

PRODUCT NEWS

PN-E-021

SERIES EXPANSION

KALIP TEKNİK

DIJET

QM Quick & Mini Series

"QM MILL & QM MAX" New generation high feed mill

QM MILL

Modulr type
 $\phi 10 \sim \phi 32$

Endmill type
 $\phi 10 \sim \phi 14$

MPM/PME

QM MAX

Modulr type
 $\phi 16 \sim \phi 42$

Facemill type
 $\phi 40 \sim \phi 66$

MQX/QXP

High Precision **QM** MAX

Modulr type
 $\phi 16 \sim \phi 35$

MQT



KALIP TEKNİK

www.kalipteknik.com.tr

Features

Low cutting force

Adopted unique 3D geometry inserts with low cutting force and multi blades specification, even if small inserts, QM MILL achieved high speed and high efficient machining.

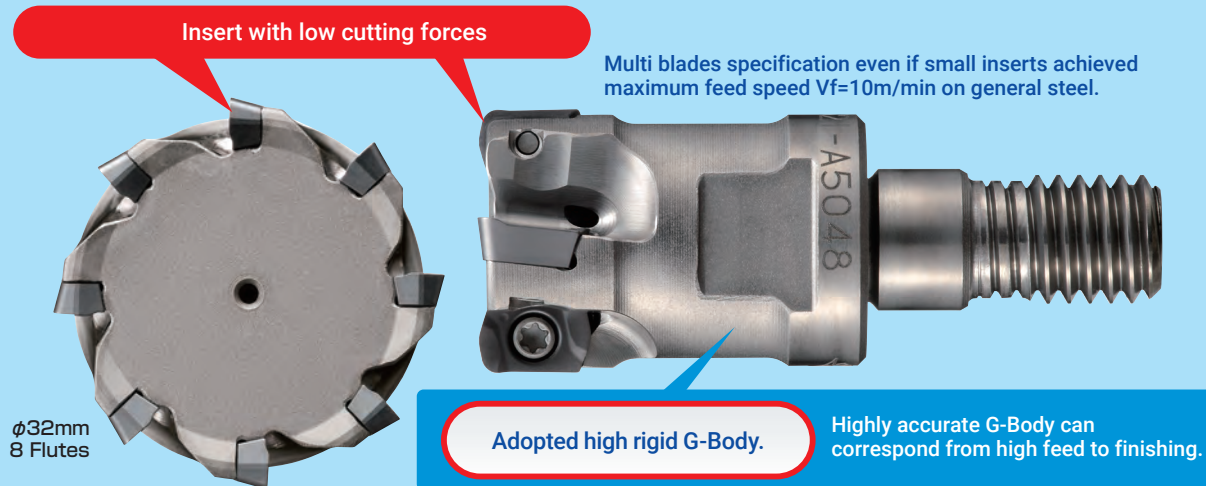
Possible to use by low power and compact machines such as BT30.

Multi blades specification

Multi blades specification: 10 mm dia. for 2N and 32 mm dia. for 8N.

Vibration free

"QM-MILL" MPM type can be possible high efficient machining and longer tool life, due to control the vibration by the combination of MSN carbide shank holder.



Inserts variation

High feed and shoulder milling can be processed with same body.

High feed insert



EOMT0602...ZER(Corner R1.0, 2.0)

High feed insert for unfavorable condition



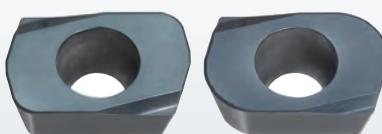
EOMW060210ZER

Shoulder milling insert for steel



ZOMT0602...ZER-PL(Corner R0.2, 0.4, 0.8)

High hardened steel



EOHW0602...ZTR(Corner R1.0, 2.0)

"MIRROR INSERT" for finishing side & bottom face



YOHW0602...ZER-12

Adopted PVD coated grade "JC8118" possible to cut general steel, hardened material, titanium alloys and heat-resistant alloy, tough grade "JC8050" for interrupted cutting, and new PVD coated grade "JC7560" improved heat-fracture resistance & impact strength and tool life. Moreover, adopted new PVD coated grade "DH102" suitable for high hardened material. And, available now "MIRROR INSERT" YOHW type for finishing side & bottom face.

MPM
TYPE

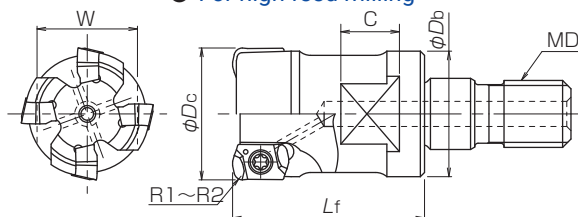
Modular head MPM type

Through coolant hole

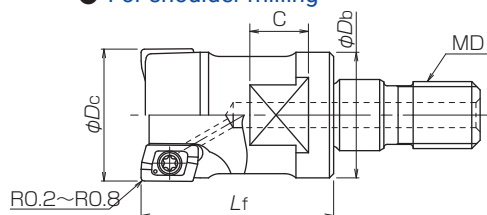
G-Body

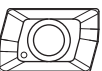


● For high feed milling



● For shoulder milling



Cat. No.	Stock	No. of inserts	(mm) Dimensions						Applicable inserts	Parts	
			ϕDc	Lf	ϕDb	MD	C	W		Clamp screw	Wrench (Not be included)
									 		
MPM-2010-M6	●	2	10	18	9.5	M6	6.5	8			
MPM-2011-M6	●	2	11	18	9.7	M6	6.5	8			
MPM-3012-M6	●	3	12	20	11.2	M6	6.5	8			
MPM-3013-M6	●	3	13	20	11.5	M6	6.5	8			
MPM-3015-M8	●	3	15	23	14	M8	8	12			
MPM-4016-M8	●	4	16	23	15	M8	8	12	EO**0602**Z*R		
MPM-4017-M8	●	4	17	23	15	M8	8	12	ZOMT0602**ZER**	DSW-1840H	A-06
MPM-4018-M8	●	4	18	23	15	M8	8	12	YOHWO602**ZER-12		
MPM-5020-M10	●	5	20	30	19	M10	9	14			
MPM-5021-M10	●	5	21	30	19	M10	9	14			
MPM-6025-M12	●	6	25	35	23.6	M12	10	17			
MPM-7030-M16	●	7	30	43	29	M16	12	22			
MPM-8032-M16	●	8	32	43	29	M16	12	22			

Note

1. All cutters are supplied without inserts.
2. Please see page 5 for recommended tightening torque.
(When mounting M6 or M8 head to shank, recommend to use DIJET DS type spanner wrench.)
3. All cutters are supplied without wrench & MOLY since February 2019 for our stock production.

Clamp screw	(N·m) Recommended torque
DSW-1840H	0.4

◆ (M6、M8用)

	Cat. No.	Thread	Tightening torque	Spanner size	Thickness	Total length
	DS-8	M6	8.0 N·m	8	4	85
	DS-12	M8	16 N·m	12	4	93

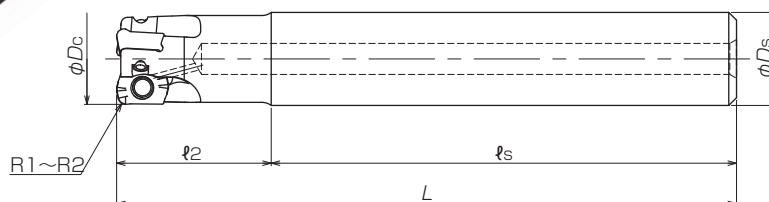
* DS type spanner wrench prevented over-tightening, due to short handle specification.

