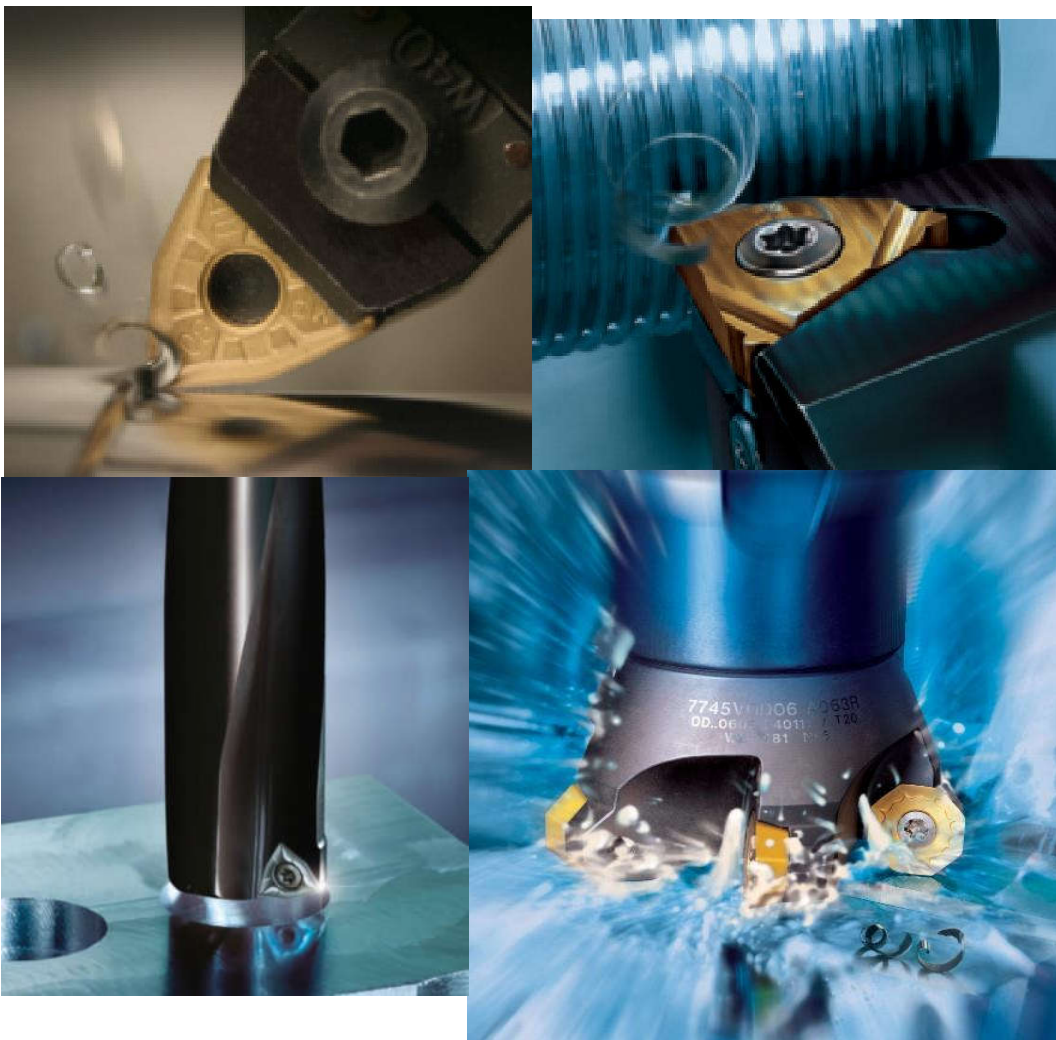


HBILZ

CUTTING TOOLS CATALOGO 2019



HBILZ tooling systems for all your turning requirements.



HBILZ Cutting tools

Cutting Speed (V_c) metres/minute

Cutting Speed (V_c) m/min			CVD Coated													
ISO	Material	Rm and Hardness	A250		A5040		A04030		A07		A0400		A01519		A037	
			Max - min		Max - min		Max - min		Max - min		Max - min		Max - min		Max - min	
			HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC
			Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	Max - Min	
P	Unalloyed Steels	<600 N/mm ² <180HBN	405	165	380	160	425	160	360	135	225	115	-	-	490	275
		<950 N/mm ² <280HBN	265	105	245	100	275	100	235	90	145	75	-	-	335	150
	Alloyed Steels	700-950 N/mm ² 200-280 HBN	240	95	230	95	250	95	215	80	135	70	-	-	215	125
		950 - 1200 N/mm ² 280 - 355 HBN	220	90	200	85	215	85	195	75	125	65	-	-	-	-
		1200 - 1400 N/mm ² 355 - 415 HBN	150	60	135	60	120	60	135	50	85	45	-	-	-	-
M	Stainless Steels	Austenitic + Ferritic 300 series	275	110	230	105	-	-	245	90	150	80	-	-	185	130
		Martensitic 400 series	285	115	240	110	-	-	255	95	160	80	-	-	200	125
		Refractory P.H.	145	60	120	60	-	-	130	50	80	40	-	-	150	100
K	Cast Irons	Grey GG-Ft	400	160	335	-	-	-	-	225	115	490	215	185	150	
		Spheroidal-Ductile GGG-FGS	350	140	290	135	-	-	-	-	195	100	425	185	275	170
		Malleable GTS - MN/MP	235	95	195	90	-	-	-	-	130	70	285	125	-	-
N	Aluminium & Alloys	< 16% Si 116HBN	475	190	-	-	-	-	-	-	-	-	-	-	-	-
		> 16% Si 92HBN	295	115	-	-	-	-	-	-	-	-	-	-	-	-
S	High Temperature Alloys	Iron Based	60	25	50	25	-	-	50	20	35	15	-	-	-	-
		Cobalt Based	50	20	40	20	-	-	40	15	25	15	-	-	-	-
		Nickel Based	50	20	45	20	-	-	45	15	30	15	-	-	-	-
		Titanium Based	80	30	65	30	-	-	70	30	45	25	-	-	-	-
H	Hard Steel	>1400 N/mm ² >415 HBN	-	-	-	-	65	45	-	-	-	-	-	-	-	
	Chilled Cast Iron	1400 N/mm ² 400 HBN	-	-	-	-	60	45	-	-	-	-	-	-	-	

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

Cutting Speed (V_c) metres/minute

Cutting Speed (V_c) m/min			PVD Coated								Uncoated					
ISO	Material	Rm and Hardness	751 Max - min		750 Max - min		752 Max - min		750S Max - min		P21 Max - min		PH1 micrograin Max - min		PH2 micrograin Max - min	
			HC	Min	HC	Min	HC	Min	HC	Min	HW	Min	HF	Min	HF	Min
			Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
P	Unalloyed Steels	<600 N/mm ² <180HBN	-	-	440	210	430	205	270	135	-	-	-	-	-	-
		<950 N/mm ² <280HBN	-	-	285	135	280	130	-	-	-	-	-	-	-	-
	Alloyed Steels	700 - 950 N/mm ² 200 - 280 HBN	-	-	265	125	255	120	-	-	-	-	-	-	-	-
		950 - 1200 N/mm ² 280 - 355 HBN	-	-	-	-	235	110	-	-	-	-	-	-	-	-
		1200 - 1400 N/mm ² 355 - 415 HBN	-	-	-	-	160	75	-	-	-	-	-	-	-	-
M	Stainless Steels	Austenitic + Ferritic 300 series	305	145	300	140	290	135	-	-	135	80	150	80	140	75
		Martensitic 400 series	315	150	310	145	300	145	-	-	-	-	160	80	-	-
		Refractory P.H.	165	75	160	75	155	75	100	50	75	40	80	40	75	40
K	Cast Irons	Grey GG-Ft	450	210	440	205	425	200	-	-	200	115	225	115	-	-
		Spheroidal-Ductile GGG-FGS	385	180	380	180	365	175	-	-	175	100	195	100	175	100
		Malleable GTS - MN/MP	260	120	255	120	250	115	-	-	115	70	130	70	-	-
N	Aluminium & Alloys	< 16% Si 116HBN	1065	365	975	365	960	365	915	365	460	305	825	335	-	-
		> 16% Si 92HBN	-	-	-	-	-	-	610	245	215	150	550	185	-	-
S	High Temperature Alloys	Iron Based	65	30	65	30	60	30	40	20	30	20	35	15	30	15
		Cobalt Based	55	25	50	25	50	25	30	15	25	15	25	15	25	15
		Nickel Based	57	30	55	25	55	25	35	15	25	15	30	15	25	15
		Titanium Based	90	40	90	40	85	40	55	30	40	25	45	25	40	20
H	Hard Steel	>1400 N/mm ² >415 HBN	135	65	-	-	125	60	-	-	-	-	-	-	-	-
	Chilled Cast Iron	1400 N/mm ² 400 HBN	130	60	-	-	115	50	-	-	-	-	-	-	-	-

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



ISO Insert Designation

S
1

N
2

M
3

G
4

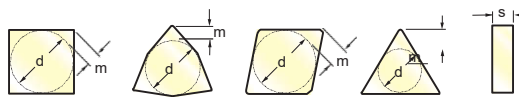
12
5

1 Shape

2 Clearance Angle

Other normal clearances requiring **SPECIAL** specification Symbol O.

3 Tolerance



Class	d	m	s
A	mm ±0,025	±0,005	±0,025
C	mm ±0,025	±0,013	±0,025
E	mm ±0,025	±0,025	±0,025
F	mm ±0,013	±0,005	±0,025
G	mm ±0,025	±0,025	±0,13
H	mm ±0,013	±0,013	±0,025
J	mm *	±0,005	±0,025
K	mm *	±0,013	±0,025
L	mm *	±0,025	±0,025
M	mm *	*	±0,127
U	mm *	*	±0,127
N	mm *	*	±0,025

* See tables below.

Valid for shapes:
C, E, H, M, O, P, S, T, R, W

IC	d		m	
	J, K, L, M, N	U	M, N	U
4,76	±0,05	±0,08	±0,08	±0,13
5,56	±0,05	±0,08	±0,08	±0,13
6	±0,05	±0,08	±0,08	±0,13
6,35	±0,05	±0,08	±0,08	±0,13
7,94	±0,05	±0,08	±0,08	±0,13
8	±0,05	±0,08	±0,08	±0,13
9,525	±0,05	±0,08	±0,08	±0,13
10	±0,05	±0,08	±0,08	±0,13
12	±0,08	±0,13	±0,13	±0,2
12,7	±0,08	±0,13	±0,13	±0,2
15,875	±0,1	±0,18	±0,15	±0,27
16	±0,1	±0,18	±0,15	±0,27
19,05	±0,1	±0,18	±0,15	±0,27
20	±0,1	±0,18	±0,15	±0,27
25	±0,13	±0,25	±0,18	±0,38
25,4	±0,13	±0,25	±0,18	±0,38
31,75	±0,15	±0,25	±0,2	±0,38
32	±0,15	±0,25	±0,2	±0,38

Valid for shape D only (M & N Tolerance)

IC	d	m
5,56	±0,05	±0,11
6,35	±0,05	±0,11
7,94	±0,05	±0,11
9,525	±0,05	±0,11
12,7	±0,08	±0,15
15,875	±0,10	±0,18
19,05	±0,10	±0,18

4 Type

ISO Insert Designation

04
6

08
7

E - 4T
8 9

Integers to be preceded by a **0** (zero).
Disregard any decimals. e.g. 9,525 = **09**

C, D, E, M, V, H, A, B, K, L, O, P, R, S, T, W

Integers to be preceded by a 0 (zero) or the letter T.
Disregard any decimals.

