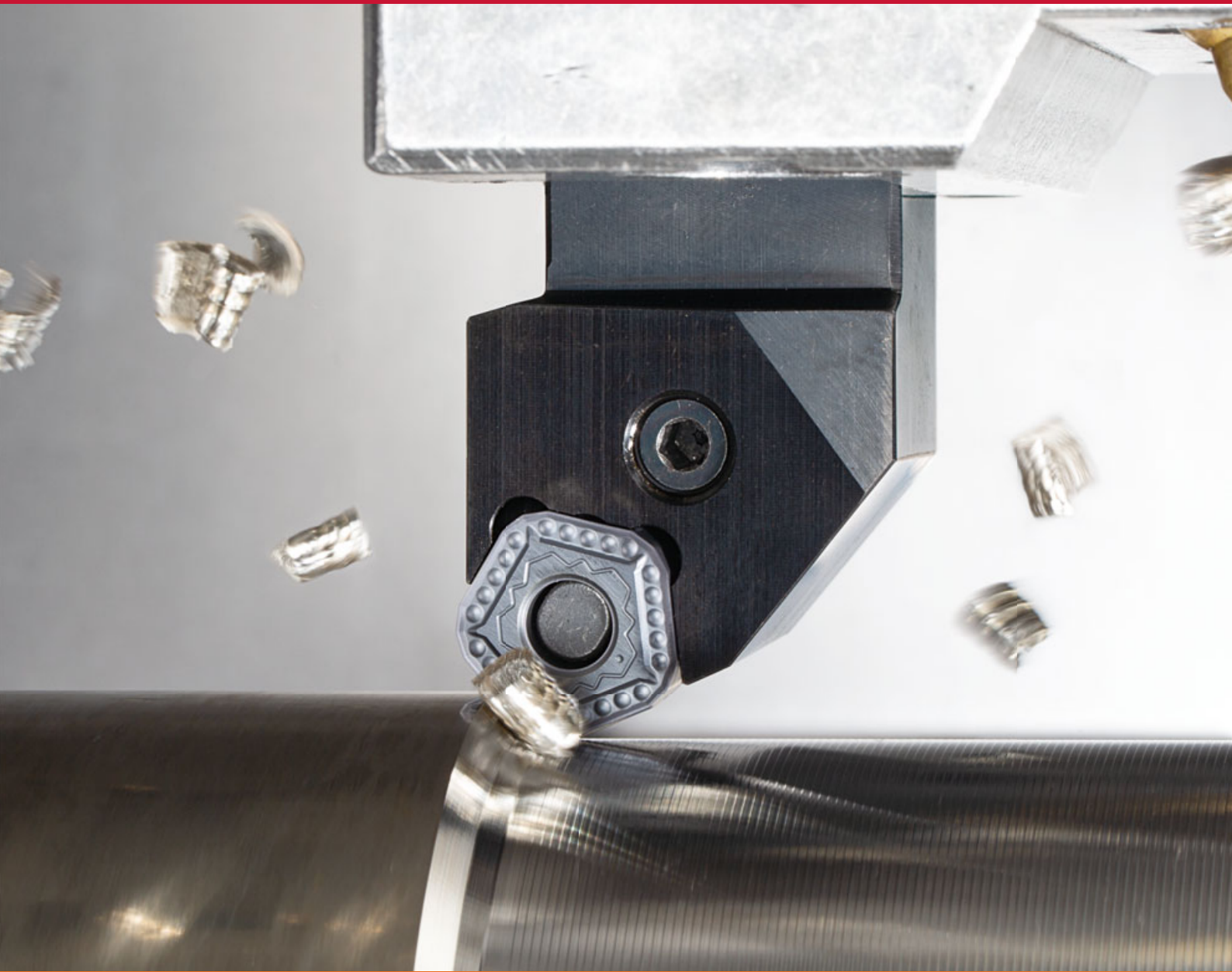


TURN^{TEN}FEED

www.tungaloy.com

Tungaloy Report No. 520-G

Now offering AH8015 for **exceptional performance**
in **heat-resistant superalloys and stainless steel**



INDUSTRY 4.0
FEED the SPEED!