End mill type

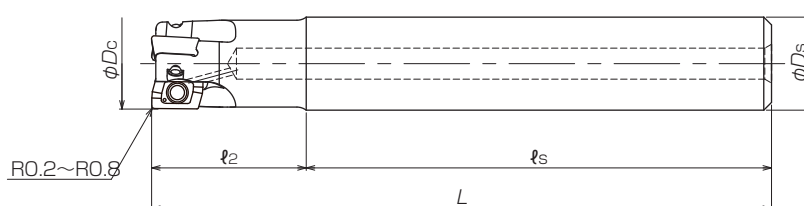


■ PME type Through coolant hole

● For high feed milling

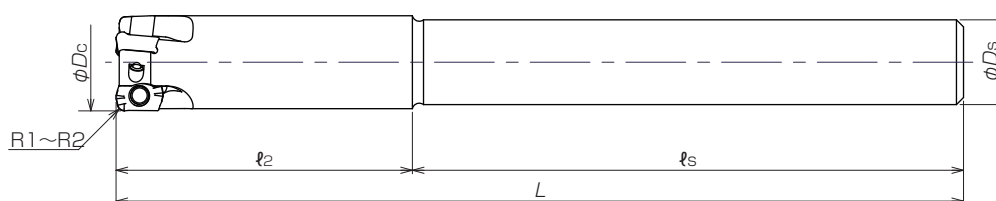


● For shoulder milling

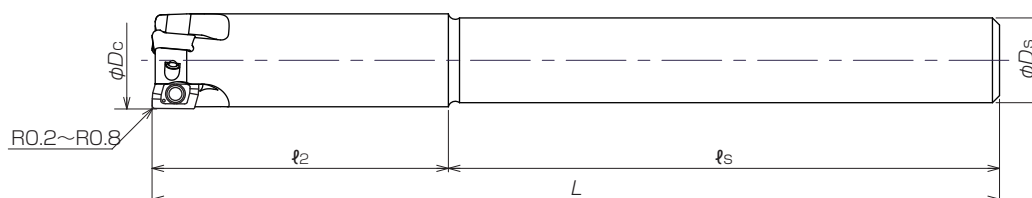


■ PME-LS type

● For high feed milling



● For shoulder milling



Type	Cat. No.	Stock	No. of inserts	Coolant hole	Dimensions mm					Applicable inserts	Parts	
					ϕD_c	ℓ_2	ℓ_s	L	ϕD_s		Clamp screw	Wrench (Not be included)
Regular type	PME2010S10	●	2	With	10	20	60	80	10			
	PME3012S12	●	3	With	12	20	60	80	12			
	PME3014S12	●	3	With	14	20	60	80	12			
Long shank type	PME2011S10-LS	●	2	Without	11	33	87	120	10	EO**0602**Z*R ZOMT0602**ZER** YOHW0602**ZER-12	DSW-1840H	A-06
	PME3013S12-LS	●	3	Without	13	39	81	120	12			
	PME3014S12-LS	●	3	Without	14	42	78	120	12			

Note

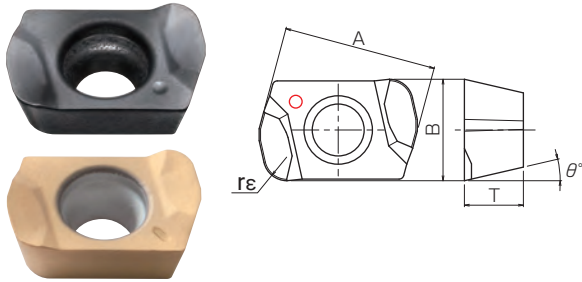
1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY since February 2019 for our stock production.

Clamp screw	Recommended torque
DSW-1840H	0.4

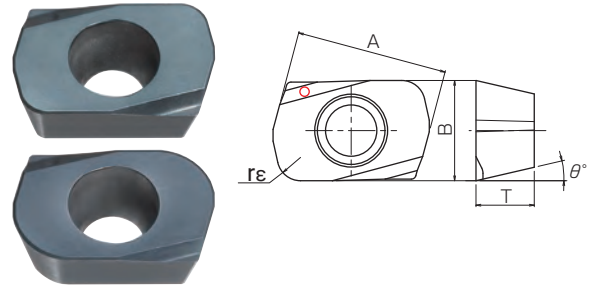
MPM / PME TYPE

Inserts

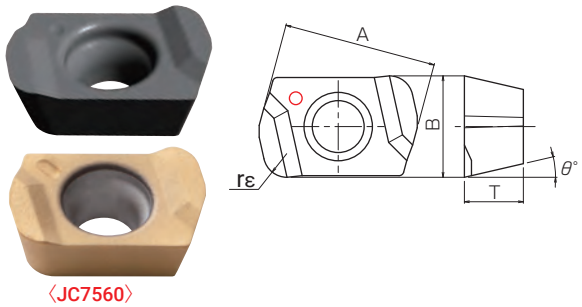
High feed insert (EOMT0602**ZER)



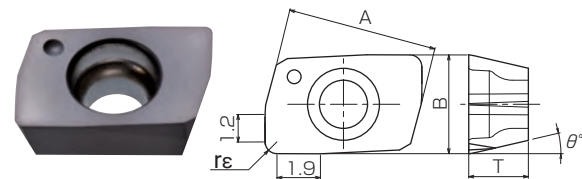
High hardened steel (EOHW0602**ZTR)



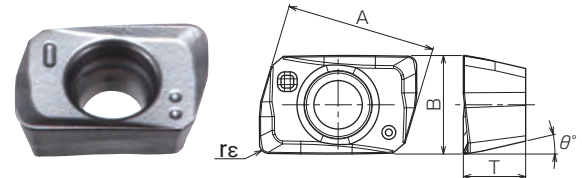
High feed insert for unfavorable condition (EOMW060210ZER)



"MIRROR INSERT" for finishing side & bottom face (YOHW0602**ZER-12)



Shoulder milling insert for steel (ZOMT0602**ZER-PL)



Type	Cat. No.	Tolerance	PVD coated						Dimensions mm				
			JC8118	JC5118	DH102	JC7560	JC8015	JC8050	A	T	B	rε	θ°
High feed insert	EOMT060210ZER	M	●			●		●	6.5	2.5	4.3	1.0	13°
	EOMT060220ZER	M	●					●	6.5	2.5	4.3	2.0	13°
High feed insert for unfavorable condition	EOMW060210ZER	M	●			●		●	6.5	2.5	4.3	1.0	13°
High hardened steel	EOHW060210ZTR	H	●		●				6.5	2.5	4.3	1.0	13°
	EOHW060220ZTR	H	●		●				6.5	2.5	4.3	2.0	13°
Shoulder milling insert for steel	ZOMT060202ZER-PL	M	●					●	6.62	2.7	4.3	0.2	13°
	ZOMT060204ZER-PL	M	●					●	6.62	2.7	4.3	0.4	13°
	ZOMT060208ZER-PL	M	●					●	6.62	2.7	4.3	0.8	13°
"MIRROR INSERT" for finishing side & bottom face	YOHW060203ZER-12	H			●		●		6.5	2.6	4.3	0.3	13°
	YOHW060205ZER-12	H			●		●		6.5	2.6	4.3	0.5	13°
	YOHW060208ZER-12	H			●		●		6.5	2.6	4.3	0.8	13°

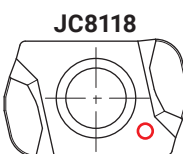
10 inserts per case.