Examples:

A, B, C, N, O, W, H, M, R, T, F, G, J, U.		01 = 1,588
		02 = 2,381
		T3 = 3,969
		05 = 5,556
		06 = 6,350
		07 = 7,938
		09 = 9,525
		11 = 11,113
		14 = 14,288
		15 = 15,875

Inserts with wiper edges

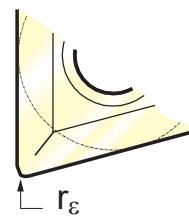
Cutting edge Angle (K_r) 1st letter:	Wiper edge normal Clearance 2nd letter: (α_n)
A = 45°	A = 3°
D = 60°	B = 5°
E = 75°	C = 7°
F = 85°	D = 15°
G = 87°	E = 20°
P = 90°	F = 25°
Z = ANY OTHER	G = 30°
	N = 0°
	P = 11°
	Z = ANY OTHER

7 Corner *continued*

Inserts with rounded corners. The corner radius is indicated in 0,1mm. Integers to be preceded by a 0 (zero). If the corner is not rounded, use the symbol of designation 00 (zero zero).

Examples:

00 = SHARP CORNER	24 = 2,4
01 = 0,1	28 = 2,8
02 = 0,2	32 = 3,2
04 = 0,4	40 = 4,0
08 = 0,8	48 = 4,8
12 = 1,2	56 = 5,6
16 = 1,6	64 = 6,4
20 = 2,0	X = ANY OTHER



8 Edge Condition

	Symbol
Sharp	F
Honed (Rounded)	E
Chamfered (Negative Land)	T
Chamfered + Honed	S

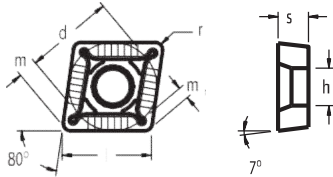
9 Geometry Designation

1A, 2B, 2N, 3F, 3G, 3J, 3M, 4M, 4T, 4U, 5V, 91, 15, 61, 62, 64, 66, 73, 3G, M



C Style Turning Inserts

CCGT



Dimensions for CCGT and CCMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
060200	6,35	6,45	2,38	0,00	1,75	0,12	2,80
060201	6,35	6,45	2,38	0,10	1,71	0,21	2,80
060202	6,35	6,45	2,38	0,20	1,65	0,30	2,80
060204	6,35	6,45	2,38	0,40	1,54	0,48	2,80
060208	6,35	6,45	2,38	0,80	1,32	0,72	2,80
09T300	9,52	9,57	3,97	0,00	2,63	1,45	4,40
09T301	9,52	9,57	3,97	0,10	2,59	1,42	4,40
09T302	9,52	9,57	3,97	0,20	2,53	1,39	4,40
09T304	9,52	9,57	3,97	0,40	2,42	1,33	4,40
09T308	9,52	9,57	3,97	0,80	2,20	1,21	4,40
120404	12,70	12,90	4,76	0,40	3,31	1,31	5,50
120408	12,70	12,90	4,76	0,80	3,08	1,69	5,50

62 Geometry


Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
CCGT060200E-62																
CCGT060201E-62																
CCGT060202E-62																
CCGT060204E-62																
CCGT09T300E-62																
CCGT09T301E-62																
CCGT09T302E-62																
CCGT09T304E-62																
CCGT09T308E-62																
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts


Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

73 Geometry



Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CCMT060202E-73		◆														
CCMT060204E-73	◆	◆			◆		◆									
CCMT060208E-73		◆			◆		◆									
CCMT09T304E-73	◆	◆			◆		◆									
CCMT09T308E-73	◆	◆			◆		◆									
CCMT120404E-73		◆			◆		◆									
CCMT120408E-73	◆	◆			◆		◆									

3G Geometry



CCMT060202E-3G							◆									
CCMT060204E-3G					◆		◆									
CCMT060208E-3G					◆		◆									
CCMT09T302E-3G							◆									
CCMT09T304E-3G					◆		◆									
CCMT09T308E-3G			◆		◆		◆									
CCMT120408E-3G					◆		◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

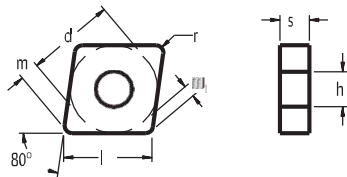
Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



C Style Turning Inserts



Dimensions for CNGG, CNMA, CNMG and CNMM							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
090308	9,52	9,57	3,18	0,80	2,20	1,21	3,81
120401	12,70	12,90	4,76	0,10	3,47	1,91	5,16
120402	12,70	12,90	4,76	0,20	3,42	1,88	5,16
120404	12,70	12,90	4,76	0,40	3,30	1,81	5,16
120408	12,70	12,90	4,76	0,80	3,08	1,69	5,16
120412	12,70	12,90	4,76	1,20	2,86	1,57	5,16
120416	12,70	12,90	4,76	1,60	2,64	1,45	5,16
160608	15,88	16,10	6,35	0,80	3,97	2,18	6,35
160612	15,88	16,10	6,35	1,20	3,74	2,06	6,35
160616	15,88	16,10	6,35	1,60	3,52	1,94	6,35
160632	15,88	16,10	6,35	3,20	2,65	1,45	6,35
190608	19,05	19,40	6,35	0,80	4,85	2,66	7,92
190612	19,05	19,40	6,35	1,20	4,63	2,54	7,92
190616	19,05	19,40	6,35	1,60	4,41	2,42	7,92
190632	19,05	19,40	6,35	3,20	3,53	1,94	7,92

3F Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
CNGG120401F-3F								★		★						
CNGG120402F-3F								★		★						
CNGG120404F-3F								★		★		★				
CNGG120408F-3F								★		★		★				
CNGG120412F-3F								★		★						
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

C Style Turning Inserts

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CNMA120404E							◆									
CNMA120408E							◆	◆								
CNMA120412E							◆	◆								
CNMA120416E							◆									
CNMA160612E							◆	◆								
CNMA160632E							◆									
CNMA190612E							◆									
CNMA190616E							◆									
CNMA190632E							◆									



91 Geometry

CNMG120404E-91								◆		◆						
CNMG120408E-91								◆		◆						
CNMG120412E-91								◆		◆						



1A Geometry

CNMG120402E-1A									◆	◆						
CNMG120404E-1A	◆								◆	◆	◆					
CNMG120408E-1A	◆								◆	◆	◆					
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	
	CVD COATED							PVD COATED					UNCOATED			



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



C Style Turning Inserts

CNMG

2B Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CNMG120404E-2B		◆◆			◆◆		◆◆		◆◆							
CNMG120408E-2B	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆		◆◆					◆◆		
CNMG190612E-2B	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆		◆◆					◆◆		

2N Geometry

CNMG090308E-2N	◆◆															
CNMG120404E-2N	◆◆	◆◆			◆◆			◆◆								
CNMG120408E-2N	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆		◆◆						◆◆		
CNMG120412E-2N	◆◆	◆◆			◆◆			◆◆								
CNMG160608E-2N					◆◆											
CNMG160612E-2N		◆◆			◆◆											
CNMG190612E-2N		◆◆			◆◆											
CNMG190616E-2N					◆◆											

3G Geometry

CNMG120404E-3G									◆◆							
CNMG120408E-3G	◆◆								◆◆		◆◆					
CNMG120412E-3G	◆◆										◆◆					
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades		A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1
		CVD COATED							PVD COATED					UNCOATED		

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

3G Geometry *continued*

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CNMG160608E-3G		◆						◆	◆							
CNMG160612E-3G	◆							◆	◆							



3J Geometry

CNMG120404E-3J		◆		◆					◆		◆					
CNMG120408E-3J		◆		◆					◆		◆					
CNMG120412E-3J		◆		◆					◆		◆					
CNMG120416E-3J		◆		◆					◆		◆					
CNMG160608E-3J				◆					◆		◆					
CNMG160612E-3J				◆					◆		◆					
CNMG190612E-3J				◆					◆		◆					
CNMG190616E-3J				◆					◆		◆					



3M Geometry

:NMG120408E-3M	◆								◆		◆					
:NMG120408E-3M	◆								◆		◆					
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	
	CVD COATED							PVD COATED					UNCOATED			



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

C Style Turning Inserts

CNMG

4T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CNMG120404E-4T		★														
CNMG120408E-4T	★	★	★	★	★		★							★		
CNMG120412E-4T	★	★	★	★	★		★									
CNMG120416E-4T	★	★		★	★		★									
CNMG160608E-4T		★		★	★		★									
CNMG160612E-4T	★	★		★	★		★							★		
CNMG160616E-4T	★	★		★	★		★									
CNMG190608E-4T	★	★		★	★		★									
CNMG190612E-4T	★	★		★	★		★							★		
CNMG190616E-4T	★	★		★	★		★							★		

4U Geometry

CNMG120408E-4U			★			★										
CNMG120412E-4U			★			★										
CNMG120416E-4U			★			★										
CNMG160612E-4U						★										
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

C Style Turning Inserts

CNMG, CNMM

5V Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CNMG120408E-5V							◆									
CNMG120412E-5V					◆		◆									
CNMG160616E-5V					◆											
CNMG190612E-5V					◆		◆									
CNMG190616E-5V					◆											



4M Geometry

CNMM120408E-4M		◆	◆													
CNMM190612E-4M	◆	◆	◆	◆	◆											
CNMM190616E-4M		◆	◆	◆	◆											
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

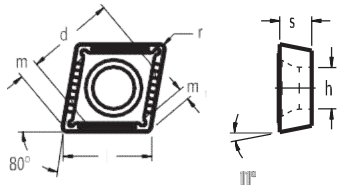
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



C Style Turning Inserts

CPMT



Dimensions for CPMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
060204	6,35	6,40	2,38	0,40	1,54	0,85	2,80

73 Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
CPMT060204E-73	◆◆				◆◆											
	◆◆				◆◆											

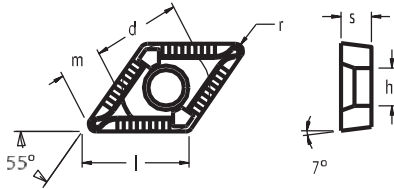
◆◆ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

