



Your Partner in  
Precision Bearings



HQW Precision GmbH  
The Barden Corporation (UK) Ltd

Partners in Precision

# Where Precision Meets Quality

HQW Precision is a specialist manufacturer of high precision bearings and bearing assemblies. As a world-class manufacturer and valued partner to Industry, HQW products are expertly designed to offer quality, reliability and accuracy.

HQW Precision has harnessed engineering knowledge and experience from across the Industrial sector. By combining this with new, state of the art facilities in Kürnach, Germany, HQW can offer a full range of expert engineering, design, manufacturing and testing services.



## Solutions for Industry

Together with precision partner The Barden Corporation (UK) Ltd, HQW Precision offers highly specialized engineering knowledge and experience across a wide range of industrial sectors, including aerospace & defence, medical systems, robotics and vacuum technology.

With a shared focus on technology, innovation and quality, these two market leaders manufacture many of the world's most complex and sophisticated precision bearing solutions.







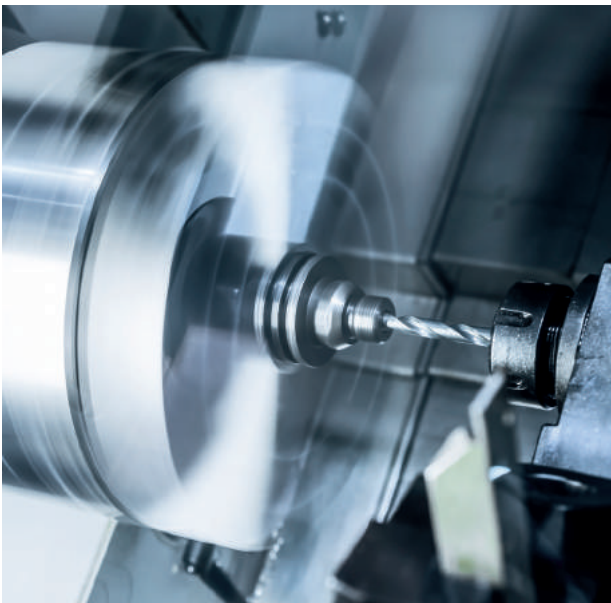
## Food & Beverage Processing

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The reliability and durability of bearings is of paramount importance in this sector, and the use of appropriate materials and suitable lubrication is critical. HQW bearings offer:

- Highly corrosion-resistant materials for applications repeatedly subjecting bearings to aggressive steam or chemical cleaning processes.
- A wide range of food grade lubricants, including FDA & NSF licensed. Bearings are greased and packaged in a Class 7 clean room.
- Minimal maintenance and long-life properties, particularly in high temperature and/or high speed, continuous running environments.
- Special sealing and greasing solutions, such as HQW ActiveLube™, to prevent contamination ingress and contain lubrication.

Typical applications: Canning equipment, blending/mixing machines, processing conveyors, bottling & packaging.



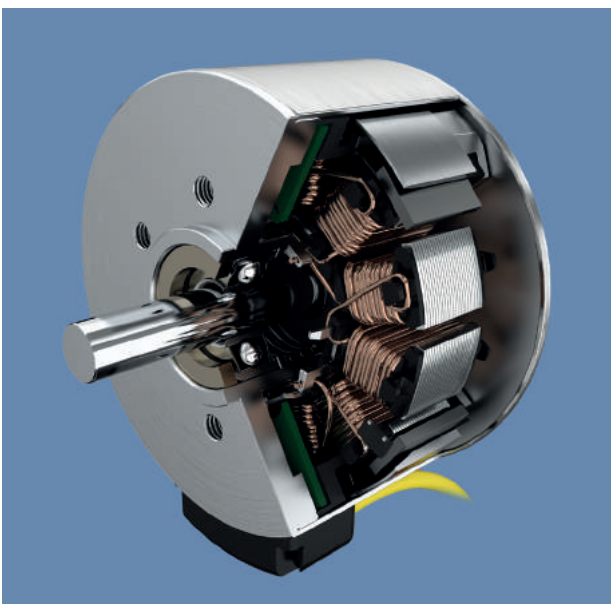
## High Speed Spindles

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The highest machine precision is essential in these applications, with low friction, running accuracy and stiffness all key to bearing selection. HQW high precision bearings are specifically designed and tested to excel in spindle applications:

- High performance SV30 steel is used as standard to enable a long lifetime, maximised load rating and maintenance-free operation.
- Ceramic (silicon nitride) balls allow a significant increase in speed with less wear.
- Contact angles of 15° and 25° permit significantly higher axial forces and improved rigidity.
- Fluororubber (FKM) non-contact seals on both sides are available for almost all types to eliminate friction and wear. They are also suitable for high temperatures.

Typical applications: Motorised machine tool spindles, high speed rolling mills, multiple spindle drilling heads, belt-driven mechanical spindles.