ACCELERATED MACHINING



TurnLine

TURN^{EN}FEED
TUNGALOY

TUNG ACCELERATED MACHINING **FORCE** **TURN**



Innovative Tool for Machining Efficiency
and Tool Economy

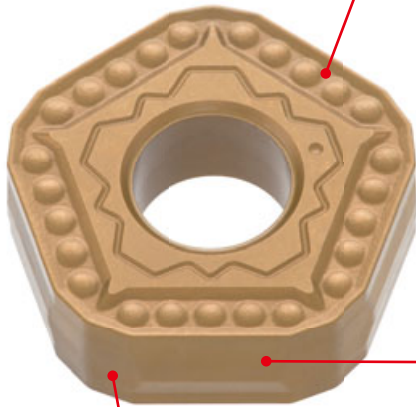
www.tungaloy.com

Economical, 10-cornered insert ensures high machining efficiency

- Available in 2 types of holders: HD type for large depths of cut and HF type for high feed turning
- Maximum 7 mm depth of cut, or maximum feed 2 mm per rev is attainable!

Economical 10-cornered, double-sided, M-class insert

Achieves outstanding cost efficiency over standard ISO inserts



Flat Wiper

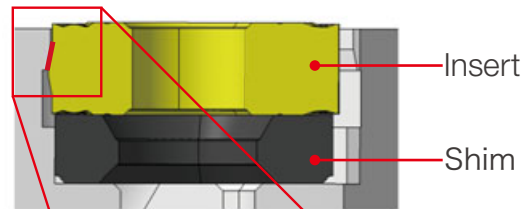
Built in the cutting edge to achieve superior machining surface at higher feed rates!

New – MNW style chipbreaker

Features protrusions on the rake face to facilitate smooth chip control, while achieving high crater wear resistance

Dovetail clamping

Ensures secure insert retention while promoting smooth chip flow thanks to the integration of lever lock and dovetail clamping methods.

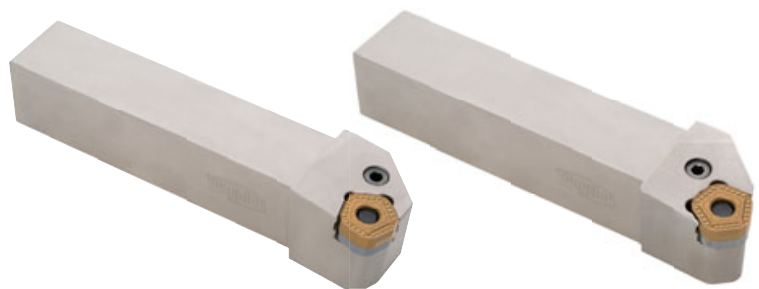


Insert / clamp contact cross section

Holder selections

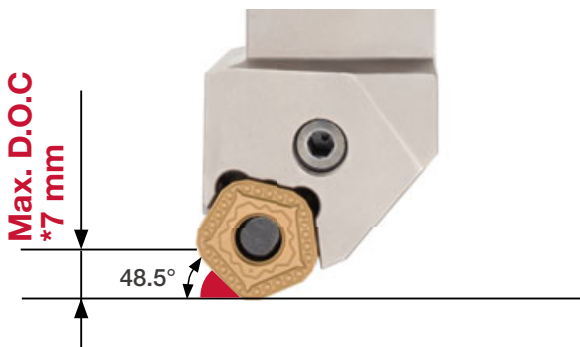
Available in 2 types:

- HD holder for large depths of cut
 - HF holder for high feed turning
- Inserts are interchangeable between these two holders.

