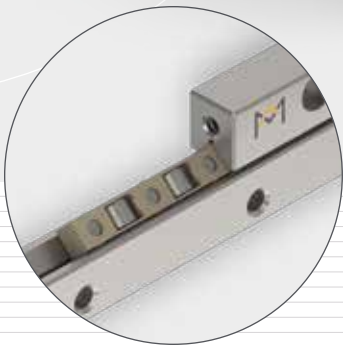
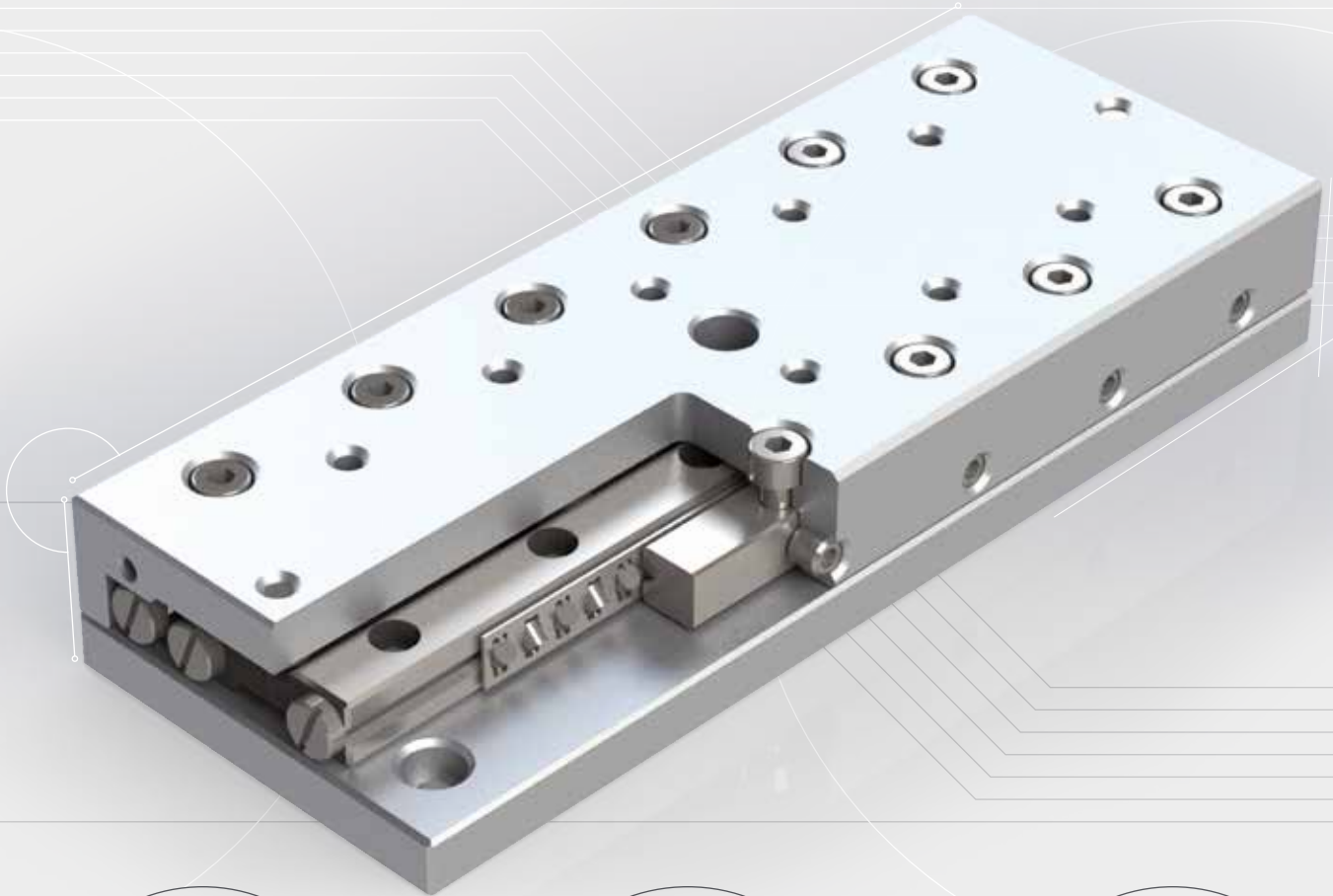


OVER
50
YEARS
of success



FLAT MOUNTED TABLE BEARING TYPE FMB



Company's headquarters in Dedemsvaart, Netherlands



Innovative design and manufacture of precision linear bearings, frictionless slides, positioning stages and engineered-to-spec motion systems.





INTRODUCTION

PM has engineered and manufactured innovative and top quality precision linear bearings and slides at our research and production facilities in the Netherlands since 1966. We are experts in finding solutions that meet the specific requirements of a wide variety of industry applications. A trusted partner for hundreds of industry heavyweights around the globe, our client base ranges from the semiconductor industry, medical technology and metrology sectors, to industrial automation, space and defence industries.

