NEW PRODUCT NEWS

METAL WORK CO.,LTD

Tungaloy Report No. 524-G

PCD Cutter for Aluminum Machining

TUNGSPEED MILL

Expansion of lightweight cutter for #30 machining centers

Member IMC Group Tungaloy INDUSTRY 4.0

TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH
METAL WORK CO.,LTD

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TUNGALOY
ADDFORCE
ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH
METAL WORK CO.,LTD

TUNGSPEED MILL

Super high density cutters
for efficient finishing of aluminum

Member IMC Group
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TUNGALOY
ADDFORCE
ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH
METAL WORK CO.,LTD

TUNGSPEED MILL

Super high density cutter
for efficient finishing of aluminum

Unique axial adjusting mechanism of PCD cutting edges

- Saving a great amount of presetting work.

TPYD06...

Unique axial adjusting mechanism - Cam Adjust
A single key wrench is all it takes from mounting the inserts to fine-adjusting for precision, Setting range: 1 mm

Internal coolant in each pocket
Coolant is directed to the cutting edge, facilitating smooth chip evacuation

Steel body (Exterior color: Black)
the cutter body is made of durable steel

Extremely high balancing quality for high speed milling
G6.3 under ISO1940/1

New

Lightweight-body for #30 spindle machine, Now available.

- Cutter bodies with DC = 100 & 125 mm, applicable in #30 spindle machines
- Available of extra close pitch cutter for high productivity

TPYD06...
(Lightweight type)

Multiple grooves effectively reduce weight

Steel body (Exterior color: Silver)
the cutter body is made of durable steel

Extremely high balancing quality for high speed milling
G6.3 under ISO1940/1

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

New

The number of insert settings that can be used for a wide range of machining forms

TPYD06..., EPYD06...

DC (mm)	Number of inserts on the cutter		New
	Coarse pitch	Close pitch	Extra close pitch
40	-	-	**8**
50	6	8	**10**
63	8	10	**14**
80	-	10	16
100	-	12	22
125	-	14	26
160	-	20	34

New TPYD06...
(Extra close pitch type)

New TPYD06...(Lightweight type)

DC (mm)	Cutter weight (kg, Insert-included)	Number of inserts on the cutter	
		Close pitch	Extra close pitch
100	< 1.3*	**12**	**22**
125	< 1.8*	**14**	**26**

*Including the arbor weight, it must be 3 kg or less.

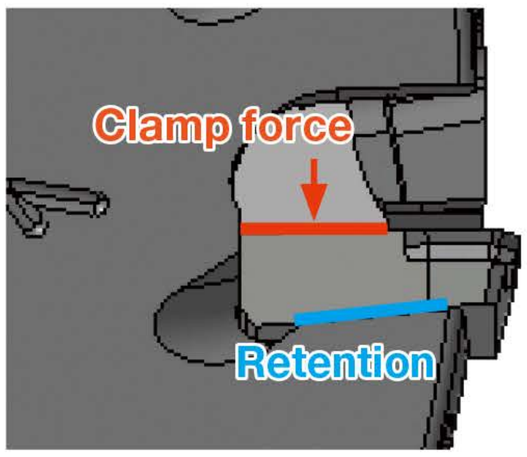
New TPYD06...
(Lightweight type)

Safety measures for high speed milling

Safety insert lock to protect against centrifugal force

Inserts are securely retained in place, preventing displacement due to centrifugal force during high-speed milling.

Wedge shape design prevents the insert from dislodging from its seat due to centrifugal inertia force.
Note: Do not exceed the maximum rotation (n max) inscribed on the cutter body.



DC (mm)	Max. rotation number (min^{-1})
40	24,000
50	20,000
63	19,000
80	17,000
100	15,000
125	14,000
160	12,000

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

MEGA TECH METAL WORK CO.,LTD

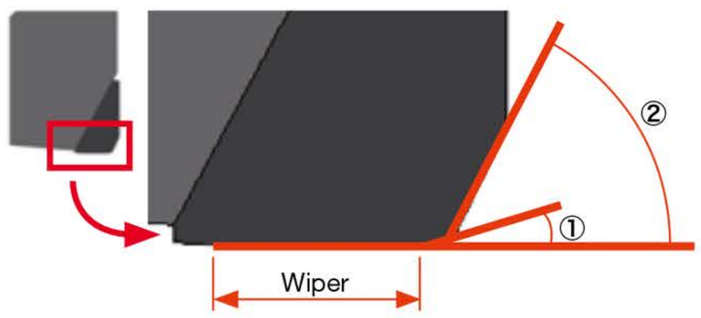
Tungaloy Report No. 524-G

TUNGSPEED MILL

Insert variations

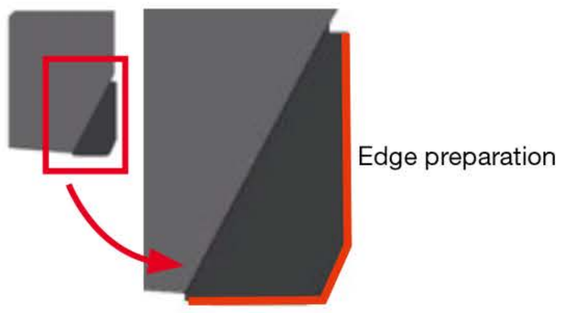
■ Standard insert with built-in deburrer
(YDEN0603PDFR-D, YDEN0603PDSR-D)

- Double-angled cutting edge for effective chip splitting
- Burr formation is significantly minimized by the cutting edge's chip thinning effect at the exit
- Built-in wiper geometry for better surface finishing



■ Standard insert with edge preparation
(YDEN0603PDSR-D)

For cutting gates or greater depths of cut

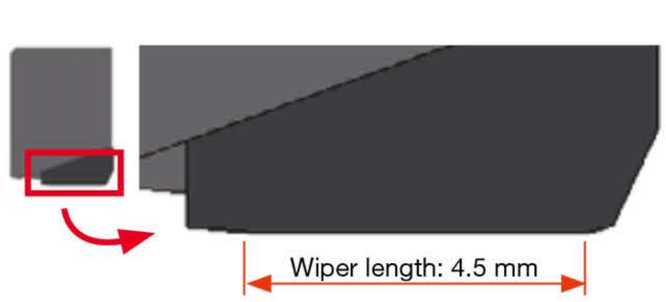


■ Deburring insert - Tungaloy's exclusive insert design
(YDEN0603PDFR-BD)

Use with standard inserts for enhanced burr-free machining

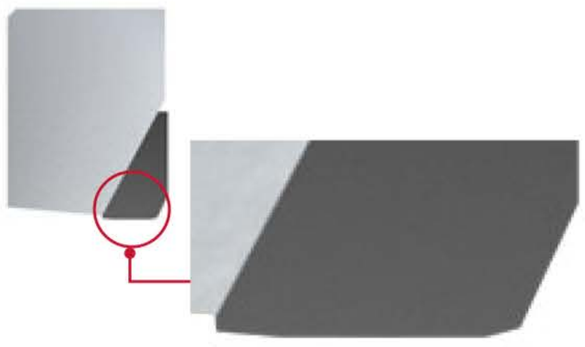
■ Wiper insert - for superior surface finishing
(YDEN0603PDFR-WD)

Use with standard inserts to improve the surface finishing quality. Number of wiper inserts on the cutter may depend on the feed rate.