Discrimination of grade for MPM / PME insert

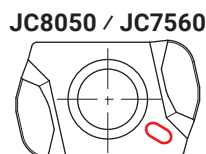
Each grade shows different mark around the hole for fool proof.



Discrimination mark



JC8118



JC8050 / JC7560

MAGNETISER



- Magnetizing and demagnetizing can be easily done only by inserting the tip of wrench into the Magnetizer + and rubbing lightly.

- The work efficiency when insert is setting by magnetizing the tip of wrench improves.

*Please do not use it in the vicinity of the equipment to be influenced with magnetism.

Cat. No.	Stock
MAGNETISER	●

1 piece per case.

⚠ Attention to mounting head and MSN/ MGN shank holder.

Tightening procedure

① Cleaning

Remove dirt and chips with air from the connecting thread and face of modular head and MSN/MGN shank holder.

② Initial Tightening

Tighten by hand until the head and the shank holder faces touch.

③ Final Tightening

Tighten slowly with torque control spanner wrench or DIJET DS type spanner wrench and confirm that there is no gap.

Attention : Final tightening without initial tightening cause connecting thread damage.



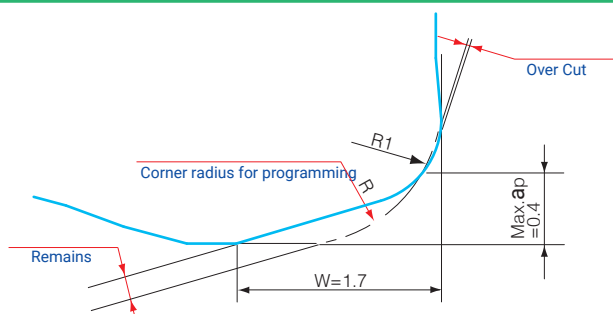
Note

1. Only use the torque control spanner wrench or DIJET DS type spanner wrench.
2. Please gently apply pressure on wrench.
3. Please confirm that there is no gap between MSN/MGN shank holder and modular head

Thread	Tightening Torque	Spanner size
M6	8.0N·m	8 [☆]
M8	16N·m	10, 12 [☆]
M10	16N·m	14, 15
M12	20N·m	17, 19
M16	25N·m	22, 26

- Note) 1. Modular heads are supplied without spanner wrench.
 2. In case of choosing torque control spanner wrench, confirm that the wrench size is match to the dimensions W & C of each modular head. (There are some cases that modifying the thickness of spanner wrench is necessary)
 3. ☆ mark shows: DIJET have a stock of DS-8 and 12 type spanner wrenches.

Definition of corner shape for programming

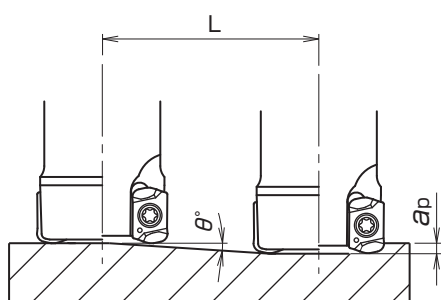


Corner radius for programming	Over Cut	Remains
R1.0 (Standard)	0	0.17
R1.5	0.09	0.08
R2.0	0.30	0

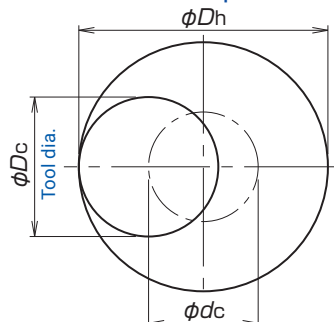
Note) In case of setting corner radius for programming to R2 recommend to use corner radius R2 type insert (EOMT060220ZER or EOHW060220ZTR).

Attention for profile milling with EO**-type inserts

Ramping



Helical interpolation



● Calculation of tool pass dia.

$$\phi dc = \phi Dh - \phi Dc$$

Tool pass dia. Bore dia. Tool dia.

- Depth of cut per one circuit should not exceed max. depth of cut ap.
- Down cutting is recommended, so tool pass rotation should be counterclockwise.

- In case of ramping and helical interpolation, apply 70% or less feed speed from standard cutting condition table.
- In case of drilling, apply 50% or less Z axis feed speed from standard cutting condition table.
- Long consecutive chips may come out in case of drilling, confirm the safe condition sufficiently.

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	ap Max. depth of cut (mm)	Ramping		Helical interpolation	
				Max. ramping angle θ°	Total cutting length at Max. ap (mm)	Min. bore dia. Dh min (mm)	Max. bore dia. Dh max (mm)
MPM-2010-M6	10	6.6	0.3	2° 18'	7.5	15	18
MPM-2011-M6	11	7.6	0.3	1° 54'	9	17	20
MPM-3012-M6	12	8.5	0.3	1° 36'	10.7	19	22
MPM-3013-M6	13	9.5	0.3	1° 24'	12.3	21	24
MPM-3015-M8	15	11.5	0.4	1° 12'	19.1	25	28
MPM-4016-M8	16	12.5	0.4	1°	22.9	27	30
MPM-4017-M8	17	13.5	0.4	0° 54'	25.5	29	32
MPM-4018-M8	18	14.5	0.4	0° 51'	27.0	31	34
MPM-5020-M10	20	16.5	0.4	0° 45'	30.6	35	38
MPM-5021-M10	21	17.5	0.4	0° 42'	32.7	37	40
MPM-6025-M12	25	21.5	0.4	0° 30'	45.8	45	48
MPM-7030-M16	30	26.5	0.4	0° 27'	50.9	55	58
MPM-8032-M16	32	28.5	0.4	0° 24'	57.3	59	62
PME2010S10	10	6.6	0.3	2° 18'	7.5	15	18
PME2011S10-LS	11	7.6	0.3	1° 54'	9	17	20
PME3012S12	12	8.5	0.3	1° 36'	10.7	19	22
PME3013S12-LS	13	9.5	0.3	1° 24'	12.3	21	24
PME3014S12 (-LS)	14	10.5	0.3	1° 18'	13.2	23	26

Note) The ramping angle 0.5° or less is recommended (please refer to the above table).

Quick & Mini **QM**MAX

New generation high feed mill "QM MAX"

Modulr type
 $\phi 16 \sim \phi 42$

Facemill type
 $\phi 40 \sim \phi 66$

G-Body



Low cutting force

Adopted unique 3D geometry inserts with low cutting force (25% lower than conventional tool), QM MAX achieved high efficient machining up to **ap = 1mm**. Maintain stable cutting force & power consumption after 1.7mm depth, in case of deep cavity milling.

