



DOPENT
TUNGALOY




MILLLINE

Tungaloy Report No. 372-G

www.tungaloy.com

Highly productive and
economical face milling
cutter!

A close-up photograph of a high-speed industrial machine, likely a centrifugal pump or compressor. The machine is made of polished metal and features several curved, blade-like components. The background is a solid, vibrant red. The machine's surface is highly reflective, showing bright highlights and shadows. The text "TEN09R125M38.1-10" is engraved on the side, along with "MAX RPM=10,300 min-1" and "L6800018". The machine is shown in a dynamic, slightly blurred state, suggesting it is in operation.

TEN09R125M38.1-10
MAX RPM=10,300 min⁻¹
L6800018

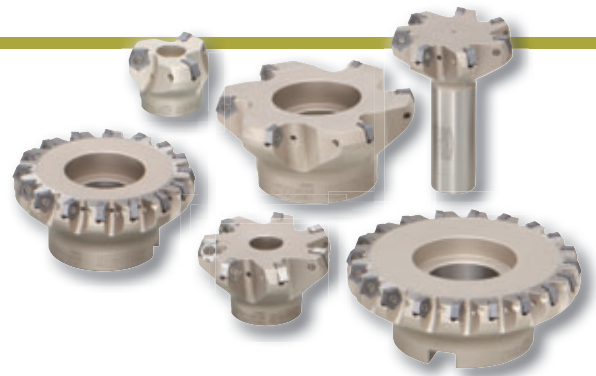


DOPENT

TUNGALOY

Highly rigid cutter and tough inserts with 10 cutting edges provides remarkable efficiency at high feed.

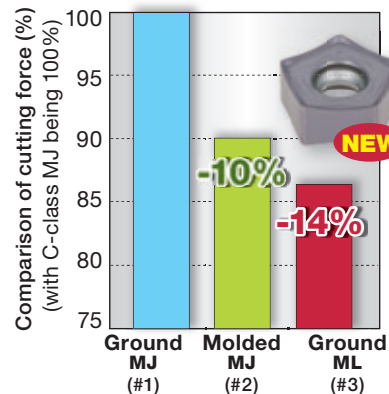
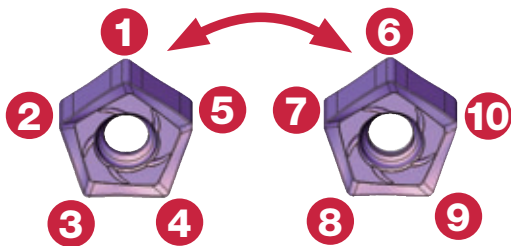
DOPE^{NT} TUNGALOY



Economical face milling cutter with high productivity for all materials!!

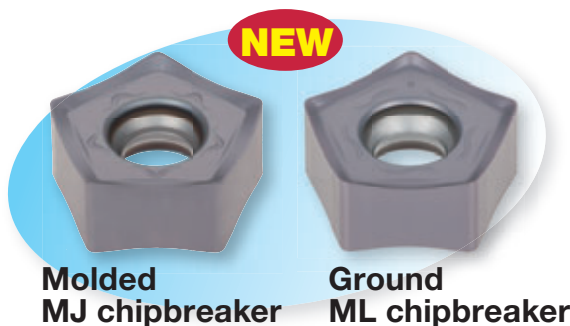
Economical pentagonal insert

Double-sided insert with 10 cutting edges



Cutter	: TEN09R100M31.7-05
	$\phi D_c = 100 \text{ mm}, z = 1$
Insert	: (#1) PNCU0905GNER-MJ
	(#2) PNMU0905GNEN-MJ
	(#3) PNCU0905GNEN-ML
Grade	: AH3135 / AH725
Workpiece	: S55C / C55 (200HB)
Cutting speed	: $V_c = 200 \text{ m/min}$
Feed per tooth	: $f_z = 0.3 \text{ mm/t}$
Depth of cut	: $a_p = 3 \text{ mm}$
Width of cut	: $a_e = 70 \text{ mm}$
Coolant	: Dry
Machine	: Vertical M/C, HSK63

Neutral insert for right hand and left hand cutter



Low cutting force

MJ chipbreaker: Suitable for steel and cast iron
ML chipbreaker: Suitable for stainless steel and mild steel

Neutral geometry

Can be used on right-and left-hand cutters

Large depth of cut

Maximum depth of cut is the same as the existing right-hand insert.

NEW Left-hand cutter

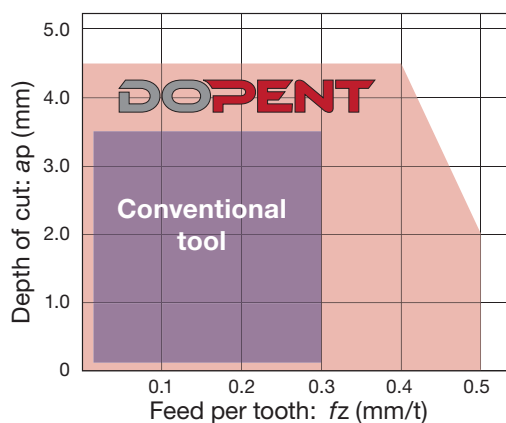
Applicable for face milling on duplex milling machines



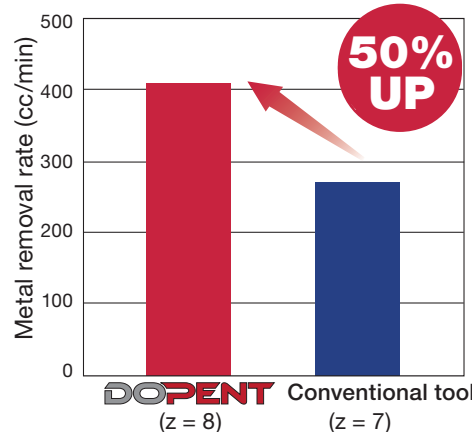
Incredible efficiency

Highly rigid cutter with tough insert delivers remarkable efficiency in high-feed machining.