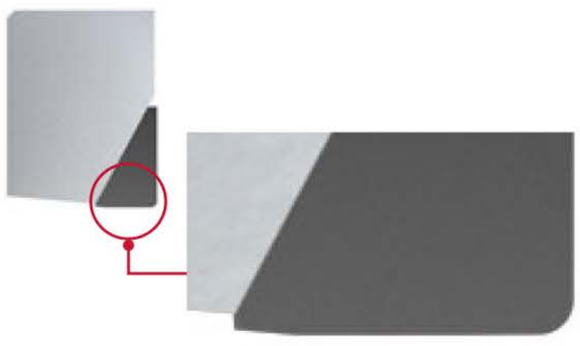


■ Nose radius (with R0.4 or R0.8)

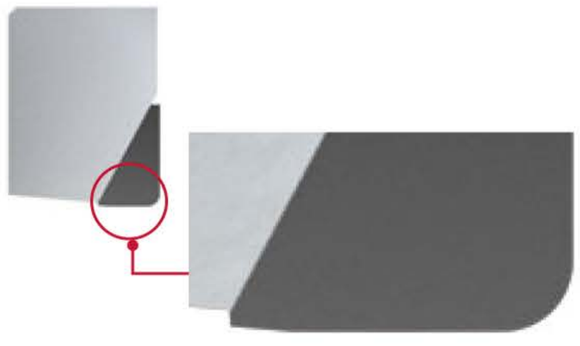
Ideal for applications where corner radius on the workpiece is specified. Rounded nose corner can also protect the edge from fracture during challenging interrupted cutting.



Double-angle design (YDEN0603PDFR-D)



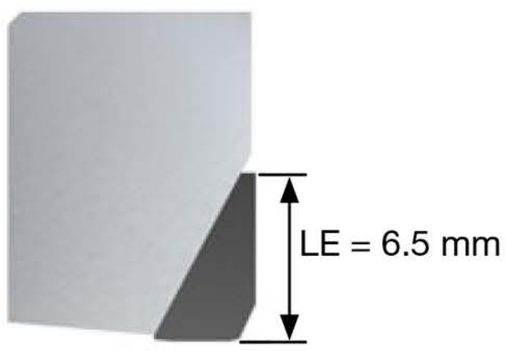
R0.4 (YDEN0603**04**PDFR-D)



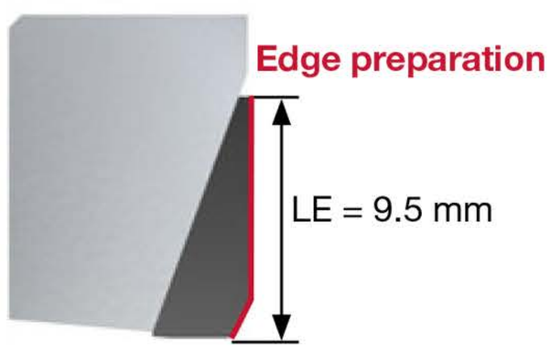
R0.8 (YDEN0603**08**PDFR-D)

■ Long edged insert

Featuring 9.5 mm in length, the cutting edge can effectively remove gates and risers left on the workpiece without damaging the carbide insert base. The peripheral cutting edge is chamfered to protect against fractures and reduce burr formation.



Standard geometry
(YDEN0603PDFR-D)



Long edge version
(YDEN0603PDCR-**LD**)

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TUNGALOY ADDFORCE ACCELERATED LINES

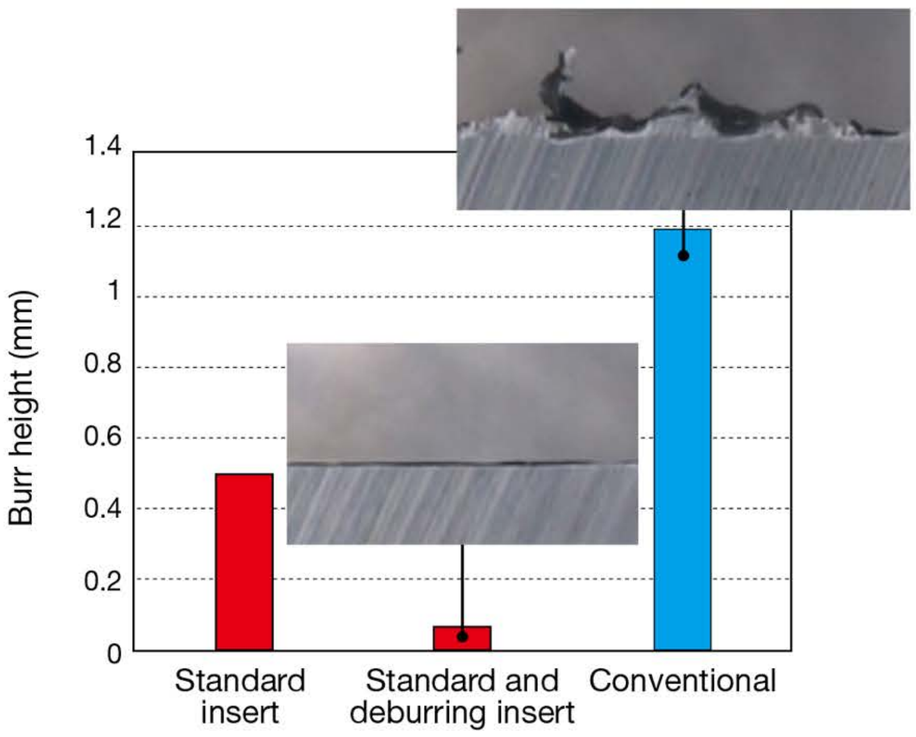
NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