COMPANY

The key to the exceptional quality of PM products lies in our highly specialised manufacturing machinery and facilities. Specifically, the PM production facility is temperature controlled and built to suppress and minimise distortions caused by vibration. Our precision rails are produced with remodeled, non-standard machinery. The resulting high quality of our products makes PM an attractive supplier for various high-tech industries including semiconductor, optical and life sciences.

NEW PRODUCTS

We constantly deploy the latest technologies to create new products or functionally enhance existing products in our range. Clients typically choose to work with PM for our proven ability to meet a complex set of requirements, mostly including maximum performance of parts in the most compact of spaces. We are always working to further refine the performance of PM products, in order to ensure that we consistently meet the requirements of clients in high-tech industries. The following new PM products are the result of our relentless drive to be operating at the cutting edge of the latest technologies:

- **Linear bearing type RNG:** is a compact design with high load capacity. Available with optional Anti Cage Creep solution (ACC). Perfectly integrates robustness and compactness.
- **Micro roller slide type PMMR:** featuring crossed-rollers. Designed for best performance in micro-sized applications.
- **Flat Mounted Bearing type FMB:** is an extremely flat, low-friction and easy to install table bearing.

CUSTOMISED PARTS

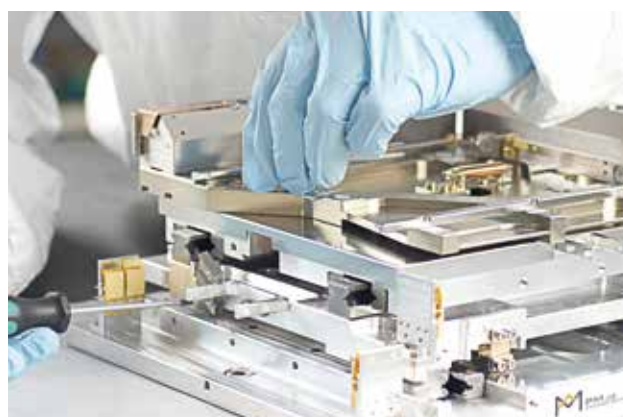
In addition to offering high-quality standardised products, we design and manufacture engineered linear bearings and positioning systems meeting our clients' application-specific requirements.

PM combines the latest knowledge from its in-house R&D department, developments in manufacturing technology

more widely as well as performance insights generated by industry deployment of precision applications.

Over the past 50 years PM has expanded its reach to serve a global client base. Our experienced, multilingual engineering and sales teams stand ready to work with you in realising your demanding projects.

Technical data in this catalogue is based on standard quality grade Q8 (no suffix). For higher quality grades please contact our product experts to discuss your requirements.



DISCLAIMER

This catalogue is the result of a full revision of its previous edition. It reflects the latest progress in linear bearings technology as well as insights gathered from industry application. Any information from previous editions that does not correspond to the data in this current edition, is therefore invalid. Due to the continuous development of our product range, we reserve the right to make modifications without prior notice.

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The precision Flat Mounted table Bearing (FMB) consists of two through hardened standard bearing steel rings and a teflon cage filled with steel balls precision-matched. The custom designed ball-groove increases load capacity and stiffness in moment loading while guaranteeing high precision, longer service life and a very low coefficient of friction. Pre-drilled attachment holes ensure easy installation.

MATERIAL

Rings and balls are made of bearing steel 1.3505, hardness 58 - 62 HRC. Ball cage material teflon

FEATURES AND SPECIFICATION

- Low profile and space saving design
- Simple installation thanks to pre-drilled attachment holes, the bearing can be installed on the mounting surface and tightened down by attachment screws
- Maintenance free teflon ball cage
- High load capacity: the custom developed gothic arc shaped V-groove, by virtue of its geometry, provides a greater contact area and high precision. They are factory preloaded by means of geometry pairing
- FMB bearings operate under different conditions and therefore supplied in two preload classes V0 (0.02C) and V1 (0.08C)
N-class: the industry standard
P-class: only available on request
- Space-saving design: This bearing is a great option for reducing the size of many types of precision rotary bearing systems. The FMB's compact design, as low as 8 mm in height, can replace a double back or face mounted angular contact bearing pair, constituting substantial savings in space and cost