Wide application range

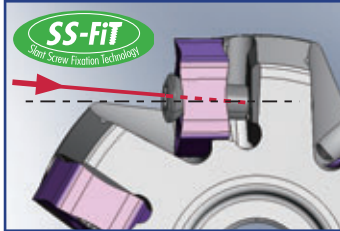
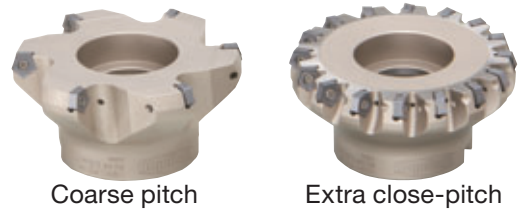


High metal removal rate



Workpiece	: S55C / C55 (200HB)
Tool diameter	: $\phi D_c = \phi 100 \text{ mm}$
Cutting speed	: $V_c = 200 \text{ m/min}$
Feed per tooth	: DOPENT : $f_z = 0.4 \text{ mm/t}$ (z = 8)
	Conventional: $f_z = 0.3 \text{ mm/t}$ (z = 7)
Depth of cut	: $a_p = 4 \text{ mm}$
Width of cut	: $a_e = 50 \text{ mm}$
Conventional tool	: Milling cutter with 4-cornered insert

SS-FiT structure provides exceptional rigidity even with extra close-pitch cutters.

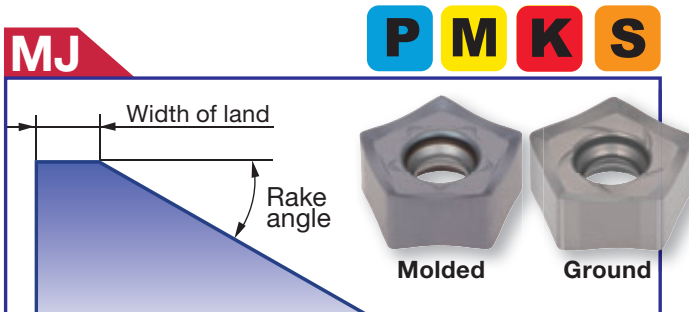


Large number of inserts on a cutter

Dimensions øDc (mm)	No. of inserts			
	Close pitch		Extra close-pitch	
	DOPENT	Competitor	DOPENT	Competitor
63	6	5	8	6
80	7	6	10	8
100	8	8	12	10
125	10	10	16	13
160	12	12	20	16

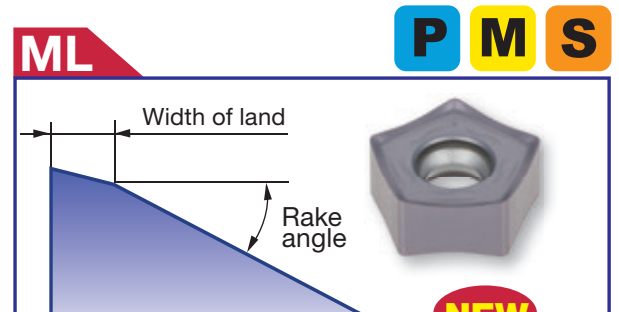
Productivity + 20 ~ 30%!

Wide line-up of inserts for various machining

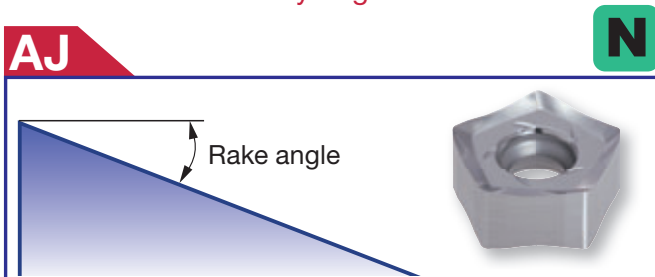


Applicable for general machining

- Excellent balance between sharpness and toughness of cutting edges
- Available in a variety of grades



Low cutting force
Sharp cutting edge for stainless machining



Suitable for non-ferrous metals (ex. aluminium)
Strong welding resistance due to large rake angle and lapped rake face



Applicable for finishing
Provides good surface finish due to wide wiper edge

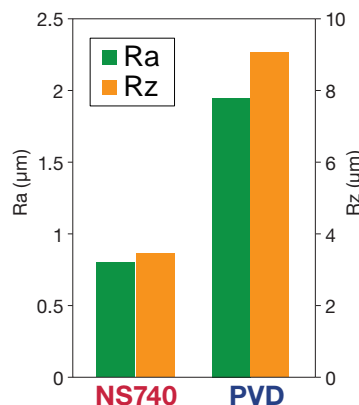
Improved surface finish by cermet grade

NS740 performs well in finishing application due to strong welding resistance.



NS740

PVD



Cutter : TEN09R100M31.7-05 (z = 1)
 Insert : PNCU0905GNER-MJ
 Workpiece : SS400 / E275A (126HB)
 Cutting speed : Vc = 250 m/min
 Feed per tooth : fz = 0.15 mm/t
 Depth of cut : ap = 0.3 mm
 Width of cut : ae = 75 mm
 Application : Face milling
 Coolant : Dry
 Machine : Vertical M/C, BT50, 30 kw

● New coated grade offers long tool life

New

AH3135

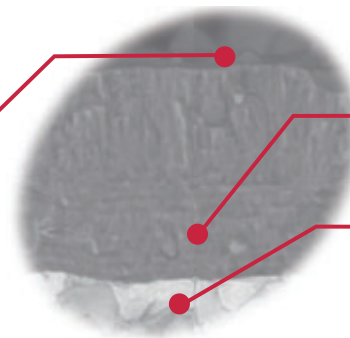


Special Surface Technology

PREMIUMTEC

TUNGALOY

Smooth insert surface prevents chip adhesion!