CUTTING PERFORMANCE

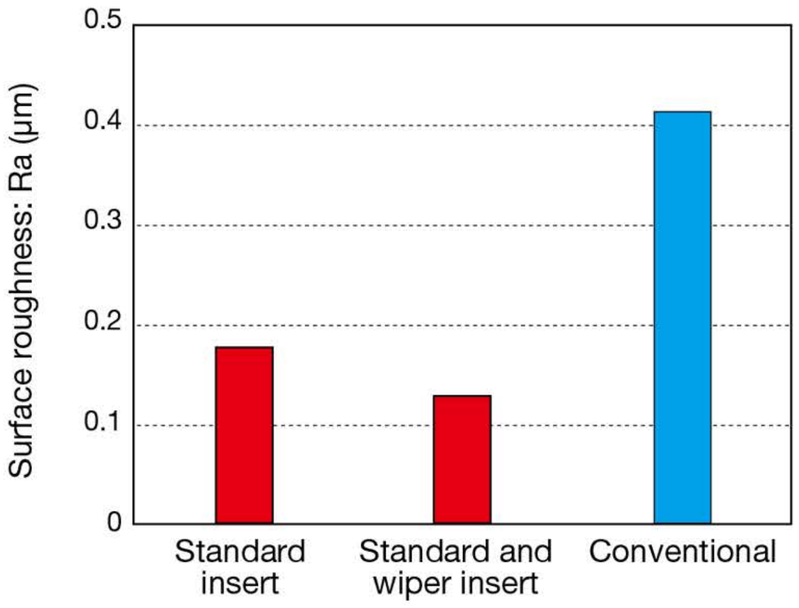
■ Reduced burr formation



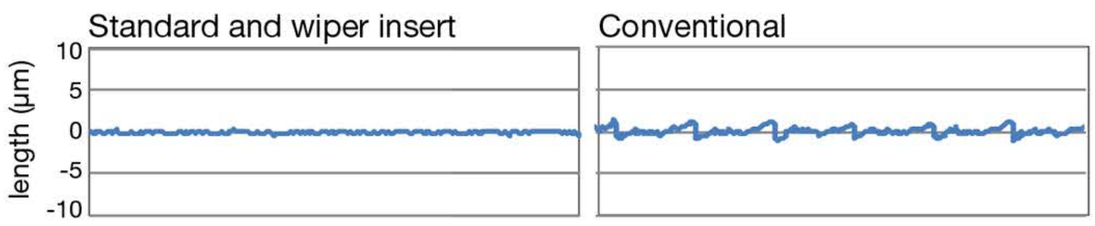
Cutter : TPYD06J080B25.4R16 (DC = 80 mm, CICT = 16)
Insert : YDEN0603PDFR-D DX110 (Standard insert)
: YDEN0603PDFR-BD DX110 (Deburring insert)
Workpiece : A1100 (30x100 mm)
Cutting speed : *V*c = 2,513 m/min
Number of revolutions : *n* = 10,000 min^{-1}
Feed per tooth : *f*z = 0.1 mm/t
Feed speed : *V*f = 16,000 m/min (Standard insert)
: *V*f = 8,000 m/min (Standard and deburring insert)
Insert runout : ＜ 1 µm
Depth of cut : *a*p = 0.5 mm
Depth of width : *a*e = 30 mm
Coolant : Wet
Machining : Face milling（on center）
Machine : Vertical M/C, BT40

2 types of deburring inserts for burr-free milling

■ Better surface roughness

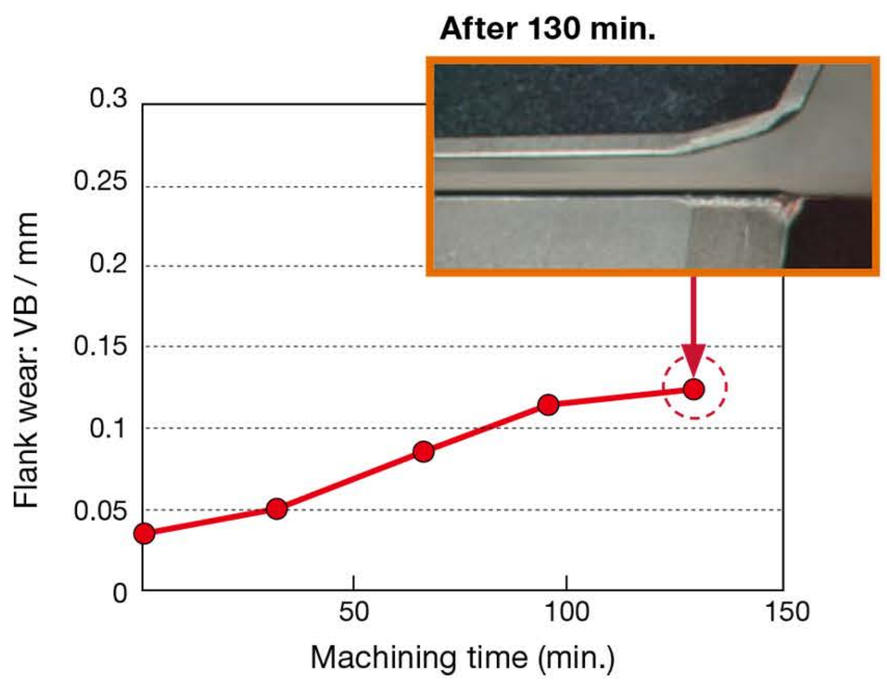


Cutter : TPYD06J080B25.4R16 (DC = 80 mm, CICT = 16)
Insert : YDEN0603PDFR-D DX110 (Standard insert)
: YDEN0603PDFR-WD DX110 (Wiper insert)
Workpiece : A1100 (30x100 mm)
Cutting speed : *V*c = 2,513 m/min
Number of revolutions : *n* = 10,000 min^{-1}
Feed per tooth : *f*z = 0.1 mm/t
Feed speed : *V*f = 16,000 m/min
Insert runout : ＜ 1 µm
Depth of cut : *a*p = 0.5 mm
Depth of width : *a*e = 30 mm
Coolant : Wet
Machining : Face milling（on center）
Machine : Vertical M/C, BT40



Wiper inserts improve surface roughness

■ Strong cutting edge



Cutter : TPYD06J100B31.7R22 (DC = 100 mm, CICT = 1)
Insert : YDEN0603PDSR-D DX110 (with edge preparation)
Workpiece : AC4C-T6 (150 x 200 mm with 70 holes)
Cutting speed : *V*c = 3,141 m/min
Number of revolutions : *n* = 10,000 min^{-1}
Feed per tooth : *f*z = 0.09 mm/t
Insert runout : ＜ 1 µm
Depth of cut : *a*p = 0.2 mm
Depth of width : *a*e = 75 mm
Coolant : Wet
Machining : Face milling（down cut）
Machine : Vertical M/C, BT40

Optimized edge preparation ensures machining security during heavy interrupted cutting

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

TUNGSPEED MILL

TPYD06

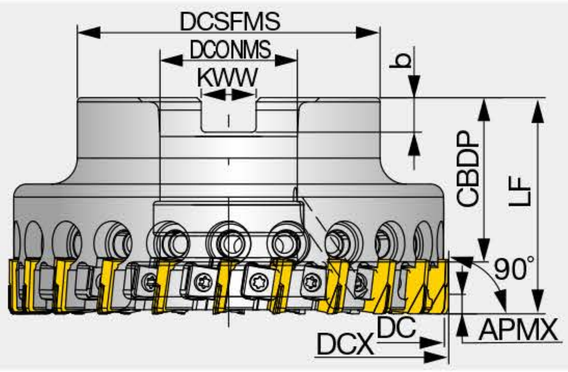
Face milling cutter for non-ferrous applications, bore type, with PCD inserts

