



Experience Reliability Innovation

Three words that encapsulate the reasons why Michell Bearings is the brand name that engineers throughout the world have come to trust.



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About us

“This provides more accurate and reliable performance predictions than with any other commercially available software.”

We believe that a key factor in the success of our business is our understanding of the market sectors in which we operate and the knowledge we have of both the products we design and the applications they work within. With this experience and knowledge we can add value to your project team.

The company's in-house design engineers work alongside its specialist manufacturing team to provide customers with high quality, innovative hydrodynamic whitmetal and Polytetrafluoroethylene (PTFE) lined bearings serving a range of industrial, commercial marine and naval markets.

Following the life cycle of each product, we offer comprehensive equipment supply and customer support with dedicated service and repair departments.

Our long established global network can also provide support wherever you are in the world.

Our management systems and processes have been developed with our customers and our employees at the heart of them and are approved to the following standards: BS EN ISO 9001:2008, ISO14001:2004 and OHSAS 18001:2007.

Innovation

In order to support critical applications in industries where products are required to meet stringent specifications and perform in demanding environments, Michell Bearings has developed unique performance software tailored to our products.

This provides more accurate and reliable performance predictions than with any other commercially available software. Results from the software, which are backed up by years of product research and development testing, give our customers peace of mind and confidence in Michell Bearings' ability to deliver safe and reliable bearing solutions.

Our in-house engineering team and our 100 years of experience in bearing design provides our clients with innovative engineering solutions to suit each individual application.



Our heritage

“As the inventor of the hydrodynamic bearing over 100 years ago, Michell Bearings continues to develop its products to meet the changing needs of industry.”

It was in 1905, nineteen years after Osborne Reynolds had considered the lubrication of plane surfaces, that Anthony George Malden (AGM) Michell, found a solution to Reynolds' equation, which took account of side leakage.

In the same year, AGM Michell patented a type of bearing in which the load was carried upon hydrodynamic oil films generated by a series of pivoting whitemetal (or babbitt) faced pads. The principle was applied to both thrust and journal bearings and is now universally known as the Michell Bearing.

Michell Bearings was established in Newcastle upon Tyne, United Kingdom, in 1920. Principal shareholders at that

time were Vickers, Fairfield Rowan, John Brown Engineering and Cammel Laird. On 1 January 1969, Vickers purchased 100% of the shareholding; the integration being fully completed by 1 January 1971.

During 1994, Michell Bearings set up a joint venture company in India to manufacture bearings for the Indian market. Michell Bearings India, located in Bangalore, commenced production in 1995.

Following the acquisition of Vickers in 1999, Michell Bearings became part of a grouping of businesses within Rolls-Royce Power Engineering plc.

Michell Bearings was then acquired by British Engines in November 2015 to become part of the established British Engines Group of companies. As the inventor of the hydrodynamic bearing over 100 years ago, Michell Bearings continues to develop its products to meet the changing needs of industry.

Now, state of the art technology, decades of sector experience and unrivalled quality systems mean that Michell Bearings has a large, loyal customer base and a reputation as a leading light in bearing design and manufacture.



Product solutions

“Investment in research and development is key to us retaining our reputation in the market both in our design and manufacturing processes.”

We understand the importance of a reliable and trustworthy supply chain in helping you achieve your business objectives. Our priority is to provide peace of mind for customers and we achieve this through working in partnership with our clients, offering a total customer support model.

Working in partnership with our clients enables our engineering design and manufacturing teams to have a sound understanding of requirements. This ensures they provide product solutions designed, developed and tested to suit the wider application.