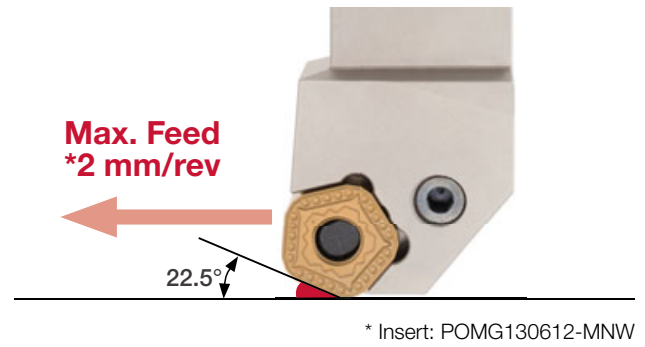


Features of Holders

HD holder
For **H**igh **D**epth of Cut



HF holder
For **H**igh **F**eed



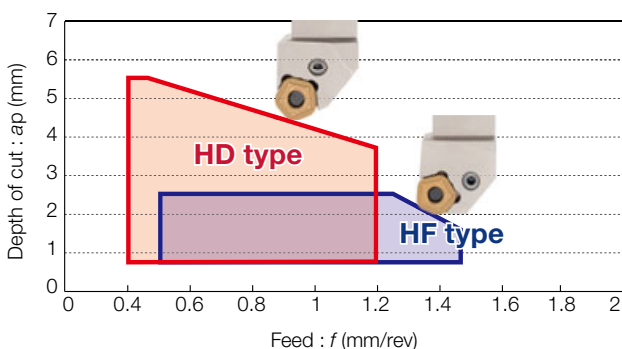
Grade properties

Application	Grade	Substrate			Coating layer	
		Specific gravity	Hardness (HRA)	T.R.S. (GPa)	Main Composition	Thickness (μm)
P	T9215	14.0	90.5	2.6	Ti compound + Al ₂ O ₃	18
	T9225	13.4	89.8	2.7	Ti compound + Al ₂ O ₃	18
M New	AH8015	14.9	91.8	3.1	(Al,Ti)N	3.5
S New	AH8015	14.9	91.8	3.1	(Al,Ti)N	3.5

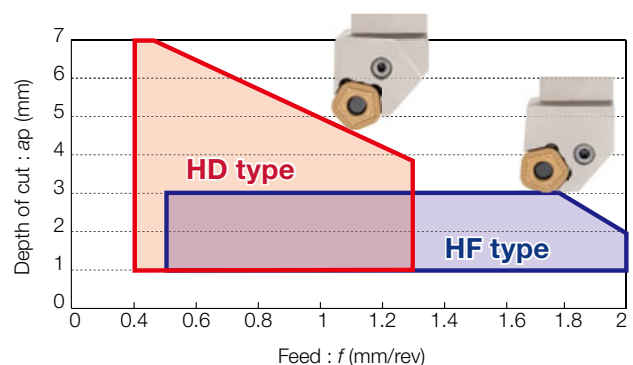
Application Area

Two types of holders to cover a wide range of applications!!

