



Bearings for the
**Food Processing
Industry**

NSK - serving the **Food Processing Industry**

NSK has an extensive range of bearings which can meet the rigorous demands of the food process industry whilst maintaining their functionality and contributing to the drive to conserve energy.



Why?

We understand the problems

Because of our vast applications experience, we appreciate the key issues faced by designers and manufacturers.

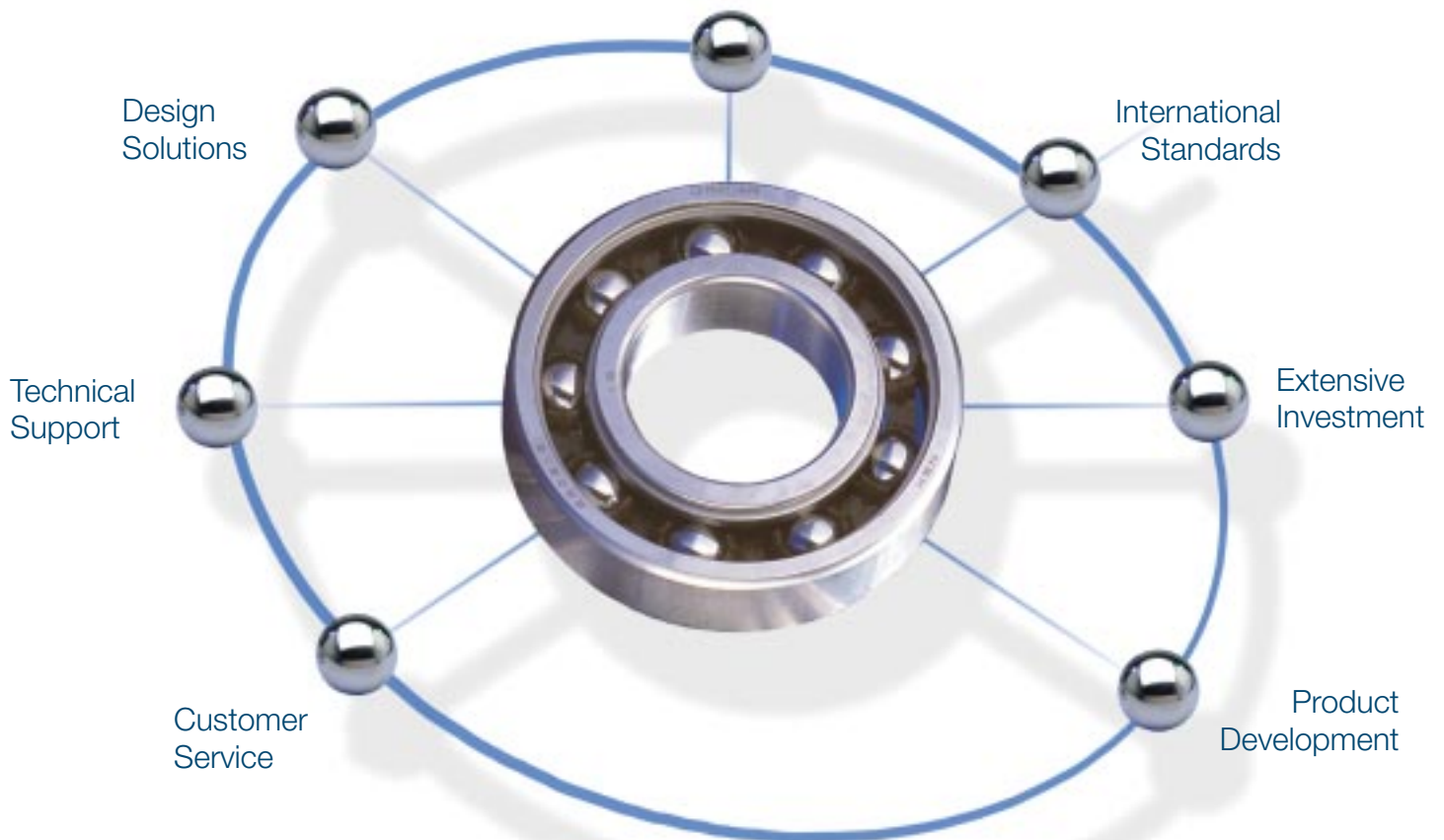
We bring an extra dimension

Our commitment to quality, the industry, and the customer, has led to an unrivalled package of service and product benefits.

We can supply the answers

With our extensive product range, plus considerable R&D skills and engineering design capabilities, we find effective, economical solutions both for new machinery and improvements on existing equipment.