D Style Turning Inserts

DCGT



Dimensions for DCGT, DCMT and DCMW							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
070200	6,35	7,70	2,38	0,00	3,67	-	2,79
070201	6,35	7,70	2,38	0,10	3,58	-	2,79
070202	6,35	7,70	2,38	0,20	3,46	-	2,79
070204	6,35	7,70	2,38	0,40	3,24	-	2,79
070208	6,35	7,70	2,38	0,80	2,78	-	2,79
11T301	9,52	11,60	3,97	0,10	5,43	-	4,39
11T302	9,52	11,60	3,97	0,20	5,33	-	4,39
11T304	9,52	11,60	3,97	0,40	5,09	-	4,39
11T308	9,52	11,60	3,97	0,80	4,62	-	4,39
11T312	9,52	11,60	3,97	1,20	4,16	-	4,39
150404	12,70	15,50	4,76	0,40	6,93	-	5,45
150408	12,70	15,50	4,76	0,80	6,47	-	5,45

62 Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DCGT070200E-62											◆	◆				
DCGT070201E-62											◆	◆				
DCGT070202E-62											◆	◆				
DCGT070204E-62											◆	◆				◆
DCGT11T301E-62											◆	◆				◆
DCGT11T302E-62											◆	◆				
DCGT11T304E-62											◆	◆				
DCGT11T308E-62											◆	◆				
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



HBILZ Cutting tools

D Style Turning Inserts

DCGT, DCMT

64 Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DCGT11T304F-64															◆	
DCGT11T308F-64															◆	



M Geometry

DCMT11T304E-M				◆◆										◆◆		
DCMT150404E-M				◆◆												
DCMT150408E-M				◆◆												



3G Geometry

DCMT070202E-3G																
DCMT070204E-3G			◆◆		◆◆		◆◆									
DCMT070208E-3G					◆◆		◆◆									
DCMT11T302E-3G							◆◆									
DCMT11T304E-3G			◆◆				◆◆									
DCMT11T308E-3G			◆◆		◆◆		◆◆									
DCMT11T312E-3G							◆◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		




Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts


Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

4T Geometry



Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DCMT070202E-4T	◆	◆													◆	◆
DCMT070204E-4T	◆	◆			◆				◆						◆	◆
DCMT11T304E-4T	◆	◆		◆	◆				◆				◆			
DCMT11T308E-4T	◆	◆		◆	◆				◆				◆			
DCMT150408E-4T				◆	◆				◆				◆			

Flat Top



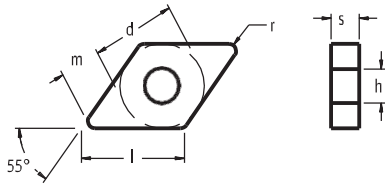
DCMW11T304E																	
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2	
	CVD COATED							PVD COATED						UNCOATED			

Indicates stocked item and material application range.

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

D Style Turning Inserts

DNGG



Dimensions for DNGG, DNMA and DNMG							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
110404	9,52	11,00	4,76	0,40	5,08	-	4,39
110408	9,52	11,00	4,76	0,80	4,62	-	4,39
150401	12,70	15,50	4,76	0,10	7,29	-	5,16
150402	12,70	15,50	4,76	0,20	7,17	-	5,16
150404	12,70	15,50	4,76	0,40	6,93	-	5,16
150408	12,70	15,50	4,76	0,80	6,47	-	5,16
150412	12,70	15,50	4,76	1,20	6,01	-	5,16
150601	12,70	15,50	6,35	0,10	7,29	-	5,16
150602	12,70	15,50	6,35	0,20	7,17	-	5,16
150604	12,70	15,50	6,35	0,40	6,93	-	5,16
150608	12,70	15,50	6,35	0,80	6,47	-	5,16
150612	12,70	15,50	6,35	1,20	6,01	-	5,16
190608	15,88	19,40	6,35	0,80	8,32	-	6,35
190612	15,88	19,40	6,35	1,20	7,86	-	6,35

3F Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DNGG150401F-3F								✓	✓							
DNGG150402F-3F								✓	✓							
DNGG150404F-3F								✓	✓							
DNGG150408F-3F								✓	✓							
DNGG150601F-3F								✓	✓							
DNGG150602F-3F								✓	✓							
DNGG150604F-3F								✓	✓							
DNGG150608F-3F										✓	✓					

✓ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DNMA150608E						◆										



1A Geometry

DNMG110404E-1A										◆						
DNMG150402E-1A									◆	◆						
DNMG150404E-1A										◆						
DNMG150604E-1A										◆						
DNMG150608E-1A										◆						
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

D Style Turning Inserts

DNMG

2B Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DNMG150404E-2B	◆	◆					◆									
DNMG150408E-2B	◆	◆	◆				◆									
DNMG150412E-2B							◆									
DNMG150608E-2B							◆									



2N Geometry

DNMG110404E-2N	◆	◆														
DNMG110408E-2N																
DNMG150404E-2N		◆	◆													
DNMG150408E-2N	◆	◆	◆													
DNMG150412E-2N		◆	◆													
DNMG150608E-2N	◆	◆	◆	◆												
DNMG150612E-2N		◆	◆	◆												
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

3G Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DNMG150404E-3G	◆	◆	◆				◆									
DNMG150408E-3G	◆	◆	◆		◆		◆									
DNMG150412E-3G			◆				◆									
DNMG150604E-3G	◆	◆					◆									
DNMG150608E-3G	◆	◆					◆									
DNMG150612E-3G	◆	◆					◆									



3J Geometry

DNMG110404E-3J											◆	◆				
DNMG150404E-3J											◆	◆				
DNMG150408E-3J				◆	◆				◆	◆	◆	◆				
DNMG150412E-3J		◆	◆													
DNMG150604E-3J				◆	◆				◆	◆	◆	◆				
DNMG150608E-3J				◆	◆				◆	◆	◆	◆				
DNMG150612E-3J				◆	◆											
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

D Style Turning Inserts

DNMG

4T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
DNMG150404E-4T		◆◆			◆◆				◆◆							
DNMG150408E-4T	◆◆	◆◆		◆◆	◆◆		◆◆		◆◆					◆◆		
DNMG150412E-4T		◆◆			◆◆		◆◆		◆◆							
DNMG150604E-4T	◆◆															
DNMG150608E-4T	◆◆	◆◆		◆◆	◆◆		◆◆		◆◆							
DNMG150612E-4T	◆◆								◆◆							
DNMG190608E-4T	◆◆	◆◆					◆◆									
DNMG190612E-4T	◆◆	◆◆			◆◆		◆◆									



4U Geometry

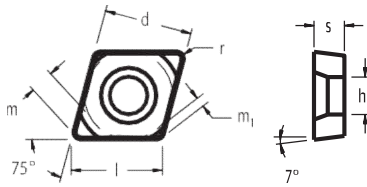
DNMG150408E-4U					◆											
DNMG150412E-4U					◆											
DNMG150608E-4U					◆											
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



Dimensions for EXMT and EXMW

Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
09T304	9,52	9,85	3,97	0,40	2,80	1,13	4,40
09T308	9,52	9,85	3,97	0,80	2,55	1,03	4,40
12T304	12,00	12,40	3,97	0,40	3,60	1,45	5,40
12T308	12,00	12,40	3,97	0,80	3,34	1,35	5,40
12T312	12,00	12,40	3,97	1,20	3,08	1,25	5,40
16M608	15,88	16,40	6,00	0,80	4,59	1,86	6,40
16M612	15,88	16,40	6,00	1,20	4,33	1,75	6,40

G Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
EXMT12T304E-G																✓
EXMT12T308E-G				✓											✓	
EXMT16M608E-G																✓

4T Geometry

EXMT09T304E-4T	✓	✓						✓	✓							
EXMT09T308E-4T	✓	✓						✓	✓							
EXMT12T304E-4T	✓	✓						✓	✓							
EXMT12T308E-4T	✓	✓						✓	✓							
EXMT12T312E-4T	✓	✓						✓	✓							
EXMT16M608E-4T	✓	✓						✓	✓							
EXMT16M612E-4T	✓	✓			✓			✓	✓							
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

✓ Indicates stocked item and material application range.


Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

E Style Turning Inserts

EXMW

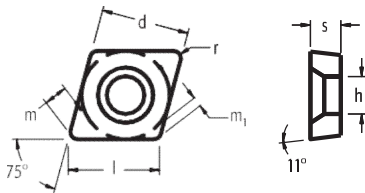
W Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
 Part Number																
ISO																
EXMW12T304E															♦	
EXMW12T308E															♦	

♦ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



Dimensions for EPEW, EPEX, EPGT, EPMT, EPMW and EPMX							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
040202	4,76	4,93	2,38	0,20	1,40	0,56	2,30
040204	4,76	4,93	2,38	0,40	1,27	0,51	2,30
060202	6,35	6,54	2,38	0,20	1,91	0,77	2,80
060204	6,35	6,54	2,38	0,40	1,78	0,72	2,80
08M300	8,00	8,20	3,00	0,00	2,57	1,04	4,20
08M301	8,00	8,20	3,00	0,10	2,50	1,02	4,20
08M302	8,00	8,20	3,00	0,20	2,43	0,98	4,20
08M304	8,00	8,20	3,00	0,40	2,30	0,93	4,20
08M308	8,00	8,20	3,00	0,80	2,04	0,83	4,20

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
EPEW040202F															◆	
EPEW040204F															◆	
EPEW060202F															◆	
EPEW060204F															◆	◆◆
EPEW08M300F															◆	
EPEW08M302F															◆	
EPEW08M304F															◆	
EPEW08M308F															◆	
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

> Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



E Style Turning Inserts

EPEX

X Geometry




Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
EPEX060202FR											♦	♦			♦	♦
EPEX060202FL											♦	♦			♦	♦
EPEX060202FR											♦	♦			♦	♦
EPEX060204FL											♦	♦			♦	♦
EPEX060204FR											♦	♦			♦	♦
EPEX08M300FL											♦	♦			♦	♦
EPEX08M300FR											♦	♦			♦	♦
EPEX08M301FL											♦	♦			♦	♦
EPEX08M301FR											♦	♦			♦	♦
EPEX08M302FL											♦	♦			♦	♦
EPEX08M302FR											♦	♦			♦	♦
EPEX08M304FL											♦	♦			♦	♦
EPEX08M304FR											♦	♦			♦	♦
EPEX08M308FL											♦	♦			♦	♦
EPEX08M308FR											♦	♦			♦	♦
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Star Guide Key to Recommended Inserts


Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

15 Geometry



Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
EPEX040202F-15															◆	◆

62 Geometry



EPGT040202E-62		◆	◆					◆	◆									
EPGT040204E-62		◆	◆					◆	◆									
EPGT060202E-62																		
EPGT060204E-62																		
EPGT08M300E-62		◆	◆					◆	◆									
EPGT08M301E-62		◆	◆															
EPGT08M302E-62		◆	◆					◆	◆									
EPGT08M304E-62		◆	◆					◆	◆									
EPGT08M308E-62		◆	◆		◆			◆	◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2		
	CVD COATED							PVD COATED					UNCOATED					

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



E Style Turning Inserts

EPMT, EPMW

T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
EPMT060202E	★	★			★								★		★	★
EPMT060204E	★	★		★	★								★		★	★
EPMT08M302E	★			★	★								★		★	★
EPMT08M304E	★			★	★								★		★	★
EPMT08M308E	★												★		★	