Insert
POMG110612-MNW

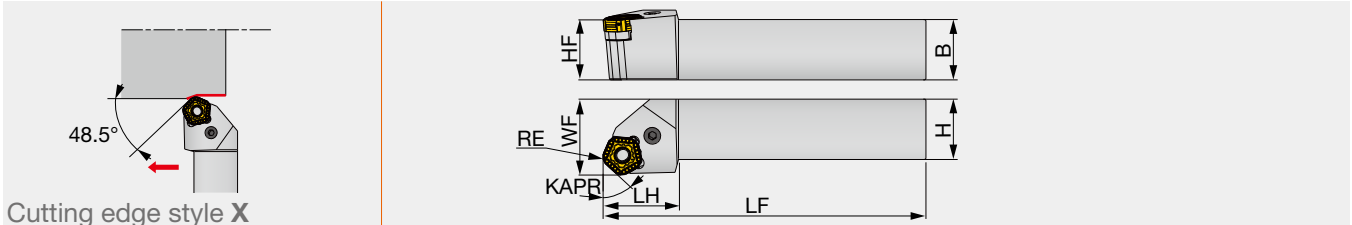


Insert
POMG130612-MNW



PPXOR/L-HD

Lever lock holder, with 48.5° approach angle, negative 108° pentagonal insert



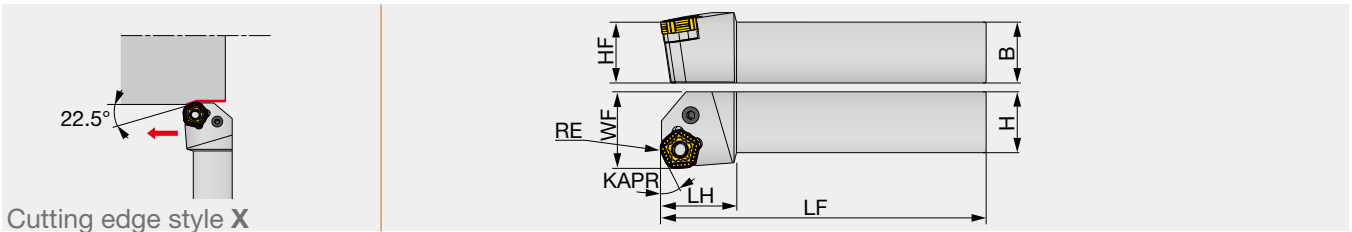
Designation	H	B	LF	LH	HF	WF	KAPR	RE	Insert
PPXOR/L2525M11-HD	25	25	150	35	25	32	48.5	1.2	POMG110612
PPXOR/L3232P13-HD	32	32	170	40	32	40	48.5	1.2	POMG130612

SPARE PARTS

Designation	Shim	Spring	Lever	Clamping screw	Wrench
PPXOR/L2525M11-HD	LSPO53	LSP5	LCL5	LCS5	P-3
PPXOR/L3232P13-HD	LSPO63	LSP6	LCL6	LCS6	P-4

PPXOR/L-HF

Lever lock holder, with 22.5° approach angle, for negative 108° pentagonal insert



Designation	H	B	LF	LH	HF	WF	KAPR	RE	Insert
PPXOR/L2525M11-HF	25	25	150	35	25	32	22.5	1.2	POMG110612
PPXOR/L3232P13-HF	32	32	170	40	32	40	22.5	1.2	POMG130612

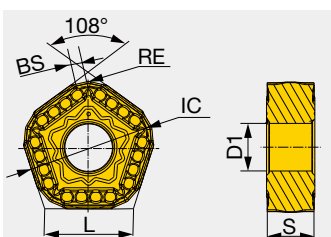
SPARE PARTS

Designation	Shim	Spring	Lever	Clamping screw	Wrench
PPXOR/L2525M11-HF	LSPO53	LSP5	LCL5	LCS5	P-3
PPXOR/L3232P13-HF	LSPO63	LSP6	LCL6	LCS6	P-4

Note : Since the corner angle of TurnTenFeed insert is 108°, the workpiece corner may require additional post-process to remove stock to achieve a right angle.

INSERT

POMG-MNW



Designation	RE	Grade			IC	L	BS	S	D1
		T9215	T9225	AH8015					
POMG110612-MNW	1.2	●	●	★	15.875	11.53	1.5	6.35	6.35
POMG130612-MNW	1.2	●	●	★	19.05	13.84	2	6.35	7.93

● : Line-up
★ : To be released in October 2019

STANDARD CUTTING CONDITIONS

For HD holder (High Depth of Cut)

ISO	Insert	Depth of cut a_p (mm)	Feed f (mm/rev)	Cutting speed V_c (m/min)	
				T9215	T9225
P	POMG110612-MNW	0.8 - 5.5	0.4 - 1.2	150 - 400	120 - 300
	POMG130612-MNW	1.0 - 7.0	0.4 - 1.3	150 - 400	120 - 300


