NSK

INDUSTRY SOLUTIONS FOR PUMPS AND COMPRESSORS

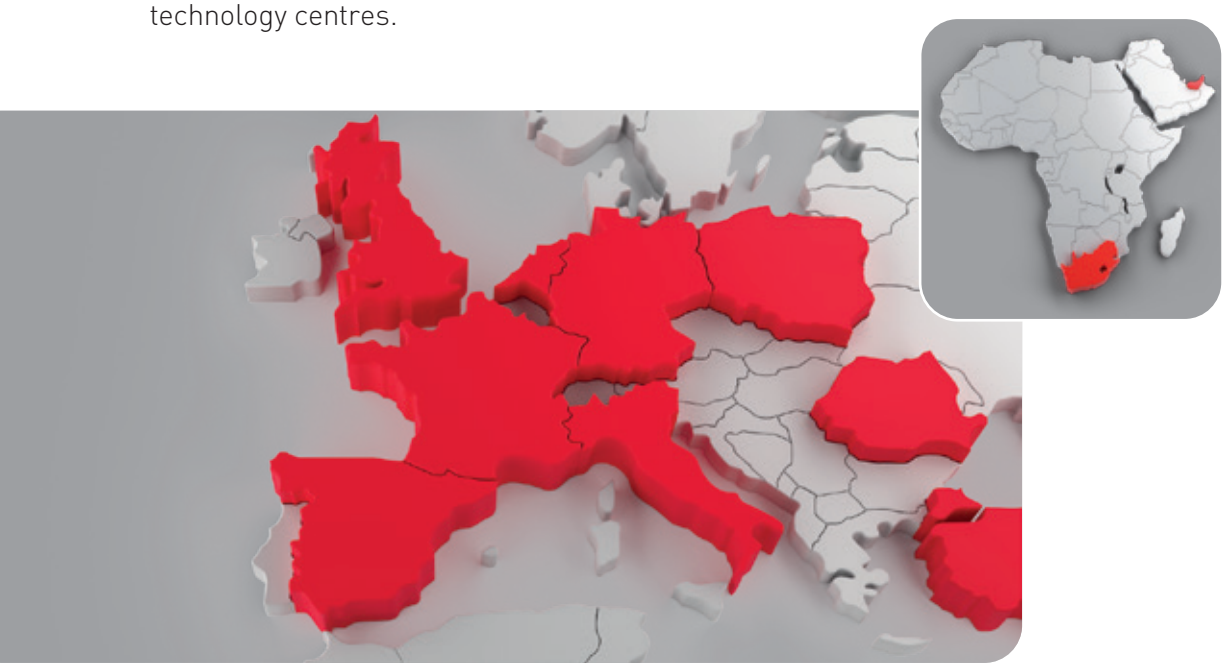


BRANDS OF **NSK EUROPE**

NSK RHP *bearings* PPL

PREMIUM BRAND PROMISE:
INNOVATION SINCE 1916

Founded back in 1916 in Tokyo, Japan, we are among the world's leading manufacturers for rolling bearings, linear technology components and automotive products. We are market leaders in the area of rolling bearings and ball screws. In the EMEA region we can be found in 11 countries with our sales offices branches, R&D centres and production sites.
Worldwide, we can be found on every continent with production facilities, sales offices and technology centres.



EMEA
- France
- Germany
- Italy
- Middle East
- The Netherlands
- Poland
- Romania
- Spain
- South Africa
- Turkey
- UK

EMEA

2,900 staff › € 587 mil. €

Our 2,900 European employees generated sales of almost €587 million in 2024.

WORLD

24.000 staff › € 4,9 bil. €

Worldwide our 24,000 employees generated sales of more than €4.9 billion last year.

EXPERTISE IN MOTION: NSK'S PROVEN KNOW-HOW IN PUMPS AND COMPRESSORS

As a global supplier to leading pump and compressor manufacturers, NSK knows how to help customers reduce costs and boost production efficiency. The sector demands high-performance bearings in order to increase mean time between failures and minimise costly downtime.

Specifically, pumps require bearings that can handle axial, radial, or combined loads under tough conditions, while compressors demand precise rotor positioning under high loads to maintain efficiency. This creates a need for compact, long-life, and highly reliable components.

NSK has developed advanced solutions, including cylindrical roller and HPS angular contact ball bearings with patented L-PPS cages, specifically to meet these challenges. Our local application engineers work closely with OEM R&D teams in order to deliver tailored solutions through every project stage.

Within the pumps and compressors industry, various well-known customers count on NSK bearings to ensure smooth, reliable operation.