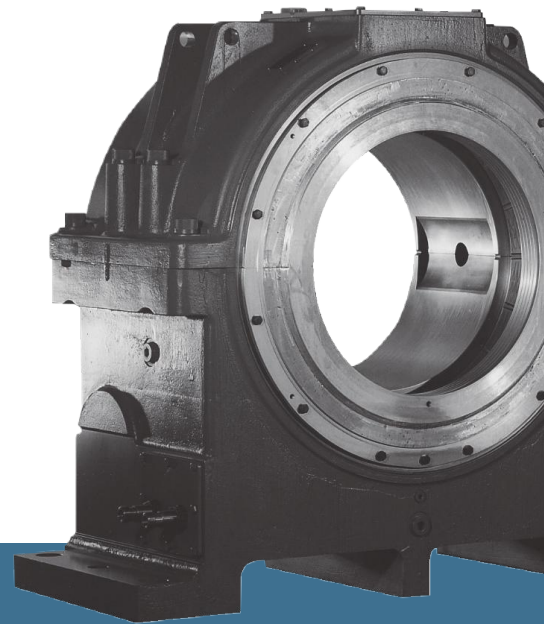
Investment in research and development is key to us retaining our reputation

in the market both in our design, and manufacturing processes. The business has developed its own suite of bearing performance prediction software, which has been refined over many years using results obtained from site and factory rig testing in its research and development laboratory.

Michell Bearings has specialist processes for the application of bearing lining materials, including whitemetal and Polytetrafluoroethylene (PTFE), to both thrust and radial bearing components. This PTFE technology has significant advantages over whitemetal for certain applications, particularly in terms of the starting load and operating pressure. In most cases,

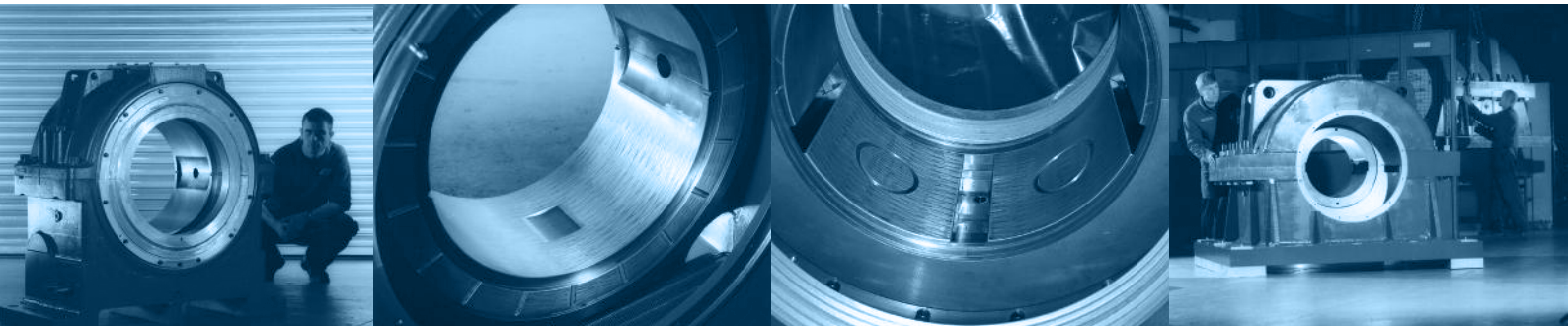
operational high pressure oil injection is not required in PTFE thrust bearings. These processes have been developed over many years and, being core processes of the business, are subject to continuous improvement through research, development and investment.

We manufacture our own whitemetal alloys in-house and have developed a unique grade of PTFE material for use in hydrodynamic bearing applications.



Our products

Industrial horizontal bearings



Michell Bearings has two ranges of horizontal bearings.

