANOVA
Easy Choice Fast Delivery

VN

35°

Negative

Application material:

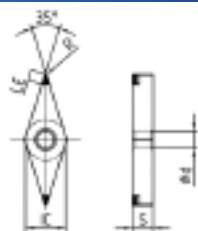
H - Hardened Steel
K - Cast Iron
K - Ductile Iron(NCI)
S - Powder Metal

Symbol mark:

● Continuous
⬤ Light interrupted
⬤ Medium interrupted
⬤ Heavy interrupted

VNGA

Shape



Dimensions

Applications

ISO Code ANSI Code

Tips

IC mm

S mm

R mm

Φd mm

LE mm

H

H

H

K

K

S

S

Coated

Coated

Coated

MHN 10C

MHN 20C

MHN 30C

MKN 10

MKN 20

MSN 10

MSN 20



MHN Series



MKN Series



MSN Series

VNGA 160402	VNGA330.5	2N	9.525	4.76	0.2	3.81	2.2	MN 00632	MN 00633	MN 00634	MN 00315	MN 00316	MN 00317	MN 00768
VNGA 160404	VNGA331	2N	9.525	4.76	0.4	3.81	2.2	MN 00480	MN 00481	MN 00482	MN 00483	MN 00484	MN 00485	MN 00769
VNGA 160408	VNGA332	2N	9.525	4.76	0.8	3.81	2.2	MN 00486	MN 00487	MN 00488	MN 00489	MN 00490	MN 00491	MN 00770
VNGA 160412	VNGA333	2N	9.525	4.76	1.2	3.81	2.2	MN 00641	MN 00642	MN 00643	MN 00333	MN 00334	MN 00335	MN 00771

Items with order code MNXXXXX on stock

WN

80°

Negative

Application material:

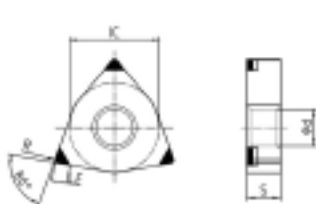
H - Hardened Steel
K - Cast Iron
K - Ductile Iron(NCI)
S - Powder Metal

Symbol mark:

● Continuous
⬤ Light interrupted
⬤ Medium interrupted
⬤ Heavy interrupted

WNGA

Shape



Dimensions

Applications

ISO Code ANSI Code

Tips

IC mm

S mm

R mm

Φd mm

LE mm

H

H

H

K

K

S

S

Coated

Coated

Coated

MHN 10C

MHN 20C

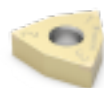
MHN 30C

MKN 10

MKN 20

MSN 10

MSN 20



MHN Series



MKN Series



MSN Series

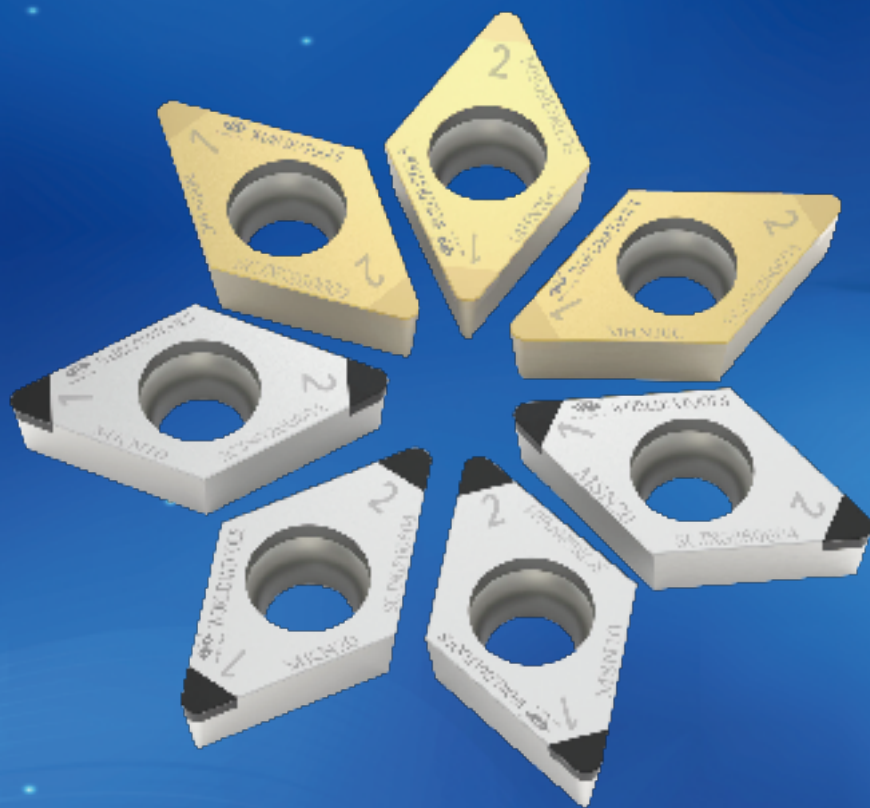
WNGA 080404	WNGA431	3N	12.7	4.76	0.4	5.16	2.2	MN 00644	MN 00499	MN 00645	MN 00339	MN 00340	MN 00341	MN 00772
WNGA 080408	WNGA342	3N	12.7	4.76	0.8	5.16	2.2	MN 00500	MN 00501	MN 00646	MN 00345	MN 00346	MN 00347	MN 00773
WNGA 080412	WNGA433	3N	12.7	4.76	1.2	5.16	2.2	MN 00801	MN 00802		MN 00803			

Items with order code MNXXXXX on stock

[illegible]

[illegible]

[illegible]



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