

## Milling cutter

# EPS & TPS

### High precision 90° milling cutter

**NEW**

- Weldon Shank
- Inserts with additional corner radii



## High precision 90° milling cutter

### Features

High precision and general purpose are the main characteristics of Tungaloy's latest innovative development. The new and modern EPS & TPS generation of milling cutter covers a multitude of different applications. The milling cutter, of which some are equipped with air hole, are best

suited for square shoulder and slotting operations at only low cutting forces. The exact positioning of the insert combined with a positive chipbreaker and a two-step rake angle enable the machining of a high precision 90° shoulder without any steps in the profile. Further finishing operations

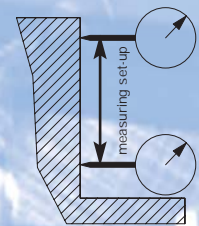
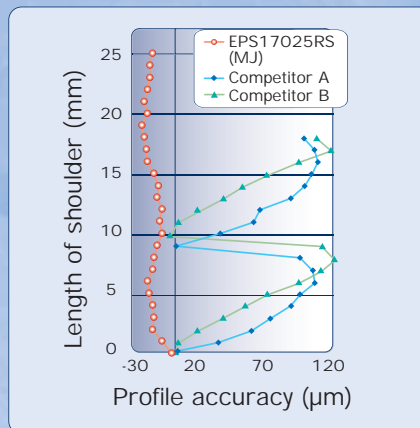
with a solid carbide milling cutter thus become unnecessary.



### Benefits

- Square shoulder milling without step effect
- 90° shoulder, with high precision profile accuracy
- Positive rake angle for low cutting forces and excellent chip control
- EPS endmills with air hole

### 90° Square Shoulder



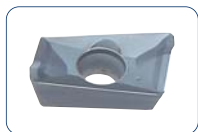
Cutter: EPS17025RS (ø 25, t = 2)  
 Insert: ASMT170508PDPR-MJ  
 Grade: AH120  
 Work material: C55  
 Cutting speed: Vc = 150 m/min  
 Feed per tooth: ft = 0.1 mm/t  
 Axial cutting depth: ap = 2 x 14 mm  
 Cutting width: ae = 5 mm  
 Coolant: No

### Grade

AH120 <b>P</b> <b>K</b>	AH140 <b>M</b>	T1015 <b>K</b>	T3030 <b>P</b>	NS740 <b>P</b> <b>K</b>
Coated fine grain carbide for milling of steels, alloy steels and cast irons The TiAlN-PVD coating provides for application in medium to high cutting speed operations.	High toughness for medium finishing and roughing of stainless steels at low cutting speeds	MT-CVD coated grade for general milling operations of cast irons at medium cutting speeds High wear-resistance and toughness	New MT-CVD coated grade for general milling operations of carbon steels and alloy steels at medium cutting speeds Superior balance between wear-resistance and toughness	Uncoated cermet with extreme wear-resistance and well balanced toughness For universal application in milling operations of steel and cast iron materials at medium cutting speeds Best surface quality

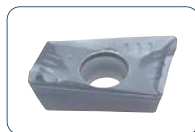
## Chipbreaker

**-MJ** 



optimal performance for steel and cast iron materials  
 - stable cutting edge  
 - excellent chip control

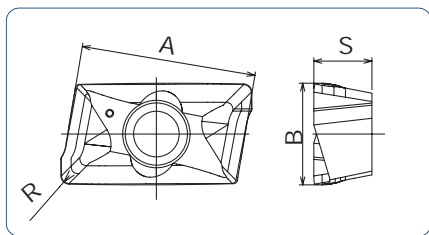
**-MS** 



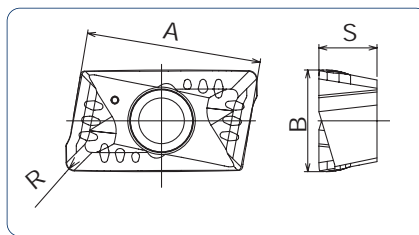
first choice for stainless steels  
 - soft cutting  
 - minimum edge built-up