GAMP = +9°, GAMF = +4°

New

ø40 - ø63 mm

ø63 - ø160 mm



	Designation	APMX	DC	DCX	CICT	DCSFMS	LF	DCONMS	CBDP	KWW	b	WT(kg)	Air hole	RPMX(min^{-1})	Insert
New	TPYD06M040B16.0R08	4.5	40	42	8	38	40	16	18	8.4	5.6	0.28	With	24000	YDEN0603...
New	TPYD06M050B22.0R10	4.5	50	52	10	47	40	22	20	10.4	6.3	0.42	With	21000	YDEN0603...
	TPYD06M063B22.0R08	4.5	63	65	8	45	40	22	20	10.4	6.3	0.59	With	19,000	YDEN0603...
	TPYD06M063B22.0R10	4.5	63	65	10	45	40	22	20	10.4	6.3	0.57	With	19,000	YDEN0603...
New	TPYD06M063B22.0R14	4.5	63	65	14	47	40	22	20	10.4	6.3	0.42	With	19000	YDEN0603...
	TPYD06M080B27.0R10	4.5	80	82	10	60	50	27	22	12.4	7	1.3	With	17,000	YDEN0603...
	TPYD06M080B27.0R16	4.5	80	82	16	60	50	27	22	12.4	7	1.24	With	17,000	YDEN0603...
	TPYD06J080B25.4R10	4.5	80	82	10	60	50	25.4	26	9.5	6	1.31	With	17,000	YDEN0603...
	TPYD06J080B25.4R16	4.5	80	82	16	60	50	25.4	26	9.5	6	1.26	With	17,000	YDEN0603...
	TPYD06M100B32.0R12	4.5	100	102	12	70	50	32	25	14.4	8	1.85	With	15,000	YDEN0603...
	TPYD06M100B32.0R22	4.5	100	102	22	70	50	32	25	14.4	8	1.78	With	15,000	YDEN0603...
	TPYD06J100B31.7R12	4.5	100	102	12	70	50	31.75	32	12.7	8	1.84	With	15,000	YDEN0603...
	TPYD06J100B31.7R22	4.5	100	102	22	70	50	31.75	32	12.7	8	1.76	With	15,000	YDEN0603...
	TPYD06M125B40.0R14	4.5	125	127	14	90	60	40	32	16.4	9	3.59	With	14,000	YDEN0603...
	TPYD06M125B40.0R26	4.5	125	127	26	90	60	40	32	16.4	9	3.48	With	14,000	YDEN0603...
	TPYD06J125B38.1R14	4.5	125	127	14	90	60	38.1	38	15.9	10	3.61	With	14,000	YDEN0603...
	TPYD06J125B38.1R26	4.5	125	127	26	90	60	38.1	38	15.9	10	3.56	With	14,000	YDEN0603...
	TPYD06M160B40.0R20	4.5	160	162	20	90	60	40	32	16.4	9	5.34	With	12,000	YDEN0603...
	TPYD06M160B40.0R34	4.5	160	162	34	90	60	40	32	16.4	9	5.2	With	12,000	YDEN0603...
	TPYD06J160B38.1R20	4.5	160	162	20	90	60	38.1	38	15.9	10	5.43	With	12,000	YDEN0603...
	TPYD06J160B38.1R34	4.5	160	162	34	90	60	38.1	38	15.9	10	5.29	With	12,000	YDEN0603...

New Wrench, Grip, and Shell locking bolt are not included in the box.

SPARE PARTS FOR New CUTTER






Designation	Insert locking wedge	Wedge fixing screw	Adjusting wedge screw (Optional)	Grip (Optional)	Shell locking bolt (Optional)	Wedge tightening wrench (Optional)
TPYD06M040B16.0R08	WF385N	SSHM5-4PF-S	(AJC08-BLDS635)	(TBJ)	(SRPS118-0416)	(P-2.5F)
TPYD06M050B22.0R10	WF385N	SSHM5-4PF-S	(AJC08-BLDS635)	(TBJ)	(FSHM10-40H)	(P-2.5F)
TPYD06M063B22.0R14	WF385N	SSHM5-4PF-S	(AJC08-BLDS635)	(TBJ)	(CM10X30H)	(P-2.5F)

SPARE PARTS FOR CONVENTIONAL CUTTER








Designation	Insert locking wedge	Wedge fixing screw	Adjusting cam	Torx bit	Cam tightening screw	Wrench	Grip	Shell locking bolt
TPYD06M063B22.0R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	CM10x30H
TPYD06*080B2*.*R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	CM12x30H
TPYD06M100B32.0R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	CM16x40H
TPYD06J100B31.7R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	TMBA-M16H
TPYD06*125B**.*R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	TMBA-M20H
TPYD06*160B**.*R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W	TMBA-M20H

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

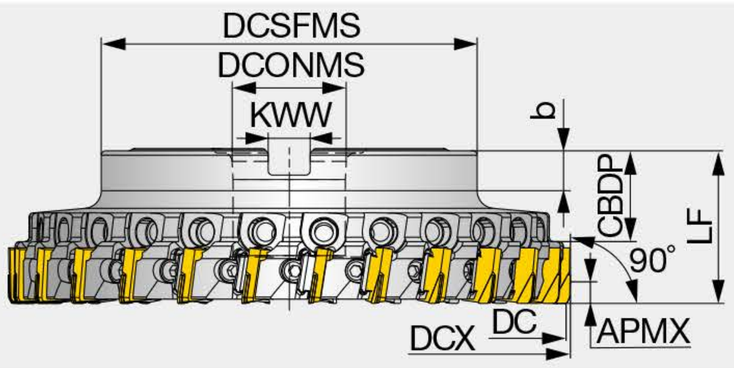
MEGA TECH METAL WORK CO.,LTD

New

TPYD06

Face milling cutter for non-ferrous applications, bore type, with PCD inserts

GAMP = +9°, GAMF = +4°



Designation	APMX	DC	DCX	CICT	DCSFMS	LF	DCONMS	CBDP	KWW	b	WT(kg)	Air hole	RPMX(min^{-1})	Insert
TPYD06J100B25.4R12	4.5	100	102	12	70	35	25.4	24.5	9.5	6	1.29	With	15000	YDEN0603...
TPYD06M100B27.0R12	4.5	100	102	12	76	35	27	24.5	12.4	7	1.27	With	15000	YDEN0603...
TPYD06J100B25.4R22	4.5	100	102	22	70	35	25.4	24.5	9.5	6	1.29	With	15000	YDEN0603...
TPYD06M100B27.0R22	4.5	100	102	22	76	35	27	24.5	12.4	7	1.27	With	15000	YDEN0603...
TPYD06J125B25.4R14	4.5	125	127	14	70	35	25.4	24.5	9.5	6	1.71	With	13000	YDEN0603...
TPYD06M125B27.0R14	4.5	125	127	14	76	35	27	24.5	12.4	7	1.69	With	13000	YDEN0603...
TPYD06J125B25.4R26	4.5	125	127	26	70	35	25.4	24.5	9.5	6	1.71	With	13000	YDEN0603...
TPYD06M125B27.0R26	4.5	125	127	26	76	35	27	24.5	12.4	7	1.68	With	13000	YDEN0603...

Wrench, Grip, and Shell locking bolt are not included in the box.