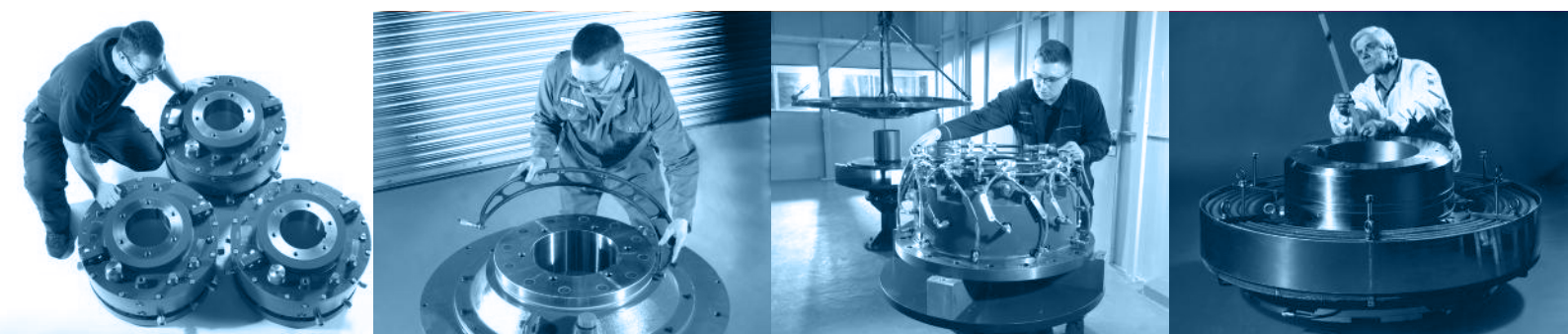
The industrial horizontal (IH) series is a modular range covering shaft diameters from 280mm to 1,000mm. The heavy duty (HD) series is specifically designed for applications involving high thrust and radial loads and covers a shaft range from 300mm to 500mm.

Product ranges can be supplied with PTFE thrust bearings to increase the bearing capacity. We can offer bespoke bearing solutions to suit individual project requirements where required.

Product applications include:

- **Motors**
- **Generators**
- **Hydro turbines**
- **Hydro generators**

Vertical bearings



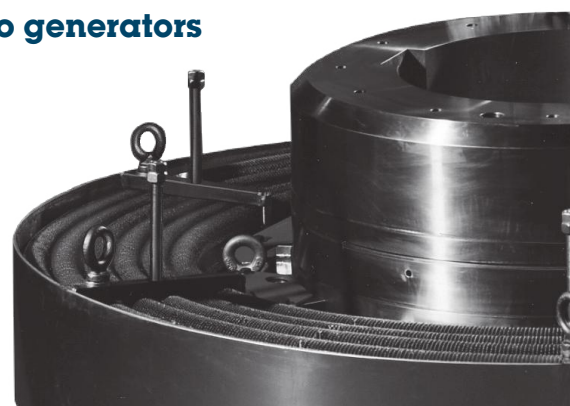
Michell Bearings' vertical bearings (AV, LV and V Series) have been designed and developed as fully self-contained, general purpose, modular assemblies to meet customer requirements.

For special applications and where the preference is for the bearing internals to be positioned within the casing of the machine, we can offer bespoke bearing solutions equivalent to our standard vertical ranges and beyond, including special self contained bearing designs.

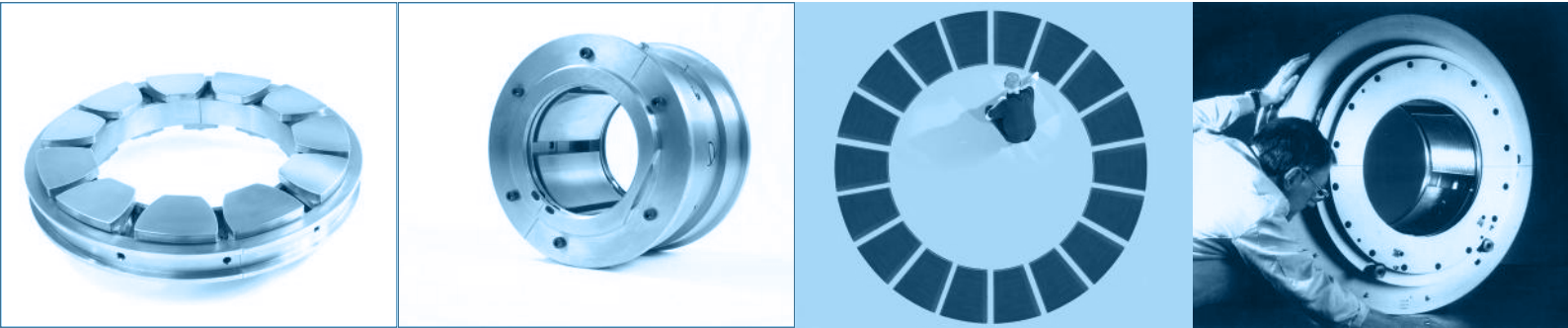
Product ranges can be supplied with PTFE thrust bearings to increase the bearing capacity or reduce the bearing frame size.

