

GMN

GMN Paul Müller Industrie GmbH & Co. KG manufactures high precision ball bearings, machine spindles, freewheel clutches and non-contact seals for a broad spectrum of applications at its Nu-remberg, Germany plant.

A global GMN service network offers competent customer consul-tation and individualized solutions.

GMN Quality management – tested and certified

GMN guarantees utmost quality for its products and services that is based on long-term reliability. Highly modern develop-ment and production methods ensure products that always represent state-of-the-art technology.

All GMN corporate divisions are certified to DIN ISO 9001:2008.

GMN – Safeguarding the future

For GMN, progress means the best possible customer support combined with performance-oriented optimization of its technical products. This claim is realized at GMN under especially strict observance of national and international environmental standards with regard to efficient, responsible utilization of ecological resources.

Internet

At our Internet site www.gmn.de we provide comprehensive product information that can be downloaded.

GMN Paul Müller Industrie GmbH & Co. KG

Äußere Bayreuther Str. 230 · D-90411 Nürnberg

Phone: +49 (0) 911.5691-0 · Fax: +49 (0) 911.5691-221

www.gmn.de

Ball bearings:

Phone: +49 (0) 911.56 91-249 · Fax: +49 (0) 911.5691-587

Mail: vertrieb.kula@gmn.de

Official GMN Representative:



High precision ball bearings
Standard program
Special applications
Service

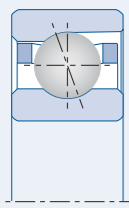


Standard program

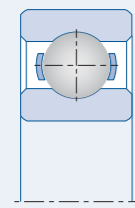
Special applications

Service

Spindle bearing



Deep groove ball bearing



Types of bearings

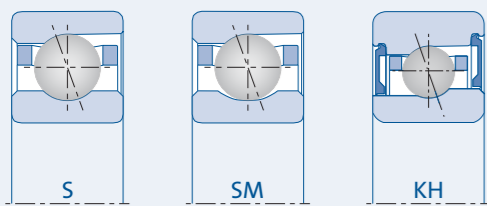
GMN produces spindle and deep groove ball bearings in the precision classes P4/ABEC 7 to P2/ABEC 9 for applications with the highest demands. Their reliability, precision and quality set the standard internationally.

The large product range of spindle bearings and wide variety of bearing series and sizes, with bore sizes from 5 – 120 mm, always provides an optimum solution for customers with regard to loading, rigidity, speed and service life.

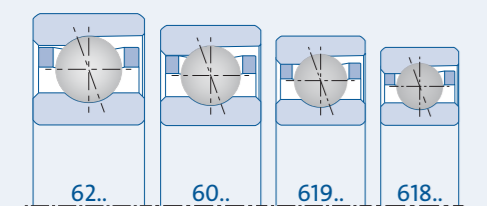
The KH spindle bearing series can be supplied as open version for oil lubrication or as sealed version with for-life grease lubrication.

GMN high precision ball bearings are available with contact angle C, E or as special design with 18° contact angle.

Bearing types



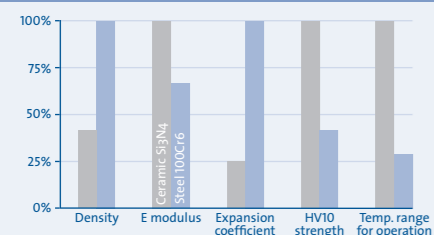
Bearing series



Cages



Ball materials



Cages

GMN high precision ball bearings are available with TA cages made of textile reinforced phenolic resin or as TXM cages made of PEEK (polyetheretherketone).

Materials

GMN bearings with rings and balls made of ball bearing steel 100Cr6 (SAE 52100) are used in many applications. Hybrid bearings with rings made of 100Cr6 and balls made of silicon nitride Si₃N₄ are often a technical and economic alternative for applications with high speeds and loads. All bearings can be supplied as hybrid version.

Touchdown bearings



Vacuum technology



Special bearings / Bearing systems

From idea to solution

In addition to the main program, GMN also offers the possibility to find new solutions thanks to its engineering and flexible manufacturing areas. The products range from special bearings to ready-to-install bearing systems.

Technical benchmarks that are founded on detailed basic developments are set for various applications:

- Touchdown bearings
- Vacuum technology / Turbomolecular pumps
- Medical technology / X-ray
- Measurement / Navigation technology
- Bearing systems
- Machine tool applications

Medical technology / X-ray



Measurement / Navigation technology



Bearing systems



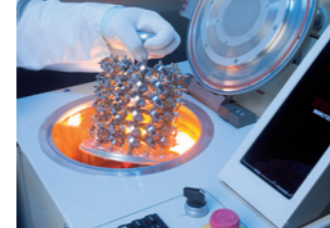
Machine tool applications



GMN PVD sputtering system



Plasma cleaning



Technology

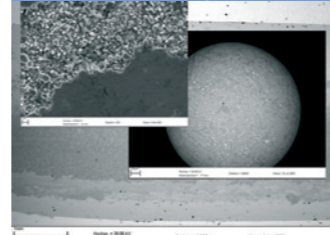
GMN: proven success

The continuous development of key competences, committed employees, a focus on quality and the careful selection of suppliers are guarantees of delivery dependability and quality.

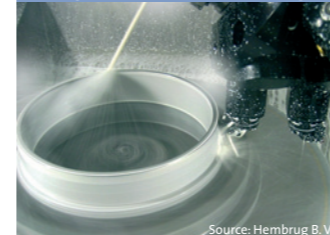
The use of the most modern technology such as CBN grinding, hard turning and PVD sputtering form the basis for flexible solutions at the cutting edge of technology.

Innovative cost-optimised products demand the application of modern methods like 6-Sigma, TEM, SEM, as well as the close collaboration with customers, universities and competent business partners.

SEM images



High-end manufacturing



Consultation



Consultation

On the basis of long experience in the practical application of machine components, GMN provides comprehensive consultation and services in the field of high precision ball bearings regarding the following topics (amongst others):

- Bearing selection, bearing calculation, service life calculation
- Tribology, lubrication, lubricant selection
- Optimizations for special applications
- Special solutions

“Globus“ calculation software

The correct bearing for a particular application can be selected quickly and easily using the Globus calculation software. It helps with frequency analyses and has its own extendable lubrication database.

“Globus“



Bearing analysis

GMN offers comprehensive methods for bearing analysis such as the following (amongst others):

- Noise test
- Metrological analysis
- Microscopic analysis
- Lubricant analysis

Bearing analysis



Training courses

GMN provides qualified training courses in theory and practice for high precision ball bearings and their applications, both at customer locations and also at our premises.

The customer-specific contents of the training courses are selected from the following topics:

- Basics: products, designs, ...
- Engineering: nomenclature, bearing selection, ...
- Assembly: control measurements, lubrication, ...
- Bearing analysis: methodology, analysis options at GMN, ...