

# Indexable Inserts for Turning Negative / Positive Inserts / Ceramic

C1 ~ C46



Inserts



Negative Inserts

Inserts Identification Table .....	C2
C / 80° Diamond Type (With Hole) .....	C4 - 8
D / 55° Diamond Type (With Hole) .....	C9 -13
S / Square Type (With Hole) .....	C14-17
S / Square Type (Without Hole).....	C17
T / Triangle Type (With Hole).....	C18-22
T-REX Insert .....	C22
V / 35° Diamond Type (With Hole).....	C23-24
W / Polygon Type (With Hole) .....	C25-28

Positive Inserts

C / 80° Diamond Type (With Hole) .....	C29-31
D / 55° Diamond Type (With Hole) .....	C32-33
R / Round Type (With Hole).....	C34
S / Square Type (With Hole) .....	C35-36
S / Square Type (Without Hole).....	C37
T / Triangle Type (With Hole).....	C38-41
T / Triangle Type (Without Hole).....	C42
V / 35° Diamond Type (With Hole).....	C43-44
W / Polygon Type (With Hole) .....	C45

## Stock-marking Chart

- : 1-st recommended stock item
- : Euro stock item
  
- : Japan stock item
- ▲ : To be replaced by new item  
(Please confirm stock availability)
  
- : Made to order
- : We cannot produce

### Note:

Stocking policy may change without prior notice, please consult our sales representative for actual stock situation.

# Inserts Identification Table

Inserts

C

D

K

R

S

T

V

W

**C**      **N**      **M**      **G**

①

②

③

④

**Insert Shape**  
Chart 1

**Tolerance**  
Chart 3

**Relief Angle**  
Chart 2

**Insert Type**  
Chart 4

Chart 1: Insert Shape

Symbol	Insert Shape	Angle
<b>C</b>	Diamond	80°
<b>D</b>		55°
<b>E</b>		75°
<b>F</b>		50°
<b>V</b>		35°
<b>R</b>	Round	—
<b>S</b>	Square	90°
<b>T</b>	Triangle	60°
<b>W</b>	Trigon	80°
<b>A</b>	Parallelogram	85°
<b>B</b>		82°
<b>K</b>		55°
<b>H</b>	Hexagonal	120°
<b>O</b>	Octagonal	135°
<b>P</b>	Pentagonal	108°
<b>L</b>	Rectangular	90°
<b>M</b>	Rhombic	86°

Chart 2: Relief Angle

Symbol	Relief Angle
<b>A</b>	3°
<b>B</b>	5°
<b>C</b>	7°
<b>D</b>	15°
<b>E</b>	20°
<b>F</b>	25°
<b>G</b>	30°
<b>N</b>	0°
<b>P*</b>	11°
<b>O</b>	Others

O : Other clearance angle with specific description

Chart 3: Tolerance (mm)

Symbol	Nose Height	Inscribed Circle	Thickness
<b>A</b>	± 0,005	± 0,025	± 0,025
<b>F</b>	± 0,005	± 0,013	± 0,025
<b>C</b>	± 0,013	± 0,025	± 0,025
<b>H</b>	± 0,013	± 0,013	± 0,025
<b>E</b>	± 0,025	± 0,025	± 0,025
<b>G</b>	± 0,025	± 0,025	± 0,13
<b>J*</b>	± 0,005	± 0,05~± 0,15	± 0,025
<b>K*</b>	± 0,013	± 0,05~± 0,15	± 0,025
<b>L*</b>	± 0,025	± 0,05~± 0,15	± 0,025
<b>M*</b>	± 0,08~± 0,2	± 0,05~± 0,15	± 0,13
<b>N*</b>	± 0,08~± 0,2	± 0,05~± 0,15	± 0,025
<b>U*</b>	± 0,13~± 0,38	± 0,08~± 0,25	± 0,13

The height "m" on sharp corner.

Chart 4: Insert Hole or Breaker

Symbol	Hole	Hole Style	Chip Breaker	Shape	Symbol	Hole	Hole Style	Chip Breaker	Shape
<b>N</b>	No Hole	—	Nil		<b>A</b>	With Hole	Straight Hole	Nil	
<b>R</b>			One Face		<b>M</b>			One Face	
<b>F</b>			Both Faces		<b>G</b>			Both Faces	
<b>W</b>	With Hole	Straight hole with top end counter-sink (40°-60°)	Nil		<b>B</b>	With Hole	Straight hole with top end counter-sink (70°-90°)	Nil	
<b>T</b>			One Face		<b>H</b>			One Face	
<b>Q</b>	With Hole	Straight hole with top end counter-sink (40°-60°)	Nil		<b>C</b>	With Hole	Straight hole with top end counter-sink (70°-90°)	Nil	
<b>U</b>			Both Faces		<b>J</b>			Both Faces	

● Tolerance of Nose Height (M-Class)

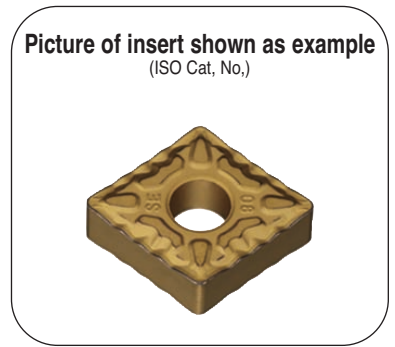
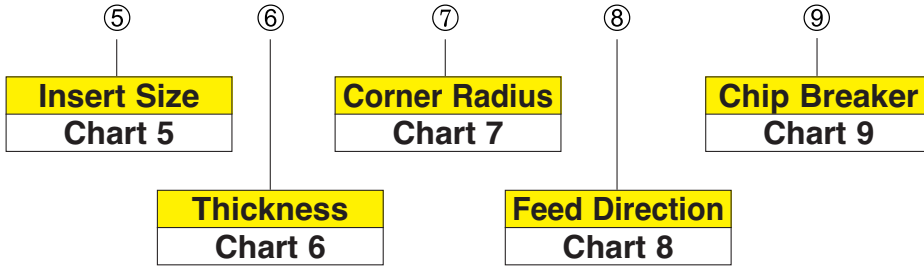
Inscribed Circle	Triangle	Square	80° Diamond	55° Diamond	35° Diamond	Round
6,35	± 0,08	± 0,08	± 0,08	± 0,11	—	—
9,525	± 0,08	± 0,08	± 0,08	± 0,11	± 0,16	—
12,70	± 0,13	± 0,13	± 0,13	± 0,15	—	—
15,875	± 0,15	± 0,15	± 0,15	± 0,18	—	—
19,05	± 0,15	± 0,15	± 0,15	± 0,18	—	—
25,40	± 0,18	± 0,18	± 0,18	—	—	—
31,75	—	± 0,20	—	—	—	—

● Tolerance of Inscribed Circle (M-Class)

Inscribed Circle	Triangle	Square	80° Diamond	55° Diamond	35° Diamond	Round
6,35	± 0,05	± 0,05	± 0,05	± 0,05	—	—
9,525	± 0,05	± 0,05	± 0,05	± 0,05	± 0,05	± 0,05
12,70	± 0,08	± 0,08	± 0,08	± 0,08	—	± 0,08
15,875	± 0,10	± 0,10	± 0,10	± 0,10	—	± 0,10
19,05	± 0,10	± 0,10	± 0,10	± 0,10	—	± 0,10
25,40	± 0,13	± 0,13	± 0,13	—	—	± 0,10
31,75	—	± 0,15	—	—	—	± 0,12