## Specifications: Inserts

**-MJ**



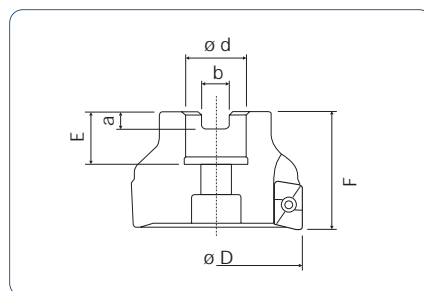
**-MS**



● Standard stock in Europe

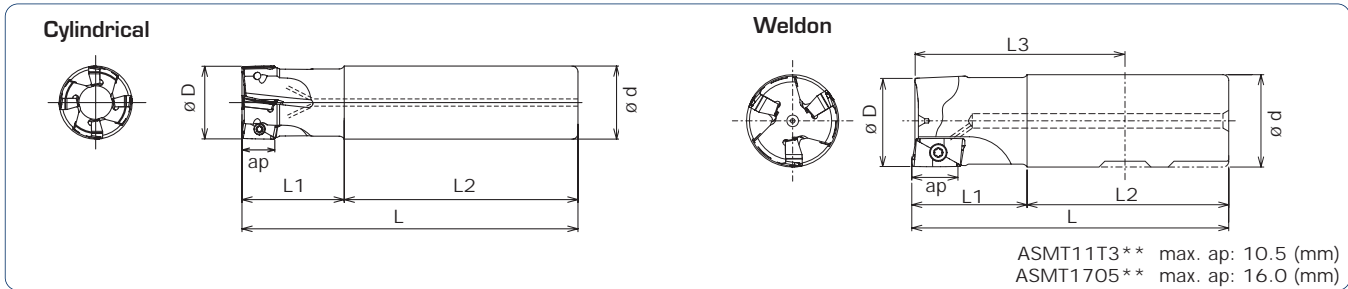
Item code	Grade					Accuracy	Honing	Dimensions (mm)			
	PVD		CVD		Cermet			A	B	S	R
	AH120	AH140	T1015	T3030	NS740						
ASMT11T304PDPR-MJ	●		●	●	●	M	Mit	11.6	6.7	3.7	0.4
ASMT11T304PDPR-MS		●									0.8
ASMT11T308PDPR-MJ	●		●	●	●						1.6
ASMT11T316PDPR-MJ	●		●	●	●			16.9	9.8	5.6	0.4
ASMT170504PDPR-MJ	●		●	●	●						0.8
ASMT170508PDPR-MJ	●		●	●	●						1.6
ASMT170508PDPR-MS		●									3.2
ASMT170516PDPR-MJ	●		●	●	●						
ASMT170532PDPR-MJ	●		●	●	●						

## Specifications: TPS 11/17 Milling cutter



Item code	Stock	No. of inserts	Dimensions (mm)						Inserts	Replacement parts	
			ø D	ø d	F	E	a	b		Clamping screw	Wrench
TPS11040RB-E	●	6	40	16	40	19	5.6	8.4	ASMT11T304PDPR-**	CSPB-2.5	IP-8D
TPS11050RB-E	●	7	50	22		20	6.3	10.4			
TPS11063RB-E	●	8	63	22	45	20	6.3	10.4			
TPS17040RB-E	●	4	40	16	40	19	5.6	8.4	ASMT170508PDPR-**	CSPB-4S	IP-15D
TPS17050RB-E	●	5	50	22		20	6.3	10.4			
TPS17063RB-E	●	6	63	22	45	20	6.3	10.4			