OPTIONAL FEATURES

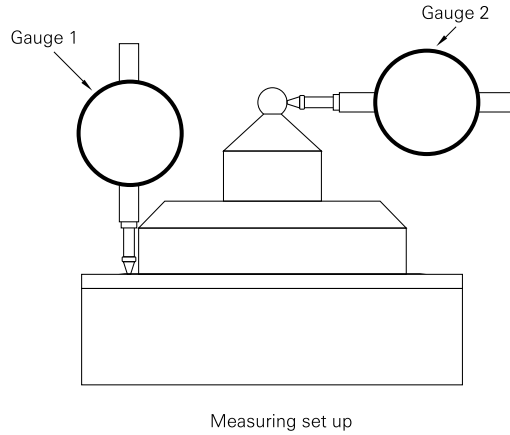
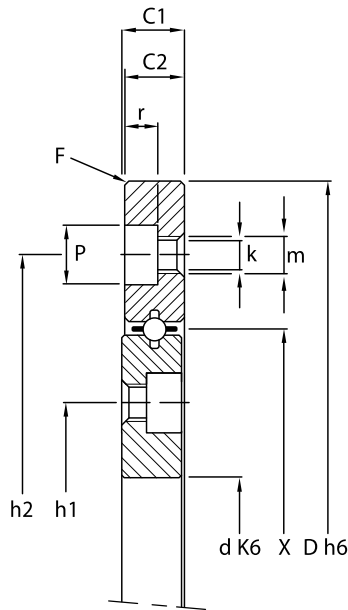
- Defined push force
- Outside diameters up to 500 mm
- Full stainless steel version
- Customised pre-drilled holes
- Crossed roller version
- Double row balls
- Special coatings such as Durni-coat to improve corrosion resistance
- UHV compatible version incl. lubricants
- Cleaning and packaging available according to various ISO cleanroom standards
- Defined preload

ORDER NOTES

Please specify the following in your order note:

- Model no. and quantity needed
- Preload class and precision class

Example: 2 pieces type FMB 60.140.V0.N



| Type | Main dimensions | | | | | | | | | | | z ² | C _{dyn} ¹ (N) |
|--------------------|-----------------|------|------|----|-----|-----|-----|----|-----|-----|-----|----------------|--------------------------------------|
| | D h6 | d K6 | C | C1 | h1 | h2 | X | m | k | p | r | | |
| FMB 40.120 | 120 | 40 | | | 60 | 100 | 80 | | | | | 8 | 6070 |
| FMB 60.140 | 140 | 60 | | | 80 | 120 | 100 | | | - | | 8 | 7047 |
| FMB 80.160 | 160 | 80 | 8.5 | 8 | 100 | 140 | 120 | M5 | 4.3 | 8 | 4.5 | 8 | 8100 |
| FMB 100.180 | 180 | 100 | | | 120 | 160 | 140 | | | | | 12 | 9153 |
| FMB 120.200 | 200 | 120 | | | 140 | 180 | 160 | | | | | 12 | 10.125 |
| FMB 140.220 | 220 | 140 | | | 160 | 200 | 180 | | | | | 12 | 11.178 |
| FMB 150.250 | 250 | 150 | 10.5 | 10 | 175 | 225 | 200 | M6 | 5.2 | 9.5 | 5.5 | 12 | 12.717 |
| FMB 200.300 | 300 | 200 | | | 225 | 275 | 250 | | | | | 12 | 15.228 |
| FMB 250.350 | 350 | 250 | 12.5 | 12 | 275 | 325 | 300 | M6 | 5.2 | 9.5 | 5.5 | 12 | 20.331 |

¹ Load ratings according to ISO 281

Units: mm

² Number of attachment holes per ring

| Type | Weight (kg) | Axial runout (μm) | | Eccentricity (μm) | | Wobble (μm) | |
|--------------------|----------------|-------------------|---------|-------------------|---------|-------------|---------|
| | | N Class | P Class | N Class | P Class | N Class | P Class |
| FMB 40.120 | 0.57 | 4 | 1 | 3 | 1 | 3 | 2 |
| FMB 60.140 | 0.72 | 4 | 2 | 3 | 2 | 3 | 3 |
| FMB 80.160 | 0.90 | 4 | 2 | 4 | 2 | 4 | 3 |
| FMB 100.180 | 1.00 | 5 | 2 | 5 | 2 | 4 | 4 |
| FMB 120.200 | 1.15 | 5 | 2 | 5 | 2 | 5 | 4 |
| FMB 140.220 | 1.30 | 6 | 3 | 6 | 3 | 6 | 4 |
| FMB 150.250 | 2.30 | 8 | 4 | 8 | 4 | 8 | 6 |
| FMB 200.300 | 2.90 | 8 | 5 | 8 | 5 | 8 | 6 |
| FMB 250.350 | 4.15 | 10 | 6 | 10 | 6 | 10 | 6 |

Axial run-out (gauge 2): maximum axial variation of outer ring in comparison to the centre of rotation.

Eccentricity: also referred to as concentricity, defines the deviation of the centre of rotation from its mean position over one revolution.

Wobble (gauge 1): angular deviation of the axis of rotation over one revolution.

Bold = Short lead time item

Regular = Long lead time item - please ask us about prices and lead times



CUSTOMISED PRODUCTS

Ball or roller diameter and preloaded precision concentricity guide.

Outer diameter sizes available up to 500 mm!

Please contact us for expert product advice.