# Inserts Identification Table

**12 04 08 N - SE**



**Chart 5: Cutting Edge Length (mm)**

Shape	ISO	Cutting Edge	Inscribed Circle	Shape	ISO	Cutting Edge	Inscribed Circle	Shape	ISO	Cutting Edge	Inscribed Circle
C	06	6,4	6,35	D	07	7,7	6,35	W	03	3,8	5,56
	08	8,0	7,94		11	11,6	9,525		04	4,3	6,35
	09	9,7	9,525		15	15,5	12,70		05	5,4	7,94
	12	12,9	12,70		19	19,4	15,875		06	6,5	9,525
	16	16,1	15,875		16	16,6	9,525		08	8,7	12,70
	19	19,3	19,05						10	10,9	15,875
S	06	6,35	6,35	T	06	6,9	3,97	R	08	8,0	8,0
	S7	7,14	7,14		08	8,2	4,76		10	10,0	10,0
	07	7,94	7,94		09	9,6	5,56		12	12,0	12,0
	09	9,525	9,525		11	11,0	6,35		12	12,7	12,70
	12	12,7	12,70		16	16,5	9,525		15	15,875	15,875
	15	15,875	15,875		22	22,0	12,70		16	16,0	16,0
	19	19,05	19,05		27	27,5	15,875		19	19,05	19,05
	25	25,4	25,40		33	33,0	19,05		25	25,0	25,0
	31	31,75	31,75						25	25,4	25,40

**Chart 6: Thickness**

ISO	Thickness (mm)
01	1,59
02	2,38
T2	2,78
03	3,18
T3	3,97
04	4,76
06	6,35
07	7,94
09	9,52

**Chart 7: Nose Radius**

ISO	Nose Radius (mm)
00	Sharp Point
01	0,1
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
24	2,4
32	3,2
M0	Round Insert (Metric)
00	Round Insert (Imperial)

**Chart 8: Feed Direction**

ISO	Direction
R	Right-hand
L	Left-hand
N	Neutral

**Chart 9: Chip Breaker**

Symbol	Process	Bumpy Type	Standard	Handed
F □	Fine Finishing To Finishing	FA FK, FP		FT, FX, FZ FY, FW
S □ L □	Light Cut	SC, SF, SK, SP SS, SU, <b>SE</b> LU, LUW	SJ EX	SD, SM ST
G □ U □	General	GU, GUW, GE UG, UP US, UX	UJ UZ	UM
M □	Rough	MP, MU, MX	MC	MM
H □	Heavy	HG, HP		

Other specials	
Wide Chipbreaker	W
For Countersink	C
For Round insert	RD, RP
For Aluminium	AW, AG
For Carburized Layer Removal	SV

Inserts

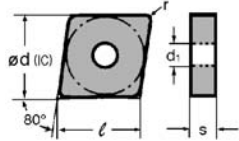


# C DIAMOND TYPE

## INSERTS FOR TURNING

### CNMG neg. Inserts for Finishing

80° Diamond Type 0° Relief  
With Insert Hole



CNMG	Dimensions (mm)			
	ℓ	ød (IC)	s	d <sub>1</sub>
0903..			3,18	
09T3..	9,7	9,525	3,97	3,81
0904..			4,76	
12	12,9	12,7	4,76	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



⇒ D10, D16

⇒ E8

Carbide

## CNMG

Neg. Inserts

C

D

K

R

S

T

V

W

### ● M-Class Double Sided Bumpy Chipbreaker

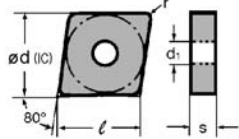
Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide						ZX-Coated		Coated		Ceramic		Uncoated								
				Uncoated	ZX-Coated	Uncoated	ZX-Coated	Coated	ZX-Coated	Coated	Uncoated	Coated	Uncoated	Coated												
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Finishing	NFA	CNMG 120402 NFA CNMG 120404 NFA CNMG 120408 NFA	0,2 0,4 0,8																							
		Finishing	NFL	CNMG 090308 NFL	0,8																					
				CNMG 120404 NFL CNMG 120408 NFL	0,4 0,8																					
Finishing	Standard	NLU	CNMG 090304 NLU CNMG 090308 NLU	0,4 0,8																						
			CNMG 120404 NLU CNMG 120408 NLU CNMG 120412 NLU	0,4 0,8 1,2																						
	Finishing	NLU-W	CNMG 120404 NLU-W CNMG 120408 NLU-W CNMG 120412 NLU-W	0,4 0,8 1,2																						
			Finishing	NSU	CNMG 090304 NSU CNMG 090308 NSU	0,4 0,8																				
CNMG 09T304 NSU CNMG 09T308 NSU	0,4 0,8																									
CNMG 090404 NSU CNMG 090408 NSU	0,4 0,8																									
CNMG 120402 NSU CNMG 120404 NSU CNMG 120408 NSU CNMG 120412 NSU	0,2 0,4 0,8 1,2																									
Finishing	New NSE	CNMG 120404 NSE CNMG 120408 NSE CNMG 120412 NSE	0,4 0,8 1,2																							

C4

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs CNMG 120402 NFA, T2000Z

80° Diamond Type 0° Relief  
With Insert Hole



Dimensions (mm)				
CN-..	ℓ	ød (IC)	s	d <sub>1</sub>
0903..	9,7	9,525	3,18	3,81
12	12,9	12,7	4,76	5,16
16	16,1	15,875	6,35	6,35
19	19,3	19,05	6,35	7,94

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## CNMG

### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																					
				Cermet		Carbide						Ceramic		Uncoated		Uncoated									
				Uncoated	ZX-Coated	Uncoated	Coated	ZX-Coated	Coated	Coated	Coated	Uncoated	Uncoated												
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1		
Medium Cut	"Standard" NGU  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 090304 NGU	0,4																						
		CNMG 090308 NGU	0,8																						
	"Wiper" W type NGU-W  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120404 NGU	0,4																						
		CNMG 120408 NGU	0,8																						
		CNMG 120412 NGU	1,2																						
		CNMG 120416 NGU	1,6																						
Medium Cut	"New" NGE  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120404 NGE	0,4																						
		CNMG 120408 NGE	0,8																						
	CNMG 120412 NGE	1,2																							
	CNMG 160612 NGE	1,2																							
Medium Cut	NUG  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120404 NUG	0,4																						
		CNMG 120408 NUG	0,8																						
	CNMG 120412 NUG	1,2																							
	CNMG 120416 NUG	1,6																							
Medium Cut	NEX  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160612 NUG	1,2																						
		CNMG 160616 NUG	1,6																						
	CNMG 160624 NUG	2,4																							
Medium Cut	NEX  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 190608 NUG	0,8																						
		CNMG 120404 NEX	0,4																						
	CNMG 120408 NEX	0,8																							
Medium Cut	NUP  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120412 NEX	1,2																						
		CNMG 160608 NEX	0,8																						
	CNMG 160612 NEX	1,2																							
Medium Cut	NUP  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 190612 NEX	1,2																						
		CNMG 120404 NUP	0,4																						
	CNMG 120408 NUP	0,8																							
	CNMG 120412 NUP	1,2																							
Medium Cut	NUP  Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160612 NUP	1,2																						
		CNMG 190612 NUP	1,2																						