SPARE PARTS



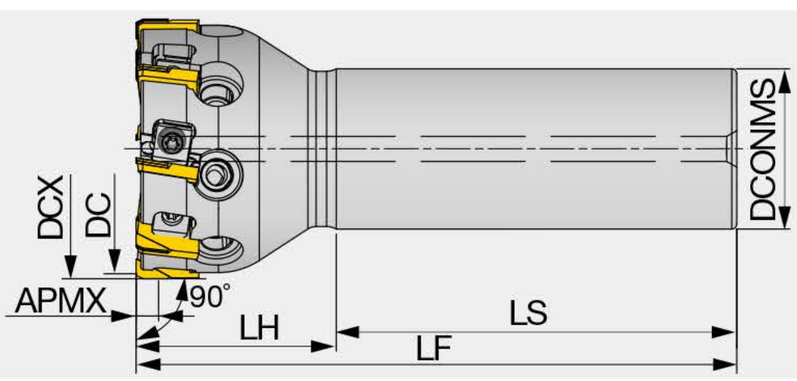



Designation	Insert locking wedge	Wedge fixing screw	Adjusting wedge screw (Optional)	Grip (Optional)	Shell locking bolt (Optional)	Wedge tightening wrench (Optional)
TPYD06M100B**.*R...	WF385N	SSHM5-4PF-S	(AJC08-BLDS635)	(TBJ)	(HM12-26OH)	(P-2.5F)
TPYD06M125B**.*R...	WF385N	SSHM5-4PF-S	(AJC08-BLDS635)	(TBJ)	(HM12-26OH)	(P-2.5F)

EPYD06

Face milling cutter for non-ferrous applications, shank type, with PCD inserts

GAMP = +9°, GAMF = +4°



Designation	APMX	DC	DCX	CICT	DCONMS	LF	LH	LS	WT(kg)	Air hole	RPMX(min^{-1})	Insert
EPYD06M050C32.0R06	4.5	50	52	6	32	120	40	80	0.91	With	20,000	YDEN0603...
EPYD06M050C32.0R08	4.5	50	52	8	32	120	40	80	0.9	With	20,000	YDEN0603...

SPARE PARTS







Designation	Insert locking wedge	Wedge fixing screw	Adjusting cam	Torx bit	Cam tightening screw	Wrench	Grip
EPYD06M050C32.0R**	WF875N	DS-5T	AJC08	BLDT10/S7-A	SSHM4-4	P-2	H-TB2W

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

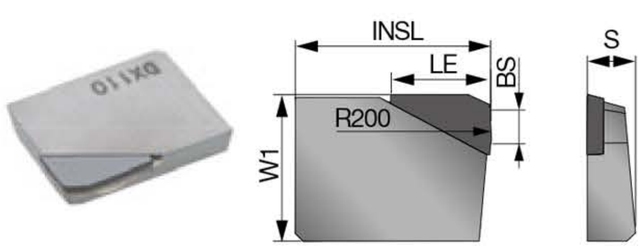
Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

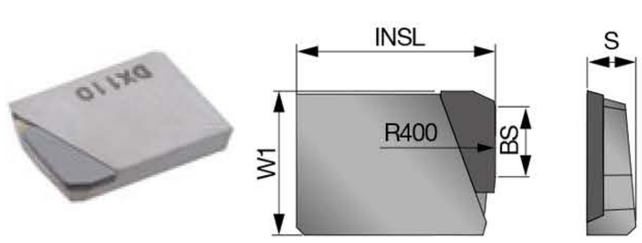
TUNGSPEED MILL

INSERT

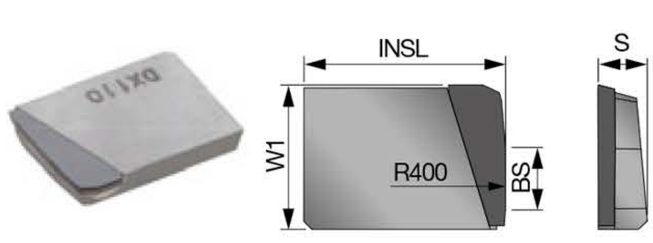
YDEN0603PD(F/S)R-D



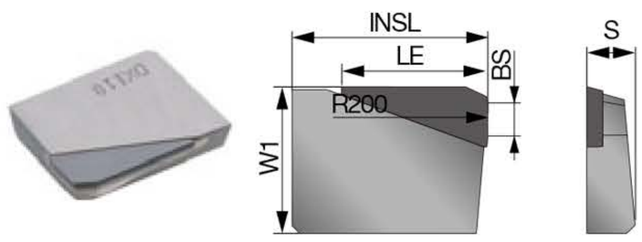
YDEN0603PDFR-WD



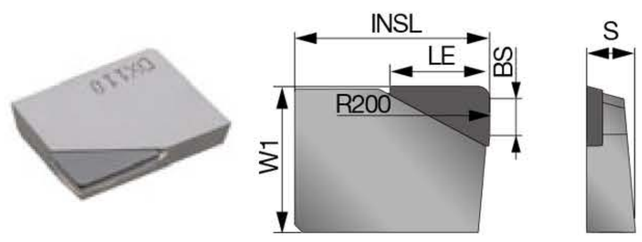
YDEN0603PDFR-BD



YDEN0603PDCR-LD



YDEN0603(04/08)PDFR-D



		PCD
		DX110
P	Steel	
M	Stainless	
K	Cast iron	
N	Non-ferrous	★
S	Superalloys	
H	Hard materials	

★ : First choice

Designation	APMX	Edge prep.	W1	INSL	S	BS	LE
YDEN0603PDFR-D	4.5	Without	9.5	12.7	3.1	2.2	6.5
YDEN0603PDSR-D	4.5	With	9.5	12.7	3.1	2.2	6.5
YDEN060304PDFR-D	4.5	Without	9.5	12.7	3.1	2.8	6.5
YDEN060308PDFR-D	4.5	Without	9.5	12.7	3.1	2.4	6.5
YDEN0603PDCR-LD	7.5	With*	9.5	12.7	3.1	2.2	9.5
YDEN0603PDFR-WD	-	Without	9.2	12.8	3.1	4.5	-
YDEN0603PDFR-BD	-	Without	9.2	12.9	3.1	4	-

* Edge preparation is applied only on the peripheral and chamfered sections. The remaining section of the cutting edge is left sharp.