⇒ Excellent for vertical wall machining.

Multi blades specification

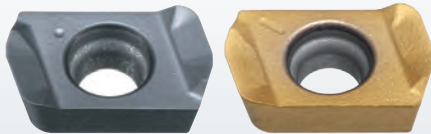
Multi blades specification achieved **Q=144cc/min**.

Vibration free

"QM MAX" MQX type can be possible high efficient machining and longer tool life, due to control the vibration by the combination of MSN carbide shank holder.

Inserts variation

High feed insert



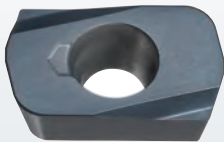
EPMT100312ZER EPMT100312ZER

High feed insert for unfavorable condition



EPMW100312ZER EPMW100312ZTR EPMW100312ZTR

High hardened steel



EPHW100316ZTR

Shoulder milling insert for aluminum alloy



ZPMT1003...ZER-NL
(R0.4, 0.8, 2.0)

Shoulder milling insert for steel



ZPMT1003...ZER-PL
(R0.4, 0.8, 2.0)

Shoulder milling insert for Ti-alloy



ZPMT1003...ZER-SL
(R0.4, 0.8, 2.0)

"MIRROR INSERT" for finishing side & bottom face / contouring milling



YPHW1003...ZER-... YPHW100308ZTR-F1

High feed and shoulder milling can be processed with same body.
Moreover, adopted "MIRROR INSERT" achieved high efficient finishing side & bottom face.

Adopted new PVD coated grade "JC8118" possible to cut general steel, hardened material, Ti-alloy and heat-resistant alloy, tough grade "JC8050" for interrupted cutting, and new PVD coated grade "JC7560" improved heat-fracture resistance & impact strength and tool life. And, available now uncoated grade "FC18" for aluminum alloy & new PVD coated grade "JC7518" for Ti-alloy.

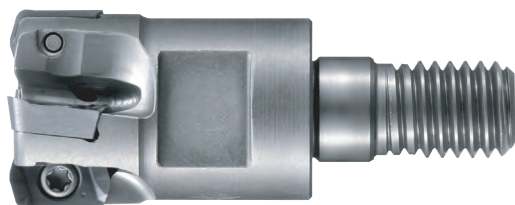
Moreover, "MIRROR INSERT" YPHW type adopted generic PVD coated grade "JC8015" that have a wide application, cermet "CX75", PVD coated grade "DH102" for high speed machining in high hardened material, and CBN grade for high speed machining.

MQX
TYPE

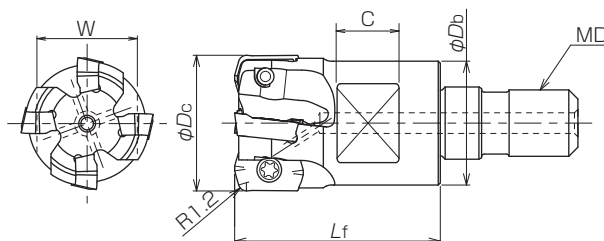
Modular head MQX type

Through coolant hole

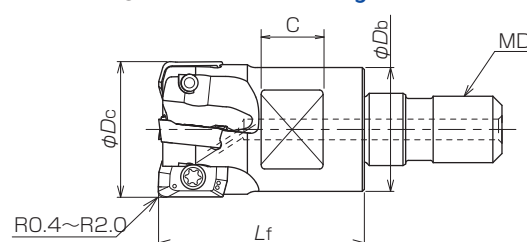
G-Body



● For high feed milling



● For shoulder milling



Cat. No.	Stock	No. of inserts	(mm) Dimensions						Applicable inserts	Parts	
			φDc	Lf	φDb	MD	C	W		Clamp screw	Wrench (Not be included)
											
MQX-2016-M8	●	2	16	23	14	M8	8	12			
MQX-2017-M8	●	2	17	23	14	M8	8	12			
MQX-3020-M10	●	3	20	30	18	M10	9	14		TSW-2556H	
MQX-4020-M10	●	4	20	30	18	M10	9	14			
MQX-4021-M10	●	4	21	30	18	M10	9	14			
MQX-4025-M12	●	4	25	35	22.5	M12	10	17			
MQX-5025-M12	●	5	25	35	22.5	M12	10	17			
MQX-4026-M12	●	4	26	35	22.5	M12	10	17			
MQX-5026-M12	●	5	26	35	22.5	M12	10	17	EP**1003**Z*R ZPMT1003**ZER** YPHW1003**Z*R**		A-08
MQX-5028-M12	●	5	28	35	23.6	M12	10	17			
MQX-5030-M16	●	5	30	43	27	M16	12	22			
MQX-5032-M16	●	5	32	43	29	M16	12	22		DSW-2563H	
MQX-6032-M16	●	6	32	43	29	M16	12	22			
MQX-5035-M16	●	5	35	43	29	M16	12	22			
MQX-6035-M16	●	6	35	43	29	M16	12	22			
MQX-6040-M16	●	6	40	43	32	M16	14	26			
MQX-7040-M16	●	7	40	43	32	M16	14	26			
MQX-6042-M16	☆	6	42	43	32	M16	14	26			

Note

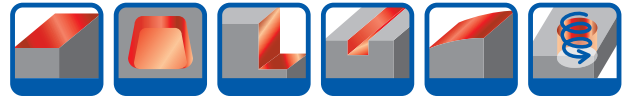
1. All cutters are supplied without inserts.
2. Please see page 5 for recommended tightening torque.
(When mounting M8 head to shank, recommend to use DIJET DS type spanner wrench.)
3. All cutters are supplied without wrench & MOLY since February 2019 for our stock production.