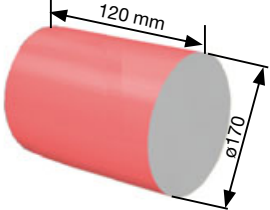
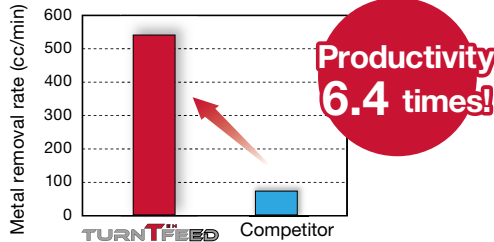
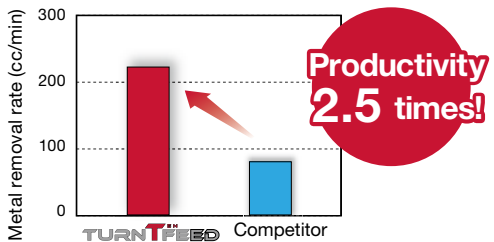
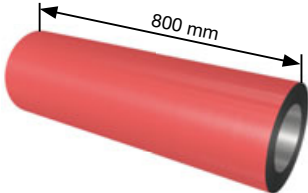
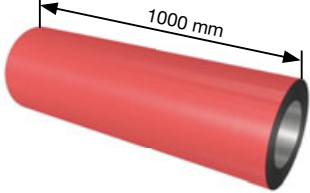
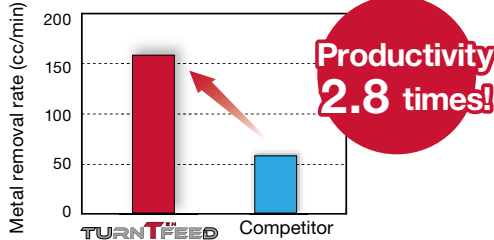
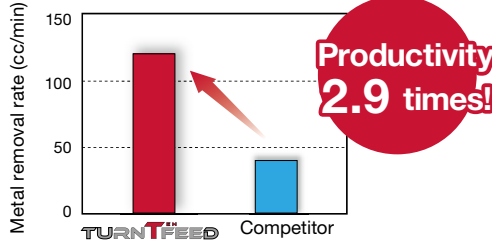
ISO	Insert	Depth of cut a_p (mm)	Feed f (mm/rev)	Cutting speed V_c (m/min)	
				AH8015	
M	POMG110612-MNW	0.8 - 5.5	0.4 - 1.2	50 - 150	
	POMG130612-MNW	1.0 - 7.0	0.4 - 1.3	50 - 150	
S	POMG110612-MNW	0.8 - 5.5	0.4 - 1.2	20 - 80	
	POMG130612-MNW	1.0 - 7.0	0.4 - 1.3	20 - 80	

For HF holder (High Feed)

ISO	Insert	Depth of cut a_p (mm)	Feed f (mm/rev)	Cutting speed V_c (m/min)	
				T9215	T9225
P	POMG110612-MNW	1.0 - 2.5	0.5 - 1.5	150 - 400	120 - 300
	POMG130612-MNW	1.0 - 3.0	0.5 - 2.0	150 - 400	120 - 300

ISO	Insert	Depth of cut a_p (mm)	Feed f (mm/rev)	Cutting speed V_c (m/min)	
				AH8015	
M	POMG110612-MNW	1.0 - 2.5	0.5 - 1.5	50 - 150	
	POMG130612-MNW	1.0 - 3.0	0.5 - 2.0	50 - 150	
S	POMG110612-MNW	1.0 - 2.5	0.5 - 1.5	20 - 80	
	POMG130612-MNW	1.0 - 3.0	0.5 - 2.0	20 - 80	