● : Line up

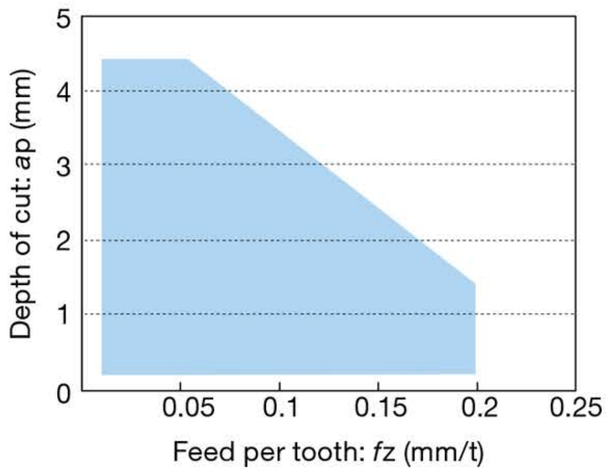
Package quantity = 1 pc. per box

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed *Vc* (m/min)	Feed per tooth *fz* (mm/t)
N	Cast aluminum alloy / Die-cast (Si < 13%)	DX110	500 - 4,000	0.05 - 0.2
	Cast aluminum alloy / Die-cast (Si ≥ 13%)	DX110	200 - 800	0.05 - 0.2
	Aluminum alloy (1000 - 7000 series)	DX110	500 - 4,000	0.05 - 0.2
	Copper alloy	DX110	200 - 500	0.05 - 0.2

- The values in the above list are of standard recommendations and may require adjustments in consideration with cutting depths and/or workpiece/machine rigidity.
- Use wiper inserts (-WD) for better surface requirements and deburring inserts (-BD) to remove burrs.
- Always use wet cutting (emulsion coolant) for machining aluminum or copper alloys.

APPLICATION RANGE



Cutter : TPYD06M100B27.0R22 (DC = 100 mm, z = 22)
Insert : YDEN0603PDFR-D DX110
Workpiece material : ADC12
Cutting speed : *Vc* = 2,513 m/min
Coolant : Wet
Machine : Vertical M/C, BT40, 18.5 kW

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TUNGALOY ADDFORCE ACCELERATED LINES

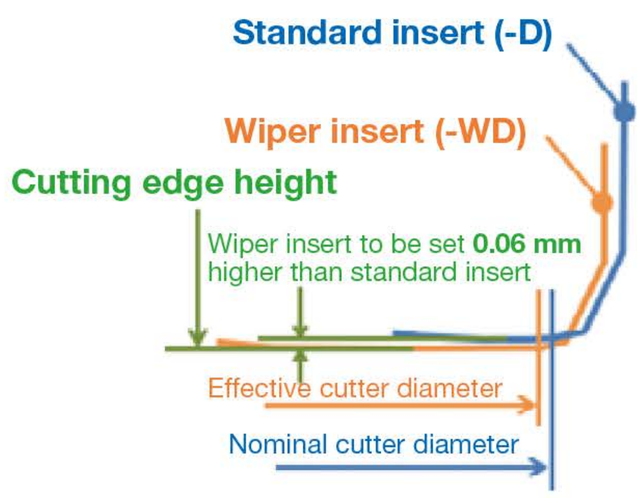
NEW PRODUCT NEWS

Tungaloy Report No. 524-G

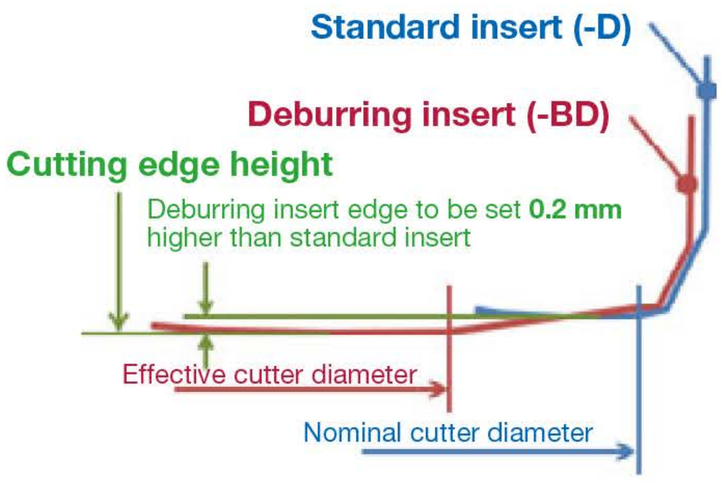
MEGA TECH METAL WORK CO.,LTD

■ Proper cutting edge setting

- For the best surface finishing results, wiper insert's (-WD) cutting edge should be set 0.06 mm higher than that of the standard insert's (-D). For deburring inserts (-BD), set 0.2 mm higher than that of the standard insert (-D).
- Effective cutter diameter will vary in accordance with wiper insert (-WD) or deburring insert (-BD) dimensions. Refer to the table below for an effective cutter diameter in each specific case.



DC (mm)	Effective cutter diameter (mm)		
	Standard (-D) only	Standard (-D) and wipers (-WD)	Standard (-D) and deburrers (-BD)
40	50	39.4	33.4
50	50	49.4	43.4
63	63	62.4	56.4
80	80	79.4	73.4
100	100	99.4	93.4
125	125	124.4	118.4
160	160	159.4	153.4



■ Mounting of deburring inserts

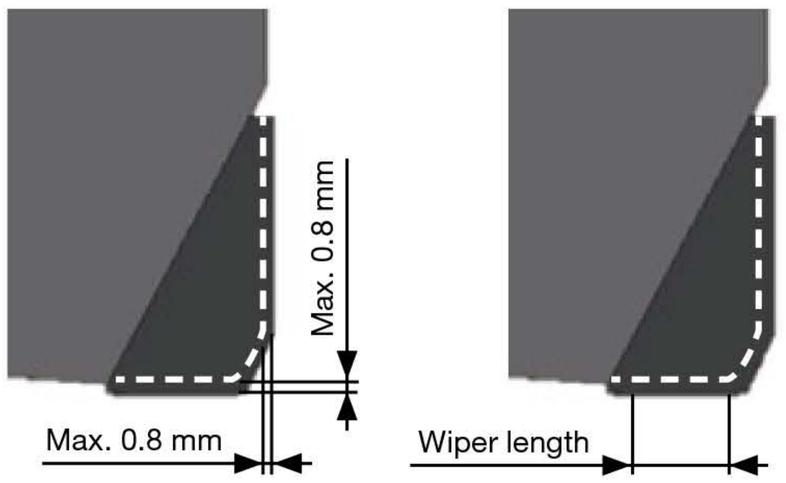
To make the best of the cutter's deburring ability, make sure to place a deburring insert immediately behind every standard insert on the cutter.
Please note that, since a deburring insert has no cutting edge on the periphery, the effective cutting edges of the cutter will be divided by 2.
Example:
For ø100 mm cutter with Z = 22, number of effective cutting edges would be Z = 11. (standard inserts x 11 and deburring inserts x 11)
The order of insert installation is as follows:
Standard → Deburring → Standard → Deburring...

Location of deburring inserts on the cutter

Standard insert
(YDEN0603PDF/SR-D)
Deburring insert
(YDEN0603PDFR-BD)

■ Managing re-ground inserts

- To maintain minimum insert capability, re-grinding beyond 0.8 mm from the original cutting edge profile is not recommended.
- Regrinding will change the dimension of the wiper edge and may affect the surface finishing quality.
- Used PCD inserts are reground as a batch from the same cutter in order to maintain the dimensional uniformity of all inserts in the same batch.
- If inserts from different batches are accidentally mixed, cutter balance may be compromised, risking tool or machine fracture.
- Re-check the cutter diameter, as needed, after re-grinding inserts are mounted to ensure proper tool offset.