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs CNMG 120404 NGU, AC820P

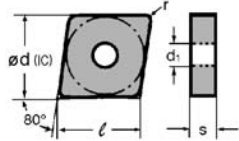


# C DIAMOND TYPE

## INSERTS FOR TURNING

### CNMG neg. Inserts for Roughing

**80° Diamond Type** 0° Relief  
With Insert Hole



	Dimensions (mm)				
CNMG	l	ød (IC)	s	d <sub>1</sub>	
12	12,9	12,7	4,76	5,16	
16	16,1	15,875	6,35	6,35	
19	19,3	19,05	6,35	7,94	

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## CNMG

Neg. Inserts

C

D

K

R

S

T

V

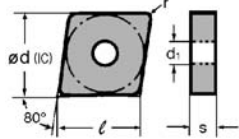
W

#### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																					
				Cermet		Carbide						Ceramic		Uncoated		Uncoated									
				Uncoated	ZX-Coated	Uncoated	Coated	ZX-Coated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated								
T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1		
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120408 NMU	0,8																						
		CNMG 120412 NMU	1,2																						
		CNMG 120416 NMU	1,6																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160608 NMU	0,8																						
		CNMG 160612 NMU	1,2																						
		CNMG 160616 NMU	1,6																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 190608 NMU	0,8																						
		CNMG 190612 NMU	1,2																						
		CNMG 190616 NMU	1,6																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120404 NUX	0,4																						
		CNMG 120408 NUX	0,8																						
		CNMG 120412 NUX	1,2																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120416 NUX	1,6																						
		CNMG 160608 NUX	0,8																						
		CNMG 160612 NUX	1,2																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160616 NUX	1,6																						
		CNMG 190608 NUX	0,8																						
		CNMG 190612 NUX	1,2																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 190616 NUX	1,6																						
		Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120408 NMX	0,8																				
				CNMG 120412 NMX	1,2																				
CNMG 120416 NMX	1,6																								
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160608 NMX	0,8																						
		CNMG 160612 NMX	1,2																						
		CNMG 160616 NMX	1,6																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 190612 NMX	1,2																						
		CNMG 190616 NMX	1,6																						
		Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120404 NUZ	0,4																				
CNMG 120408 NUZ	0,8																								
CNMG 120412 NUZ	1,2																								
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 120416 NUZ	1,6																						
		CNMG 160608 NUZ	0,8																						
		CNMG 160612 NUZ	1,2																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev)	CNMG 160616 NUZ	1,6																						
		CNMG 190612 NUZ	1,2																						
		CNMG 190616 NUZ	1,6																						



**80° Diamond Type** 0° Relief  
With Insert Hole



Dimensions (mm)				
CNMM	l	ød (IC)	s	d <sub>1</sub>
12	12,9	12,7	4,76	5,16
16	16,1	15,875	6,35	6,35
19	19,3	19,05	6,35	7,94
2507..	25,8	25,4	7,94	9,2
2509..	25,8	25,4	9,52	9,2

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## CNMM

● M-Class One Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																					
				Cermet		Carbide						Ceramic		Uncoated											
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated		Uncoated		Uncoated									
T110A	T1200A	T200Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1		
 Depth of cut (mm) vs Feed rate (mm/rev)	 <b>NMP</b>	CNMM 120408 NMP	0,8																						
		CNMM 120412 NMP	1,2																						
		CNMM 120416 NMP	1,6																						
		CNMM 160608 NMP	0,8																						
		CNMM 160612 NMP	1,2																						
 Depth of cut (mm) vs Feed rate (mm/rev)	 <b>NHG</b>	CNMM 120408 NHG	0,8																						
		CNMM 120412 NHG	1,2																						
		CNMM 120416 NHG	1,6																						
		CNMM 160608 NHG	0,8																						
		CNMM 160612 NHG	1,2																						
 Depth of cut (mm) vs Feed rate (mm/rev)	 <b>NHP</b>	CNMM 120408 NHP	0,8																						
		CNMM 120412 NHP	1,2																						
		CNMM 160608 NHP	0,8																						
		CNMM 160612 NHP	1,2																						
		CNMM 160616 NHP	1,6																						
 Depth of cut (mm) vs Feed rate (mm/rev)	 <b>NHW</b> <b>NHU</b>	CNMM 250924 NHW	2,4																						
		CNMM 190616 NHU	1,6																						
		CNMM 250924 NHU	2,4																						

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

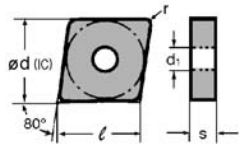
Packing unit and ordering example; 10 pcs CNMM 120408 NMP, AC820P

# C DIAMOND TYPE

## INSERTS FOR TURNING

Other CN-- Type neg. Inserts

80° Diamond Type 0° Relief  
With Insert Hole



Dimensions (mm)				
CN--	ℓ	ød (IC)	s	d <sub>1</sub>
12	12,9	12,7	4,76	5,16
16	16,1	15,875	6,35	6,35
19	19,3	19,05	6,35	7,94

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



⇒ D10, D16

⇒ E8

## CNGA / CNMA / CNMX

● Flat and One Side Handed Inserts

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide								Ceramic												
				Uncoated	ZX-Coated	Coated				ZX-Coated				Coated				Uncoated								
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Roughing		CNGA 120408 CNGA 120412 CNGA 120416	0,8 1,2 1,6																			●				
		CNMA 120404 CNMA 120408 CNMA 120412 CNMA 120416	0,4 0,8 1,2 1,6																							
		CNMA 160608 CNMA 160612 CNMA 160616	0,8 1,2 1,6																							
		CNMA 190612 CNMA 190616	1,2 1,6																							
Heavy Roughing		CNMX 120408 L	0,8																							
		CNMX 120408 R	0,8																							

Carbide

Neg. Inserts

C

D

K

R

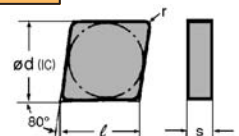
S

T

V

W

0° Relief  
Without Insert Hole



Dimensions (mm)				
CN--	ℓ	ød (IC)	s	d <sub>1</sub>
1204--	12,9	12,7	4,76	-
1207--	12,9	12,7	7,94	-



⇒ D23

⇒ D25

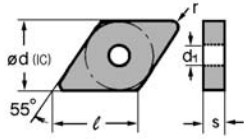
## CNMN / CNMX

● M-Class No Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide								Ceramic												
				Uncoated	ZX-Coated	Coated				ZX-Coated				Coated				Uncoated								
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Roughing		CNMN 120408 CNMN 120412 CNMN 120416	0,8 1,2 1,6																							
		CNMX 120712 CNMX 120716	1,2 1,6																							



55° Diamond Type 0° Relief  
With Insert Hole



Dimensions (mm)				
DNMG	l	ød (IC)	s	d <sub>1</sub>
1104--	11,6	9,525	4,76	3,81
1504--	15,5	12,7	4,76	5,16
1506--	15,5	12,7	6,35	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## DNMG

### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																							
				Cermet		Carbide						Ceramic		Other													
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated		Coated		Uncoated											
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1				
Finishing	NFA	DNMG 150604 NFA DNMG 150608 NFA	0,4																								
			0,8	●	●																						
Finishing	NFL	DNMG 150404 NFL DNMG 150408 NFL	0,4																								
			0,8		●	●				▲																	
Finishing	NLU	DNMG 110404 NLU DNMG 110408 NLU	0,4		●			●	●	●	▲																
			0,8	●	●			●	●	●	▲																
			0,2																								
			0,4																								
Finishing	NLU	DNMG 150402 NLU DNMG 150404 NLU DNMG 150408 NLU DNMG 150412 NLU	0,2																								
			0,4																								
			0,8																								
			1,2																								
Finishing	NLU	DNMG 150604 NLU DNMG 150608 NLU DNMG 150612 NLU	0,4		●			●	●	●	▲																
			0,8	●	●			●	●	●	▲																
			1,2	●	●			●	●	●	▲																
			1,2	●	●			●	●	●	▲																
Finishing	NSU	DNMG 110404 NSU DNMG 110408 NSU	0,4																								
			0,8																								
			0,2																								
			0,4																								
Finishing	NSU	DNMG 150402 NSU DNMG 150404 NSU DNMG 150408 NSU DNMG 150412 NSU	0,2																								
			0,4																								
			0,8																								
			1,2																								
Finishing	NSU	DNMG 150604 NSU DNMG 150608 NSU DNMG 150612 NSU	0,4		●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●	●	●	●	●		
			0,8	●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
			1,2	●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
			1,2	●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Finishing	NSE	DNMG 150404 NSE DNMG 150408 NSE DNMG 150412 NSE	0,4																								
			0,8																								
			1,2																								
			1,2																								
Finishing	NSE	DNMG 150604 NSE DNMG 150608 NSE DNMG 150612 NSE	0,4																								
			0,8																								
			1,2																								
			1,2																								

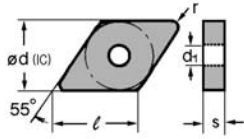
● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs DNMG 150604 NFA, T2000Z

# DIAMOND TYPE INSERTS FOR TURNING

## DNMG neg. Inserts for Medium Cutting

55° Diamond Type 0° Relief  
With Insert Hole



Dimensions (mm)				
DNMG	l	ød (IC)	s	d <sub>1</sub>
1104--	11,6	9,525	4,76	3,81
1504--	15,5	12,7	4,76	5,16
1506--	15,5	12,7	6,35	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



Carbide

### DNMG

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide						Ceramic		Uncoated												
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated		Uncoated		Uncoated										
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev)	DNMG 110404 NGU DNMG 110408 NGU DNMG 110412 NGU	0,4 0,8 1,2																							
		DNMG 150404 NGU DNMG 150408 NGU DNMG 150412 NGU	0,4 0,8 1,2																							
		DNMG 150604 NGU DNMG 150608 NGU DNMG 150612 NGU	0,4 0,8 1,2																							
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev)	DNMG 150404 NGE DNMG 150408 NGE DNMG 150412 NGE	0,4 0,8 1,2																							
		DNMG 150604 NGE DNMG 150608 NGE DNMG 150612 NGE	0,4 0,8 1,2																							
		DNMG 150604 NGE DNMG 150608 NGE DNMG 150612 NGE	0,4 0,8 1,2																							
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev)	DNMG 110404 NUG DNMG 110408 NUG	0,4 0,8																							
		DNMG 150604 NUG DNMG 150608 NUG DNMG 150612 NUG DNMG 150616 NUG	0,4 0,8 1,2 1,6																							
		DNMG 150604 NUG DNMG 150608 NUG DNMG 150612 NUG	0,4 0,8 1,2																							
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev)	DNMG 110404 NEX DNMG 110408 NEX	0,4 0,8																							
		DNMG 150604 NEX DNMG 150608 NEX DNMG 150612 NEX	0,4 0,8 1,2																							
		DNMG 150604 NEX DNMG 150608 NEX DNMG 150612 NEX	0,4 0,8 1,2																							
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev)	DNMG 150404 NUP DNMG 150408 NUP DNMG 150412 NUP	0,4 0,8 1,2																							
		DNMG 150604 NUP DNMG 150608 NUP DNMG 150612 NUP	0,4 0,8 1,2																							
		DNMG 150604 NUP DNMG 150608 NUP DNMG 150612 NUP	0,4 0,8 1,2																							

Neg. Inserts

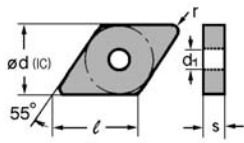
- C
- D
- K
- R
- S
- T
- V
- W

C10

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs DNMG 110404 NGU, AC820P

**55° Diamond Type** 0° Relief  
With Insert Hole



Dimensions (mm)				
DNMG	l	ød (IC)	s	d <sub>1</sub>
1104--	11,6	9,525	4,76	3,81
1504--	15,5	12,7	4,76	5,16
1506--	15,5	12,7	6,35	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



# DNMG

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																					
				Cermet		Carbide						Ceramic		Uncoated											
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated		Uncoated		Uncoated									
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1		
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph for NMU.	DNMG 150408 NMU	0,8																						
		DNMG 150412 NMU	1,2																						
		DNMG 150416 NMU	1,6																						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph for NMX.	DNMG 150608 NMU	0,8					●	●																
		DNMG 150612 NMU	1,2					●	●																
		DNMG 150616 NMU	1,6					●	●																
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph for NUX.	DNMG 110408 NUX	0,8						○	▲	▲														
		DNMG 150404 NUX	0,4						○	○															
		DNMG 150408 NUX	0,8						○	○															
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph for NUZ.	DNMG 150412 NUX	1,2						○	○															
		DNMG 150604 NUX	0,4						●	●	▲								●						
		DNMG 150608 NUX	0,8						●	●	▲								●						
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph for NUZ.	DNMG 150612 NUX	1,2						●	▲								●							
		DNMG 150608 NUZ	0,8																●	●					
		DNMG 150612 NUZ	1,2																●	●					

- Neg. Inserts
- C
  - D
  - K
  - R
  - S
  - T
  - V
  - W

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

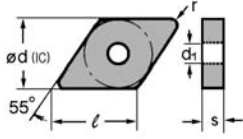
Packing unit and ordering example; 10 pcs DNMG 150608 NMU, AC820P

# DIAMOND TYPE INSERTS FOR TURNING

## DNMM neg. Inserts for Roughing

55° Diamond Type

0° Relief  
With Insert Hole



Dimensions (mm)				
DN--	l	ød (IC)	s	d <sub>1</sub>
1504--	15,5	12,7	4,76	5,16
1506--	15,5	12,7	6,35	5,16

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



⇒ D11, D17

⇒ E9

Carbide

### DNMM

	Cermet		Carbide				Ceramic		Uncoated															
	Uncoated	ZX-Coated	Coated		ZX-Coated	Coated	Uncoated																	
			AC530U	AC700G				AC900G		AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C
Application																								
Shape																								
ISO Cat. No.																								
r																								

#### ● M-Class One Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Depth of cut (mm)  Feed rate (mm/rev)	 <b>NMP</b>	DNMM 150404 NMP DNMM 150408 NMP DNMM 150412 NMP	0,4 0,8 1,2								○	○																		
		DNMM 150604 NMP DNMM 150608 NMP DNMM 150612 NMP DNMM 150616 NMP	0,4 0,8 1,2 1,6									●	●	▲	▲		●													
		DNMM 150604 NHG DNMM 150608 NHG DNMM 150612 NHG DNMM 150616 NHG	0,4 0,8 1,2 1,6								●	●	●	●	▲	▲	●	●						●	●					
Depth of cut (mm)  Feed rate (mm/rev)	 <b>NHP</b>	DNMM 150404 NHP DNMM 150408 NHP DNMM 150412 NHP	0,4 0,8 1,2									○	○																	
		DNMM 150608 NHP DNMM 150612 NHP	0,8 1,2									●	●																	



