



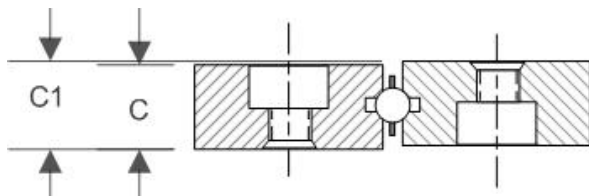
## FMB - Flat Mounted Table Bearing

*Mfg By Precisie Metaal*

FMB flat mounted table bearings are ideal in rotary stage, gimbal, turret and other instrument quality applications where you wish to move an object in a very precise circular or oscillating motion. Such examples include medical scanning, instrumentation, and fine measurement applications where micro level control is desired.

Axial run-out down to 1 micron is achieved with specially designed and manufactured raceway surfaces. Wobble and eccentricity are tightly controlled to a 2 micron or less level on the smallest bearing size.

Total height ranges from 8.5 to 12.5 mm allowing for a very low profile. There are nine standard sizes available. Standard product sizes have IDs ranging from 40 to 250 mm with corresponding ODs ranging from 120 to 350 mm. Custom sizes up to 500 mm OD are also available.



A very small axial offset of 0.5 mm between the inner and outer races helps maintain the low profile. See sketch to the left ( $C1 - C = 0.5 \text{ mm}$ ).

For ease of mounting directly to flat surfaces FMB bearing includes counter bored tapped holes in the inner and outer rings.

Inner and outer rings are constructed of high quality bearing steel. The super precision steel balls are retained with a low friction PTFE filled plastic cage.



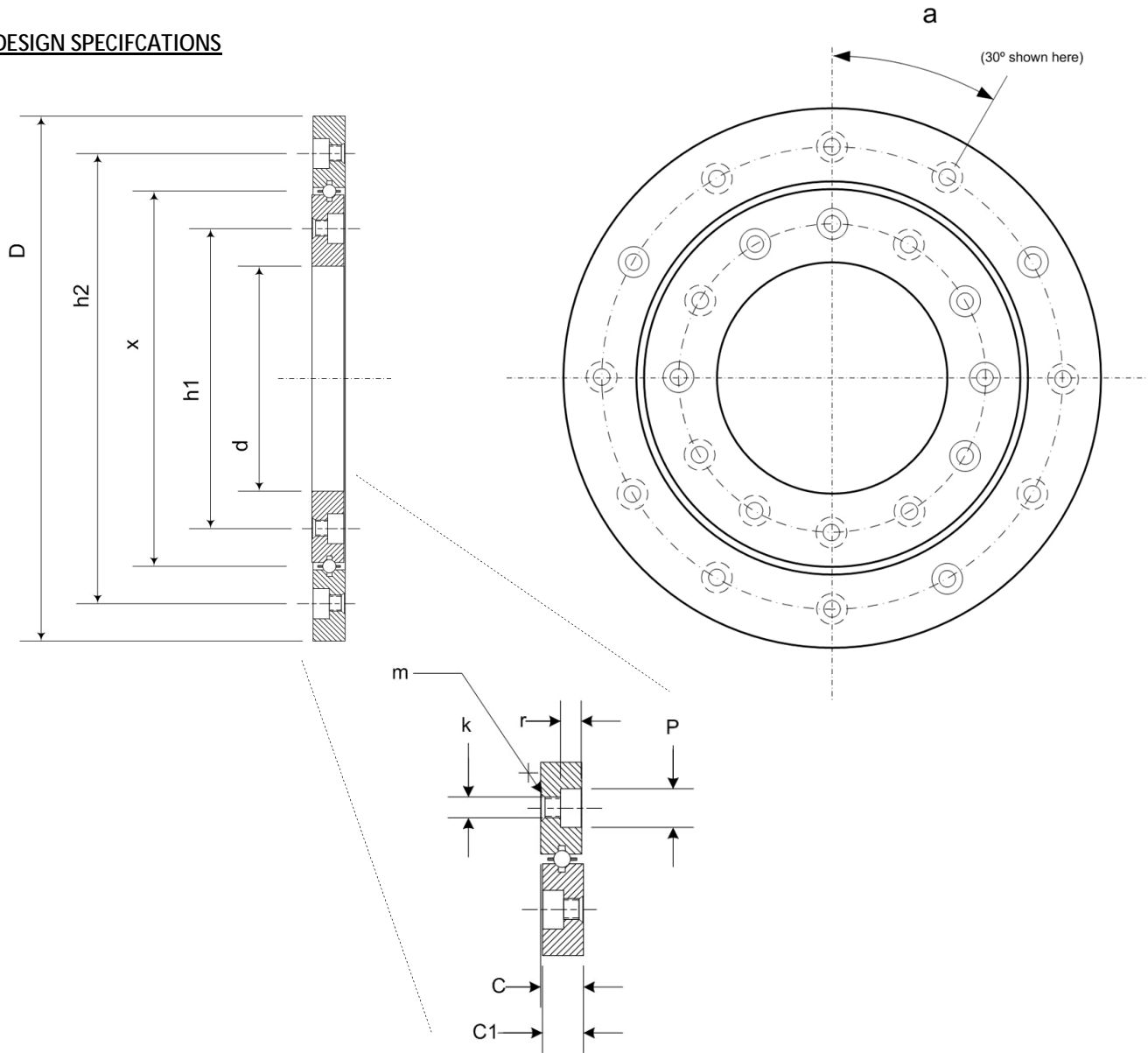
Product is RoHS compliant.