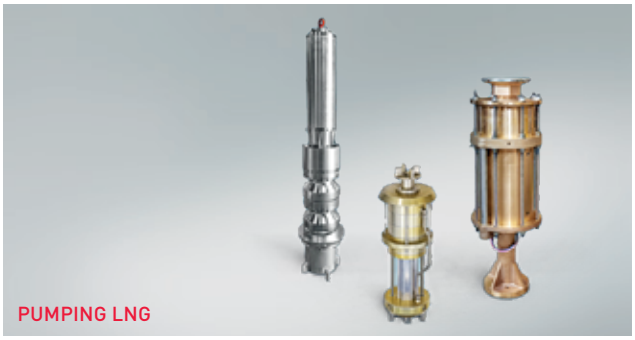
Here is a brief overview of pumps and compressors in which NSK products are used:

Centrifugal Pumps



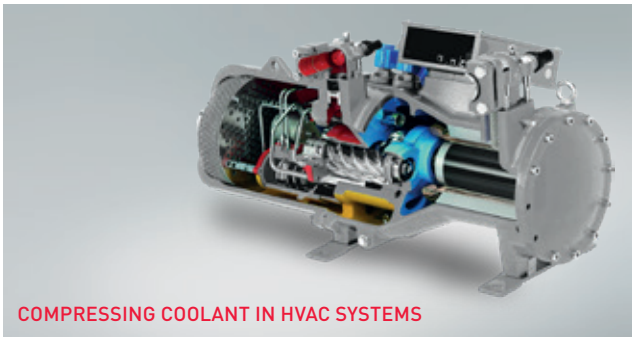
PUMPING DRINKING WATER

Cryogenic Pumps



PUMPING LNG

Screw Compressors



COMPRESSING COOLANT IN HVAC SYSTEMS

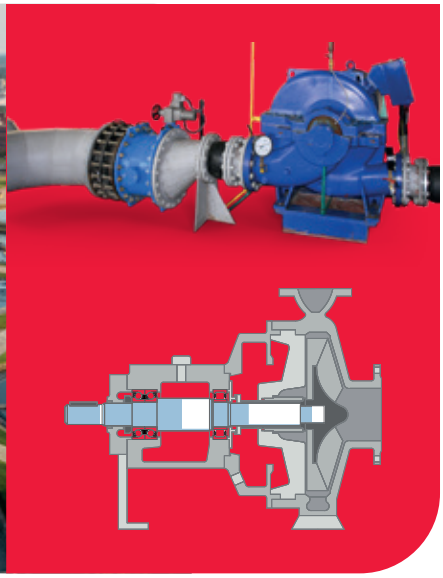
Vacuum Pumps



CREATING A VACUUM IN ALL INDUSTRIAL APPLICATIONS

Explore our range of bearing products, and contact your local NSK Sales office for more information.





CENTRIFUGAL PUMPS are commonly used in many industries, water and wastewater management for example, to move fluids quickly and efficiently. They work by spinning a component called an impeller, which adds energy to the fluid. The fluid flows into the eye of the impeller and, as the impeller spins, is pushed outward by centrifugal force, increasing its velocity. This increased speed is converted into pressure within the pump casing, driving the fluid through the piping system.

NSK Bearing Solutions for Centrifugal Pumps:

Angular Contact Ball Bearings



Features:
- High load capacity
- High rotating speed
- High precision and universal matching
- Cage material available as PPS (T7), brass (MR), steel and polyamide (T85).

Cylindrical Roller Bearings



Features:
- High strength and wear resistant machined brass cage
- One-piece cage gives higher strength under vibrating conditions
- Special cage pocket profiling helps guide rollers
- Large cage pocket corners relieve stress concentrations on the cage
- Special roller crowning to reduce generation of edge loading
- ISO standard sizes
- Also available with T7 Cage (PPS Cage)

Deep Groove Ball Bearings



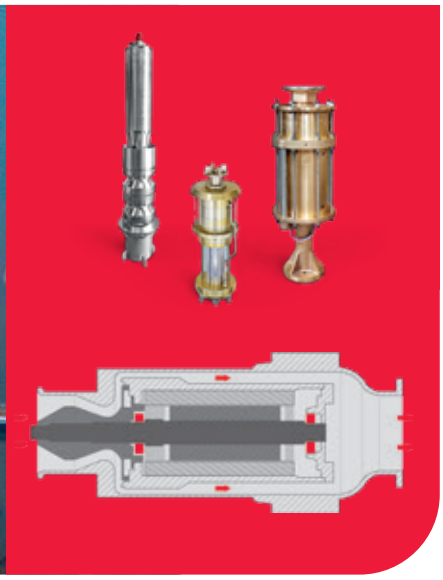
Features:
- High load capacity
- High speed capacity
- Low torque
- Clearance C3 (according to API610 standard)