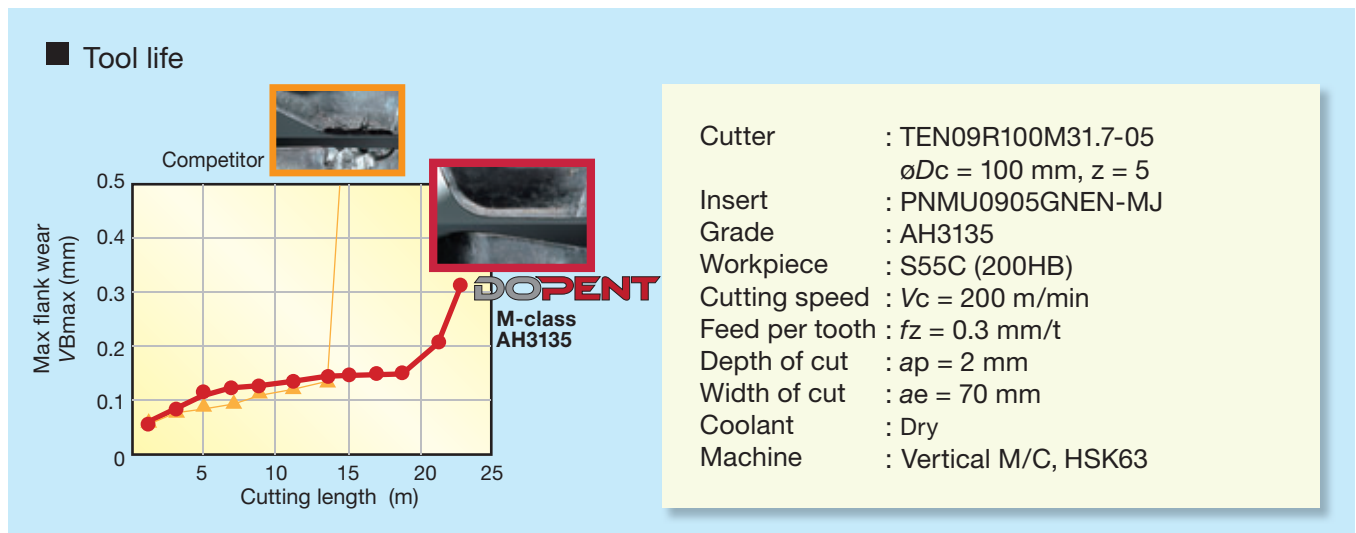
Multi-layered coating with high chipping resistance

Carbide substrate with incredible toughness

New grade for steel and stainless steel machining Dramatically improved chipping and fracture resistance

- Multi-layered coating prevents crack expansion which causes chipping and fracture.
- Cobalt enriched carbide substrate improves impact resistance and toughness.

Long tool life due to high wear resistance



Specification

Application	Grade	Substrate			Coating layer		Features
	Application code	Relative density	Hardness -HRA	T.R.S. (GPa)	Main Composition	Thickness (μm)	
	AH3135	14.0	89.5	2.8	(Ti, Al)N Multi-layer	4	New grade for steel and stainless steel machining Dramatically improved chipping and fracture resistance
	P30 - P40						

Cutter

Bore type (Right-hand)

Arbor Type C

Max. ap = 6.4 mm

Parts for bore type

Descriptions	Parts Cat. No.	
Clamping screw	CSTR-4L100	
Wrench	Torx bit	BT15S *BT15M
	Grip	H-TBS
Mono block type substitution wrench	T-15D	

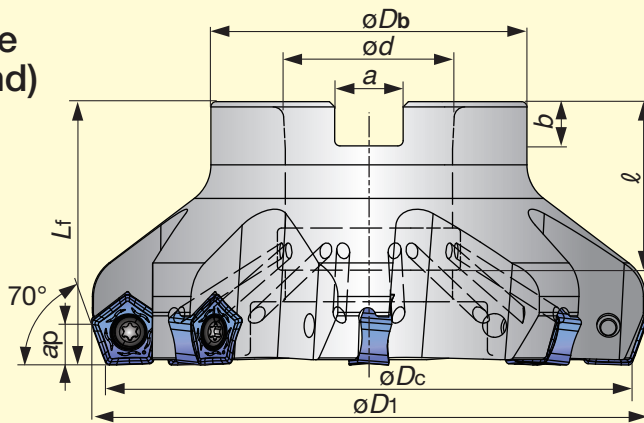
TEN09R125M38.1-06, TEN09R125M38.1-10
 TEN09R160M50.8-07, TEN09R160M50.8-12
 TEN09R125M40.0E10, TEN09R160M40.0E12