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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

TUNGSPEED MILL

INSERT SETTING PROCEDURE FOR UNIQUE AXIAL ADJUSTING MECHANISM CUTTER (DC 63 - 160 mm / Exterior color: Black)

1 Loosening the wedge

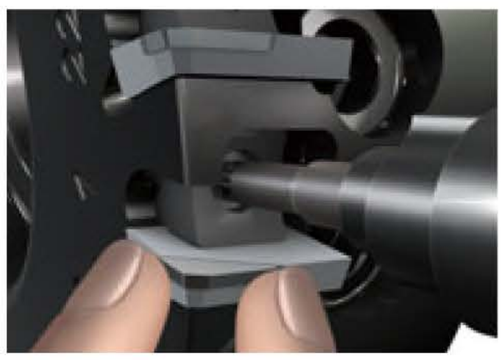
Loosen the wedge so that they do not exceed the cutter's outer diameter.

2 Cleaning insert pockets

Remove all the inserts from the pockets. Use compressed air to thoroughly clean the pockets of dust and chips.

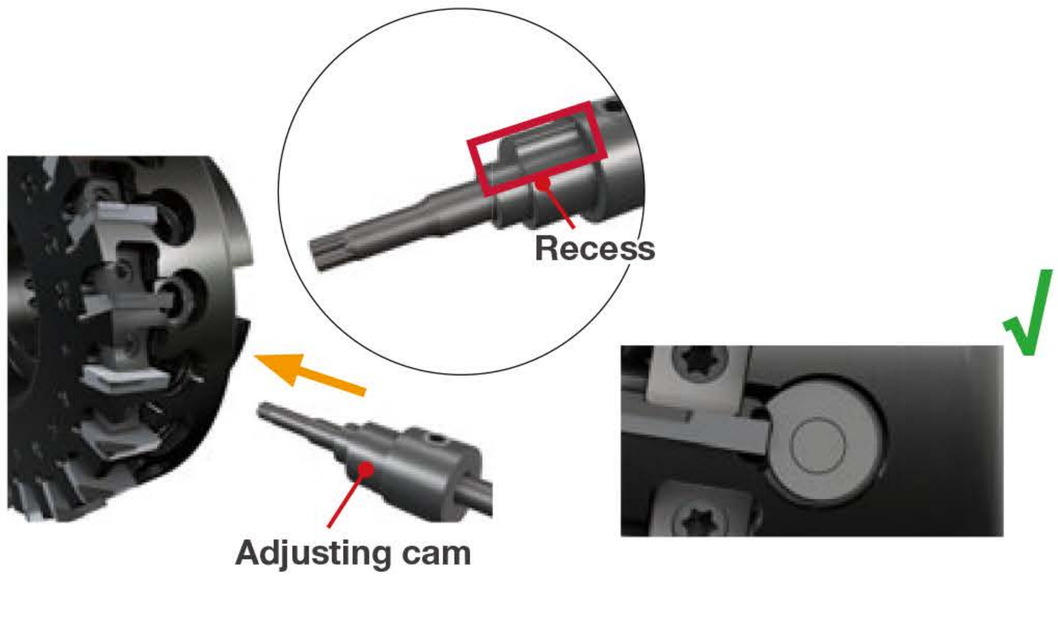
3 Mounting the inserts, LIGHTLY tighten the wedge

Place the insert in the pocket and LIGHTLY tighten the wedge at 1 N·m (0.74 ft-lb). Make sure that there are no gaps between the insert and cutter body.
Fix all inserts on the cutter in the same manner.



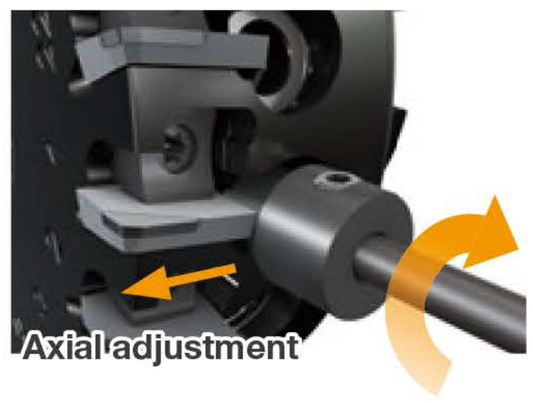
4 Place the Adjusting cam

The recessed part of the cam should be placed on the insert bottom.



5 Initially adjusting the axial height

Place the adjusting cam in the hole located at the bottom of the pocket. Adjust the insert axial height by rotating the cam in the CW direction to gradually increase the axial measure. Stop when it reaches 30 µm ~ 40 µm just below the desired position. Then, slightly rotate the cam in the CCW direction before removing the cam from the cutter body.



6 Tighten the wedges

Firmly tighten the wedges to 3.5 N·m (2.58 ft-lb).
In order to prevent body deformation from tightening, it is recommended to perform the final tightening alternately.
Do not exceed the recommended clamping torque when fixing the insert. This may damage or fracture the screw.

7 Final adjustments

For the final axial adjustment, instead of setting the insert height close to the target position, set so that it reaches approximately 8 µm above the target.
Slightly rotate the cam CCW to remove the key off the body.
The insert will go down by 8 µm to the target height when the cam is removed. It is recommended that the inserts be set to less than 5 µm axially in relation to one another.

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NEW PRODUCT NEWS

Tungaloy Report No. 524-G

MEGA TECH METAL WORK CO.,LTD

New

INSERT SETTING PROCEDURE (DC 40 - 63mm, 100 - 120 mm / Exterior color: Silver)

Preparing the key wrenches

■ The key for axial adjustment of insert

■ The key for tightening the wedge screws

Note: The key wrenches are not included with the cutter. Please purchase them separately.

1 Loosening the wedge

Loosen the wedge so that they do not exceed the cutter's outer diameter.

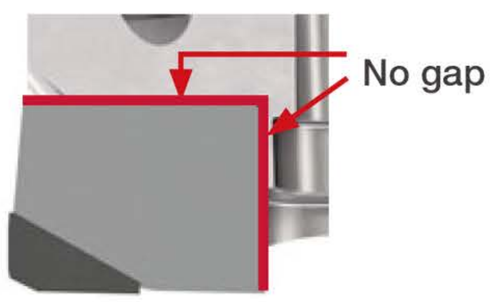
2 Cleaning insert pockets

Remove all the inserts from the pockets. Use compressed air to thoroughly clean the pockets of dust and chips.

3 Mounting the inserts, LIGHTLY tighten the wedge

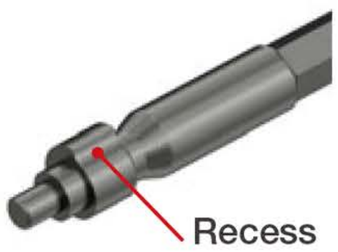
Place the insert in the pocket and LIGHTLY tighten the wedge to 1 N·m (0.74 ft-lb). Make sure that there are no gaps between the insert and cutter body.
Fix all inserts on the cutter in the same manner.