73 Geometry

EPMT08M302E-73	★	★			★								★			★
EPMT08M304E-73	★	★		★	★								★			★
EPMT08M308E-73	★	★		★	★								★			★

Flat Top

EPMW040202E		★	★					★	★		★				★	★
EPMW040204E		★	★								★				★	★
EPMW08M302E		★	★					★	★		★				★	★
EPMW08M304E		★	★					★	★		★				★	★
EPMW08M308E		★	★		★			★	★		★				★	★
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

★ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

X Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
EPMX08M302EL					◆											
EPMX08M302ER					◆											
EPMX08M302FL															◆	◆
EPMX08M304FL															◆	◆
EPMX08M302FR															◆	◆
EPMX08M304FR												◆	◆		◆	◆



15 Geometry

EPMX040202F-15															◆	◆
EPMX040204F-15															◆	◆
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

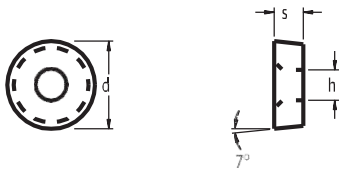
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



R Style Turning Inserts

RCEW, RCMT



Dimensions for RCEW and RCMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
0602M0	6,00	-	2,38	-	-	-	2,79
09T300	9,53	-	3,97	-	-	-	3,40
10T3M0	10,00	-	3,97	-	-	-	4,39
1204M0	12,00	-	4,76	-	-	-	5,50
120400	12,70	-	4,76	-	-	-	4,39
1606M0	16,00	-	6,35	-	-	-	5,51
190600	19,05	-	6,35	-	-	-	6,50
2006M0	20,00	-	6,35	-	-	-	6,50

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
RCEW0602M0F															◆	

T Geometry

RCMT0602M0E	◆				◆											
RCMT10T3M0E	◆				◆											
RCMT1204M0E	◆				◆											
RCMT1606M0E	◆				◆											
RCMT2006M0E	◆				◆											

2N Geometry


RCMT190600E-2N	◆				◆											
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

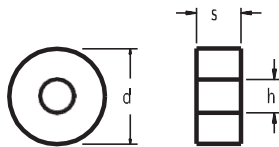
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

3G Geometry


Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
 RCMT09T300E-3G							♦♦									
RCMT10T3M0E-3G							♦♦									
RCMT120400E-3G							♦♦									

^ Indicates stocked item and material application range.



Dimensions for RNMG							
Size	d mm	l mm	s mm	r mm	m mm	m1 mm	h mm
250900	25,40	-	9,52	-	-	-	9,12

4T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
 RNMG250900E-4T		♦♦														

^ Indicates stocked item and material application range.

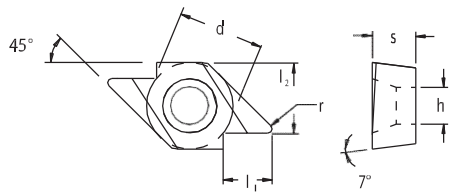
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials




SBET Turning Inserts

SBET



Dimensions for SBET						
Size	d mm	l ₁ mm	l ₂ mm	r mm	s mm	h mm
090305R	6,50	7,95	5,01	0,05	4,00	3,40
090315R	6,50	7,95	4,86	0,15	4,00	3,40
090340R	6,50	7,95	4,50	0,40	4,00	3,40

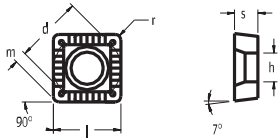
Behind Shoulder Machining

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
 Part Number																
SBET090305R											◆	◆				◆
SBET090315R											◆	◆				◆
SBET090340R											◆	◆				◆

NOTE: The part number for these inserts are Stellram specific as ISO 1832 does not cater for this style of insert.
 ◆ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



Dimensions for SCMT, SCMW and SCMX							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
09T304	9,53	9,53	3,97	0,40	1,81	-	4,40
09T308	9,53	9,53	3,97	0,80	1,64	-	4,40
12M504	12,70	12,70	5,00	0,40	2,47	-	5,50
12M508	12,70	12,70	5,00	0,80	2,30	-	5,50
12M512	12,70	12,70	5,00	1,20	2,14	-	5,50
120404	12,70	12,70	4,76	0,40	2,47	-	5,50
120408	12,70	12,70	4,76	0,80	2,30	-	5,50
120412	12,70	12,70	4,76	1,20	2,14	-	5,50

T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
SCMT09T304E													◆			
SCMT09T308E													◆	◆		
SCMT12M504E													◆			◆◆
SCMT12M508E	◆◆			◆◆	◆◆								◆	◆		◆◆



3G Geometry

SCMT09T304E-3G				◆◆			◆◆									
SCMT09T308E-3G			◆◆	◆		◆◆	◆◆									
SCMT120408E-3G					◆◆	◆◆	◆◆									
SCMT120412E-3G					◆◆	◆◆	◆◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

S Style Turning Inserts

SCMT, SCMW, SCMX

73 Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
SCMT09T304E-73		★			★											
SCMT09T308E-73		★			★											
SCMT12M504E-73		★			★											
SCMT12M508E-73	★	★		★	★											★



Flat Top

SCMW09T304E															★	
SCMW09T308E															★	
SCMW12M508E															★	



X Geometry

SCMX09T304FL															★	
SCMX09T304FL															★	
SCMX09T308FL															★	
SCMX09T308FR															★	
SCMX12M508FL															★	
SCMX12M508FR															★	
SCMX12M512ER															★	
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			



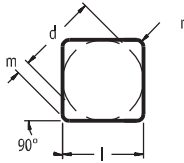
Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

S Style Turning Inserts

SNGN, SNUN



Dimensions for SNGN and SNUN							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
120412	12,70	12,70	4,76	1,20	2,14	-	-
120432	12,70	12,70	4,76	3,20	1,30	-	-
190412	19,05	19,05	4,76	1,20	3,45	-	-

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
SNGN120432E						◆										

Flat Top

	SNUN120412E	◆														
	SNUN190412E	◆														
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

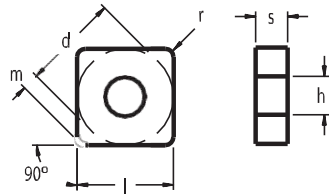
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



S Style Turning Inserts

SNMA



Dimensions for SNMA, SNMG, SNMM							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
090308	9,53	9,53	3,18	0,80	1,64	-	3,81
120408	12,70	12,70	4,76	0,80	2,30	-	5,16
120412	12,70	12,70	4,76	1,20	2,14	-	5,16
120416	12,70	12,70	4,76	1,60	1,96	-	5,16
150608	15,88	15,88	6,35	0,80	2,96	-	6,35
150612	15,88	15,88	6,35	1,20	2,80	-	6,35
150616	15,88	15,88	6,35	1,60	2,63	-	6,35
190612	19,05	19,05	6,35	1,20	3,45	-	7,94
190616	19,05	19,05	6,35	1,60	3,29	-	7,94
190632	19,05	19,05	6,35	3,20	2,64	-	7,94

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
SNMA120408E						◆										
SNMA120412E						◆										
SNMA120416E	◆															
SNMA190616E						◆	◆									
SNMA190632E						◆	◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

91 Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
SNMG120408E-91								◆								



2B Geometry

SNMG120408E-2B							◆									
----------------	--	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--



2N Geometry

SNMG120408E-2N		◆				◆		◆								
SNMG120412E-2N		◆				◆		◆								
SNMG150612E-2N	◆					◆		◆								
SNMG190612E-2N		◆				◆		◆								



3G Geometry

SNMG090308E-3G							◆									
SNMG120408E-3G		◆					◆									
SNMG120412E-3G	◆	◆					◆									
SNMG120416E-3G		◆														
SNMG190612E-3G	◆															
SNMG190616E-3G														◆		
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

S Style Turning Inserts

SNMG

3J Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
SNMG120408E-3J		◆◆							◆◆		◆◆					
SNMG120412E-3J		◆							◆◆		◆◆					
SNMG150612E-3J		◆◆		◆◆												
SNMG190616E-3J		◆		◆◆												



4T Geometry

SNMG090308E-4T		◆◆														
SNMG120404E-4T		◆◆														
SNMG120408E-4T	◆◆	◆◆		◆◆	◆◆		◆◆							◆◆		
SNMG120412E-4T	◆◆	◆◆		◆◆	◆◆		◆◆									
SNMG120416E-4T		◆◆														
SNMG150608E-4T		◆◆														
SNMG150612E-4T	◆◆	◆◆			◆◆		◆◆									
SNMG150616E-4T		◆◆		◆◆												
SNMG190612E-4T	◆◆	◆◆		◆◆	◆◆		◆◆									
SNMG190616E-4T	◆◆	◆◆		◆◆	◆◆		◆◆							◆◆		
SNMG250924E-4T		◆◆														
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			




Indicates stocked item and material application range.


Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

MP Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
 SNMG120408-MP						◆										
SNMG120412-MP						◆										

4M Geometry

 SNMM190612E-4M	◆◆	◆◆														
SNMM190616E-4M	◆◆	◆◆			◆◆											
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

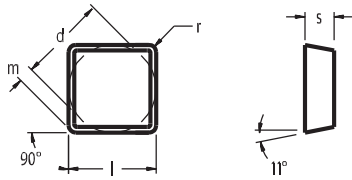
Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

S Style Turning Inserts

SPGN, SPUN



Dimensions for SPGN and SPUN

Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
090308	9,53	9,53	3,18	0,80	1,64	-	-
120308	12,70	12,70	3,18	0,80	2,30	-	-
120312	12,70	12,70	3,18	1,20	2,14	-	-
120412	12,70	12,70	4,76	1,20	2,14	-	-
190412	19,05	19,05	4,76	1,20	3,43	-	-
190416	19,05	19,05	4,76	1,60	3,28	-	-

Flat Top

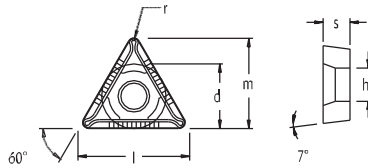
Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
SPGN090308E		◆														
SPGN120308E		◆														
SPGN120308F														◆		
SPGN120312F														◆		
SPGN120412E							◆									
SPGN190412E							◆									
SPGN190412F														◆		
SPGN190416F														◆		

Flat Top

SPUN120308E		◆														
SPUN190412E		◆														
SPUN190412F														◆		
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		


Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials




Dimensions for TCMT, TCMW and TCMX							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
110202	6,35	11,00	2,38	0,20	9,32	-	2,80
110204	6,35	11,00	2,38	0,40	9,13	-	2,80
110208	6,35	11,00	2,38	0,80	8,73	-	2,80
16T304	9,53	16,50	3,97	0,40	13,89	-	4,40
16T308	9,53	16,50	3,97	0,80	13,49	-	4,40
22M504	12,70	22,00	5,00	0,40	18,65	-	5,50
22M508	12,70	22,00	5,00	0,80	18,26	-	5,50

T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
 TCMT16T304E	◆				◆										◆	◆
TCMT16T308E	◆				◆							◆		◆	◆	◆
TCMT22M508E												◆				◆