Cat. No.	Stock	No. of Inserts	Dimensions (mm)								Weight (kg)	Air hole	Center bolt	Arbor type
			$\varnothing D_c$	$\varnothing D_1$	$\varnothing D_b$	$\varnothing d$	ℓ	L_f	b	a				
TEN09R050M22.0-03	●	3	50	56	41	22	20	40	6	10	0.3	with	CM10x30H	A
TEN09R050M22.0-04	●	4	50	56	41	22	20	40	6	10	0.3	with	CM10x30H	A
TEN09R050M22.0-06	●	6	50	56	41	22	20	40	6	10	0.3	with	CM10x30H	A
TEN09R050M22.0E04	●	4	50	56	41	22	20	40	6.3	10.4	0.3	with	CM10x30H	A
TEN09R050M22.0E06	●	6	50	56	41	22	20	40	6.3	10.4	0.3	with	CM10x30H	A
TEN09R063M22.0-04	●	4	63	69	41	22	20	40	6	10	0.5	with	CM10x30H	A
TEN09R063M22.0-06	●	6	63	69	41	22	20	40	6	10	0.5	with	CM10x30H	A
TEN09R063M22.0-08	●	8	63	69	41	22	20	40	6	10	0.5	with	CM10x30H	A
TEN09R063M22.0E06	●	6	63	69	41	22	20	40	6.3	10.4	0.5	with	CM10x30H	A
TEN09R063M22.0E08	●	8	63	69	41	22	20	40	6.3	10.4	0.5	with	CM10x30H	A
TEN09R080M25.4-04	●	4	80	86	46	25.4	26	50	6	9.5	0.9	with	CM12x30H	A
TEN09R080M25.4-07	●	7	80	86	46	25.4	26	50	6	9.5	0.9	with	CM12x30H	A
TEN09R080M25.4-10	●	10	80	86	46	25.4	26	50	6	9.5	0.9	with	CM12x30H	A
TEN09R080M27.0E07	●	7	80	86	50	27	22	50	7	12.4	0.9	with	CM12x30H	A
TEN09R080M27.0E10	●	10	80	86	50	27	22	50	7	12.4	1	with	CM12x30H	A
TEN09R100M31.7-05	●	5	100	106	60	31.75	32	50	8	12.7	1.3	with	TMBA-M16H	B
TEN09R100M31.7-08	●	8	100	106	60	31.75	32	50	8	12.7	1.3	with	TMBA-M16H	B
TEN09R100M31.7-12	●	12	100	106	60	31.75	32	50	8	12.7	1.4	with	TMBA-M16H	B
TEN09R100M32.0E08	●	8	100	106	60	32	28.5	50	8	14.4	1.3	with	TMBA-M16H	B
TEN09R100M32.0E12	●	12	100	106	60	32	28.5	50	8	14.4	1.4	with	TMBA-M16H	B
TEN09R125M38.1-06	●	6	125	131	80	38.1	38	63	10	15.9	2.6	with	TMBA-M20H	B
TEN09R125M38.1-10	●	10	125	131	80	38.1	38	63	10	15.9	2.7	with	TMBA-M20H	B
TEN09R125M38.1-16	●	16	125	131	80	38.1	43	63	10	15.9	2.9	with	TMBA-M20H	B
TEN09R125M40.0E10	●	10	125	131	71	40	32	63	9	16.4	2.3	with	TMBA-M20H	B
TEN09R125M40.0E16	●	16	125	131	71	40	32	63	9	16.4	2.5	with	TMBA-M20H	B
TEN09R160M40.0E12	●	12	160	166	100	40	29	63	9	16.4	4	without	-	C
TEN09R160M40.0E20	●	20	160	166	100	40	29	63	9	16.4	4.3	without	-	C
TEN09R160M50.8-07	●	7	160	166	100	50.8	46	63	11	19	4.4	without	-	B
TEN09R160M50.8-12	●	12	160	166	100	50.8	46	63	11	19	4.6	without	-	B
TEN09R160M50.8-20	●	20	160	166	100	50.8	46	63	11	19	4.9	without	-	B

● : Stocked items

Bore type (Left-hand)

NEW



Max. $ap = 6.4$ mm

Parts for bore type

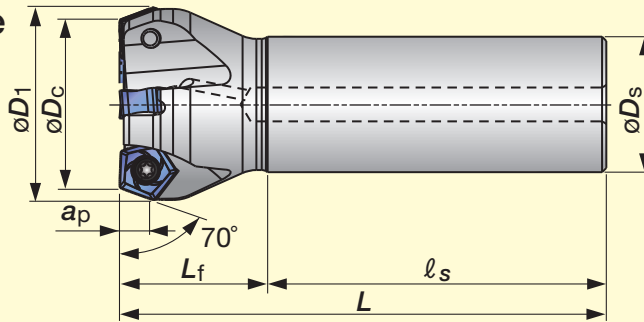
Descriptions	Parts Cat. No.	
Clamping screw	CSTR-4L100	
Wrench	Torx bit	BT15S *BT15M
	Grip	H-TBS
Mono block type substitution wrench	T-15D	

TEN09L125M38.1-10, TEN09L160M50.8-12, TEN09L125M40.0E10, TEN09L160M40.0E12

Cat. No.	Stock	No. of Inserts	Dimensions (mm)							Weight (kg)	Air hole	Center bolt	
			$\varnothing D_c$	$\varnothing D_1$	$\varnothing D_b$	$\varnothing d$	ℓ	L_f	b				a
TEN09L100M31.7-08	●	8	100	106	60	31.75	32	50	8	12.7	1.3	with	TMBA-M16H
TEN09L125M38.1-10	●	10	125	131	80	38.1	38	63	10	15.9	2.7	with	TMBA-M20H
TEN09L160M50.8-12	●	12	160	166	100	50.8	46	63	11	19	4.6	without	-

Please select neutral inserts PN*U0905GNEN... when using a left-hand cutter.