Direction to place the insert



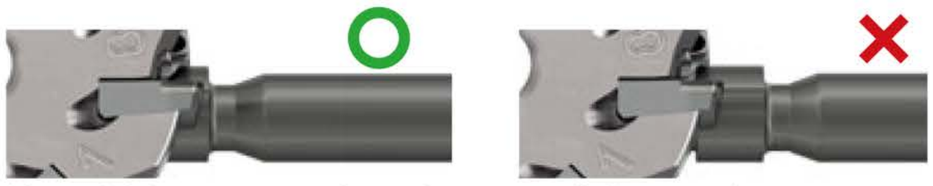
4 Place the Adjusting cam

The recessed part of the cam should be placed on the insert bottom.

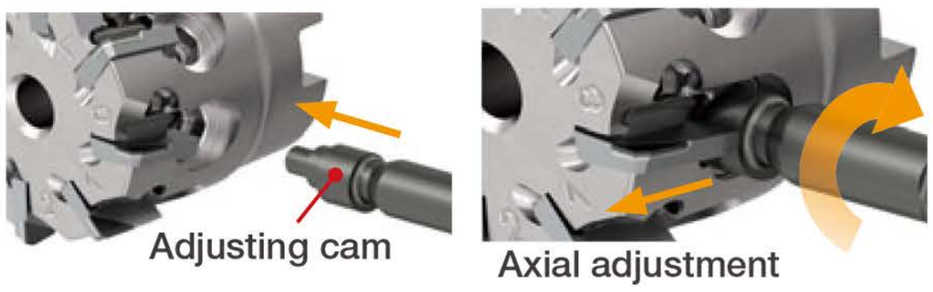


5 Initially adjusting the axial height

Place the adjusting cam in the hole located at the bottom of the pocket. Adjust the insert axial height by rotating the cam in the CW direction to gradually increase the axial measure. Stop when it reaches 20 µm just below the desired position. Then, slightly rotate the cam in the CCW direction before removing the cam from the cutter body.



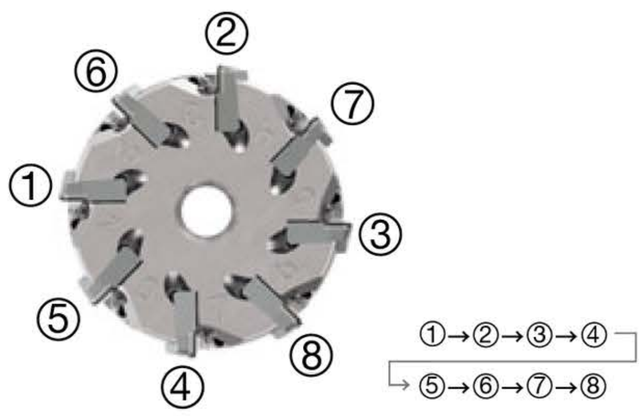
Note: Make sure to place the cam all the way in.



Note: If the desired height is not reached and is exceeded during adjustment, loosen the wedge and push the insert all the way to the pocket bottom, then start from Step 3.

6 Tighten the wedges

Firmly tighten the wedges to 2 N·m (2.58 ft-lb).
In order to prevent body deformation from tightening, it is recommended to perform the final tightening alternatively. Do not exceed the recommended clamping torque when fixing the insert. This may damage or fracture the screw.



7 Final adjustments

For the final axial adjustment, instead of setting the insert height close to the target position, set so that it reaches approximately 5 µm above the target.
Slightly rotate the cam CCW to remove the key off the body. The insert will go down by 5 µm to the target height when the cam is removed. It is recommended that the inserts be set to less than 5µm axially in relation to one another.

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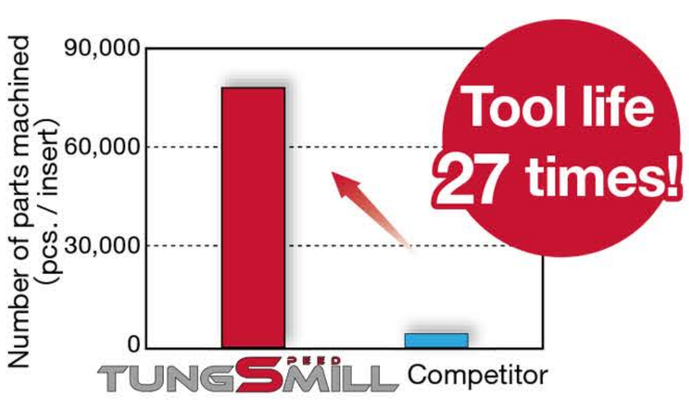
TUNGSPEED MILL

PRACTICAL EXAMPLES

Workpiece type		Hoist body part	Crank casing
Cutter		TPYD06J080B25.4R16 (DC = 80 mm, CICT = 16)	TPYD06J100B31.7R22 (DC = 100 mm, CICT = 22)
Insert		YDEN0603PDFR-D	YDEN0603PDFR-D
Grade		DX110	DX110
Workpiece material		High pressure aluminum die cast (ADC12)	High pressure aluminum die cast (ADC12)
		 N	 N
Cutting conditions	Cutting speed: *Vc* (m/min)	2,011	3,142
	Feed per tooth: *fz* (mm/t)	0.1	0.09
	Feed speed: *Vf* (mm/min)	12,800	20,000
	Depth of cut: *ap* (mm)	4/1	4.5/1.5
	Width of cut: *ae* (mm)	5 - 20	10 - 70
	Machining	Face milling	Face milling
	Coolant	Wet (External)	Wet (Internal)
	Machine	Vertical M/C, BT50	Vertical M/C, BT40
Results		 MRR was improved by 16 times, with increased table feed and reduced number of passes. Deburring inserts eliminated burr formation.	 MRR was improved by 2.5 times thanks to super high density cutter design.

Workpiece type		Cover	Cylinder head
Cutter		TPYD06M050B22.0R10 (DC = 50 mm, CICT = 10)	Special TPYD06 body (DC = 75 mm, CICT = 15)
Insert		YDEN0603PDFR-D	YDEN0603PDSR-D
Grade		DX110	DX110
Workpiece material		High pressure aluminum die cast (ADC12)	Cast aluminum alloy (AC2B)
		 N	 N
Cutting conditions	Cutting speed: *Vc* (m/min)	1,256	990
	Feed per tooth: *fz* (mm/t)	0.05	0.04
	Feed speed: *Vf* (mm/min)	-	2,849
	Depth of cut: *ap* (mm)	0.5	0.5
	Width of cut: *ae* (mm)	~ 40	- 70
	Machining	Face milling	Face milling
	Coolant	Wet (Internal)	Wet (Internal)
	Machine	Vertical M/C, BT30	Specialized machine
Results		 MRR was improved by 2 times thanks to super high density cutter design.	 Wear resistant DX110 PCD grade dramatically improved the tool life by 27 times.

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TUNGALOY ADDFORCE ACCELERATED LINES

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