Quality Assurance



The Benefits

Quality Assurance

NSK use the latest production techniques to achieve unrivalled product consistency. At each step in the manufacturing process, industry leading quality assurance techniques are applied to ensure that every bearing produced is of the highest quality.

Extensive Investment

112 million Euros are invested annually in R&D, with considerable research undertaken into materials and lubrication technology. Our European Technology Centres in the UK and Poland support the whole of Europe and co-operate with sister facilities in Japan, China and the USA to integrate local market needs into Global product development.



Product Development

NSK listens to the needs of the industry and has developed a range of products in line with those requirements. New designs are assessed by analytical software and then subjected to rigorous simulation testing on purpose built rigs before they reach the market place.



Customer Service

We are actively developing new service offerings, such as web-enabled business systems. Thus NSK's integrated systems can provide logistical solutions for customers and enable them to optimise their stockholding, improve availability and minimise costs.

Technical support

Our experienced sales managers and engineers can advise on all aspects of the application of our bearings. This is aided by a suite of advanced computer programs and technical literature, plus an interactive website: www.eu.nsk.com

We can also offer on site service visits to diagnose problems and help implement cost effective solutions.

Design Solutions

Through our extensive resources, accumulated knowledge and experience, we can solve specific application problems as well as continue to develop highly advanced products to meet the current and future needs of industry. In the majority of cases we already have a solution within our comprehensive product range.



The Food Processing Industry

In addition to performing their basic function of enabling moving machine elements to perform satisfactorily, the rolling element bearings used in the food processing industry must also comply with the hygiene requirements synonymous with the industry.

To qualify for use in the food processing industry a bearing must perform satisfactorily when under attack from ambient media, water and chemicals (acids and alkalis) either directly or splash. In addition they can also be exposed to extremes of temperature. At the same time the bearing cannot be allowed to contaminate the process product with any material that could be injurious to the consumer's health if ingested.

To meet these rigorous demands NSK has developed a range of bearings specifically for the food processing industry.



Silver-Lube® Bearings

The RHP Silver-Lube® series is a range of corrosion resistant bearing units specifically for use in industries where frequent thorough washdowns are necessary, optimum hygiene standards are required and good chemical resistance is important over a wide temperature range. The units are available in pillow block, two-bolt flange, four-bolt flange and take-up unit configurations.

Features

- Martensitic stainless steel bearing-rings
- Martensitic stainless steel balls
- Austenitic stainless steel bearing cage
- Nitrile rubber seals and Austenitic stainless steel slingers
- Austenitic stainless steel grease nipple and grub screws
- Thermoplastic polyester resin housing (Valox Δ 20)
- Bearings are factory filled with a wide temperature USDA H1 food grade grease



Benefits

- Will not contaminate process
 - food grade grease -
 - no corrosion -
 - no peeling paint -
- Long life/low cost of ownership
 - superior resistance to -
 - regular washdowns
 - resist failure due to -
 - chemical attack
 - simple to retrofit -



Triple-Lip Sealed Inserts

Triple-Lip Seals can be used as replacements for standard design ball bearing inserts in applications where bearings are exposed to heavy dust and water contamination e.g. vegetable washing plants, fish processing plants.

Features

- Nitrile rubber, three lipped seal bonded to pressed steel diaphragm
- Available for both setscrew and eccentric locking collar insert options
- Large size range offered 12-90mm bore including imperial options
- Inserts interchangeable with standard items



Benefits

- Lower cost of ownership
- longer bearing life through - superior seal performance
- extended relubrication intervals
- greater reliability
- simple implementation

HLT Inserts

HLT Inserts are replacements for Self-Lube® bearing inserts providing opportunities to reduce maintenance, downtime and replacement cost in high/low temperature environments.

Features

- Steel cage
- Special internal geometry
- Wide temperature range grease
- Silicone rubber seals
- Interchangeable with standard Self-Lube® inserts
- Wide operating temperature range -40°C to 180°C



Benefits

- Lower cost of ownership
- superior service life at high and - low temperatures
- extended relubrication intervals - at high temperatures (lower maintenance costs)
- simple implementation

Stainless Steel Ball Bearing Units

Features

- Stainless steel housings & inserts
- Housings interchangeable with current NSK units and other ISO standard units
- Nitrile rubber seals and stainless flingers
- Grease nipple option
- USDA H1 compliant grease optional
- Molded-Oil lubrication
- Available in pillow block, two-bolt flange, four-bolt flange and take-up unit configurations



Our range of stainless steel housed bearing units are lubricated by our own oil-impregnated material Molded-Oil™. They are suited to applications where cleanliness and a high resistance to corrosion are priorities e.g. fryers, meat processing conveyors and fish processing plants.