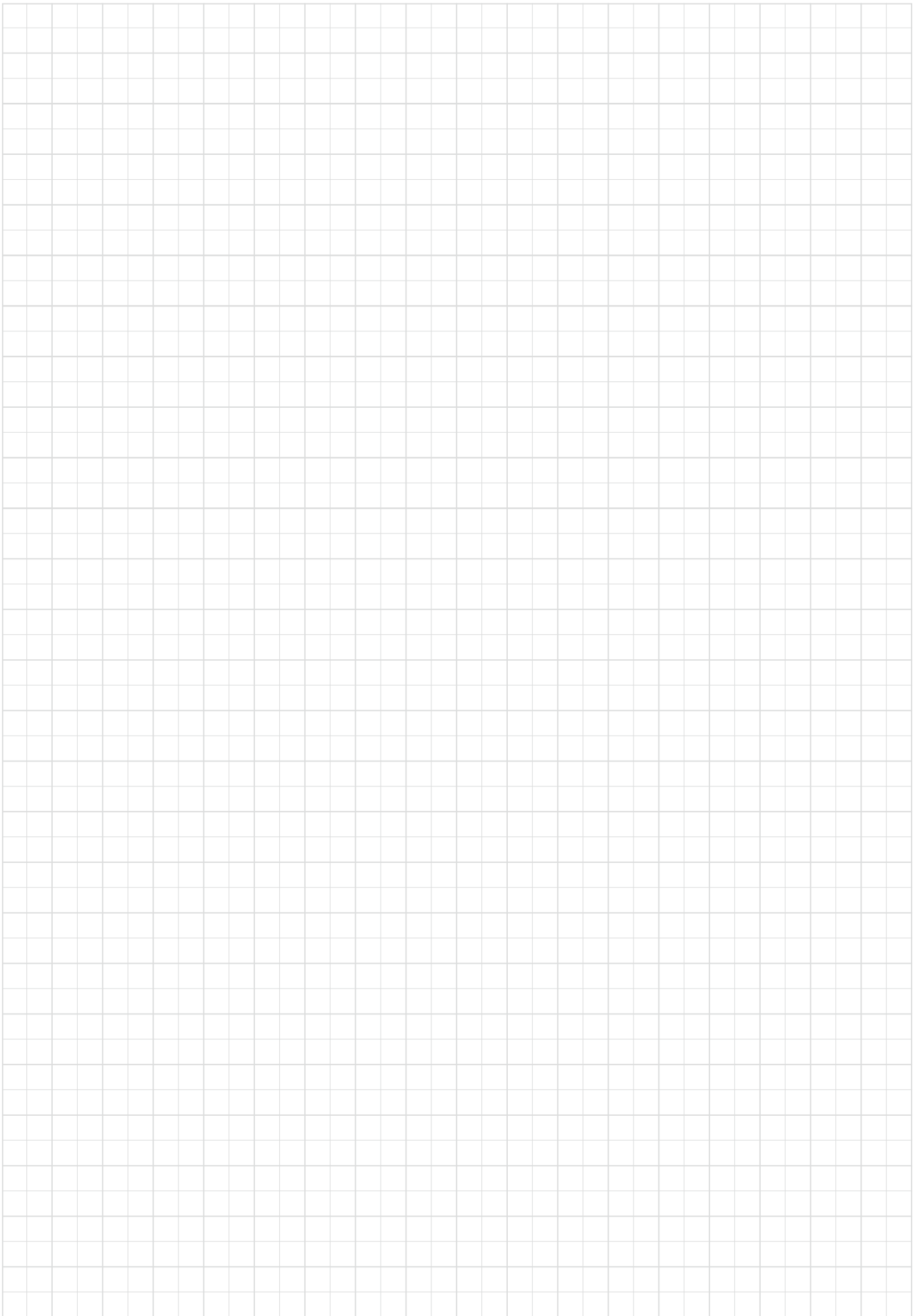
PRACTICAL EXAMPLES

Workpiece type		Machine parts	Machine parts	
Holder		PPXOR3232P13- HD	PPXOR3232P13- HF	
Insert		POMG130612-MNW	POMG130612-MNW	
Grade		T9225	T9215	
Workpiece material		Alloy steel	C45, 1045	
Workpiece material				
Cutting conditions	Cutting speed: V_c (m/min)	120	120	
	Feed : f (mm/rev)	1.0	1.5	
	Depth of cut : a_p (mm)	4.5	1.2	
	Coolant	Wet	Wet	
Results	 <p>Productivity 6.4 times!</p> <p>MRR has improved by 6.4 times over standard ISO turning insert. TurnTenFeed ensures machining stability at high feed rates.</p>		 <p>Productivity 2.5 times!</p> <p>MRR has improved by 2.5 times over standard ISO insert. A combination of high feed geometry insert with MNW chipbreaker provided light cutting action, improving tool life 8 times.</p>	
	<p>MRR has improved by 6.4 times over standard ISO turning insert. TurnTenFeed ensures machining stability at high feed rates.</p>		<p>MRR has improved by 2.5 times over standard ISO insert. A combination of high feed geometry insert with MNW chipbreaker provided light cutting action, improving tool life 8 times.</p>	
Workpiece type		Forged steel pipe	Bar work	
Holder		PPXOR3232P13- HF	PPXOR3232P13- HD	
Insert		POMG130612-MNW	POMG130612-MNW	
Grade		AH8015	AH8015	
Workpiece material		Inconel 925	Heat resistant alloy	
Workpiece material				
Cutting conditions	Cutting speed: V_c (m/min)	65	60	
	Feed : f (mm/rev)	1.2	0.5	
	Depth of cut : a_p (mm)	2	4	
	Coolant	Wet	Wet	
Results	 <p>Productivity 2.8 times!</p> <p>2.8 times M.R.R. over the competitor's ISO insert. TurnTenFeed insert in AH8015 doubled the tool life.</p>		 <p>Productivity 2.9 times!</p> <p>2.9 times M.R.R. over the competitor's ISO insert. Low cutting force and stability at an elevated feed rate.</p>	
	<p>2.8 times M.R.R. over the competitor's ISO insert. TurnTenFeed insert in AH8015 doubled the tool life.</p>		<p>2.9 times M.R.R. over the competitor's ISO insert. Low cutting force and stability at an elevated feed rate.</p>	