## Specifications: EPS 11/17 Endmill

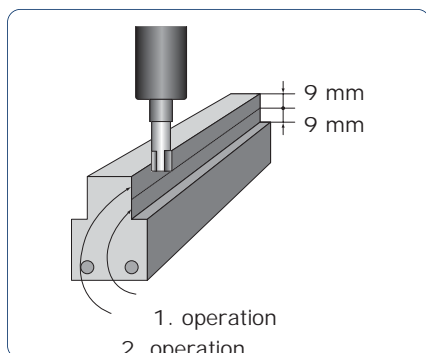


Item code	Stock	No. of inserts	Dimensions (mm)						Inserts	Replacement parts		
			ø D	L	L1	L2	L3	ø d		Clamping screw	Wrench	
EPS11012RS	●	1	12						ASMT11T304PDPR-**	CSPB-2.5S	IP-8D	
EPS11016RS	●	2	16	85	25	60	--	16				
EPS11018RS	●		18									
EPS11020RS	●	3	20	100	30	70	--	20				
EPS11020RSB	●		21									
EPS11021RSB	●		25	115	35		--	25				
EPS11025RS	●	4	26							CSPB-2.5	IP-8D	
EPS11025RSB	●		32	120	40		--	32				
EPS11026RSB	●	5	33			80				ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS11032RS	●		25	115	35		--	25				
EPS11032RSB	●		26	120	40		--	32				
EPS11033RSB	●	3	32	120	40		--	32		ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS17025RS	●		33									
EPS17026RS	●		25	115	35		--	25				
EPS17032RS	●	2	26						ASMT170508PDPR-**	CSPB-4S	IP-15D	
EPS17032RSB	●		32	120	40		--	32				
EPS17033RSB	●	3	33						ASMT11T304PDPR-**	CSPB-2.5S	IP-8D	
EPS11012RL	●	1	12	125	30	95		16				
EPS11016RL	●	2	16	145	40	105	--	20				
EPS11018RL	●		18									
EPS11020RL	●	3	20	185	50	135	--	25		ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS11021RL	●		21									
EPS11025RL	●		26	220	70	150	--	32				
EPS11026RL	●	4	32	255	80	175	--	25		ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS11032RL	●		33									
EPS11033RL	●	5	25	220	70	150	--	25		ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS17025RL	●		26	220	70	150	--	32				
EPS17026RL	●		32	255	80	175	--	25				
EPS17032RL	●	3	32	255	80	175	--	32	ASMT11T304PDPR-**	CSPB-2.5S	IP-8D	
EPS11012RS-E	●	1	12	80	25	55	56	16				
EPS11016RS-E	●	2	16	85			65	20				CSPB-2.5
EPS11020RSB-E	●	3	20	90	30	60	63	25				
EPS11025RSB-E	●	4	25	95	35		74	32		ASMT170508PDPR-**	CSPB-4S	IP-15D
EPS11032RSB-E	●	5	32	110	40	70	74	32				
EPS17025RS-E	●	2	25	95	35	60	63	25				
EPS17032RSB-E	●	3	32	110	40	70	74	32				

**NEW**



## Practical example



Square shoulder milling  
Milling cutter: EPS17032RSB  
(ø 32, t = 3)  
Inserts: ASMT170508PDPR-MJ  
Grade: AH120  
Work material: X155CrVMo12-1  
( 1.2379 )  
Cutting speed: Vc = 140 m/min  
Table feed: Vf = 502 mm/min  
Feed per tooth: ft = 0.12 mm/t  
Axial cutting depth: ap = 2 x 9 mm  
Cutting width: ae = 5.0 mm

Result:  
Due to the excellent 90° profile accuracy, a final finishing operation with a solid carbide endmill was unnecessary. Thus operation time was drastically reduced.

### Tungaloy Europe GmbH

Elisabeth-Selbert-Str. 3  
D - 40764 Langenfeld  
Tel. +49 (0 21 73) 9 04 20-0  
Fax +49 (0 21 73) 9 04 20-18  
e-mail: info@tungaloy.de  
www.tungaloy-eu.com

### Tungaloy Italia S.p.A.

Via E. Andolfato, 10  
I - 20126 MILANO  
Tel. +39 (02) 25 20 12-1  
Fax +39 (02) 25 20 12-65  
e-mail: info@tungaloy.it  
www.tungaloy-eu.com

### Tungaloy France S.a.r.l.

6, Avenue des Andes  
F - 91952 COURTABOEUF CEDEX  
Tel. +33 (01) 64 86 43 00  
Fax +33 (01) 69 07 78 17  
e-mail: info@tungaloy.fr  
www.tungaloy-eu.com

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