Clamp screw	Recommended torque
TSW-2556H	1.1
DSW-2563H	1.1

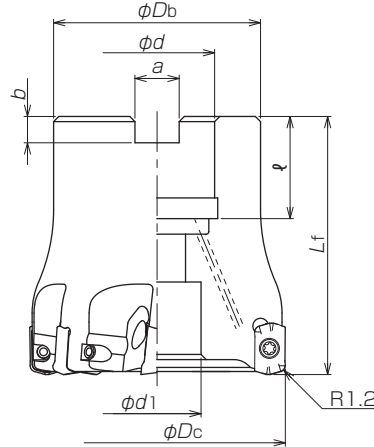
Facemill type

G-Body

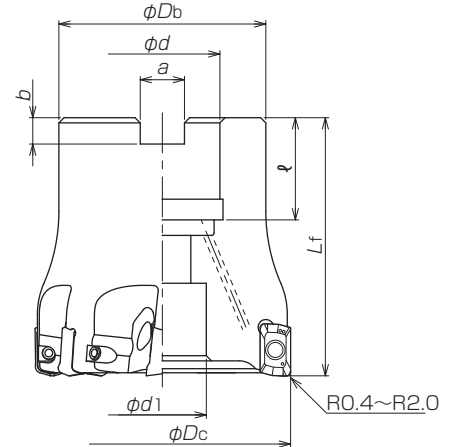
Through coolant hole



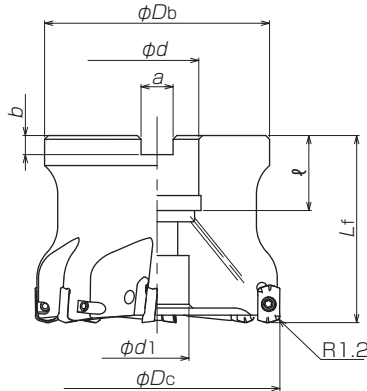
● For high feed milling



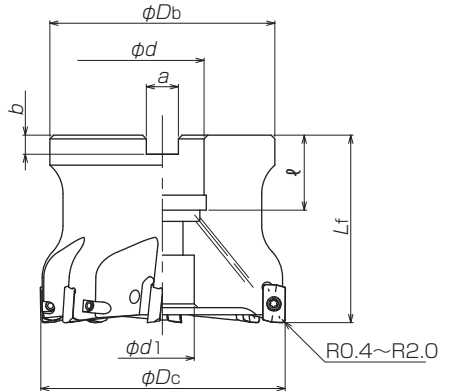
● For shoulder milling



● For high feed milling (QXP-8066R)



● For shoulder milling (QXP-8066R)



Type	Cat. No.	Stock	No. of inserts	Dimensions (mm)								Applicable inserts	Parts
				ϕD_c	L_f	ϕD_b	ϕd	ϕd_1	a	b	ℓ		
Inch Bore	QXP-8050R	●	8	50	50	40	22.225	17	8.4	5	20	EP**1003** Z*R ZPMT1003** ZER** YPHW1003** Z*R**	Clamp screw
	QXP-8063R	●	8	63	50	48	22.225	17	8.4	5	20		
	QXP-8066R	●	8	66	50	60	22.225	17	8.4	5	20		DSW-2563H
Metric Bore	QXP-6040R-16	●	6	40	45	35	16	14	8.4	5.6	18		Wrench (Not be included)
	QXP-7040R-16	●	7	40	45	35	16	14	8.4	5.6	18		
	QXP-7050R-22	●	7	50	50	40	22	17	10.4	6.3	20		
	QXP-8050R-22	●	8	50	50	40	22	17	10.4	6.3	20		
	QXP-8052R-22	☆	8	52	50	40	22	17	10.4	6.3	20		
	QXP-8063R-22	●	8	63	50	48	22	17	10.4	6.3	20	A-08	
	QXP-8066R-27	☆	8	66	50	48	27	20	12.4	7	22		

Note

1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY since February 2019 for our stock production.

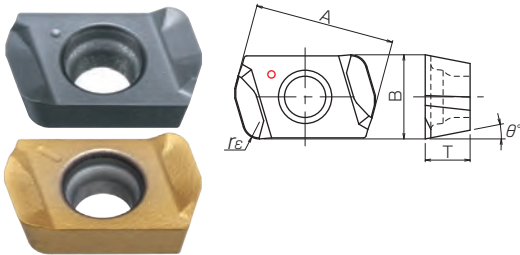
Clamp screw	Recommended torque
DSW-2563H	1.1

MQX / QXP
TYPE

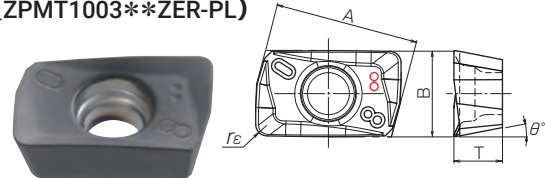
Inserts

ZPMT-PL / NL / SL type: Shoulder milling insert possible to machine from roughing to semi-finishing & finishing for side & bottom face.
3 type is available by use (for steel, for aluminum alloy, or for Ti-alloy).

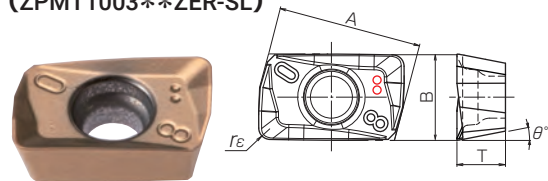
High feed insert
(EPMT1003**ZER)



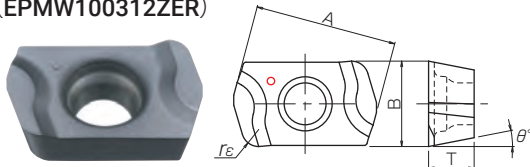
Shoulder milling insert for steel
(ZPMT1003**ZER-PL)



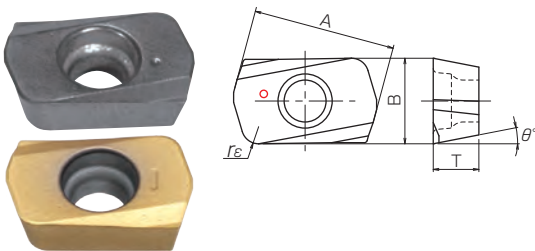
Shoulder milling insert for Ti-alloy
(ZPMT1003**ZER-SL)



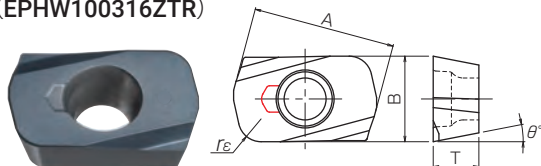
High feed insert for unfavorable condition
(EPMW100312ZER)



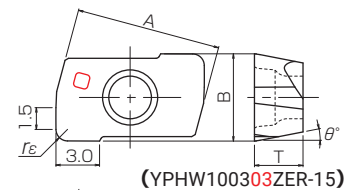
High feed insert for unfavorable condition
(EPMW100312ZTR)



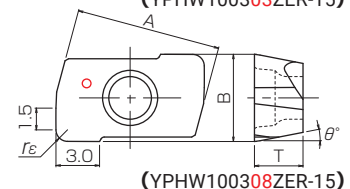
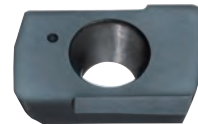
High hardened steel
(EPHW100316ZTR)



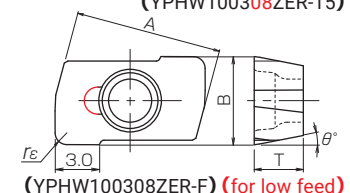
"MIRROR INSERT" for finishing side & bottom face
(YPHW1003**ZER-15)
(YPHW100308ZTR-F1)
(YPHW100308ZER-F)



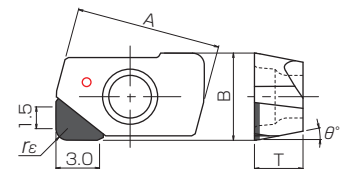
(YPHW100303ZER-15)



(YPHW100308ZER-15)

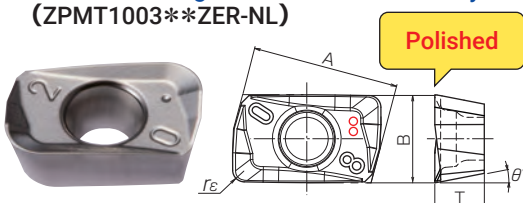


(YPHW100308ZER-F) (for low feed)