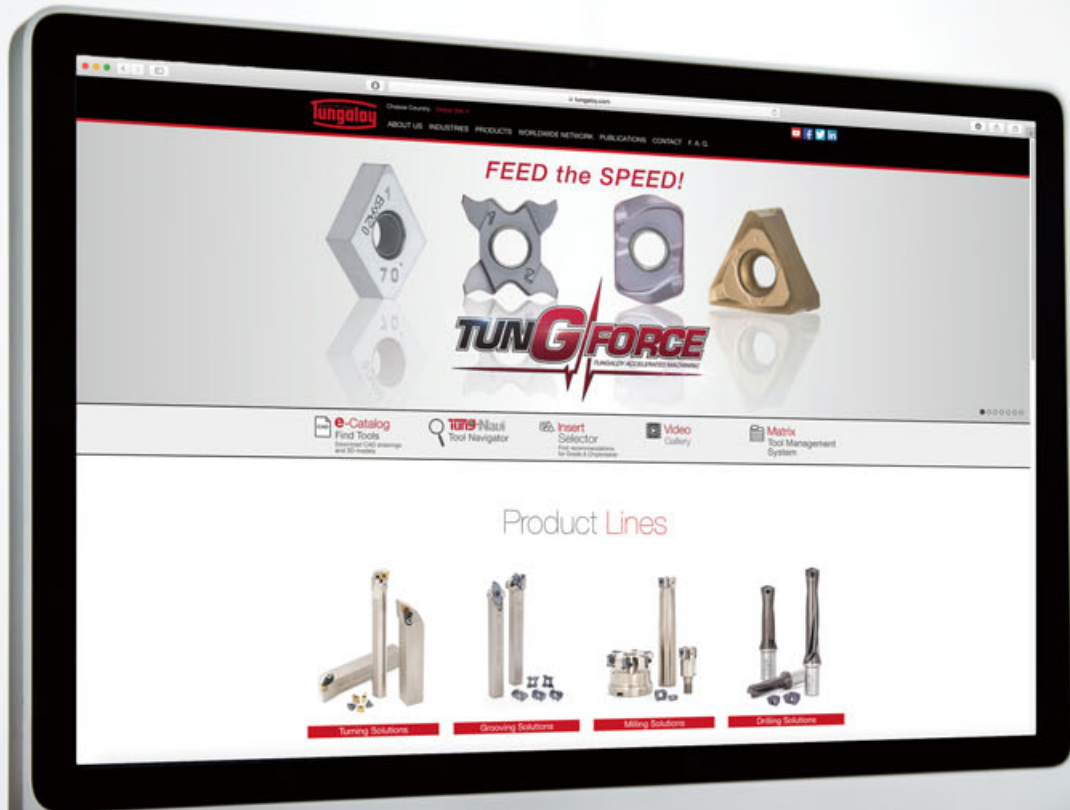
MEMO

A large grid of graph paper for writing a memo. The grid consists of 20 columns and 30 rows of small squares. The grid is empty and occupies most of the page.

MEMO

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares. The grid is empty and occupies most of the page.

Check our site and our App to get more info!