3G Geometry

 TCMT110202E-3G																
TCMT110204E-3G				◆	◆		◆									
TCMT110208E-3G				◆	◆		◆									
TCMT16T304E-3G				◆	◆		◆									
TCMT16T308E-3G				◆	◆		◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



T Style Turning Inserts

TCMT, TCMW, TCMX

73 Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TCMT110202E-73	◆															
TCMT110204E-73	◆	◆														
TCMT16T304E-73	◆	◆			◆								◆			
TCMT16T308E-73	◆	◆			◆								◆			
TCMT22M508E-73					◆											



Flat Top



TCMW16T304E															◆	
TCMW22M508E															◆	

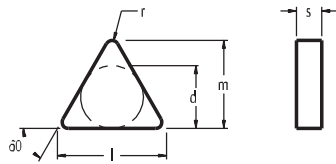
X Geometry



TCMX16T304FL				◆	◆		◆								◆	◆
TCMX16T304FR					◆		◆								◆	◆
TCMX16T308FL					◆		◆								◆	◆
TCMX16T308FR				◆	◆		◆								◆	◆
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



Dimensions for TNGN							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
160308	9,53	16,50	3,18	0,80	13,49	-	-

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNGN160308E						♦										

♦ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

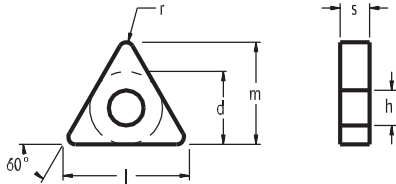


T Style Turning Inserts

TNMA

Dimensions for TNMA, TNMG and TNMM

Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
110304	6,35	11,00	3,18	0,40	9,12	-	2,36
160304	9,53	16,50	3,18	0,40	13,89	-	3,81
160308	9,53	16,50	3,18	0,80	13,49	-	3,81
160312	9,53	16,50	3,18	1,20	13,10	-	3,81
160402	9,53	16,50	4,76	0,20	14,08	-	3,81
160404	9,53	16,50	4,76	0,40	13,89	-	3,81
160408	9,53	16,50	4,76	0,80	13,49	-	3,81
160412	9,53	16,50	4,76	1,20	13,10	-	3,81
220404	12,70	22,00	4,76	0,40	16,64	-	5,16
220408	12,70	22,00	4,76	0,80	18,26	-	5,16
220412	12,70	22,00	4,76	1,20	17,86	-	5,16
220416	12,70	22,00	4,76	1,60	17,46	-	5,16
220432	12,70	22,00	4,76	3,20	15,88	-	5,16
270608	15,88	27,50	6,35	0,80	23,01	-	6,35
270612	15,88	27,50	6,35	1,20	22,62	-	6,35
270616	15,88	27,50	6,35	1,60	22,23	-	6,35
270632	15,88	27,50	6,35	3,20	20,63	-	6,35
330924	19,05	33,50	9,52	2,40	26,19	-	7,92



Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
TNMA160408E	◆					◆	◆									
TNMA220408E						◆										
TNMA220412E						◆										
TNMA220416E	◆					◆										



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

1A Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNMG160308E-1A									◆	◆						
TNMG160404E-1A									◆		◆	◆				
TNMG160408E-1A									◆	◆	◆	◆				



2B Geometry

TNMG160404E-2B							◆									
TNMG160408E-2B							◆									
TNMG220408E-2B		◆					◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts


Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



T Style Turning Inserts


TNMG

2N Geometry



Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNMG160404E-2N	◆	◆														
TNMG160408E-2N	◆	◆	◆		◆	◆										
TNMG220404E-2N	◆	◆														
TNMG220408E-2N	◆	◆	◆		◆	◆										
TNMG220412E-2N					◆	◆										

3G Geometry



TNMG160304E-3G		◆														
TNMG160308E-3G		◆					◆									
TNMG160404E-3G		◆			◆		◆									
TNMG160408E-3G	◆	◆	◆	◆			◆									
TNMG220404E-3G		◆					◆									
TNMG220408E-3G	◆	◆					◆									
TNMG270608E-3G		◆														
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

3J Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNMG160404E-3J				◆◆					◆◆		◆◆					
TNMG160408E-3J		◆◆		◆◆◆◆					◆◆◆◆		◆◆◆◆					
TNMG220408E-3J				◆◆◆◆					◆◆◆◆		◆◆◆◆					
TNMG220412E-3J				◆◆					◆◆◆◆							



◆ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



T Style Turning Inserts

TNMG

4T Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNMG160304E-4T		★					★									
TNMG160308E-4T	★	★					★									
TNMG160404E-4T		★					★									
TNMG160408E-4T	★	★		★	★		★									
TNMG160412E-4T	★	★			★		★									
TNMG220404E-4T		★					★									
TNMG220408E-4T	★	★		★	★		★							★	★	
TNMG220412E-4T		★			★		★									
TNMG220416E-4T		★			★		★									
TNMG220432E-4T		★					★									
TNMG270608E-4T		★		★			★									
TNMG270612E-4T		★			★		★									
TNMG270616E-4T		★			★		★									
TNMG270632E-4T		★					★									
TNMG330924E-4T				★												
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

4U Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TNMG160408E-4U						◆										
TNMG160412E-4U						◆										



4M Geometry

TNMM220412E-4M		◆	◆													
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		



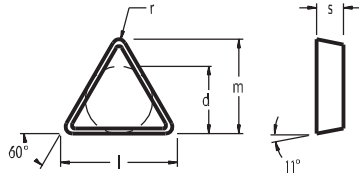
Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

T Style Turning Inserts

TPGN



Dimensions for TPGN and TPUN

Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
110304	6,35	11,00	3,18	0,40	9,13	-	-
160304	9,53	16,50	3,18	0,40	13,89	-	-
160308	9,53	16,50	3,18	0,80	13,49	-	-
160312	9,53	16,50	3,18	1,20	13,10	-	-
160316	9,53	16,50	3,18	1,60	12,70	-	-
220408	12,70	22,00	4,76	0,80	18,26	-	-
220412	12,70	22,00	4,76	1,20	17,86	-	-
220416	12,70	22,00	4,76	1,60	17,46	-	-

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TPGN160304E		◆					◆									
TPGN160304F														◆		
TPGN160308E		◆					◆									
TPGN160308F														◆		
TPGN160312E		◆					◆									
TPGN220404E		◆					◆									
TPGN220408E		◆														
TPGN220408F														◆		
TPGN220412E		◆														
TPGN220412F														◆		
TPGN220416F														◆		

◆ Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

T and V Style Turning Inserts

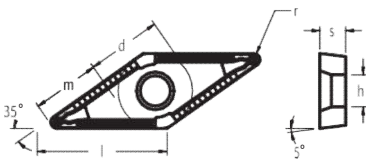
TPUN, VBMT

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
TPUN110304E							◆									
TPUN160304E		◆					◆									
TPUN160308E		◆					◆									
TPUN220408E		◆					◆									
TPUN220412E		◆														



Indicates stocked item and material application range.



Dimensions for VBMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
160402	9,53	16,60	4,76	0,20	10,59	-	4,40
160404	9,53	16,60	4,76	0,40	10,14	-	4,40
160408	9,53	16,60	4,76	0,80	9,22	-	4,40

3G Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VBMT160402E-3G							◆									
VBMT160404E-3G			◆			◆	◆									
VBMT160408E-3G			◆			◆	◆									

Indicates stocked item and material application range.

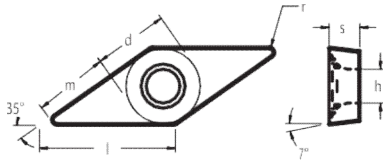
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



V Style Turning Inserts

VCGT



Dimensions for VCGT, VCGW, VCMT and VCMW							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
130301	7,94	13,80	3,18	0,10	9,00	-	3,40
130302	7,94	13,80	3,18	0,20	8,76	-	3,40
130304	7,94	13,80	3,18	0,40	8,31	-	3,40
130308	7,94	13,80	3,18	0,80	7,39	-	3,40
160404	9,53	16,60	4,76	0,40	10,14	-	4,40
160408	9,53	16,60	4,76	0,80	9,22	-	4,40

M Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VCGT130302E-m	♦♦	♦♦														
VCGT130302F-m															♦♦	♦♦
VCGT130304E-m	♦♦	♦♦													♦♦	♦♦

62 Geometry

VCGT130301E-62											♦♦♦					
VCGT130302E-62											♦♦♦					
VCGT130304E-62											♦♦♦					
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		


Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts


Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

VCGT, VCGW, VCMT, VCMW

64 Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
 VCGT160408F-64															◆	

66 Geometry

 VCGT130302F-66															◆	
VCGT130304F-66															◆	
VCGT130308F-66															◆	


Flat Top

 VCGW130304F															◆	
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	---	--

M Geometry

 VCMT160404E-M				◆	◆	◆									◆	
VCMT160408E-M				◆	◆	◆									◆	◆

Flat Top

 VCMW160408E															◆	
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

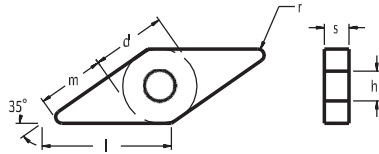
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



V Style Turning Inserts

VNGG, VNMA



Dimensions for VNGA, VNGG, VNMA and VNMG							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
160401	9,53	16,60	4,76	0,10	10,92	-	3,81
160402	9,53	16,60	4,76	0,20	10,66	-	3,81
160404	9,53	16,60	4,76	0,40	10,14	-	3,81
160408	9,53	16,60	4,76	0,80	9,22	-	3,81
160412	9,53	16,60	4,76	1,20	8,31	-	3,81
220404	12,70	22,00	4,76	0,40	13,84	-	5,16
220408	12,70	22,00	4,76	0,80	12,93	-	5,16

3F Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VNGG160401F-3F								♦		♦						
VNGG160402F-3F								♦		♦						
VNGG160404F-3F								♦		♦		♦				
VNGG160408F-3F								♦		♦		♦				

Flat Top

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VNMA220408E							♦									

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

1A Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VNMG160402E-1A											♦♦					
VNMG160404E-1A											♦♦					
VNMG160408E-1A		♦♦									♦♦					

2B Geometry

VNMG160408E-2B							♦									
VNMG220404E-2B		♦														
VNMG220408E-2B		♦														

2N Geometry

VNMG160404E-2N						♦♦		♦♦								
VNMG160408E-2N	♦♦	♦♦			♦♦	♦♦		♦♦	♦♦	♦♦	♦♦					
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

V Style Turning Inserts

VNMG

3G Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
VNMG160404E-3G	◆	◆	◆			◆	◆									
VNMG160408E-3G	◆	◆	◆				◆									
VNMG160412E-3G	◆		◆													
VNMG220404E-3G		◆	◆				◆									
VNMG220408E-3G	◆	◆					◆									

3J Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
VNMG160408E-3J				◆					◆		◆					

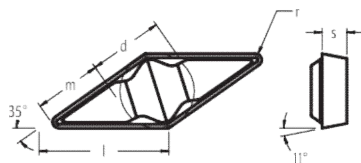
Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

V Style Turning Inserts

VPGR, VPMR



Dimensions for VPGR and VPMR						
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm
160404	9,53	16,60	4,76	0,40	10,15	-
160408	9,53	16,60	4,76	0,80	9,23	-

R Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VPGR160404E																
VPGR160408E																

3G Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
VPMR160408E-3G																

Indicates stocked item and material application range.

