

# Application Form

Customer Name:	Date (DD/MM/YY):
Contact Email:	

## PBA DDR MOTOR SELECTION QUESTIONNAIRE

### 1. Application Description

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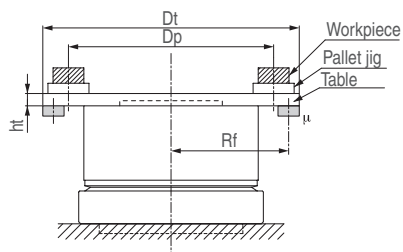
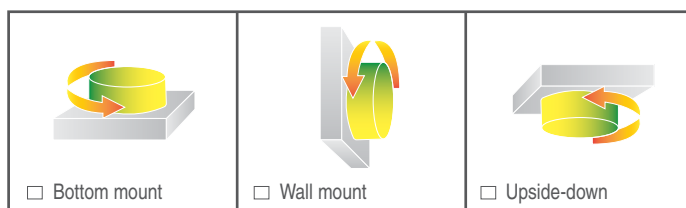
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### 1a. Application Sketch With Approx Dimensions

### 2. Load Parameter (Please Select Accordingly)

a) Load moment of inertia		kg.m <sup>2</sup>	
Frictional torque		N.m	
Table	b) Table top shape	Disk	Rectangular Plate
	Material	Steel	Aluminium
	Dimension	Dt (mm)	
	Plate thickness	ht (mm)	
	Weight	m1 (kg)	
Workpiece	c) Quantity	nw (pc.)	
	Max. weight	mw (kg/pc.)	
	Installation center	Dp (mm)	
Pallet Jig	d) Quantity	np (pc.)	
	Max. weight	mp (kg/pc.)	

### Mounting Requirements



### 3. Motion Parameter

	Profile 1	Profile 2	Profile 3
Rotational angle ( $\theta$ )	°		
Moving time	s		
Moving speed	rps		
Dwell time	s		

### 4. Command/Bus (Please Select Accordingly)

Pulse and direction	Analog	EtherCAT	IO trigger	Other : _____
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### 5. Encoder (Please Circle Accordingly)

Incremental	Analog				
Resolution	cpr	327680	518400	655360	864000

### 6. Motion Precision

Accuracy	arcsec	
Repeatability	arcsec	

### 7. Mechanical Specification (Please Select Accordingly)

Axial run-out	um	5	10	20
Radial run-out	um	5	10	20
Space constraints ( H x W )	mm			

### 8. Working Environment

Room temperature	°C	
Clean room class		

### 9. Additional Requirements (Please Tick (✓) Accordingly)

Motor extension cable length	Flexible cable	Amplifier	Controller	Other: _____
m				

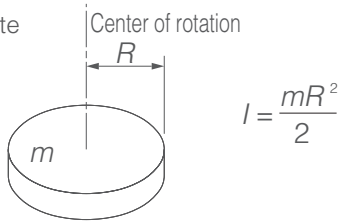
**10. Remarks:** If you have any special motion request for sizing procedure, please specify your requirement in below remarks.

# Formula of moment of inertia

( m : Weight of object (kg))

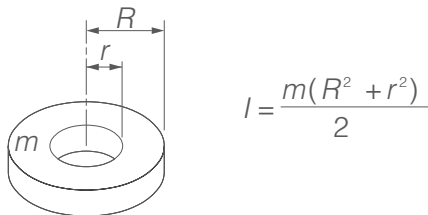
## ● A When rotation center is own shaft