Shank type



Max. $ap = 6.4$ mm

Parts for shank type

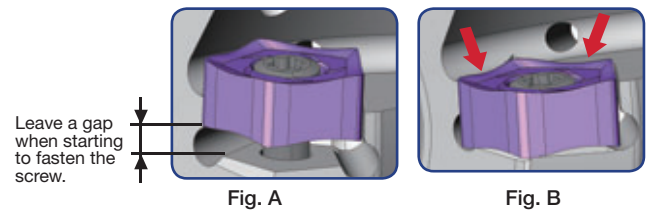
Descriptions	Parts Cat. No.
Clamping screw	CSTR-4L100
Wrench (Torx bit)	T-15DB
Mono block type substitution wrench	T-15D

Cat. No.	Stock	No. of Inserts	Dimensions (mm)						Weight (kg)	Air hole
			$\varnothing D_c$	$\varnothing D_1$	$\varnothing D_s$	ℓ_s	L_f	L		
EEN09R032M32.0-03	●	3	32	38	32	80	35	115	0.7	with
EEN09R040M32.0-04	●	4	40	46	32	80	35	115	0.7	with
EEN09R050M32.0-04	●	4	50	56	32	80	40	120	0.9	with
EEN09R063M32.0-06	●	6	63	69	32	80	40	120	1.0	with
EEN09R080M32.0-07	●	7	80	86	32	80	40	120	1.3	with

● : Stocked items

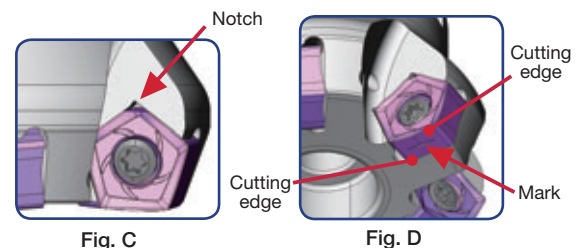
Installation of inserts on an extra close-pitch cutter

- On an extra close-pitch cutter, the screw hole of an insert pocket is placed at an angle.
- Leave a gap between the insert and pocket when starting to fasten the screw on the cutter body as shown in Fig. A.
- After fastening the screw, please ensure that there is no gap between the cutter body and insert. (Fig. B)

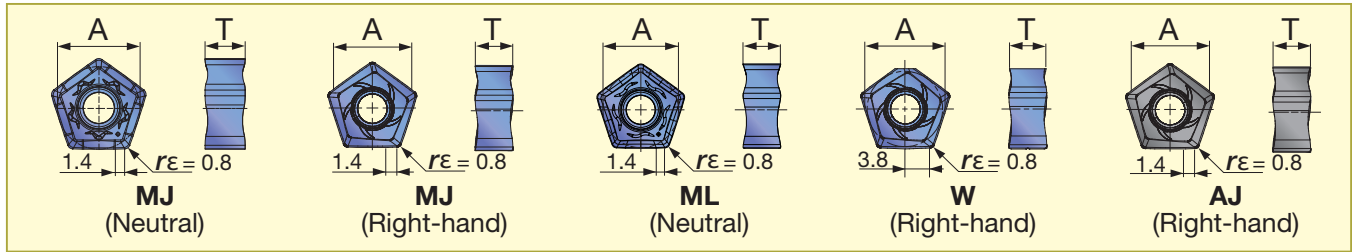


Notes for using wiper inserts

- When fine surface finish is required, wiper insert PNCU0905GNER-W is recommended.
- Attach the insert with its notch on the top, as shown in Fig. C. Also, make sure that the mark of the insert is located at the bottom of the cutter body, as shown in Fig. D.
- The wiper insert has two corners available (Fig. D). Do not use the other corners as the cutter body may be broken.



Inserts



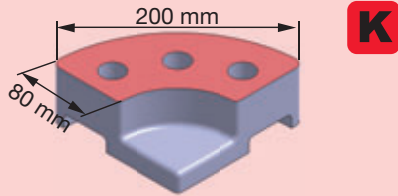
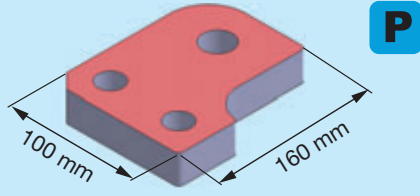
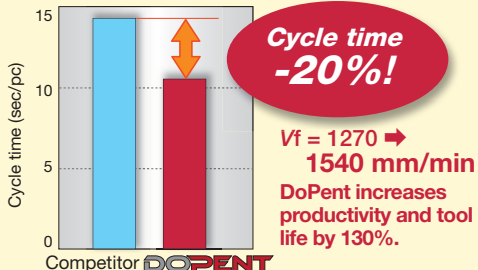
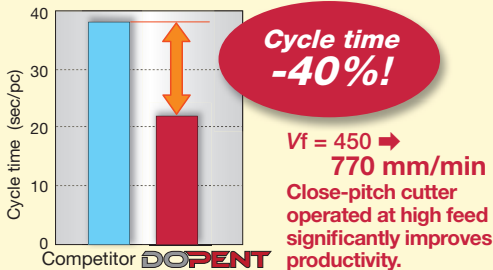
Cat. No.	Accuracy Honing	Grades							Dimensions (mm)		
		Coated						Cermet	Carbide	A	T
		AH3135	AH725	AH120	AH140	T1115	T3130				
PNMU0905GNEN-MJ	M with	●		●						12.2	6.0
PNCU0905GNER-MJ	C with		●	●	●	●	●			12.2	5.9
NEW PNCU0905GNEN-ML	C with	●								12.2	6.0
PNCU0905GNER-W	C with		●							12.2	5.9
PNCU0905GNFR-AJ	C without							●		12.2	6.3