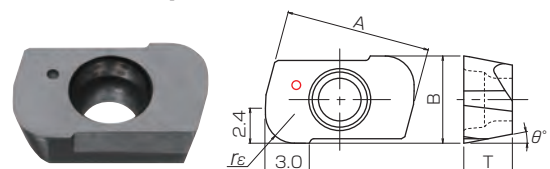


(YPHW100308ZTR-F1)

Shoulder milling insert for aluminum alloy
(ZPMT1003**ZER-NL)



"MIRROR INSERT" for finishing side & bottom face / contouring milling
(YPHW100320ZER-24)



MQX / QXP TYPE

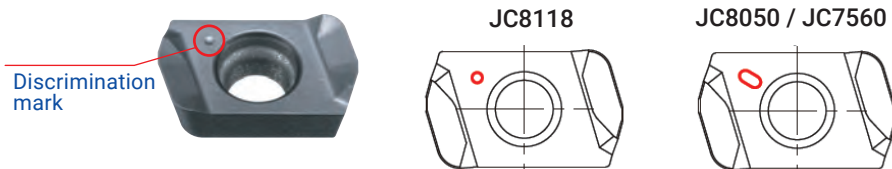
Inserts

Type	Cat. No.	Tolerance	PVD coated						Uncoated	Cermet	CBN	Dimensions (mm)				
			JC8118	DH102	JC7518	JC7560	JC8015	JC8050	FC18	CX75	JBN795	A	T	B	r_e	θ°
High feed insert	EPMT100312ZER	M	●			●		●				10	3.2	6	1.2	11°
	EPMT100320ZER	M	●									10	3.2	6	2.0	11°
High feed insert for unfavorable condition	EPMW100312ZER	M	●					●				10	3.2	6	1.2	11°
	EPMW100312ZTR	M	●			●		●								
High hardened steel	EPHW100316ZTR	H	●	●								10	3.2	6	1.6	11°
Shoulder milling insert for aluminum alloy	ZPMT100304ZER-NL	M							●			10.08	3.4	6	0.4	11°
	ZPMT100308ZER-NL	M							●			10.08	3.4	6	0.8	11°
	ZPMT100320ZER-NL	M							●			10.08	3.4	6	2.0	11°
Shoulder milling insert for steel	ZPMT100304ZER-PL	M	●	●				●		●		10.08	3.4	6	0.4	11°
	ZPMT100308ZER-PL	M	●	●				●		●		10.08	3.4	6	0.8	11°
	ZPMT100320ZER-PL	M	●	●				●		●		10.08	3.4	6	2.0	11°
Shoulder milling insert for Ti-alloy	ZPMT100304ZER-SL	M			●							10.08	3.4	6	0.4	11°
	ZPMT100308ZER-SL	M			●							10.08	3.4	6	0.8	11°
	ZPMT100320ZER-SL	M			●							10.08	3.4	6	2.0	11°
"MIRROR INSERT" for finishing side & bottom face / contouring milling	YPHW100303ZER-15	H		●			●			●		10.06	3.35	6	0.3	11°
	YPHW100308ZER-15	H		●						●		10.06	3.35	6	0.8	11°
	YPHW100308ZER-F	H					●					10.06	3.35	6	0.8	11°
	YPHW100308ZTR-F1	H									●	10.06	3.35	6	0.8	11°
	YPHW100320ZER-24	H		●			●					10.06	3.35	6	2.0	11°

10 inserts per case, but grade JBN795 insert is packed in 1 piece per case.

Discrimination of grade for MQX / QXP insert

Each grade shows different mark around the hole for fool proof.



Application for the choice of EP**type inserts

Materials	Carbon steel (C50, C55) Below 250HB				Die steel (1.2344, 1.2379) Below 255HB				Mold steel (1.2311, P20) 30-36HRC				Mold steel (1.2311, P21) 38-43HRC			
Cat. No. / Grades	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102
EPMT1003**ZER	☆	☆	☆		☆	☆	☆		☆	☆	☆		☆	☆		
EPMW100312ZER														○		
EPMW100312ZTR	○	○	◎		○	○	◎		○	○	◎		◎	○		
EPHW100316ZTR																

Materials	Hardened die steel (1.2344, 1.2379) 42-52HRC				Hardened die steel (1.2344, 1.2379) 55-62HRC				Grey & Nodular cast iron (GG, GGG) Below 300HB				Stainless steel Below 250HB			
Cat. No. / Grades	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102
EPMT1003**ZER	☆				×	×			○					◎	○	
EPMW100312ZER	○				○				◎					●		
EPMW100312ZTR	●				●				●		○					
EPHW100316ZTR	◎							◎								

Materials	(Ti-6Al-4V) Titanium alloy				(INCO718) Inconel			
Cat. No. / Grades	JC8118	JC8050	JC7560	DH102	JC8118	JC8050	JC7560	DH102
EPMT1003**ZER	○	○	◎		◎	○	○	
EPMW100312ZER		●				●		
EPMW100312ZTR								
EPHW100316ZTR								

- EPMT with chipbreaker
- EPMW without chipbreaker
- EPHW without chipbreaker

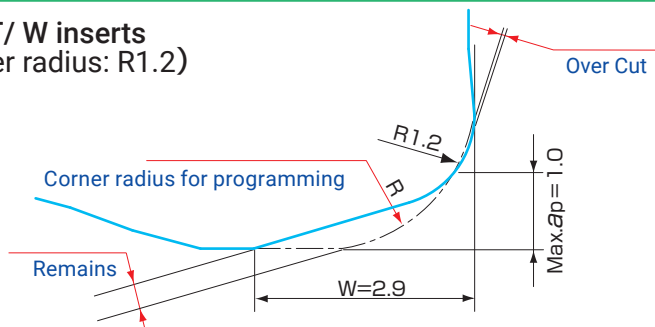
◎: First choice, Good condition ☆: Light cutting

○: Moderate condition ×: No good

●: Unfavorable condition

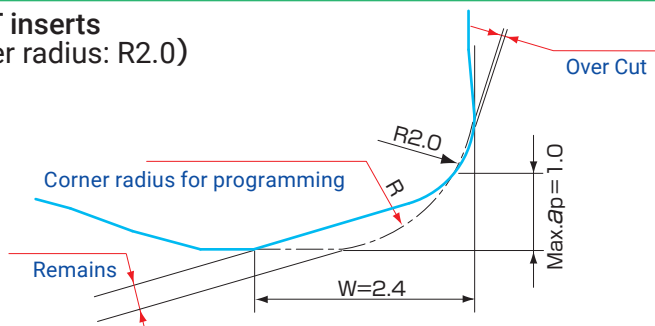
Definition of corner shape for programming

■ EPMT/ W inserts (Corner radius: R1.2)



Corner radius for programming	Over Cut (mm)	Remains (mm)
R1.0	0	0.57
R1.5 (Standard)	0	0.45
R2.0	0.04	0.33
R2.5	0.21	0.21
R3.0	0.40	0.09