1. Circular plate (cylinder)



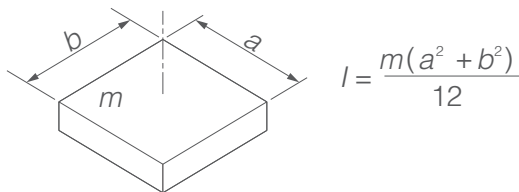
$$I = \frac{mR^2}{2}$$

2. Hollow circular plate (hollow cylinder)



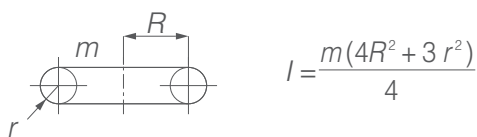
$$I = \frac{m(R^2 + r^2)}{2}$$

3. Direct hexagonal side finish body



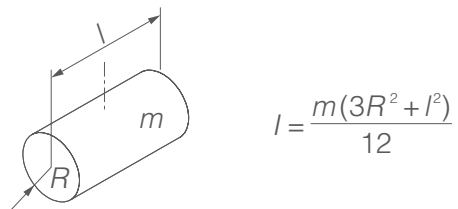
$$I = \frac{m(a^2 + b^2)}{12}$$

4. Ring



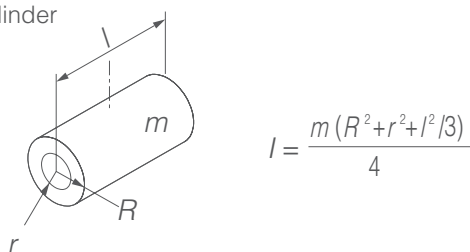
$$I = \frac{m(4R^2 + 3r^2)}{4}$$

5. Cylinder



$$I = \frac{m(3R^2 + l^2)}{12}$$

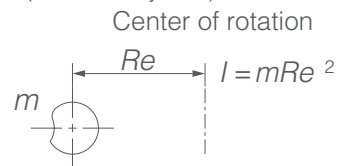
6. Hollow cylinder



$$I = \frac{m(R^2 + r^2 + l^2/3)}{4}$$

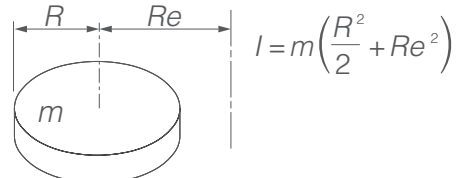
## ● B When rotation center differs from own shaft

1. Any shape (if small very well)



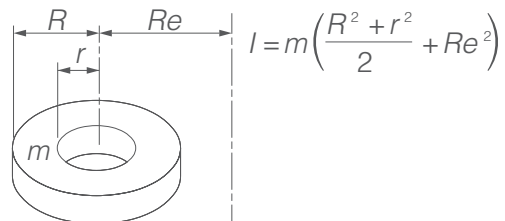
$$I = mRe^2$$

2. Circular plate (cylinder)



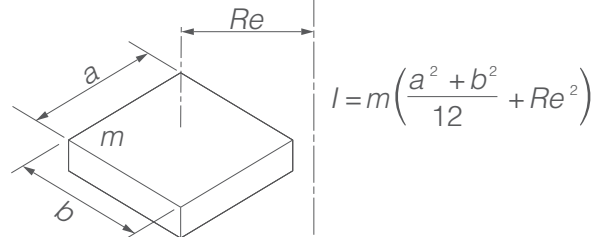
$$I = m\left(\frac{R^2}{2} + Re^2\right)$$

3. Hollow circular plate (hollow cylinder)



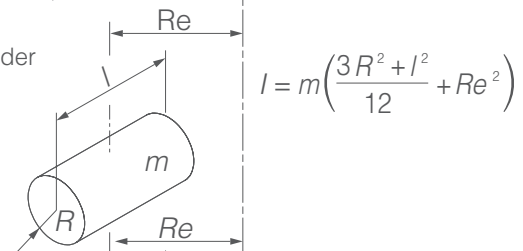
$$I = m\left(\frac{R^2 + r^2}{2} + Re^2\right)$$

4. Direct hexagonal side finish body



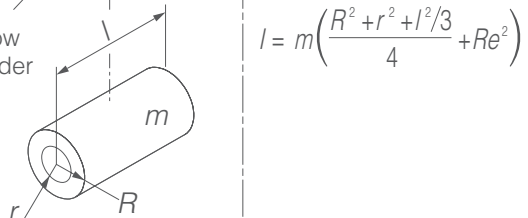
$$I = m\left(\frac{a^2 + b^2}{12} + Re^2\right)$$

5. Cylinder



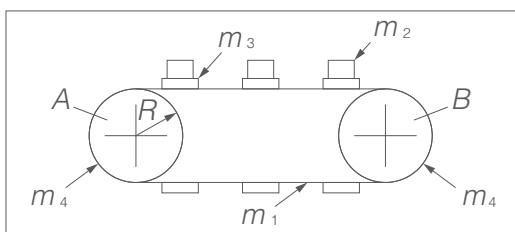
$$I = m\left(\frac{3R^2 + l^2}{12} + Re^2\right)$$

6. Hollow cylinder



$$I = m\left(\frac{R^2 + r^2 + l^2/3}{4} + Re^2\right)$$

## ● For conveyer



$m_1$ : Chain weight

$m_2$ : Workpiece total weight

$m_3$ : Jig (pallet) total weight

$m_4$ : Sprocket A (drive) + B total weight

$R$ : Drive side sprocket radius

$$I = (m_1 + m_2 + m_3 + \frac{m_4}{2}) \cdot R^2$$