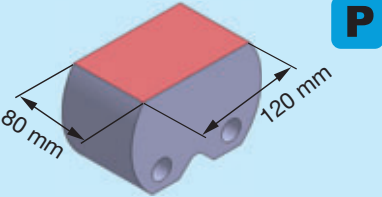
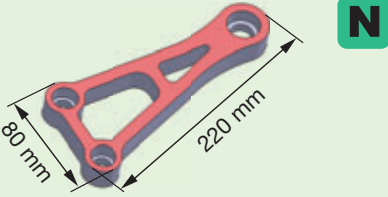
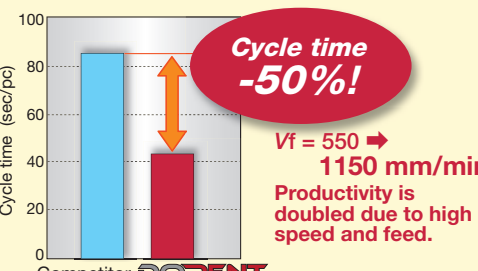
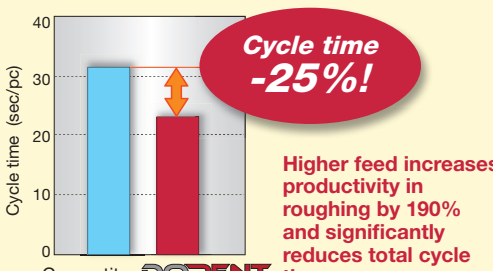
Standard cutting conditions

ISO	Workpiece materials	Hardness HB	Selection criteria	Recommended grade	Chip-breaker	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)
P	Low carbon steel (S15C / C15, etc.)	- 200	First choice	AH3135, AH725	MJ	100 - 250	0.1 - 0.6
		- 200	Low cutting force	AH3135	ML	100 - 250	0.1 - 0.5
		- 200	Priority on wear resistance	T3130	MJ	120 - 250	0.1 - 0.6
		- 200	Priority on surface quality	NS740	MJ	100 - 250	0.1 - 0.5
	High carbon steel (S45C / C45, etc.)	200 - 300	First choice	AH3135, AH725	MJ	100 - 230	0.1 - 0.5
		200 - 300	Low cutting force	AH3135	ML	100 - 230	0.1 - 0.4
		200 - 300	Priority on wear resistance	T3130	MJ	120 - 250	0.1 - 0.5
		200 - 300	Priority on surface quality	NS740	MJ	100 - 250	0.1 - 0.4
	Alloyed steel (SCM440 / 42CrMo4, etc.)	150 - 300	First choice	AH3135, AH725	MJ	100 - 230	0.1 - 0.5
		150 - 300	Low cutting force	AH3135	ML	100 - 230	0.1 - 0.4
		150 - 300	Priority on wear resistance	T3130	MJ	120 - 250	0.1 - 0.5
		150 - 300	Priority on fracture resistance	NS740	MJ	100 - 250	0.1 - 0.4
Tool steel (SKD11 / X153CrMoV12, etc.)	- 300	First choice	AH3135, AH725	MJ	100 - 180	0.1 - 0.5	
	- 300	Low cutting force	AH3135	ML	100 - 180	0.1 - 0.4	
	- 300	Priority on wear resistance	T3130	MJ	120 - 180	0.1 - 0.5	
M	Stainless steel (SUS304 / X5CrNi18-9, etc.)	-	First choice	AH3135	ML	90 - 180	0.1 - 0.4
		-	Priority on fracture resistance	AH3135, AH140	MJ	90 - 180	0.1 - 0.45
K	Grey cast iron (FC250, FC300 / GG25, GG30, etc.)	-	First choice	AH120	MJ	140 - 250	0.1 - 0.6
		-	Priority on wear resistance	T1115	MJ	150 - 280	0.1 - 0.6
	Ductile cast iron (FCD400 / GGG40, etc.)	-	First choice	AH120	MJ	100 - 200	0.1 - 0.6
		-	Priority on wear resistance	T1115	MJ	120 - 220	0.1 - 0.6
N	Aluminium alloys (Si < 13%)	-	First choice	TH10	AJ	500 - 1500	0.1 - 0.5
	Aluminium alloys (Si ≥ 13%)	-	First choice	TH10	AJ	150 - 500	0.1 - 0.5
S	Titanium alloys Ti-6Al-4V, etc.	-	First choice	AH3135	ML	30 - 60	0.1 - 0.4
		-	Priority on fracture resistance	AH3135	MJ	30 - 60	0.1 - 0.4
	Heat-resistance alloys Inconel 718, etc.	-	First choice	AH725	MJ	20 - 50	0.04 - 0.1

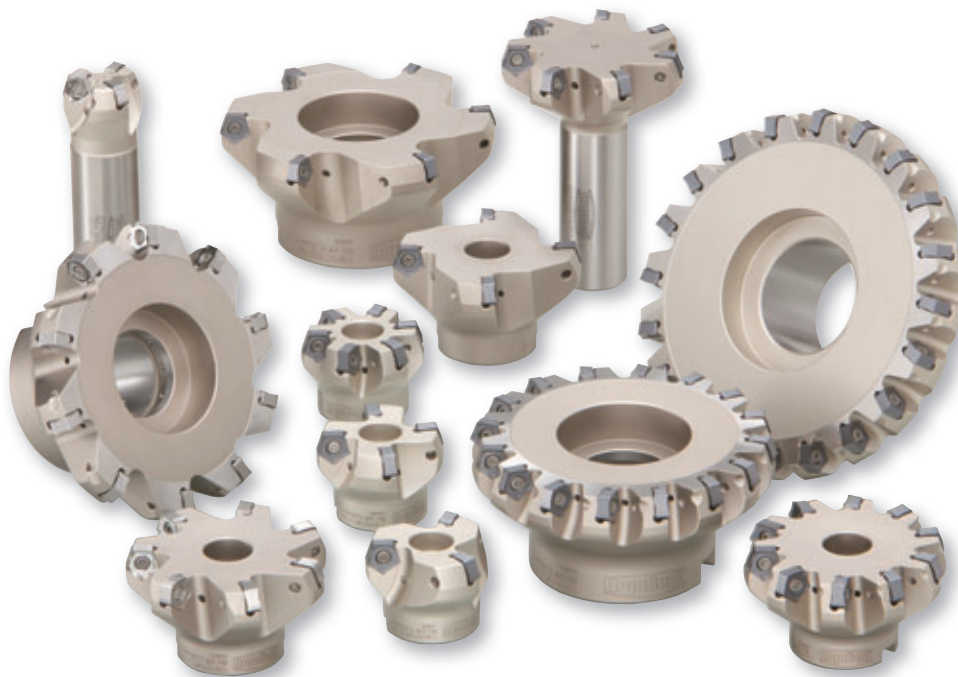
- Remove excessive chip with an air blast to prevent chip jamming.
- Use water-soluble coolant to avoid built-up edge in case extreme welding occurs on cutting edges. (ex. aluminium machining).
- For the operation with depth of cut which varies (ex. casting skin) and machining of workpiece materials with interrupted surface, the feed (fz) should be set to the lower recommended value shown in the above table.
- Cutting conditions may be limited depending on machine power, workpiece rigidity, and spindle output. When the cutting width, depth or overhang length is large, set Vc and fz to the lower recommended values and check the machine power and vibration.