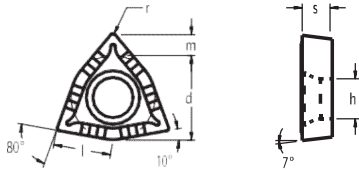
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials



J Style Turning + Drilling Inserts

JEMX



Dimensions for WCMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
030208	5.56	3.8	2.38	0.8	1.2		2.8
040208	6.35	4.3	2.38	0.8	1.6		3.0
050308	7.94	5.4	3.18	0.8	1.8		3.4
060408	9.53	6.52	3.97	0.80	2.20	-	3.70
080508	12.7	8.7	4.76	0.8	3.1		4.3
080412	12.7	8.7	4.76	1.2	3.1		4.3

F Geometry

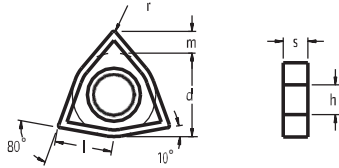
Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	ST100	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
JEMX030208F							◆◆						◆◆◆◆			
JEMX040208F							◆◆◆◆						◆◆◆◆			
JEMX050308F							◆◆◆◆						◆◆◆◆			
JEMX060408F							◆◆◆◆						◆◆◆◆			
JEMX080508F							◆◆◆◆						◆◆◆◆			
JEMX080412F							◆◆◆◆						◆◆◆◆			



Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials




Dimensions for WNGG, WNMA and WNMG							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
060404	9,53	6,52	4,76	0,40	2,43	-	3,81
060408	9,53	6,52	4,76	0,80	2,21	-	3,81
080401	12,70	8,69	4,76	0,10	3,45	-	5,16
080402	12,70	8,69	4,76	0,20	3,40	-	5,16
080404	12,70	8,69	4,76	0,40	3,30	-	5,16
080408	12,70	8,69	4,76	0,80	3,09	-	5,16
080412	12,70	8,69	4,76	1,20	2,87	-	5,16

3F Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number ISO																
WNGG080401F-3F								♦♦								
WNGG080402F-3F								♦♦♦								
WNGG080404F-3F								♦♦♦				♦♦♦				
WNGG080408F-3F								♦♦♦				♦♦♦				

Flat Top

	WNMA080408E					♦										
	WNMA080412E					♦										
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			

Indicates stocked item and material application range.


Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

W Style Turning Inserts

WNMG

1A Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
 WNMG060404E-1A											◆◆	◆◆				
WNMG060408E-1A	◆◆															
WNMG080408E-1A								◆◆	◆◆							

2N Geometry

WNMG060404E-2N																
WNMG060408E-2N	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆									
WNMG080404E-2N	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆			
WNMG080408E-2N	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆			
WNMG080412E-2N	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆			

3G Geometry

WNMG060408E-3G	◆◆															
WNMG080404E-3G							◆◆									
WNMG080408E-3G	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆									
WNMG080412E-3G	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆	◆◆									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED						UNCOATED		

Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations			
P	Unalloyed Steels	M	Stainless Steels
P	Alloyed Steels	M	PH Stainless
K	Cast Irons	N	Aluminium & Alloys
S	High Temp. Alloys	H	Hard Materials

3J Geometry

Grades	CVD COATED							PVD COATED					UNCOATED			
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
WNMG060404E-3J									♦♦			♦♦				
WNMG060408E-3J		♦♦		♦♦					♦♦			♦♦				
WNMG080404E-3J				♦♦								♦♦				
WNMG080408E-3J				♦♦					♦♦			♦♦				
WNMG080412E-3J									♦♦			♦♦				



3M Geometry

WNMG080408E-3M			♦♦													
WNMG080412E-3M			♦♦													



4T Geometry

WNMG080408E-4T	♦♦	♦♦	♦♦	♦♦	♦♦		♦♦		♦♦							
WNMG080412E-4T	♦♦	♦♦		♦♦	♦♦				♦♦							



4U Geometry

WNMG080408E-4U			♦♦			♦										
WNMG080412E-4U			♦♦			♦♦	♦									
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Grades	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
	CVD COATED							PVD COATED					UNCOATED			



Indicates stocked item and material application range.

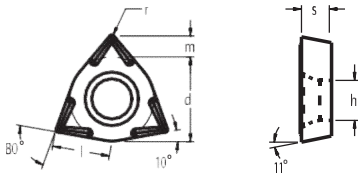
Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials




W Style Turning Inserts

WPMT



Dimensions for WPMT							
Size	d mm	l mm	s mm	r mm	m mm	m ₁ mm	h mm
020102	3,97	2,92	1,59	0,20	0,99	-	1,95
050304	7,94	5,43	3,18	0,40	1,98	-	3,40

61 Geometry

Grades	CVD COATED							PVD COATED						UNCOATED		
	A250	A05040	A04030	A0706	A0400	A01519	A037	751	750	752	750S	4064	751S	PH21	PH1	PH2
ISO GRADE DESIGNATION	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HW	HF	HF
Part Number																
ISO																
 WPMT020102E-61																
WPMT050304E-61																








Indicates stocked item and material application range.

Star Guide Key to Recommended Inserts

Material Designations							
P	Unalloyed Steels	M	Stainless Steels	K	Cast Irons	S	High Temp. Alloys
P	Alloyed Steels	M	PH Stainless	N	Aluminium & Alloys	H	Hard Materials

Technical Information

Failure Analysis

Cause	Correction	Failure
Intermittent heating of the cutting edge. High speed, high volume metal removal.	<ul style="list-style-type: none"> A Use heat resistant grades with increased TaC. B Use positive rake tools. C Increase nose radius. D Reduce speed, feed or depth of cut. E Avoid use of coolant. 	 <p style="text-align: center;">Thermal Cracking</p>
Cutting tool excessively brittle. Tool too hard for application conditions.	<ul style="list-style-type: none"> A Use tougher grade with higher cobalt content. B Use negative rake angle inserts. C Use larger nose radius. D Use increased edge land. E Increase cutting speed. 	 <p style="text-align: center;">Chipping</p>
Cutting tool too soft. Machine speed too fast.	<ul style="list-style-type: none"> A Use harder, more wear resistant grade. B Reduce cutting speed. C Increase feed. D Use coolant. 	 <p style="text-align: center;">Excessive Flank Wear</p>
Notching occurs at depth of cut line. Usually due to work hardened surface, scale or abrasion.	<ul style="list-style-type: none"> A Increase approach angle to maximum. B Use a larger corner radius for shallow cuts. C Reduce cutting speed and feed. D Vary depth of cut. 	 <p style="text-align: center;">Notching</p>
Cutting speed too slow for material being machined.	<ul style="list-style-type: none"> A Increase cutting speed. B Use friction reducing grade ie. TiAlN grade. C Use high lubricity coolant. 	 <p style="text-align: center;">Built-Up-Edge</p>
Heavy feeds or higher cutting speeds.	<ul style="list-style-type: none"> A Reduce cutting speed. B Reduce feed. C Use a harder grade. D Use more heat resistant grade. 	 <p style="text-align: center;">Deformation</p>
Excessive heat and pressure welding of chip to rake.	<ul style="list-style-type: none"> A Use a harder grade. B Reduce speed. C Reduce feed. 	 <p style="text-align: center;">Crater Wear</p>

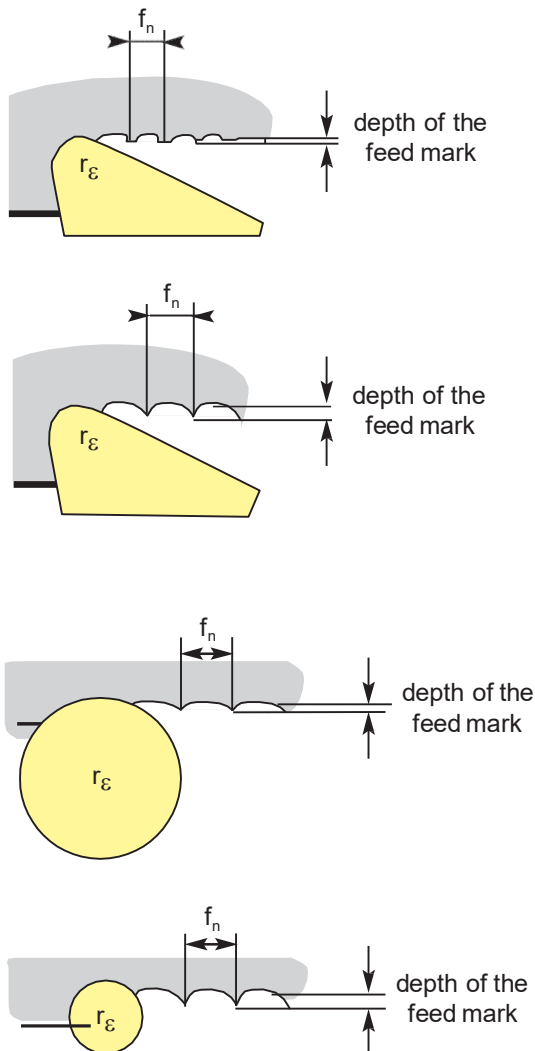
Technical Information

Surface Finish

The radius of the insert has a significant role to play in the quality of the surface finish, which is directly in relation to the feed rate (f_n). With a larger radius, better surface finishes can be maintained at higher feeds. The use of a big radius gives a larger surface contact area and causes an increase in power and cutting force.

For roughing operations, it is preferable to choose a large radius to ensure corner strength of the insert. However, for some materials it is preferable to use a smaller radius to maintain a softer cut. The insert is more fragile but can qualify for operations that are sensitive to vibrations.

Generally an insert is used with a maximum feed equal to half its radius. The minimum feed is related to edge preparation or to the start of its chip control. An increase in cutting speed can also contribute to surface quality.



For a given radius:
The greater the waviness of machined surface, the greater the feed rate.

For a given feed rate:
The lower the waviness of machined surface, the greater the radius.