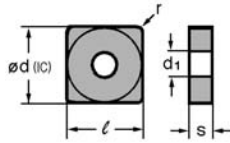


# S SQUARE TYPE

## INSERTS FOR TURNING

SNMG neg. Inserts for Finishing and Light Cut

90° Square Type 0° Relief  
With Insert Hole



SNMG	Dimensions (mm)			
	l	ød (IC)	s	d1
09	9,525	9,525	3,18	3,81
12	12,7	12,7	4,76	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## SNMG

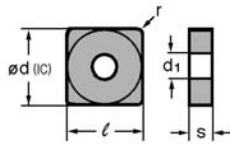
Neg. Inserts

- C
- D
- K
- R
- S
- T
- V
- W

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																								
				Cermet		Carbide						Ceramic		Uncoated														
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated																
				T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
Finishing	 Depth of cut (mm) vs Feed rate (mm/rev) graph NLU, NSU	SNMG 120408 NLU SNMG 120412 NLU	0,8 1,2								●					○												
		SNMG 120408 NSU SNMG 120412 NSU	0,8 1,2						●		●	○					○		●	●								
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev) graph NGU	SNMG 090304 NGU SNMG 090308 NGU	0,4 0,8								○	○																
		SNMG 120404 NGU SNMG 120408 NGU SNMG 120412 NGU SNMG 120416 NGU	0,4 0,8 1,2 1,6					●	●	●	●	●	●	●	●	○	○			○	○							
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev) graph NGE	SNMG 120408 NGE SNMG 120412 NGE SNMG 120416 NGE	0,8 1,2 1,6								●	●	●															
		SNMG 150612 NGU	1,2									○	○															
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev) graph NUG	SNMG 120408 NUG SNMG 120412 NUG SNMG 120416 NUG	0,8 1,2 1,6											▲	▲													
		SNMG 120404 NEX SNMG 120408 NEX SNMG 120412 NEX	0,4 0,8 1,2													●	●		●	●								
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev) graph NEX	SNMG 150608 NEX SNMG 150612 NEX	0,8 1,2															○	○									
		SNMG 190612 NEX SNMG 190616 NEX	1,2 1,6																●	●								
Medium Cut	 Depth of cut (mm) vs Feed rate (mm/rev) graph NUP	SNMG 120404 NUP SNMG 120408 NUP SNMG 120412 NUP	0,4 0,8 1,2								●	●		▲	▲		●	●		●	●							

90° Square Type 0° Relief  
With Insert Hole



Dimensions (mm)				
SNMG	ℓ	ød (IC)	s	d <sub>1</sub>
12	12,7	12,7	4,76	5,16
15	15,875	15,875	6,35	6,35
19	19,05	19,05	6,35	7,94

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## SNMG

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																								
				Cermet		Carbide						Ceramic		Uncoated		Uncoated												
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated	Uncoated															
				T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph	SNMG 120408 NMU SNMG 120412 NMU SNMG 120416 NMU	0,8 1,2 1,6						●	●	●	●	▲	▲	●	●		●	●			●	●					
		SNMG 150612 NMU SNMG 150616 NMU	1,2 1,6								●	●	▲	▲	●	●			●	●								
		SNMG 190612 NMU SNMG 190616 NMU	1,2 1,6						●	●	●	●	▲	▲	●	●			●	●			●	●				
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph	SNMG 120408 NUX SNMG 120412 NUX SNMG 120416 NUX	0,8 1,2 1,6						●	●	●	●	▲									●	●					
		SNMG 150612 NUX	1,2																			●						
		SNMG 190612 NUX SNMG 190616 NUX	1,2 1,6							●	●	●	●										●					
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph	SNMG 120408 NMX SNMG 120412 NMX SNMG 120416 NMX	0,8 1,2 1,6							●	●	●	●	▲	▲													
		SNMG 150612 NMX SNMG 150616 NMX	1,2 1,6							●	●	●	●															
		SNMG 190612 NMX SNMG 190616 NMX	1,2 1,6							●	●	●	●															
Roughing	 Depth of cut (mm) vs Feed rate (mm/rev) graph	SNMG 120408 NUZ SNMG 120412 NUZ SNMG 120416 NUZ	0,8 1,2 1,6																			●	●	●				
		SNMG 150612 NUZ SNMG 150616 NUZ	1,2 1,6																				●	●	●			
		SNMG 190612 NUZ SNMG 190616 NUZ	1,2 1,6																				●	●	●			

- Neg. Inserts
- C
  - D
  - K
  - R
  - S
  - T
  - V
  - W

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

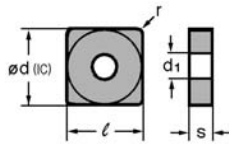
Packing unit and ordering example; 10 pcs SNMG 120408 NMU, AC820P

# S SQUARE TYPE

INSERTS FOR TURNING

## SNMM neg. Inserts for Heavy Roughing

90° Square Type 0° Relief  
With Insert Hole



SNMM	l	ød (IC)	s	d <sub>1</sub>
12	12,7	12,7	4,76	5,16
15	15,875	15,875	6,35	6,35
19	19,05	19,05	6,35	7,94
2507..	25,4	25,4	7,94	9,2
2509..	25,4	25,4	9,52	9,2
3109..	31,75	31,75	9,52	8,8

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



⇒ D12, D18~19

⇒ E10

Carbide

## SNMM

	Cermet				Carbide											Ceramic											
	Uncoated		ZX-Coated		Coated						ZX-Coated			Coated		Uncoated											
	T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
<b>Application</b>	<b>Shape</b>																									<b>ISO Cat. No.</b>	<b>r</b>
<b>Depth of cut (mm)</b>																											
<b>Feed rate (mm/rev)</b>																											
<b>Legend:</b> ● = Euro stock, ● (pink) = 1-st recommended stock item, ○ = Stock item in Japan																											

Neg. Inserts

- C
- D
- K
- R
- S
- T
- V
- W

● M-Class One Sided Bumpy Chipbreaker

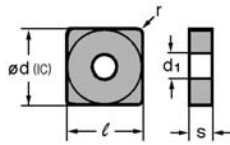
<b>Application</b>	<b>Shape</b>	<b>ISO Cat. No.</b>	<b>r</b>
<b>Depth of cut (mm)</b>			
<b>Feed rate (mm/rev)</b>			
<b>Legend:</b> ● = Euro stock, ● (pink) = 1-st recommended stock item, ○ = Stock item in Japan			

<b>SNMM 120408 NMP</b>				0,8
<b>SNMM 120412 NMP</b>				1,2
<b>SNMM 120416 NMP</b>				1,6
<b>SNMM 120420 NMP</b>				2,0
<b>SNMM 150612 NMP</b>				1,2
<b>SNMM 150616 NMP</b>				1,6
<b>SNMM 190612 NMP</b>				1,2
<b>SNMM 190616 NMP</b>				1,6
<b>SNMM 190624 NMP</b>				2,4
<b>SNMM 250724 NMP</b>				2,4
<b>SNMM 250924 NMP</b>				2,4
<b>SNMM 310924 NMP</b>				2,4
<b>SNMM 120408 NHG</b>				0,8
<b>SNMM 120412 NHG</b>				1,2
<b>SNMM 120416 NHG</b>				1,6
<b>SNMM 150612 NHG</b>				1,2
<b>SNMM 150616 NHG</b>				1,6
<b>SNMM 190612 NHG</b>				1,2
<b>SNMM 190616 NHG</b>				1,6
<b>SNMM 190624 NHG</b>				2,4
<b>SNMM 120408 NHP</b>				0,8
<b>SNMM 120412 NHP</b>				1,2
<b>SNMM 120416 NHP</b>				1,6
<b>SNMM 150612 NHP</b>				1,2
<b>SNMM 190612 NHP</b>				1,2
<b>SNMM 190616 NHP</b>				1,6
<b>SNMM 190624 NHP</b>				2,4
<b>SNMM 250724 NHP</b>				2,4
<b>SNMM 250924 NHP</b>				2,4
<b>SNMM 310924 NHP</b>				2,4
<b>SNMM 190616 NHW</b>				1,6
<b>SNMM 250724 NHW</b>				2,4
<b>SNMM 250924 NHW</b>				2,4
<b>SNMM 310924 NHW</b>				2,4
<b>SNMM 190616 NHU</b>				1,6
<b>SNMM 250724 NHU</b>				2,4
<b>SNMM 250924 NHU</b>				2,4
<b>SNMM 310924 NHU</b>				2,4