Practical examples

Workpiece type		Machine parts	Fixing plate
Milling cutter		TEN09R100M31.7-08	TEN09R125M38.1-10
Insert		PNCU0905GNER-MJ	PNCU0905GNER-MJ
Grade		AH120	AH725
Workpiece material		FC300 / GG30 (200HB)	SCM440 / 42CrMo4 (300HB)
			
Cutting conditions	Cutting speed: Vc (m/min)	200	150
	Feed per tooth: fz (mm/t)	0.3	0.2
	Feed speed: Vf (mm/min)	1540	770
	Depth of cut: ap (mm)	2.5	Two 4-mm passes
	Width of cut: ae (mm)	75	80
	Method of machining	Face milling	Face milling
	Coolant	Dry	Dry
	Machine	Vertical M/C, BT50	Vertical M/C, BT50
Results			
		<p>Cycle time -20%!</p> <p>Vf = 1270 → 1540 mm/min</p> <p>DoPent increases productivity and tool life by 130%.</p>	<p>Cycle time -40%!</p> <p>Vf = 450 → 770 mm/min</p> <p>Close-pitch cutter operated at high feed significantly improves productivity.</p>

Workpiece type		Balancing weight	Motorcycle parts
Milling cutter		TEN09R125M38.1-06	TEN09R125M38.1-10
Insert		PNCU0905GNER-MJ	PNCU0905GNFR-AJ
Grade		AH725	TH10
Workpiece material		S25C / C25 (150HB)	A7075S / AlZn5.5MgCu (200HB)
			
Cutting conditions	Cutting speed: Vc (m/min)	250	1000
	Feed per tooth: fz (mm/t)	0.3	Roughing: 0.3, Finishing: 0.1
	Feed speed: Vf (mm/min)	1150	Roughing: 7640, Finishing: 2550
	Depth of cut: ap (mm)	Eight 4-mm passes	Roughing: 2, Finishing: 0.5
	Width of cut: ae (mm)	80	20 ~ 80
	Method of machining	Face milling	Face milling
	Coolant	Dry	Wet
	Machine	Vertical M/C, BT50	Vertical M/C, BT40
Results			
		<p>Cycle time -50%!</p> <p>Vf = 550 → 1150 mm/min</p> <p>Productivity is doubled due to high speed and feed.</p>	<p>Cycle time -25%!</p> <p>Higher feed increases productivity in roughing by 190% and significantly reduces total cycle time.</p>

Workpiece type		Machine parts	Airplane parts
Milling cutter		TEN09R160M50.8-07	TEN09R080M25.4-07
Insert		PNMU0905GNEN-MJ	New PNCU0905GNEN-ML
Grade		AH3135	AH3135
Workpiece material		SS400 / E275A	SUS630 / X5CrNiCuNb16-4
Cutting conditions	Cutting speed: Vc (m/min)	250	85
	Feed per tooth: fz (mm/t)	0.35	0.11
	Feed speed: Vf (mm/min)	2228	260
	Depth of cut: ap (mm)	1.5	1.9
	Width of cut: ae (mm)	100	60
	Method of machining	Face milling	Face milling
	Coolant	Dry	Wet
	Machine	Vertical M/C, BT40	Vertical M/C, BT50
Results			



Tungaloy Corporation (Head office)

11-1 Yoshima-Kogyodanchi
Iwaki-city, Fukushima, 970-1144 Japan
Phone: +81-246-36-8501
Fax: +81-246-36-8542
www.tungaloy.co.jp

Tungaloy America, Inc.

3726 N Ventura Drive
Arlington Heights, IL 60004, U.S.A.
Phone: +1-888-554-8394
Fax: +1-888-554-8392
www.tungaloyamerica.com

Tungaloy Canada

432 Elgin St. Unit 3
Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779
Fax: +1-519-758-9191
www.tungaloy.co.jp/ca

Tungaloy de Mexico S.A.

C Los Arellano 113,
Parque Industrial Siglo XXI
Aguascalientes, AGS, Mexico 20290
Phone: +52-449-929-5410
Fax: +52-449-929-5411
www.tungaloy.co.jp/mx

Tungaloy do Brasil Comércio de Ferramentas de Corte Ltda.

Rua dos Sabias N.104
13280-000 Vinhedo, São Paulo, Brazil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.co.jp/br

Tungaloy Germany GmbH

An der Alten Ziegelei 1
D-40789 Monheim, Germany
Phone: +49-2173-90420-0
Fax: +49-2173-90420-19
www.tungaloy.de

Tungaloy France S.A.S.