Product applications include:

- **Pumps**
- **Motors**
- **Hydro turbines**
- **Hydro generators**



Industrial bearing internals



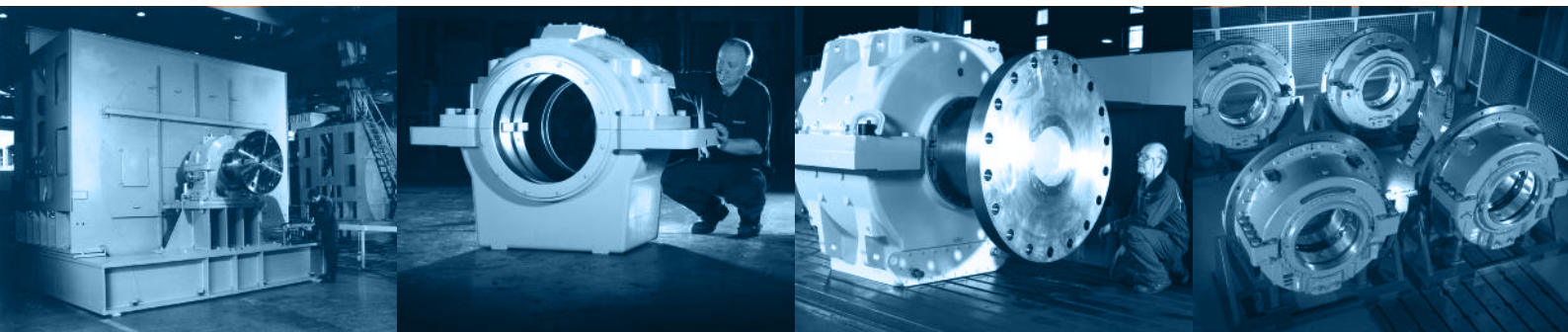
Michell Bearings offers several standard ranges of bearing internals for both thrust (Omega, Omega Equalised and Self Equalising) and radial Journal Pad Unit (JPU) applications.

We can also offer bespoke bearing internals to suit individual project requirements, with either whitemetal or PTFE lined thrust and journal bearing components.

Product applications include:

- **Gearboxes**
- **Steam turbines**
- **Gas turbines**
- **Horizontal pumps**
- **Turbo compressors**
- **Hydro generators**

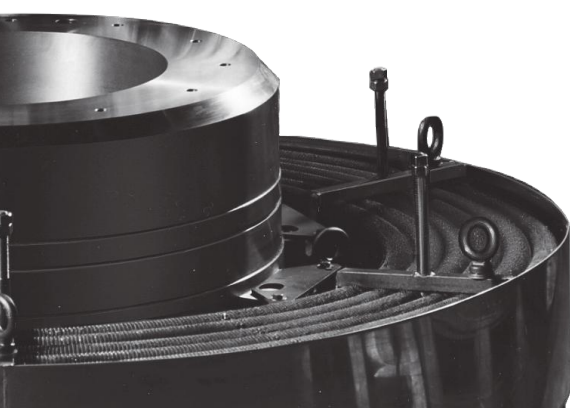
Marine bearings



Michell Bearings has extensive experience in the supply of bearings for use in marine propulsion; it has products on more than 300 naval vessels for 35 navies across the world, as well as on most leading cruise lines and many luxury mega yachts.