# S SQUARE TYPE

## INSERTS FOR TURNING

90° Square Type 0° Relief  
With Insert Hole



Dimensions (mm)				
SN--	ℓ	ød (IC)	s	d <sub>1</sub>
12	12,7	12,7	4,76	5,16
15	15,875	15,875	6,35	6,35
19	19,05	19,05	6,35	7,94

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



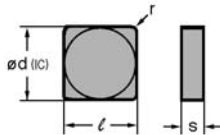
## SNGA / SNMA

● G/M-Class No Chipbreaker

Application	Shape	ISO Cat. No.	r
Roughing		SNGA 120408 SNGA 120412	0,8
			1,2
Roughing		SNMA 120408 SNMA 120412 SNMA 120416	0,8
			1,2
			1,6
		SNMA 150612	1,2
		SNMA 190612 SNMA 190616	1,2
			1,6

	P										M			S		K		H		K		N		
	Cermet		Carbide								Ceramic													
	Uncoated	ZX-Coated	Coated				ZX-Coated				Coated		Uncoated											
	T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1

0° Relief  
Without Insert Hole



Dimensions (mm)				
SN--	ℓ	ød (IC)	s	d <sub>1</sub>
1204--	12,7	12,7	4,76	-
1207--	12,7	12,7	7,94	-



## SNMN / SNMX

● M-Class No Chipbreaker

Application	Shape	ISO Cat. No.	r
Roughing		SNMN 120408 SNMN 120412 SNMN 120416	0,8
			1,2
			1,6
Roughing		SNMX 120712 SNMX 120716	1,2
			1,6

	Cermet		Carbide										Ceramic											
	Uncoated	ZX-Coated	Coated				ZX-Coated				Coated		Uncoated											
	T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs SNGA 1204008, NB100C

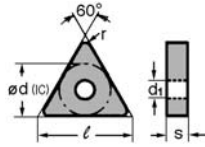
# T TRIANGLE TYPE

## INSERTS FOR TURNING

### TNMG neg. Inserts for Finishing

60° Triangle Type

0° Relief  
With Insert Hole



Dimensions (mm)				
TNMG	ℓ	ød (IC)	s	d <sub>1</sub>
1604--	16,5	9,525	4,76	3,81

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



Carbide

## TNMG

Cermet		Carbide				Ceramic		
Uncoated	ZX-Coated	Coated		ZX-Coated	Coated		Uncoated	

### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1		
Finishing	NFA	TNMG 160404 NFA TNMG 160408 NFA	0,4	●	●																								
			0,8	●	●																								
Finishing	NFL	TNMG 160404 NFL TNMG 160408 NFL	0,4			●	●				○		▲			○													
			0,8			●	●				○		▲			○													
Finishing	NLU	TNMG 160402 NLU TNMG 160404 NLU TNMG 160408 NLU TNMG 160412 NLU	0,2			●					●	●	▲			○													
			0,4			●				●	●	●	▲			○													
			0,8			●				●	●	●	▲			○													
			1,2			●				●	●	●	▲			○													
Finishing	NSU	TNMG 160402 NSU TNMG 160404 NSU TNMG 160408 NSU TNMG 160412 NSU	0,2													○			○						●	●			
			0,4			●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●				●	●		
			0,8			●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●				●	●		
			1,2			●	●			●	●	●	▲	▲	●	●	●	●	●	●	●	●				●	●		
Finishing	NSE	TNMG 160404 NSE TNMG 160408 NSE TNMG 160412 NSE	0,4								●	○																	
			0,8									●	○																
			1,2									●	○																

Neg. Inserts

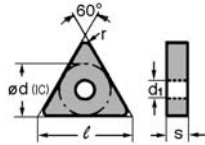
- C
- D
- K
- R
- S
- T
- V
- W

● = Euro stock   ● = 1-st recommended stock item  
○ = Stock item in Japan

Packing unit and ordering example; 10 pcs TNMG 160404 NFA, T2000Z



60° Triangle Type 0° Relief  
With Insert Hole



Dimensions (mm)				
TNMG	ℓ	ød (IC)	s	d <sub>1</sub>
1604--	16,5	9,525	4,76	3,81
2204--	22,0	12,7	4,76	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## TNMG

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																							
				Cermet		Carbide						Ceramic		Uncoated													
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated		Uncoated		Uncoated											
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1				
Medium Cut	 <b>NGU</b>	TNMG 160404 NGU TNMG 160408 NGU TNMG 160412 NGU TNMG 160416 NGU	0,4																								
			0,8																								
			1,2																								
			1,6																								
Medium Cut	 <b>NGE</b>	TNMG 160408 NGE TNMG 160412 NGE TNMG 220408 NGE	0,8																								
			1,2																								
			0,8																								
Medium Cut	 <b>NUG</b>	TNMG 160404 NUG TNMG 160408 NUG TNMG 160412 NUG TNMG 160416 NUG TNMG 220408 NUG TNMG 220412 NUG TNMG 220416 NUG	0,4																								
			0,8																								
			1,2																								
			1,6																								
Medium Cut	 <b>NEX</b>	TNMG 160404 NEX TNMG 160408 NEX TNMG 160412 NEX	0,4																								
			0,8																								
			1,2																								
Medium Cut	 <b>NUP</b>	TNMG 160404 NUP TNMG 160408 NUP TNMG 160412 NUP TNMG 220408 NUP TNMG 220412 NUP	0,4																								
			0,8																								
			1,2																								
			0,8																								

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs TNMG 160404 NGU, AC820P

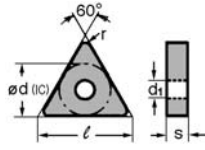
# T TRIANGLE TYPE

## INSERTS FOR TURNING

### TNMG neg. Inserts for Roughing

60° Triangle Type

0° Relief  
With Insert Hole



TNMG	l	ød (IC)	s	d1
1604--	16,5	9,525	4,76	3,81
2204--	22,0	12,7	4,76	5,16
2706--	27,5	15,875	6,35	6,35