ZA Courtaboeuf - Le Rio
1 rue de la Terre de feu
F-91952 Courtaboeuf Cedex, France
Phone: +33-1-6486-4300
Fax: +33-1-6907-7817
www.tungaloy.fr

Tungaloy Italia S.r.l.

Via E. Andolfato 10
I-20126 Milano, Italy
Phone: +39-02-252012-1
Fax: +39-02-252012-65
www.tungaloy.it

Tungaloy Czech s.r.o.

Turanka 115
CZ-627 00 Brno, Czech Republic
Phone: +420-532 123 391
Fax: +420-532 123 392
www.tungaloy.cz

Tungaloy Ibérica S.L.

C/Miquel Servet, 43B, Nau 7
Pol. Ind. Bufalvent
ES-08243 Manresa (BCN), Spain
Phone: +34 93 113 1360
Fax: +34 93 876 2798
www.tungaloy.es

Tungaloy Scandinavia AB

S:t Lars Väg 42A
SE-22270 Lund, Sweden
Phone: +46-462119200
Fax: +46-462119207
www.tungaloy.se

Tungaloy Rus, LLC

36-D Harkovsky Lane
308009 Belgorod, Russia
Phone: +7 4722 24 00 07
Fax: +7 4722 24 00 08
www.tungaloy.co.jp/ru

Tungaloy Polska Sp. z o.o.

ul. Genewska 24
03-963 Warszawa, Poland
Phone: +48-22-617-0890
Fax: +48-22-617-0890
www.tungaloy.co.jp/pl

Tungaloy U.K. Ltd

The Technology Centre,
Wolverhampton Science Park
Glaisher Drive, Wolverhampton
West Midlands WV10 9RU, UK
Phone: +44 121 309 0163
Fax: +44 121 270 9694
www.tungaloy.co.jp/uk
salesinfo@tungaloyuk.co.uk

Tungaloy Hungary Kft

Erzsébet királyné útja 125
H-1142 Budapest, Hungary
Phone: +36 1 781-6846
Fax: +36 1 781-6866
www.tungaloy.co.jp/hu
info@tungaloytools.hu

Tungaloy Turkey

Dudullu, OSB 4. Cad No:4
34776 Umraniye Istanbul, TURKEY
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.tungaloy.com.tr
info@tungaloy.com.tr

Tungaloy Benelux b.v.

Tjalk 70
NL-2411 NZ Bodegraven, Netherlands
Phone: +31 172 630 420
Fax: +31 172 630 429
www.tungaloy-benelux.com

Tungaloy Croatia

Josipa Kozarca 4
10432 Bregana, Croatia
Phone: +385 1 3326 04 6
Fax: +385 1 3327 683
www.tungaloy.hr

Tungaloy Cutting Tool (Shanghai) Co., Ltd.

Rm No 401 No.88 Zhabei
Jiangchang No.3 Rd
Shanghai 200436, China
Phone: +86-21-3632-1880
Fax: +86-21-3621-1918
www.tungaloy.co.jp/tcts

Tungaloy Cutting Tool (Thailand) Co., Ltd.

TCIF Tower 4th Fl.
1858/5-7 Bangna-Trad Road
km.5 Bangna, Bangna, Bangkok 10260
Thailand
Phone: +66-2-751-5711
Fax: +66-2-751-5715
www.tungaloy.co.th

Tungaloy Singapore (Pte.), Ltd.

62 Ubi Road 1, #06-11 Oxley BizHub 2
Singapore 408734
Phone: +65-6391-1833
Fax: +65-6299-4557
www.tungaloy.co.jp/tspl

Tungaloy Vietnam

Unit 18, 4th Fl. Saigon Centre Building
65 Le Loi Blvd.
Dist 1, Ho Chi Minh City, Vietnam
Phone: +84-8-3827-0201
Fax: +84-8-3827-0203
www.tungaloy.co.jp/tspl

Tungaloy India Pvt. Ltd.

Unit#13, B wing, 8th Fl.
Kamala Mills Compound
Trade World, Lower Parel (West)
Mumbai - 4000 13, India
Phone: +91-22-6124-8804
Fax: +91-22-6124-8899
www.tungaloy.co.jp/in

Tungaloy Korea Co., Ltd

#1312, Byucksan Digital Valley 5-cha
Beotkkot-ro 244, Geumcheon-gu
153-788 Seoul, Korea
Phone: +82-2-2621-6161
Fax: +82-2-6393-8952
www.tungaloy.co.jp/kr

Tungaloy Malaysia Sdn Bhd

50 K-2, Kelana Mall, Jalan SS6/14
Kelana Jaya, 47301
Petaling Jaya, Selangor Darul Ehsan
Malaysia
Phone: +603-7805-3222
Fax: +603-7804-8563
www.tungaloy.co.jp/my

Tungaloy Australia Pty Ltd

PO Box 2232, Rowville,
Victoria 3178, Australia
Phone: +61-3-9755-8147
Fax: +61-3-9755-6070
www.tungaloy.co.jp/au

PT. Tungaloy Indonesia

Kompleks Grand Wisata Block AA-10 No.3-5
Cibitung
Bekasi 17510, Indonesia
Phone: +62-21-8261-5808
Fax: +62-21-8261-5809
www.tungaloy.co.jp/id



www.tungaloy.com

follow us at:

facebook.com/tungaloyjapan

twitter.com/tungaloyjapan

To see this product in action visit:

Tung-TV

www.youtube.com/tungaloycorporation

Distributed by:



DOWNLOAD
Dr. Carbide
Tungaloy



ISO 9001 Certified
QC00J0056
Tungaloy Corporation
18/10/1996

ISO 14001 Certified
EC97J1123
Tungaloy Group
Japan site and Asian
production site
26/11/1997

Produced from Recycled paper Mar. 2015 (TJ)