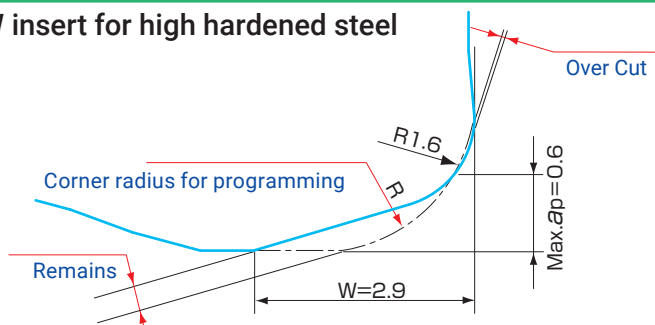
■ EPMT inserts (Corner radius: R2.0)



Corner radius for programming	Over Cut (mm)	Remains (mm)
R1.0	0	0.51
R1.5	0	0.31
R2.0 (Standard)	0	0.13
R2.5	0.12	0.04
R3.0	0.32	0

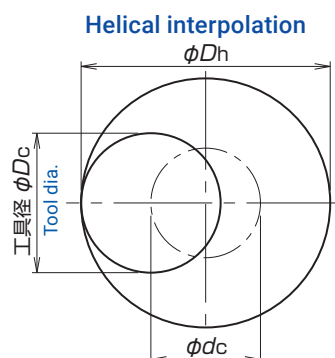
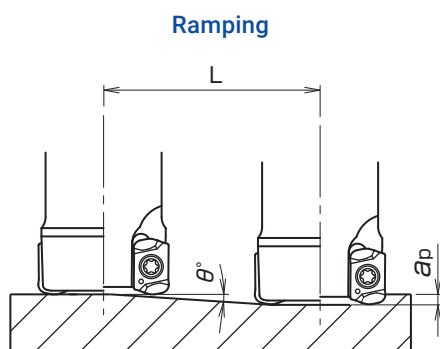
EPMT100320ZER type insert is able to reduce remains and lighten the burden imposed on next process.

■ EPHW insert for high hardened steel



Corner radius for programming	Over Cut (mm)	Remains (mm)
R1.0	0	0.42
R1.5 (Standard)	0	0.33
R2.0	0.01	0.23
R2.5	0.17	0.14
R3.0	0.37	0.05

Attention for profile milling with EPMT/W-type inserts



- Calculation of tool pass dia.

$$\phi dc = \phi D_h - \phi D_c$$

Tool pass dia. Bore dia. Tool dia.

- Depth of cut per one circuit should not exceed max. depth of cut ap.
- Down cutting is recommended, so tool pass rotation should be counterclockwise.

- In case of ramping and helical interpolation, apply 70% or less feed speed from standard cutting condition table.
- In case of drilling, apply 50% or less Z axis feed speed from standard cutting condition table.
- Long consecutive chips may come out in case of drilling, confirm the safe condition sufficiently.

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	Max. depth of cut (mm)	Ramping		Helical interpolation	
				Max. ramping angle θ°	L(mm) Total cutting length at Max. a_p	Min. bore dia. Dh min (mm)	Max. bore dia. Dh max (mm)
MQX-*016-M8	16	10.2	0.8	1° 48'	25.5	22	30
MQX-*017-M8	17	11.2	0.8	1° 36'	28.6	24	32
MQX-*020-M10	20	14.1	0.8	1° 24'	32.7	30	38
MQX-*021-M10	21	15.1	0.8	1° 18'	35.3	32	40
MQX-*025-M12	25	19.1	0.8	1°	45.8	40	48
MQX-*026-M12	26	20.1	0.8	0° 57'	48.2	42	50
MQX-*028-M12	28	22.1	0.8	0° 51'	53.9	46	54
MQX-*030-M16	30	24.1	0.8	0° 48'	57.3	50	58
MQX-*032-M16	32	26.1	0.8	0° 42'	65.5	54	62
MQX-*035-M16	35	29.1	0.8	0° 36'	76.4	60	68
MQX-*040-M16	40	34.1	0.8	0° 30'	91.7	70	78
MQX-*042-M16	42	36.2	0.8	0° 27'	101.9	74	82
QXP-*040R-16	40	34.1	1	0° 30'	114.6	70	78
QXP-8050R	50	44.1	1	0° 24'	143.2	90	98
QXP-*050R-22	50	44.1	1	0° 24'	143.2	90	98
QXP-8052R-22	52	46.1	1	0° 21'	163.7	94	102
QXP-8063R	63	57.1	1	0° 18'	191	116	124
QXP-8063R-22	63	57.1	1	0° 18'	191	116	124
QXP-8066R	66	60.1	1	0° 18'	191	122	130
QXP-8066R-27	66	60.1	1	0° 18'	191	122	130

Note) The ramping angle 0.5° or less is recommended (please refer to the above table).

High Precision

QM MAX

BARREL TOOL QM MAX

MQT type Modular head type $\phi 16 \sim \phi 35$

High precision
BARREL TOOL
Tuff Modular Heads System



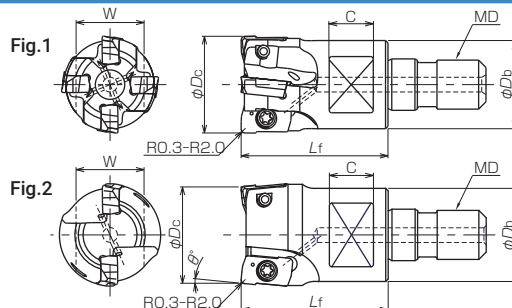
1. High precision QM Max MQT type improved balance of holder than conventional holders.
Possible to adapt multi-machining machines such as multi-tasking machines. Lined up high precision H grade inserts. High efficient machining is possible by adapting multi-blades specification.
→ Accuracy of tool dia. with master insert 0 ~ -0.03
(XPHW/ T type inserts)
2. Lineup holders with cutting edge angle 3°, 5°. Complex shape machining with inclination is possible by 3 axis machine.
3. Adopted 3 grades: PVD coated grade "JC8015" for general & mold steel, stainless steel and cast iron.
Cermet grade "CX75" for improving surface roughness.
And new PVD coated grade "DH102" for high speed machining in high hardened material.



MQT
TYPE

Modular head MQT type

Through coolant hole



Inclination angle θ°	Cat. No.	Stock	No. of inserts	Dimensions (mm)						Applicable inserts	Parts		Fig
				ϕD_c	L_f	ϕD_b	MD	C	W		Clamp screw	Wrench (not be included)	
													
0°	MQT-2016A00-M8	●	2	16	23	14	M8	8	12	XP**100308ZER-R YPHW1003**Z*R-** ZPMT1003**ZER-PL	TSW-2556H		1
	MQT-4020A00-M10	●	4	20	30	18	M10	9	14		TSW-2556H		
	MQT-5025A00-M12	●	5	25	35	22.5	M12	10	17		DSW-2563H		
	MQT-6032A00-M16	●	6	32	43	29	M16	12	22		DSW-2563H		
3°	MQT-6035A00-M16	●	6	35	43	29	M16	12	22		DSW-2563H	A-08	2
	MQT-2016A03-M8	●	2	16	23	14	M8	8	12		TSW-2556H		
	MQT-2020A03-M10	●	2	20	30	18	M10	9	14		TSW-2556H		
5°	MQT-2016A05-M8	●	2	16	23	14	M8	8	12		TSW-2556H		
	MQT-2020A05-M10	●	2	20	30	18	M10	9	14		TSW-2556H		

Note

1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. Please see page 5 for recommended tightening torque.
(When mounting M8 head to shank, recommend to use DIJET DS type spanner wrench.)