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



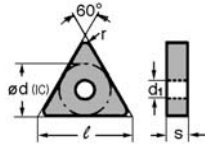
## TNMG

Neg. Inserts

### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide						Ceramic		Uncoated												
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated														
T110A	T1200A	T200Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Roughing	 NMU Depth of cut (mm) vs Feed rate (mm/rev)	TNMG 160408 NMU TNMG 160412 NMU	0,8 1,2																							
		TNMG 220408 NMU TNMG 220412 NMU TNMG 220416 NMU	0,8 1,2 1,6																							
		TNMG 270612 NMU TNMG 270616 NMU	1,2 1,6																							
Roughing	 NUX Depth of cut (mm) vs Feed rate (mm/rev)	TNMG 160404 NUX TNMG 160408 NUX TNMG 160412 NUX	0,4 0,8 1,2																							
		TNMG 220408 NUX TNMG 220412 NUX TNMG 220416 NUX	0,8 1,2 1,6																							
		TNMG 160408 NMX TNMG 160412 NMX	0,8 1,2																							
Roughing	 NMX Depth of cut (mm) vs Feed rate (mm/rev)	TNMG 220408 NMX TNMG 220412 NMX	0,8 1,2																							
		TNMG 160404 NUZ TNMG 160408 NUZ TNMG 160412 NUZ TNMG 160416 NUZ	0,4 0,8 1,2 1,6																							
Roughing	 NUZ Depth of cut (mm) vs Feed rate (mm/rev)	TNMG 220408 NUZ TNMG 220412 NUZ	1,2 1,6																							

60° Triangle Type 0° Relief  
With Insert Hole



Dimensions (mm)				
TNMM	l	ød (IC)	s	d1
1604--	16,5	9,525	4,76	3,81
2204--	22,0	12,7	4,76	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



### TNMM

● M-Class One Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r
<p><b>NMP</b></p>		<b>TNMM 160408 NMP</b> <b>TNMM 160412 NMP</b> <b>TNMM 160416 NMP</b>	0,8 1,2 1,6
		<b>TNMM 220408 NMP</b> <b>TNMM 220412 NMP</b> <b>TNMM 220416 NMP</b>	0,8 1,2 1,6
<p><b>NHG</b></p>		<b>TNMM 160408 NHG</b> <b>TNMM 160412 NHG</b> <b>TNMM 160416 NHG</b>	0,8 1,2 1,6
		<b>TNMM 220408 NHG</b> <b>TNMM 220412 NHG</b> <b>TNMM 220416 NHG</b>	0,8 1,2 1,6
<p><b>NHP</b></p>		<b>TNMM 160408 NHP</b> <b>TNMM 160412 NHP</b>	0,8 1,2
		<b>TNMM 220412 NHP</b> <b>TNMM 220416 NHP</b>	1,2 1,6

		P			M			S			K			H			K			N					
		Cermet			Carbide									Ceramic											
		Uncoated	ZX-Coated	Coated	Coated			ZX-Coated			Coated			Uncoated											
		T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1
●	○								●	●	▲	▲								●	●				
									●	●	▲	▲								●	●				
									●	●	▲	▲								●	●				
									○	○															
									○	○															

- Neg. Inserts
- C
  - D
  - K
  - R
  - S
  - T
  - V
  - W

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs TNMM 1600408 NMP, AC820P

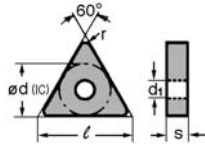
# T TRIANGLE TYPE

## INSERTS FOR TURNING

Other T--- Type neg. Inserts

60° Triangle Type

0° Relief  
With Insert Hole



Dimensions (mm)				
TN--	l	ød (IC)	s	d1
1604--	16,5	9,525	4,76	3,81

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel

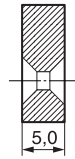
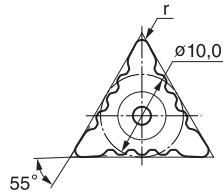


Carbide

## TNGA / TNMA

● G/M-Class No Chipbreaker

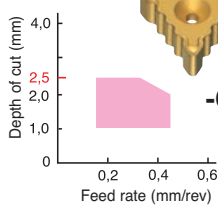
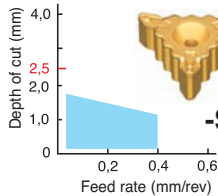
Application	Shape	ISO Cat. No.	r	Material																				
				Cermet		Carbide						Ceramic		Other										
				Uncoated	ZX-Coated	Coated			ZX-Coated			Coated		Uncoated		Other								
T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
Roughing		TNGA 160408 TNGA 160412	0,8 1,2																					
		TNMA 160404 TNMA 160408 TNMA 160412 TNMA 160416	0,4 0,8 1,2 1,6																					
	TNMA 220408 TNMA 220412 TNMA 220416	0,8 1,2 1,6																						



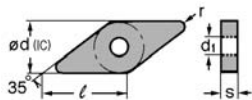
## TRM

● M-Class Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																				
				Cermet		Carbide						Ceramic		Other										
				Uncoated	ZX-Coated	Coated			ZX-Coated			Coated		Uncoated		Other								
T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
Finishing	 -LU	TRM 551704 -LU TRM 551708 -LU TRM 551712 -LU	0,4 0,8 1,2																					
		TRM 551704 -SU TRM 551708 -SU TRM 551712 -SU	0,4 0,8 1,2																					
	 -GU	TRM 551704 -GU TRM 551708 -GU TRM 551712 -GU	0,4 0,8 1,2																					

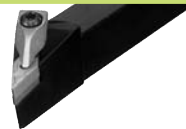


**35° Diamond Type** 0° Relief  
With Insert Hole



Dimensions (mm)				
VN--	l	ød (IC)	s	d1
1604--	16,6	9,525	4,76	3,81

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



⇒ D14

Carbide

### VNMA

● M-Class No Chipbreaker

Application	Shape	ISO Cat. No.	r
—		<b>VNMA 160404</b> <b>VNMA 160408</b> <b>VNMA 160412</b>	0,4 0,8 1,2

Cermet		Carbide						Ceramic																
Uncoated	ZX-Coated	Coated			ZX-Coated	Coated		Uncoated																
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
																		●						

### VNMG

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r
Finishing	 NFL Depth of cut (mm) vs Feed rate (mm/rev) graph	<b>VNMG 160404 NFL</b> <b>VNMG 160408 NFL</b>	0,4 0,8
Finishing	 NLU Depth of cut (mm) vs Feed rate (mm/rev) graph	<b>VNMG 160402 NLU</b> <b>VNMG 160404 NLU</b> <b>VNMG 160408 NLU</b>	0,2 0,4 0,8
Finishing	 NSU Depth of cut (mm) vs Feed rate (mm/rev) graph	<b>VNMG 160402 NSU</b> <b>VNMG 160404 NSU</b> <b>VNMG 160408 NSU</b>	0,2 0,4 0,8

Cermet		Carbide						Ceramic																
Uncoated	ZX-Coated	Coated			ZX-Coated	Coated		Uncoated																
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
		●	●				○		▲			○												
			●			●	●	●	▲			○												
					●	●	●	●	▲	▲	●	●	○	○	○			●	●					

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs VNMA 160404, AC410K

Neg. Inserts

C

D

K

R

S

T

V

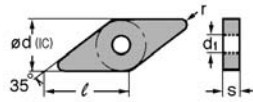
W



# V DIAMOND TYPE INSERTS FOR TURNING

## VNMG neg. Inserts for Finishing & Medium Cutting

35° Diamond Type 0° Relief  
With Insert Hole



Dimensions (mm)				
VN--	l	ød (IC)	s	d1
1604--	16,6	9,525	4,76	3,81

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



→ D14

Carbide

### VNMG

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide						Ceramic		Uncoated												
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated														
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Medium Cut	NGU	VNMG 160404 NGU VNMG 160408 NGU VNMG 160412 NGU	0,4 0,8 1,2																							
Medium Cut	NGE	VNMG 160408 NGE	0,8																							
Medium Cut	NUG	VNMG 160404 NUG VNMG 160408 NUG	0,4 0,8																							
Medium Cut	NEX	VNMG 160404 NEX VNMG 160408 NEX	0,4 0,8																							
Medium Cut	NUP	VNMG 160404 NUP VNMG 160408 NUP	0,4 0,8																							
Medium Cut	NUX	VNMG 160404 NUX VNMG 160408 NUX VNMG 160412 NUX	0,4 0,8 1,2																							
Medium Cut	NUZ	VNMG 160404 NUZ VNMG 160408 NUZ VNMG 160412 NUZ	0,4 0,8 1,2																							