The formula to calculate the feed rate:

$$f_n = \sqrt{\frac{R_{\max} \times 8}{r_\varepsilon \times 1000}}$$

$$R_{\max} = \frac{f_n^2}{8 \times r_\varepsilon} \times 1000 \text{ (}\mu\text{m)}$$

The mean value R_a , can be calculated with following formula:

$$R_a = \frac{f_n^2 \times 50}{r_\varepsilon}$$

Surface finish R_a value (μm)	Nose radius, r_ε (mm)						
	0,2	0,4	0,8	1,2	1,6	2,4	3,2
Feedrate, f_n (mm/rev)							
0,6	0,05	0,07	0,10	0,12	0,14	0,17	0,20
1,6	0,08	0,12	0,16	0,20	0,23	0,29	0,32
3,2	0,12	0,16	0,23	0,29	0,33	0,40	0,46
6,3	-	0,23	0,33	0,40	0,47	0,57	0,66
8,0	-	-	0,40	0,49	0,57	0,69	0,80

R_{\max} = profile depth (μm)

r_ε = nose radius (mm)

f_n = feed (mm/rev)

Technical Information

Surface Finish Comparison Chart

R_{max}	$R_a = CLA = AA$		RMS		Operation
	μm	$\mu inch$	μm	$\mu inch$	
1,6	0,30	11.8	0,33	13.1	ROUGHING
1,8	0,35	13.8	0,39	15.3	
2,0	0,40	15.7	0,44	17.4	
2,2	0,44	17.5	0,49	19.4	
2,4	0,49	19.2	0,54	21.3	
2,6	0,53	20.8	0,59	23.1	
2,8	0,58	22.7	0,64	25.2	
3,0	0,63	24.6	0,70	27.3	
3,5	0,71	27.8	0,79	30.9	
4,0	0,80	31.4	0,89	34.8	
4,5	0,90	35.2	1,00	39.1	
5,0	0,99	38.8	1,10	43.1	
6,0	1,20	47.2	1,30	52.4	
7,0	1,40	55.1	1,50	61.2	
8,0	1,60	63.0	1,80	70.0	
9,0	1,80	71.0	2,00	78.8	
10,0	2,00	79.0	2,20	87.7	
15,0	3,20	126.0	3,10	140.0	
20,0	4,40	173.0	4,90	192.0	
25,0	5,80	238.0	6,40	264.0	
27,0	6,30	247.0	7,00	274.0	
30,0	7,40	292.0	8,20	324.0	
35,0	8,80	346.0	9,80	384.0	
40,0	10,70	422.0	11,00	468.0	
45,0	12,50	485.0	13,90	538.0	
50,0	14,00	552.0	15,50	613.0	

ROUGHING

MEDIUM

FINE FINISHING

Workpiece hardness and cutting speeds

Difference of hardness (HBN):

When the hardness of a workpiece is different from the value shown in the grade speed charts, multiply the cutting speed you have obtained by the factor below to calculate a new cutting speed.

Work-piece	(Hardness of workpiece)											
	Soft											Hard
ISO/ANSI	120HBN	140HBN	160HBN	180HBN	200HBN	220HBN	240HBN	260HBN	280HBN	300HBN	320HBN	340HBN
P	1,42	1,25	1,13	1,0	0,93	0,86	0,75	0,71	0,66	-	-	-
M	1,40	1,22	1,10	1,0	0,93	0,86	0,80	0,70	0,69	-	-	-
K	1,40	1,34	1,30	1,25	1,20	1,10	1,05	1,0	0,94	0,90	0,85	0,82

Technical Information

Comparison Between Different Hardness Scales

Tensile strength	Vickers	Brinell	Rockwell	
			HRC	HRB
N/mm ²	HV	HBN	HRC	HRB
255	80	76.0	-	-
270	85	80.7	-	41.0
285	90	85.5	-	48.0
305	95	90.2	-	52.0
320	100	95.0	-	56.2
350	110	105	-	62.3
385	120	114	-	66.7
415	130	124	-	71.2
450	140	133	-	75.0
480	150	143	-	78.7
510	160	152	-	81.7
545	170	162	-	85.0
575	180	171	-	87.5
610	190	181	-	89.5
640	200	190	-	91.5
660	205	195	-	92.5
675	210	199	-	93.5
690	215	204	-	94.0
705	220	209	-	95.0
720	225	214	-	96.0
740	230	219	-	96.7
770	240	228	20.3	98.1
800	250	238	22.2	99.5
820	255	242	23.1	-
835	260	247	24.0	(101)
850	265	252	24.8	-
865	270	257	25.6	(102)
900	280	266	27.1	-
930	290	276	28.5	(105)
950	295	280	29.2	-
965	300	285	29.8	-
995	310	295	31.0	-

Tensile strength	Vickers	Brinell	Rockwell
			HRC
N/mm ²	HV	HBN	HRC
1030	320	304	32.2
1060	330	314	33.3
1095	340	323	34.4
1125	350	333	35.5
1155	360	342	36.6
1190	370	352	37.7
1220	380	361	38.8
1255	390	371	39.8
1290	400	380	40.8
1320	410	390	41.8
1350	420	399	42.7
1385	430	409	43.6
1420	440	418	44.5
1485	460	437	46.1
1555	480	450	47.7
1595	490	457	48.4
1630	500	465	49.1
1665	510	474	49.8
1700	520	482	50.5
1740	530	489	51.1
1775	540	496	51.7
1810	550	503	52.3
1845	560	511	53.0
1880	570	520	53.6
1920	580	527	54.1
1955	590	533	54.7
1995	600	538	55.2
2030	610	543	55.7
2070	620	549	56.3
2105	630	555	56.8
2145	640	561	57.3
2180	650	568	57.8

HV = Vickers hardness
HBN = Brinell hardness

HRC = Rockwell hardness, C scale
HRB = Rockwell hardness, B scale



Technical Information

Turning Terminology and Formulae

ISO	Material	Rm and Hardness	Kc: N/mm ²
P	Unalloyed Steels	400-600 N/mm ² 120-180 HBN	2050
		600-950 N/mm ² 180-200 HBN	2300
	Alloyed Steels	700-950 N/mm ² 200-280 HBN	2599
		950-1200 N/mm ² 280-355 HBN	2851
		1200-1400 N/mm ² 355-415 HBN	3172
	Tool Steels	1200-1400 N/mm ² 355-415 HBN	3895
M	Stainless Steel	Austenitic + Ferritic 300 Series	1847
		Martensitic 400 Series	2599
		Refractory P.H.	3199
K	Cast Irons	Grey GG-Ft	1200
		Spheroidal GGG-FGS	1500
		Nodular GGGni - L - N	1600
		Malleable GTS - MN/MP	1050
N	Aluminium & Alloys	<16% Si 116HBN	827
		>16% Si 92HBN	965
S	High Temperature Alloys	Iron Based	2999
		Cobalt Based	3799
		Nickel Based	3500
		Titanium Based 425-456HBN	1500

Technical Information

Turning Terminology and Formulae

Formulae

$$V_c = \frac{D_m \times \pi \times n}{1000} \quad \text{Cutting speed (m/min)}$$

$$n = \frac{V_c \times 1000}{D_m \times \pi} \quad \text{Spindle speed (rev/min)}$$

$$P_c = \frac{V_c \times a_p \times f_n \times K_C}{60 \times 1000 \times \mu} \quad \text{Power demand (kW)}$$

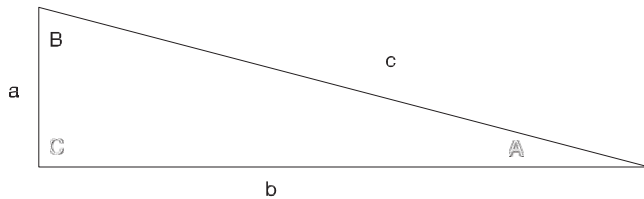
$$Q_z = V_c \times f_n \times a_p \quad \text{Metal removal (cm}^3\text{/min)}$$

$$T_c = \frac{l_m}{f_n \times n} \quad \text{Period of engagement (min)}$$

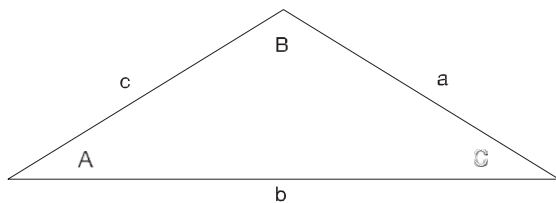
Terminology

D_m	=	Machined diameter	mm
V_c	=	Cutting speed	m/min
n	=	Spindle speed	rev/min
T_c	=	Period of engagement	min
Q_z	=	Metal removal	cm ³ /min
l_m	=	Machined length	mm
P_c	=	Power demand	kW
K_C	=	Specific cutting force	N/mm ²
f_n	=	Feed per revolution	mm/rev
k_r	=	Cutting edge angle	degree
R_{max}	=	Profile depth	μm
r_ϵ	=	Insert nose radius	mm
a_p	=	Depth of cut	mm
μ	=	Efficiency	

Trigonometrical Equivalents



Dimension Given	Part to be Found				
	A	B	a	b	c
a & c	$\sin A = a \div c$	$\cos B = a \div c$		$b = \sqrt{c^2 - a^2}$	
a & b	$\tan A = a \div b$	$\cos B = a \div b$			$c = \sqrt{a^2 + b^2}$
c & b	$\cos A = b \div c$	$\sin B = b \div c$	$a = \sqrt{c^2 - b^2}$		
A & a		$B = 90^\circ - A$		$b = a \times \cot A$	$c = a \div \sin A$
A & b		$B = 90^\circ - A$	$a = b \times \tan A$		$c = b \div \cos A$
A & c		$B = 90^\circ - A$	$a = c \times \sin A$	$b = c \times \cos A$	

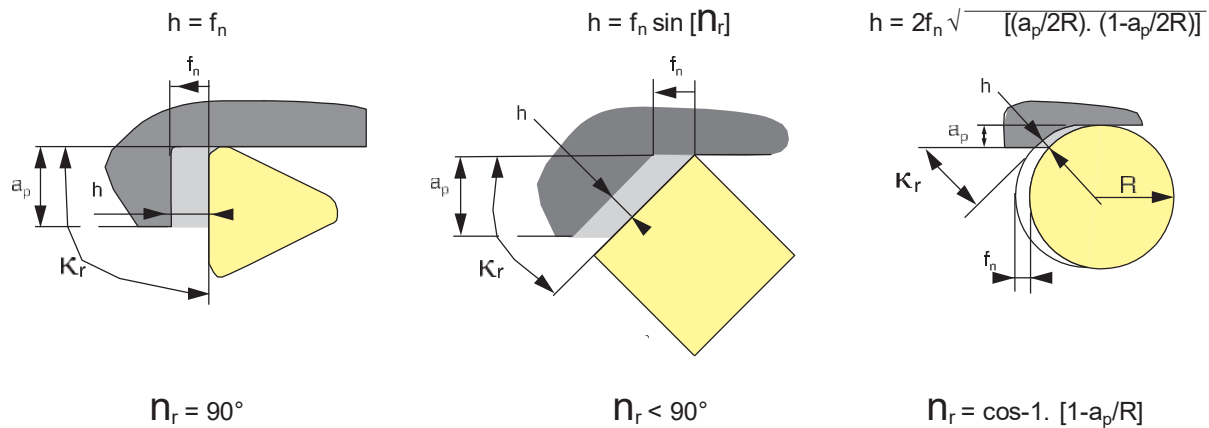


Dimension Given	Parts to be Found	Formula
a b c	A	$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$
a b A	B	$\sin B = \frac{b \times \sin A}{a}$
a b A	C	$C = 180 - (A + B)$
a A B	b	$b = \frac{a \times \sin B}{\sin A}$
a A B	c	$c = \frac{(a \times \sin C \div \sin A) \times (a \times \sin (180 - A - B) \div \sin A)}$
a b C	B	$B = 180 - (A + C)$

Technical Information

Maximum Depth of Cut and Chip Thickness

When deciding on the maximum depth of cut (a_p) for a given insert, the angle of the principal edge plays a significant role in the type of the chip formed. For an angle close to 90° , the thickness of the chip will be equal to the feed. In the other cases, it will be necessary to calculate it.