Benefits

- Will not contaminate process
- no leakage from Molded-Oil - optional food grade grease - no corrosion - no peeling paint -
- Long life/low cost of ownership
- superior resistance to - regular washdowns
- resists failure due to chemical attack - simple to retrofit -

Stainless Steel Bearings

Features

- Stainless steel components
- ISO standard dimensions/ tolerances
- Open, sealed and shielded executions available
- Operating temperatures to 80°C
- Ex-stock availability



Our Stainless Steel Bearings have a higher corrosion resistance than those manufactured from standard bearing steel and are suited to high humidity applications

Benefits

- Long life/low cost of ownership
- significantly longer - service life than standard bearings
- totally interchangeable with standard bearings
- more cost effective than - hybrid or full ceramic bearings in most cases

Hybrid Ball Bearings

Hybrid Ball Bearings have an operating life in water five times longer than stainless steel bearings. They can be completely immersed and still give satisfactory performance.

Features

- Martensitic stainless steel rings
- Silicon nitrile balls
- Fluororesin cage
- Waterproof grease option
- Operating temperatures to 80°C
- Open, sealed and stainless shield executions available



Benefits

- Long life/low cost of ownership
- operating life in water - 5 times longer than stainless steel bearings
- simple to retrofit
- resists failure due to chemical attack
- self lubricating cage generally eliminates need for additional lubrication

Molded-Oil Bearings

Environmentally friendly Molded-Oil bearings offer high performance in water and dust contaminated applications to extend the bearing life and offer negligible lubricant leakage.

Features

- Special Molded-Oil lubricant
- Plated shields or nitrile rubber seals
- Spherical roller bearings and tapered roller bearings also available with Molded-Oil



Benefits

- Long life/low cost of ownership
- relubrication eliminated
- bearing life extended under dusty or water-splash conditions
- cost effective option for many applications

Stainless Steel & Molded-Oil Bearings

The combination of stainless steel bearing components and Molded-Oil lubricant provides a cost effective solution to problems caused by high humidity, water splash and particle contamination.

Features

- Martensitic stainless steel rings
- Martensitic stainless steel balls
- Austenitic stainless steel cage
- Special Molded-Oil lubricant
- Open, sealed and stainless shield executions available



Benefits

- Will not contaminate process
- non corroding components
- no leakage from Molded-Oil
- Long life/low cost of ownership
- good life in totally immersed conditions
- relubrication eliminated

Fluoride, Low-Temp Chrome Coated Bearings

These bearings have a higher corrosion resistance than hard chrome or electroless nickel-plated bearings and can be totally immersed in water.

Features

- Martensitic stainless steel rings, fluoride low-temp chrome coated
- Stainless steel or ceramic balls
- Operating temperatures to 80°C
- Fluororesin or pressed stainless steel cage
- Waterproof grease option
- Open, sealed and stainless shield executions available



Benefits

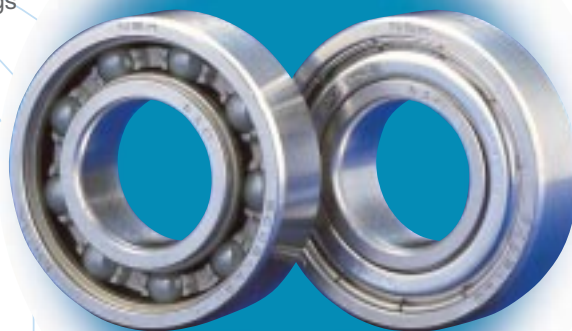
- Optimum performance in extreme conditions
- superior corrosion resistance even in acidic environments
- superior life in wet and hot conditions through self lubricating cage

Nickel Alloy Coated Bearings

Nickel Alloy Coated Bearings are resistant to chemical wash processes and offer a cheaper alternative to all-ceramic bearings.

Features

- Martensitic stainless steel rings with nickel-alloy coating
- Nickel alloy coated martensitic stainless steel balls or ceramic balls
- Fluororesin cage
- Lubrication provided by cage or waterproof grease
- Stainless steel shields
- Operating temperatures to 200°C



Benefits

- Optimum performance in extreme conditions
- Suitable for alkali or weak acid environments
- Higher corrosion resistance than martensitic stainless steel or hard chrome plated bearings

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