Neg. Inserts

C

D

K

R

S

T

V

W

#### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r
Medium Cut	NGU	VNMG 160404 NGU VNMG 160408 NGU VNMG 160412 NGU	0,4 0,8 1,2
Medium Cut	NGE	VNMG 160408 NGE	0,8
Medium Cut	NUG	VNMG 160404 NUG VNMG 160408 NUG	0,4 0,8
Medium Cut	NEX	VNMG 160404 NEX VNMG 160408 NEX	0,4 0,8
Medium Cut	NUP	VNMG 160404 NUP VNMG 160408 NUP	0,4 0,8
Medium Cut	NUX	VNMG 160404 NUX VNMG 160408 NUX VNMG 160412 NUX	0,4 0,8 1,2
Medium Cut	NUZ	VNMG 160404 NUZ VNMG 160408 NUZ VNMG 160412 NUZ	0,4 0,8 1,2

● = Euro stock    ● = 1-st recommended stock item  
○ = Stock item in Japan

Packing unit and ordering example; 10 pcs VNMG 160404 NGU, AC820P



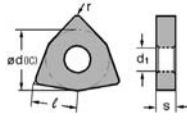
# W TRIGON TYPE

## INSERTS FOR TURNING

### WNMG neg. Inserts for Medium Cutting

80° Trigon Type

0° Relief  
With Insert Hole



Dimensions (mm)				
WN--	ℓ	ød (IC)	s	d <sub>1</sub>
0604--	6,52	9,525	4,76	3,81
0804--	8,69	12,7	4,76	5,16

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



Carbide

## WNMG

### ● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r	Material																						
				Cermet		Carbide						Ceramic		Uncoated												
				Uncoated	ZX-Coated	Coated		ZX-Coated		Coated		Uncoated														
T110A	T1200A	T200Z	T300Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1			
Medium Cut	"Standard" NGU	WNMG 060404 NGU WNMG 060408 NGU WNMG 060412 NGU	0,4																							
			0,8																							
			1,2																							
Medium Cut	"Wiper" W-Type NGU-W	WNMG 080408 NGU-W WNMG 080412 NGU-W	0,4																							
			0,8																							
			1,2																							
Medium Cut	"New" NGE	WNMG 060408 NGE WNMG 060412 NGE	0,8																							
			1,2																							
			0,8																							
Medium Cut	NUG	WNMG 060404 NUG WNMG 060408 NUG	0,4																							
			0,8																							
			1,2																							
Medium Cut	NEX	WNMG 060404 NEX WNMG 060408 NEX	0,8																							
			1,2																							
			0,4																							
Medium Cut	NUP	WNMG 080404 NEX WNMG 080408 NEX WNMG 080412 NEX	0,4																							
			0,8																							
			1,2																							
Medium Cut	NUP	WNMG 080408 NUP WNMG 080412 NUP	0,8																							
			1,2																							

Neg. Inserts

C

D

K

R

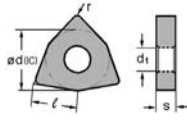
S

T

V

W

80° Trigon Type 0° Relief  
With Insert Hole



Dimensions (mm)				
WN--	ℓ	∅d (IC)	s	d <sub>1</sub>
0604--	6,52	9,525	4,76	3,81
0804--	8,69	12,7	4,76	5,16

- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metals
- S Super Alloy
- H Hardened Steel



## WNMG ○○○○○○ □-□

● M-Class Double Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r
Roughing	<p><b>NUX</b></p>	<b>WNMG 080404 NUX</b> <b>WNMG 080408 NUX</b> <b>WNMG 080412 NUX</b>	0,4 0,8 1,2
		<b>WNMG 060408 NMU</b> <b>WNMG 060412 NMU</b>	0,8 1,2
		<b>WNMG 080408 NMU</b> <b>WNMG 080412 NMU</b> <b>WNMG 080416 NMU</b>	0,8 1,2 1,6
Roughing	<p><b>NMU</b></p>	<b>WNMG 080408 NMX</b> <b>WNMG 080412 NMX</b>	0,8 1,2
		<b>WNMG 080404 NUZ</b> <b>WNMG 080408 NUZ</b> <b>WNMG 080412 NUZ</b>	0,4 0,8 1,2

		P			M		S		K		H		K		N											
		Cermet		Carbide										Ceramic												
		Uncoated	ZX-Coated	Coated				ZX-Coated		Coated		Uncoated														
		T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
Application	Shape	●					●	●	●	●	▲	▲							●	●	●					
		○					●	●	●	●	▲	▲							●	●	●					
		●					●	●	●	●	▲	▲							●	●	●					
		○					●	●	●	●	▲	▲							●	●	●					

- Neg. Inserts
- C
  - D
  - K
  - R
  - S
  - T
  - V
  - W

● = Euro stock    ● = 1-st recommended stock item  
 ○ = Stock item in Japan

Packing unit and ordering example; 10 pcs WNMG 060408 NMU, AC820P

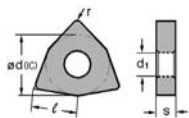
# W TRIGON TYPE

## INSERTS FOR TURNING

### WNMM & WNMA neg. Inserts for Roughing

80° Trigon Type

0° Relief  
With Insert Hole



Dimensions (mm)				
WN--	l	ød (IC)	s	d1
0604--	6,52	9,525	4,76	3,81
0804--	8,69	12,7	4,76	5,16

- P** Steel
- M** Stainless Steel
- K** Cast Iron
- N** Non-Ferrous Metals
- S** Super Alloy
- H** Hardened Steel



⇒ D15, D21

⇒ E13

## WNMM

### ● M-Class One Sided Bumpy Chipbreaker

Application	Shape	ISO Cat. No.	r
 <b>NMP</b> 	<b>WNMM 080408 NMP</b> <b>WNMM 080412 NMP</b>	0,8	0,8
		1,2	1,2
 <b>NHG</b> 	<b>WNMM 080408 NHG</b> <b>WNMM 080412 NHG</b>	0,8	0,8
		1,2	1,2

Cermet		Carbide						Ceramic																
Uncoated	ZX-Coated	Coated			ZX-Coated	Coated		Uncoated																
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
							●	●	▲	▲								●	●					

## WNMA

### ● M-Class No Chipbreaker

Application	Shape	ISO Cat. No.	r
Roughing	 <b>WNMA 080408</b> <b>WNMA 080412</b> <b>WNMA 080416</b>	0,8	0,8
		1,2	1,2
		1,6	1,6

Cermet		Carbide						Ceramic																
Uncoated	ZX-Coated	Coated			ZX-Coated	Coated		Uncoated																
T110A	T1200A	T2000Z	T3000Z	AC530U	AC700G	AC900G	AC820P	AC830P	AC2000	AC3000	AC610M	AC630M	AC530U	AC510U	AC520U	AC530U	AC410K	AC700G	AC900G	NB100C	NS260C	NS260	H1	
																		●	●					