The type of insert used plays a significant role in the rigidity of the cutting edge. A cutting edge angle of n_r 75° or 45° allows for difficult machining operations, i.e. interrupted and heavy roughing, but reduces the capacity to machine profiles. The most robust insert shape is round and the most fragile standard insert is the 35° diamond (V).









The size and type of insert determines the maximum depth of cut. In general, it is advisable to select a cutting edge length in relation to the maximum depth of cut to be machined.

Cutting Edge Length for a given depth of cut (a_p) and n_r angle										
A low depth of cut can still generate a large edge engagement										
n_r/a_p	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00
90	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00
75	1,04	2,06	3,10	4,14	5,18	6,20	7,24	8,28	9,32	10,34
60	1,14	2,31	3,45	4,62	5,77	6,93	8,08	9,25	10,39	11,56
45	1,42	2,82	4,24	5,66	7,06	8,48	9,91	11,30	12,73	14,15
30	2,00	4,00	6,00	8,00	10,00	12,00	14,00	16,00	18,00	20,00

Technical Information

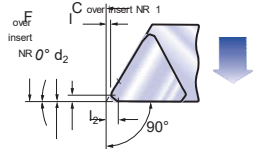
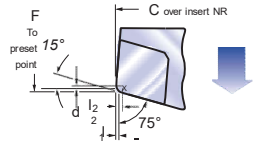
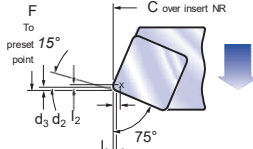
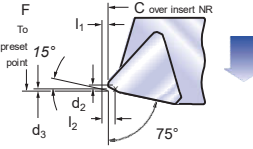
Maximum Depth of Cut and Chip Thickness

To ensure safe machining operations the maximum theoretical edge engagement defined in the table below should not be exceeded.

Maximum Depth of cut			
Symbol	Insert Type		Max. edge length of cut
R	Round 360°		0.4 x diameter
S	Square 90°		2/3 x edge length
T	Triangular 60°		1/2 x edge length
E	Rhombic 75°		2/3 x edge length
C	Rhombic 80°		2/3 x edge length
D	Rhombic 55°		1/2 x edge length
V	Rhombic 35°		1/4 x edge length
W	Hexagonal 80°		1/4 x edge length

Technical Information

Insert Radius Compensation

Tool Style	Insert Style & Description	Radius	Dimensions					
			d ₁	d ₂	d ₃	l ₁	l ₂	l ₃
A & G 	T style insert Triangle, negative and positive rake, 90°/0° SCEA.	0,4	0,00	0,396	-	0,289	0,688	-
		0,8	0,00	0,792	-	0,582	1,374	-
		1,2	0,00	1,191	-	0,871	2,062	-
		1,6	0,00	1,587	-	1,163	2,748	-
B 	C style insert 100° diamond, negative and positive rake, 75° / 15° SCEA.	0,4	-	0,297	0,008	0,028	0,424	-
		0,8	-	0,594	0,015	0,056	0,975	-
		1,2	-	0,891	0,023	0,081	1,272	-
		1,6	-	1,189	0,030	0,109	1,697	-
B 	S style insert Square, negative and positive rake, 75° / 15° SCEA.	0,4	-	0,279	0,023	0,089	0,485	-
		0,8	-	0,561	0,048	0,178	0,973	-
		1,2	-	0,841	0,071	0,267	1,458	-
		1,6	-	1,123	0,096	0,356	1,943	-
B & R 	T Style insert Triangle, negative and positive rake, 75° / 15° SCEA.	0,4	-	0,206	0,099	0,371	0,767	-
		0,8	-	0,411	0,198	0,739	1,534	-
		1,2	-	0,617	0,297	1,109	2,301	-
		1,6	-	0,823	0,396	1,478	3,066	-

d₁ - l₁ = SC (sharp corner) to NR (nose radius).

d₂ - l₂ = SC (sharp corner) to centerline NR (nose radius).

d₃ - l₃ = SC (sharp corner) to preset point.

l₄ = Over insert NR (nose radius) to preset point.

SCEA = Side cutting edge angle.

ECEA = End cutting edge angle.

Technical Information

Insert Radius Compensation

Tool Style	Insert Style & Description	Radius	Dimensions					
			d ₁	d ₂	d ₃	l ₁	l ₂	l ₃
C & F 	T Style insert Triangle, negative and positive rake, 90° / 0° ECEA.	0,4	0,289	0,688	-	0,396	-	-
		0,8	0,582	1,374	-	0,792	-	-
		1,2	0,871	2,062	-	1,191	-	-
		1,6	1,163	2,748	-	1,587	-	-
D & S 	S style insert Square, negative and positive rake, 45° / 45° ECEA and SCEA.	0,4	-	0,00	1,651	1,651	0,561	-
		0,8	-	0,00	0,328	0,328	1,122	-
		1,2	-	0,00	0,492	0,492	1,684	-
		1,6	-	0,00	1,163	1,163	2,245	-
E 	T style insert Triangle, negative and positive rake, 60° / 30° SCEA.	0,4	-	0,00	0,229	0,396	0,792	-
		0,8	-	0,00	0,457	0,792	1,587	-
		1,2	-	0,00	0,686	1,191	2,382	-
		1,6	-	0,00	0,917	1,587	3,175	-
F 	C style insert 80° diamond, negative and positive rake, 90° / 0° ECEA.	0,4	0,076	0,472	-	0,00	0,396	-
		0,8	0,152	0,945	-	0,00	0,792	-
		1,2	0,227	1,420	-	0,00	1,191	-
		1,6	0,305	1,892	-	0,00	1,587	-

d₁ - l₁ = SC (sharp corner) to NR (nose radius).

d₂ - l₂ = SC (sharp corner) to centerline NR (nose radius).

d₃ - l₃ = SC (sharp corner) to preset point.

l₄ = Over insert NR (nose radius) to preset point.

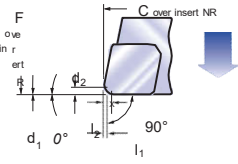
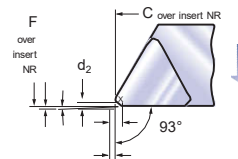
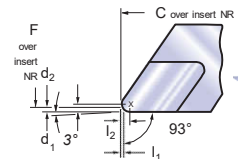
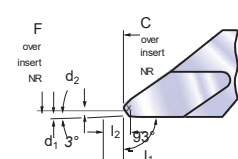
SCEA = Side cutting edge angle.

ECEA = End cutting edge angle.



Technical Information

Insert Radius Compensation

Tool Style	Insert Style & Description	Radius	Dimensions					
			d ₁	d ₂	d ₃	l ₁	l ₂	l ₃
G 	C style insert 80° diamond, negative and positive rake, 90° / 0° ECEA.	0,4	0,00	0,396	-	0,076	0,472	-
		0,8	0,00	0,792	-	0,152	0,792	-
		1,2	0,00	1,191	-	0,229	1,420	-
		1,6	0,00	1,587	-	1,305	1,892	-
J 	T style insert Triangle, negative and positive rake, 93° / 3° rev. SCEA.	0,4	0,035	0,432	-	0,269	0,066	-
		0,8	0,071	0,864	-	0,538	1,331	-
		1,2	0,107	1,298	-	0,808	1,996	-
		1,6	1,189	1,730	-	1,074	2,662	-
J 	D style insert 55° diamond, negative and positive rake, 93° / 3° rev. SCEA.	0,4	0,038	0,437	-	0,343	0,742	-
		0,8	0,075	0,871	-	0,688	1,481	-
		1,2	0,117	1,318	-	1,031	1,222	-
		1,6	0,157	1,745	-	1,374	2,962	-
J 	V style insert 35° diamond, negative and positive rake, 93° / 3° rev. SCEA.	0,4	0,066	0,462	-	0,838	1,237	-
		0,8	0,129	0,924	-	1,679	2,471	-
		1,2	0,195	1,387	-	2,517	3,708	-
		1,6	0,262	1,849	-	3,358	4,945	-

d₁ - l₁ = SC (sharp corner) to NR (nose radius).

d₂ - l₂ = SC (sharp corner) to centerline NR (nose radius).

d₃ - l₃ = SC (sharp corner) to preset point.

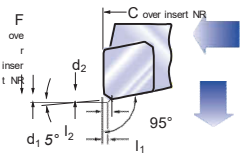
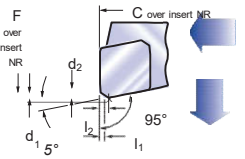
l₄ = Over insert NR (nose radius) to preset point.

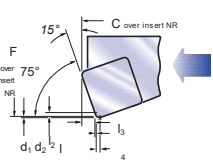
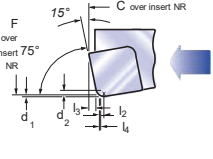
SCEA = Side cutting edge angle.

ECEA = End cutting edge angle.

Technical Information

Insert Radius Compensation

Tool Style	Insert Style & Description	Radius	Dimensions					
			d ₁	d ₂	d ₃	l ₁	l ₂	l ₃
L 	C style insert 80° diamond, negative and positive rake, 95° / 5° rev. ECEA and SCEA.	0,4	0,041	0,437	-	0,041	0,437	-
		0,8	0,079	0,874	-	0,079	0,874	-
		1,2	0,119	1,311	-	0,119	1,311	-
		1,6	0,157	1,747	-	0,157	1,747	-
L 	W style insert 80° trigon, negative and positive rake, 95° / 5° rev. ECEA and SCEA.	0,4	0,041	0,437	-	0,041	0,437	-
		0,8	0,079	0,874	-	0,079	0,874	-
		1,2	0,119	1,311	-	0,119	1,311	-
		1,6	0,157	1,747	-	0,157	1,747	-

Tool Style	Insert Style & Description	Radius	Dimensions			
			d ₁	d ₂	l ₂	l ₃
K 	S style insert Square, negative and positive rake, 75° / 15° rev. ECEA.	0,4	0,089	0,485	0,279	0,023
		0,8	0,178	0,973	0,561	0,048
		1,2	0,267	1,458	0,841	0,071
		1,6	0,356	1,943	1,123	0,096
K 	C style insert 80° diamond, negative and positive rake, 75° / 15° rev. ECEA.	0,4	0,028	0,424	0,297	0,007
		0,8	0,056	0,848	0,594	0,015
		1,2	0,081	1,272	0,891	0,022
		1,6	0,109	1,697	1,189	0,030

d₁ - l₁ = SC (sharp corner) to NR (nose radius).

d₂ - l₂ = SC (sharp corner) to centerline NR (nose radius).

d₃ - l₃ = SC (sharp corner) to preset point.

l₄ = Over insert NR (nose radius) to preset point.

SCEA = Side cutting edge angle.

ECEA = End cutting edge angle.