## High Precision Motors & Drive Systems

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Facilitating smooth and quiet rotation, high precision motors and drive systems are an essential source of electrical power. Specifically designed HQW bearings offer:

- Optimised internal geometry and surface finish resulting in very low running friction and low noise and vibration properties.
- Application-specific materials, including ceramic (silicon nitride) balls for wear resistance and resistance to electrical currents.
- Designed to withstand heavy radial loads and moderate thrust loads in both directions.
- Special bore and outer diameter tolerances/sorting can be incorporated for better matching with shaft/housing dimensions.

Typical applications: Industrial automation, robotics, fans, blowers, pumps, consumer products, electric & hybrid vehicles.



## DentX

## Dental & Medical Devices

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From ultra-precise surgical instruments to high speed dental drill turbines, HQW miniature bearings deliver the highest accuracy and precision.

- Superior material selection, including corrosion resistant steels (such as SV30), low wear ceramic balls and high performance cages.
- A range of sealing options for protection from debris ingress and application-specific lubricants.
- Manufactured to ABEC9/ISO P2 and assembled, tested and packaged in a Class 7 clean room, ensuring high hygiene standards.
- Developed by HQW Precision, the high performance DentX range of super precision ball bearings is specifically designed for both high and low speed dental drill turbines.
- DentX bearings are expertly designed to cope with speeds of up to 500,000rpm, high levels of contamination and repeated exposure to sterilisation cycles using corrosive media.



## Aerospace

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Aerospace bearings must demonstrate superior performance requirements, including the highest quality standards, minimal maintenance and compact and lightweight designs. HQW bearings meet these challenges and more:

- ABEC7/9 (ISO P4/P2) tolerance standards for the highest precision.
- Compatibility with high-temperature environments (above 400°C (752°F) and high speed running.
- Manufactured to ensure system reliability and running accuracy.
- Originally developed for the aerospace industry, SV30 is commonly used for its superior performance and corrosion-resistant properties.

Typical applications: Actuation systems, motors, gearboxes, fuel systems.



## Vacuum Pumps

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Bearings are essential to achieve the high speeds and reliability demanded in high or ultra-vacuum environments. HQW bearings offer:

- Ceramic balls for a significant increase in speed with less wear.
- High performance materials and lubricants offering low outgassing rates.
- Direct lubrication design features and various coatings (including gold, silver and MoS<sub>2</sub>) to act as dry lubrication.
- Super finished surfaces and optimised surface geometry.

Typical applications: Turbomolecular pumps, semiconductor production, medical equipment, helium leak detectors and chemical analysis.





## Flexible Solutions

HQW matches customers with the right solution, whether that's a standard bearing or a fully customised product.

- Modifications, special design features and bearing relubrication available, depending on customer requirements.
- Full technical support across the development process.
- Expert engineering design service for unique solutions.

## Responsive & Fast

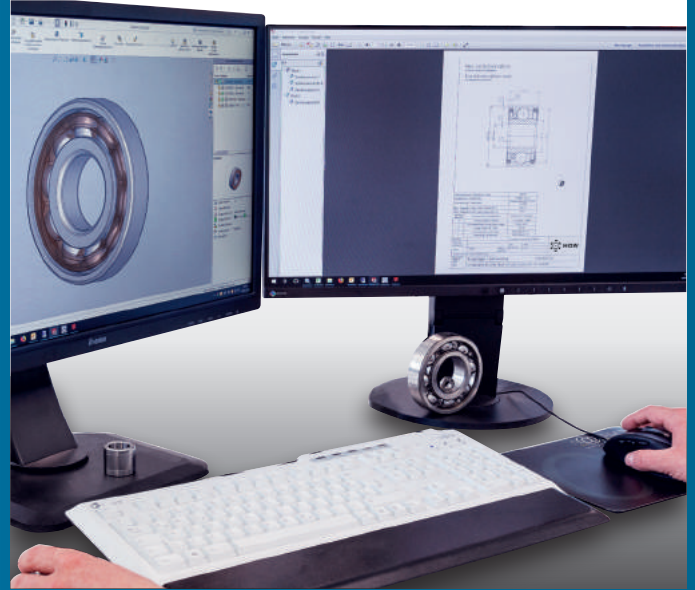
HQW is responsive to customer needs throughout every stage of production.

- With large stocks in our onsite warehouse, HQW can react quickly to customer requirements.
- Direct customer access to technical support.
- Quick turnaround times on samples and design.
- Fast and flexible approach to manufacturing in both large and small volumes.

## Manufacturing Excellence

HQW products are manufactured to meet every performance requirement.

- Modern, efficient machinery and sophisticated laboratory and testing equipment.
- Manufacturing to up to ABEC9 (ISO P2) tolerance standards for ultimate precision.
- Onsite R&D activities, bearing analysis, testing programs and lifetime calculations performed.
- Assembly, testing and packaging in a Class 7 clean room for the highest hygiene and cleanliness standards.
- A culture of continuous improvement and a Quality Management System certified to ISO 9001.



## Customer Service & Support

Communication is key in our working practises and our teams are onhand to offer first class support. This support doesn't end with delivery - customers trust in HQW's aftersales assistance and ongoing customer service.





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