The FMB bearing can replace a back-to-back or face-to-face mounted angular contact bearing pair at a substantial savings of space and cost.

Preload can be adjusted for your application. Special or custom designs will be considered.



**DESIGN SPECIFICATIONS**



Available Sizes Listed Below:

Part Number	D	d	C	C1	h1	h2	x	m	k	p	r	a	Load Rating C dyn (N)
FMB-40.120	120	40	8.5	8	60	100	80	M5 x 0.8	4.3	8	4.5	45°	6075
FMB-60.140	140	60	8.5	8	80	120	100	M5 x 0.8	4.3	8	4.5	45°	7047
FMB-80.160	160	80	8.5	8	100	140	120	M5 x 0.8	4.3	8	4.5	45°	8100
FMB-100.180	180	100	8.5	8	120	160	140	M5 x 0.8	4.3	8	4.5	30°	9153
FMB-120.200	200	120	8.5	8	140	180	160	M5 x 0.8	4.3	8	4.5	30°	10,125
FMB-140.220	220	140	8.5	8	160	200	180	M5 x 0.8	4.3	8	4.5	30°	11,178
FMB-150.250	250	150	10.5	10	175	225	200	M6 x 1.0	5.2	9.5	5.5	30°	12,717
FMB-200.300	300	200	10.5	10	225	275	250	M6 x 1.0	5.2	9.5	5.5	30°	15,228
FMB-250.350	350	250	12.5	12	275	325	300	M6 x 1.0	5.2	9.5	5.5	30°	20,331



## ACCURACY SPECIFICATIONS

FMB flat mount bearings are manufactured in two quality classes Normal and Precision class. See table below for details.

Two preload classes VO and V1 are available.

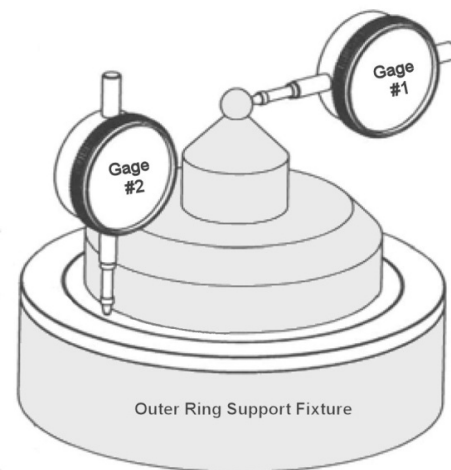
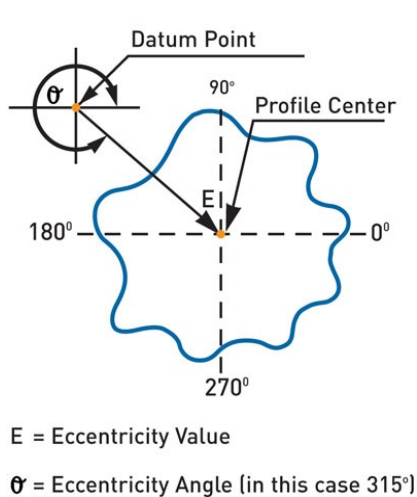
VO – for application requiring very smooth almost friction free operation

V1 – for applications requiring high rigidity, vibration, or large overhung load

Unless otherwise specified FMB bearings are supplied with zero clearance.

**Axial Run-out:** The maximum axial variation of outer ring compared to inner ring as measured by gage #2.

**Eccentricity:** The deviation of the center of a profile from its mean position or datum over one revolution. It is a vector quantity with magnitude and direction. See sample plot in figure below.



**Wobble:** Angular deviation of the axis of rotation over one revolution as measured by gage #1.

Part Number	AXIAL RUNOUT ( $\mu\text{m}$ )		ECCENTRICITY VALUE ( $\mu\text{m}$ )		WOBBLE ( $\mu\text{rad}$ )	
	N class	P class	N class	P class	N class	P class
FMB-40.120	4	1	3	1	3	2
FMB-60.140	4	2	3	2	3	3
FMB-80.160	4	2	4	2	4	3
FMB-100.180	5	2	5	2	4	4
FMB-120.200	5	2	5	2	5	4
FMB-140.220	6	3	6	3	6	4
FMB-150.250	8	4	8	4	8	6
FMB-200.300	8	5	8	5	8	6
FMB-250.350	10	6	10	6	10	6