Available on the App Store



GET IT ON Google play



Available on the App Store



GET IT ON Google play

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-NTK America Inc.

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

Tungaloy Canada

432 Elgin St. Unit 3
Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779
Fax: +1-519-758-5791
www.tungaloy.com/ca

Tungaloy-NTK 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.com/mx

Tungaloy-NTK do Brasil Ltda.

Avd. Independencia N4158 Residencial Flora
13280-000 Vinhedo, São Paulo, Brasil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.com/br

Tungaloy-NTK Germany GmbH.

Katzbergstr. 3a
D-40764 Langenfeld, Germany
Phone: +49-2173-90420-0
Fax: +49-2173-90420-19
www.tungaloy.com/de

Tungaloy France s.a.s

Les Fjords
19 avenue de Norvège
91140 Villebon Sur Yvette, France
Phone: +33-1-6486-4300
Fax: +33-1-6907-7817
www.tungaloy.com/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.com/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.com/cz

Tungaloy Ibérica S.L.

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

Tungaloy Scandinavia AB

Bultgatan 38
442 40 Kungälv, Sweden
Phone: +46-462119200
Fax: +46-462119207
www.tungaloy.com/se

Tungaloy Rus, LLC

Andropova avenue, h.18/7,
11 floor, office 3, 115432,
Moscow, Russia
Phone: +7-499-683-01-80
Fax: +7-499-683-01-81
www.tungaloy.com/ru

Tungaloy Polska Sp. z o.o.

Ul. Irysowa 1, 55-040 Bielany
Wroclawskie, Poland
Phone: +48 607 907 237
www.tungaloy.com/pl

Tungaloy-NTK UK Ltd.

Suite 3, Pioneer House, Mill Street,
Cannock, WS11 0EF, UK
Phone: +44 121 4000 231
Fax: +44 121 270 9694
www.tungaloy.com/uk

Tungaloy Hungary Kft

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

Tungaloy Turkey

Serifali Mah.bayraktar Bulvari Kule Sk. No:26
34775 Umraniye / Istanbul / Turkey
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.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.com/nl

Tungaloy Croatia

Ulica bana Josipa Jelačića 87,
10430, Samobor, Croatia
Phone: +385 1 3326 604
Fax: +385 1 3327 683
www.tungaloy.com/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.com/cn

Tungaloy Cutting Tools Taiwan Co. Ltd.

9F, No.293, Zhongyang Rd,
Xinzhuan Dist, New Taipei City,
24251 Taiwan
Phone: +886-2-8521-9986
Fax: +886-2-8521-8935
www.tungaloy.com/tw

Tungaloy-NTK Cutting Tool (Thailand) Co.,Ltd.

Interlink 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.com/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.com/sg

Tungaloy Vietnam

LE04.38, Lexington Residence
67 Mai Chi Tho St., Dist. 2,
Ho Chi Minh City, Vietnam
Phone: +84-2837406660
www.tungaloy.com/sg

Tungaloy India Pvt. Ltd.

One International Center,
Unit # 902-A, 9th Floor,
Tower 1, Senapati Bapat Marg,
Elphinstone Road (West),
Mumbai 400013, India
Phone: +91-22-6124-8803
Fax: +91-22-6124-8899
www.tungaloy.com/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.com/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.com/my

Tungaloy Australia Pty Ltd

Unit 68 1470 Ferntree Gully Road
Knoxfield 3180 Victoria, Australia
Phone: +61-3-9755-8147
Fax: +61-3-9755-6070
www.tungaloy.com/au

PT. Tungaloy Indonesia

Ruko Blok AA.10 No3&5, Grand Wisata,
Lambangjaya, Tambun Selatan, Bekasi,
17510 Indonesia
Phone: +62-21-8261-5808
Fax: +62-21-8261-5809
www.tungaloy.com/id



tungaloy.com

follow us at:

facebook.com/tungaloyjapan

twitter.com/tungaloyjapan

www.youtube.com/tungaloycorporation

Distributed by:



Tungaloy APP & SNS

FIND US ON THE CLOUD!
machingcloud.com



AS9100 Certified
78006
2015.11.04
ISO 14001 Certified
EC97J1123
1997.11.26