Bearing Solutions for electric motors used beside the centrifugal pumps: Ceramic Coated Insulated Ball Bearings- HDY2



Features:
- Alumina-based ceramic coating material plasma sprayed to ensure bonding to the bearing steel
- Coating sealed with special acrylic resin
- Bearing produced from hyphenate steel for extended fatigue life
- High-grade balls for operation at high speeds
- Hyphenate raceways
- Open type, with C3 radial internal clearance





CRYOGENIC PUMPS are specialist devices designed to move extremely cold fluids like liquid natural gas, liquid nitrogen and liquid hydrogen. They work by creating a pressure difference that moves these low-temperature fluids without causing them to vaporise. Cryogenic pumps are crucial in industries like industrial gas supply and energy, where maintaining ultra-low temperatures is essential for handling and storing cryogenic liquids safely and efficiently.

NSK Bearing Solutions for Cryogenic Pumps:

Deep Groove Ball Bearings with PTFE Cage



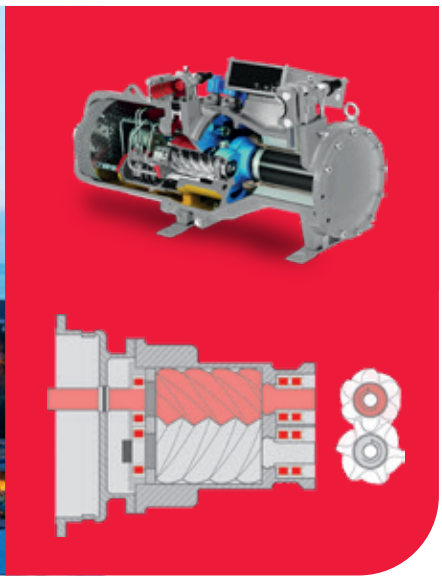
Features:
- Made from stainless steel
- Stainless steel or ceramic balls
- Special cage material provides wear resistance and self-lubrication in cryogenic environments (down to -252 °C)

Angular Contact Ball Bearings with PTFE Cage



Features:
- Suitable for axial load condition
- Made from stainless steel
- Stainless steel or ceramics ball
- Special cage material provides wear resistance and self-lubrication in cryogenic environments (down to -252 °C)





SCREW COMPRESSORS offer efficient, continuous, and reliable compression of air or gases, usually found in industrial applications, they work by utilising two screw-like rotors to trap the gas between the lobes and the cases, gradually compressing it as it moves along the rotor length towards the discharge end. For compressors intended for refrigeration or air conditioning applications, we propose NSK's original L-PPS resin cage. The L-PPS is chemical resistant and offers higher reliability and durability during exposure to refrigerants, refrigerant oils and high temperatures. Similar solutions are available for scroll, roots and claw compressors designed to meet the needs of sectors including the marine industry, oil and gas and heavy-duty trucking.

NSK Bearing Solutions for Oil Free Screw Compressors:

Angular Contact Ball Bearings with Brass Cage



Features:
- Can support both radial and axial loads
- Moment loads are possible
- High capacity and high speed
- Steel or ceramic balls
- Also available with T7 Cage (PPS Cage)

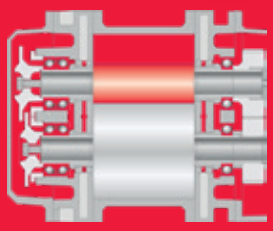
Cylindrical Roller Bearings



Features:
- High strength and wear resistant machined brass cage
- One-piece cage offers higher strength under vibrating conditions
- Special cage pocket profiling helps guide rollers
- Large pocket corners relieve stress concentrations on the cage
- Special roller crowning to reduce creation of edge loading
- ISO standard sizes
- Also available with T7 Cage (PPS Cage)







VACUUM PUMPS work by removing air or gas molecules from a sealed space to create a partial or complete vacuum. These pumps are used across aerospace, semiconductor, medical and food and beverage applications. They operate using various principles like mechanical displacement, diffusion or entrainment depending on the type (rotary vane, screw, turbomolecular, etc.).

NSK Bearing Solutions for Vaccuum Pumps:

Angular Contact Ball Bearings



Features:
- High load capacity
- High rotating speed
- High precision and universal matching
- Massive and PPS cage options available
- Special vaccuum grease
- Ceramic balls and special heat treatment for high temperature applications

Deep Groove Ball Bearings - Creep Free



Features:
- Anti-rotation outer ring
- Ceramic balls and special heat treatment for high temperature applications are available
- Special Vacuum Grease
- Special seals

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