Product applications include:

- **Main propulsion thrust blocks**
- **Propeller shaft bearings**
- **Propulsion motor bearings**
- **Generator bearings**
- **Marine gearboxes**



Our total customer support model

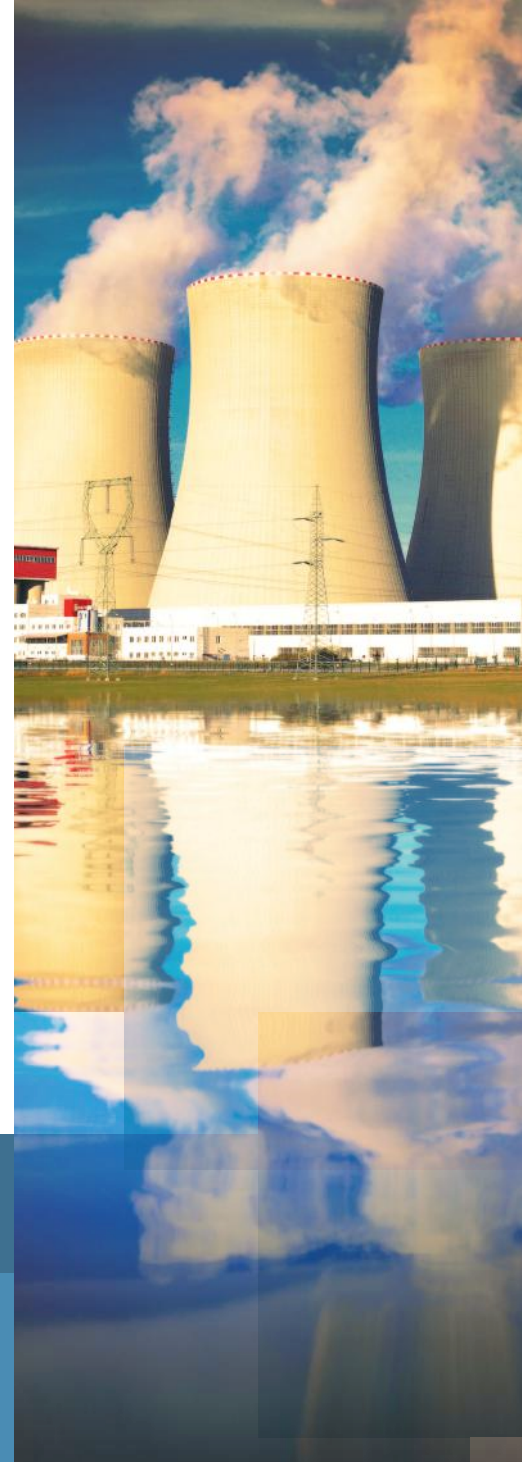
The Michell Bearings total customer support model ensures our customers have peace of mind throughout the lifetime of our products and the solutions we engineer for them.

We know that bearing failure is serious, that downtime is expensive and with this in mind exacting maintenance and servicing is key. If the worst happens speed of response is critical to ensure repair of existing parts or availability of replacement and spare parts.

Our global network and 24 hour manufacturing capability ensures Michell Bearings can react quickly and efficiently to the requirements of our customers. We have the in-house technical expertise to undertake virtually any whitmetal bearing repair, whether on an original Michell Bearings product or any other manufacturer's product.

However, service is the key to preventing bearing failure. Our dedicated service team, all highly trained engineers, travel all over the world to carry out both installation and routine service work in both the marine and industrial sectors.

Michell Bearings offer tailored, structured maintenance programmes to ensure bearing reliability. Whether scheduled or unplanned, our diagnostic and corrective maintenance is vital to the continued smooth running of your operations and the satisfaction of your customers.



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