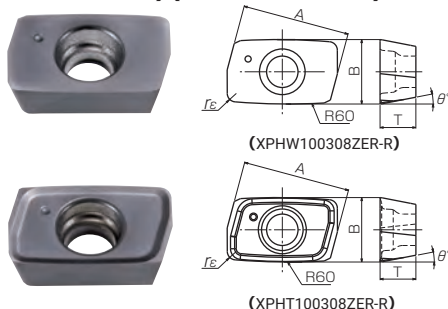
Clamp screw	Recommended torque
TSW-2556H	1.1
DSW-2563H	1.1

MQT
TYPE

Inserts

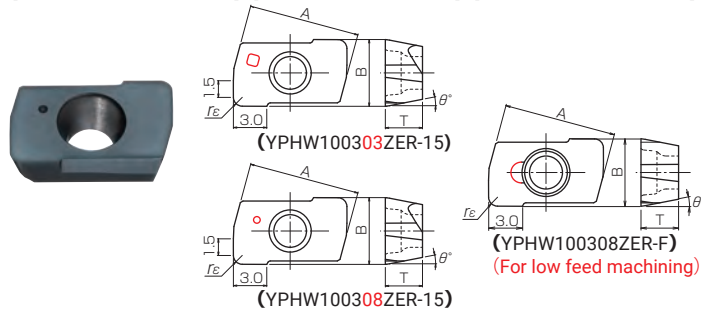
For tilted wall finishing

(XPHW100308ZER-R) (XPHT100308ZER-R)



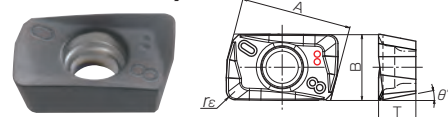
For finishing side face

(YPHW1003**ZER-15) (YPHW100308ZER-F) (YPHW100308ZTR-F1)

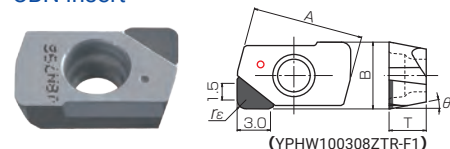


Shoulder milling insert (From semi-finishing to finishing)

(ZPMT1003**ZER-PL)



CBN insert



Type	Cat. No.	Tolerance	PVD coated				Cermet	CBN	Dimensions (mm)				
			JC8015	JC8050	JC8118	DH102			A	T	B	r_E	θ°
For tilted wall finishing	XPHW100308ZER-R	H	●			●	●		10.06	3.35	6	0.8	11°
	XPHT100308ZER-R	H	●				●		10.06	3.35	6	0.8	11°
For finishing side face	YPHW100303ZER-15	H	●			●	●		10.06	3.35	6	0.3	11°
	YPHW100308ZER-15	H				●	●		10.06	3.35	6	0.8	11°
	YPHW100308ZER-F	H	●						10.06	3.35	6	0.8	11°
	YPHW100308ZTR-F1	H						●	10.06	3.35	6	0.8	11°
Shoulder milling insert (From semi-finishing to finishing)	ZPMT100304ZER-PL	M		●	●	●	●		10.08	3.4	6	0.4	11°
	ZPMT100308ZER-PL	M		●	●	●	●		10.08	3.4	6	0.8	11°
	ZPMT100320ZER-PL	M		●	●	●	●		10.08	3.4	6	2.0	11°

10 inserts per case, but grade JBN795 insert is packed in 1 piece per case.

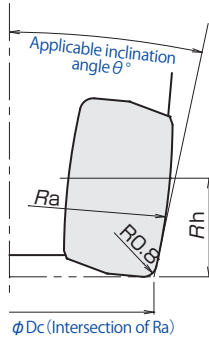
● : Standard stock items ◎ : Soon to be stocked ○ : Soon to be deleted



Definition of flute shape for programming

MQT- · · · A03/A05 Holder

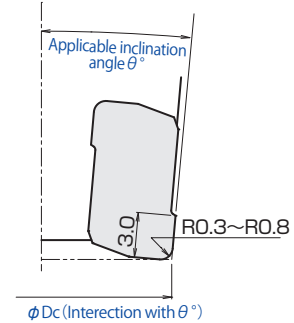
Fig.1 XPHW/T type



● XPHW Accuracy of tool dia. with master insert 0~—0.03

Applicable inclination angle θ°	Cat. No.	Dimensions (mm)			Fig
		ϕDc	Ra	Rh	
1°~6°	MQT-2016A03-M8	15.5	R64.19	8.76	1
3°~8°	MQT-2016A05-M8	15.5	R64.34	10.98	1
1°~6°	MQT-2020A03-M10	19.5	R63.34	8.67	1
3°~8°	MQT-2020A05-M10	19.5	R63.46	10.85	1

Fig.2 YPHW type

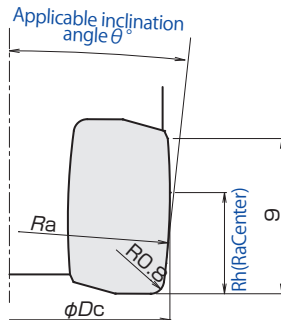


● Tool dia. with YPHW type inserts (Inclination angle : 3°, 5°)

Applicable inclination angle θ°	Cat. No.	Dimensions (mm)	Fig
		ϕDc	
3°	MQT-2016A03-M8	16	2
5°	MQT-2016A05-M8	16	2
3°	MQT-2020A03-M10	20	2
5°	MQT-2020A05-M10	20	2

MQT- · · · A00 Holder

Fig.3 XPHW/T type



● Accuracy of tool dia. with master insert 0~—0.03

Applicable inclination angle θ°	Cat. No.	Dimensions (mm)			Fig
		ϕDc	Ra	Rh	
0°~3°	MQT-2016A00-M8	16	R63.27	5.48	3
0°~3°	MQT-4020A00-M10	20	R64.29	5.48	3
0°~3°	MQT-5025A00-M12	25	R63.26	5.48	3
0°~3°	MQT-6032A00-M16	32	R62.41	5.48	3
0°~3°	MQT-6035A00-M16	35	R62.16	5.48	3

● Tool dia. with YPHW type inserts (Inclination angle : 0°)

Applicable inclination angle θ°	Cat. No.	Dimensions (mm)	Fig
		ϕDc	
0°	MQT-2016A00-M8	16	—
0°	MQT-4020A00-M10	20	—
0°	MQT-5025A00-M12	25	—
0°	MQT-6032A00-M16	32	—
0°	MQT-6035A00-M16	35	—

Note

- Shape of cutting edge is different depends on combination of inserts and holder.
Please refer to the table above.
- Regarding the detail of the tool shape, please download DXF/STEP file from "DJ-Search".
Please scan the following QR code.



Please scan the QR code for
recommended cutting conditions

QM MILL



QM MAX



High Precision
QM MAX





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