



ISO-9001/14001
ISO/TS-16949
OHSAS-18001

Product Information

NAK Power Steering Seals

including rotary seals on the steering shaft and reciprocating Seals on the rack shaft, is designed with excellent quality for sealing of the hydraulic power steering fluid. The power steering seals are critical components of the power steering systems as they play an important role of preventing pressure loss to ensure the power steering function. NAK offers seals for both the re-circulation ball screw type and rack & pinion power steering systems.



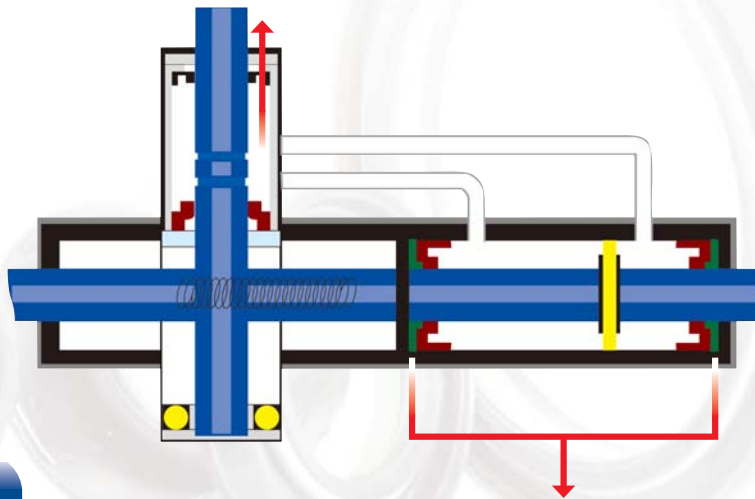
Product Description



Steering Shaft Seal



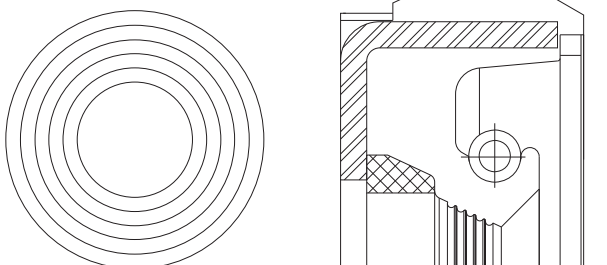
- Rotary seal installed on the steering shaft to prevent leakage and maintain lubrication.
- Bonded rubber-metal design to ensure strength while offering excellent sealing.
- Secondary lip to prevent reversion of the main lip.



Rack Shaft Seal



- High-pressure resistant reciprocating seals installed on the rack shaft of the power cylinder.
- Compounded design of rubber sealing element, metal casing and back-up ring to ensure sealing at high pressures.
- Integrated back-up ring providing further support for the sealing lip to enable better pressure resistance and prevent lip reversion.
- Hydrodynamic helix design with excellent pumping rate to further aid in sealing and reduce friction and heating thus to prolong the seal service life.

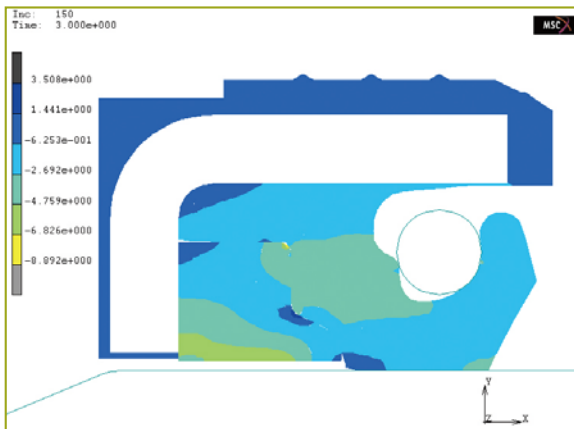


Technical Information

Professional Design and Testing for the Specific End Application

NAK utilizes advanced computer programs and dynamic simulation testing to ensure the NAK Power Steering Seal performs what it should offer plus better service life.

Finite Element Analysis



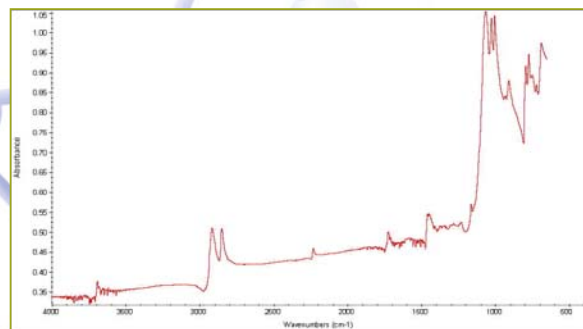
Dynamic Simulation Testing



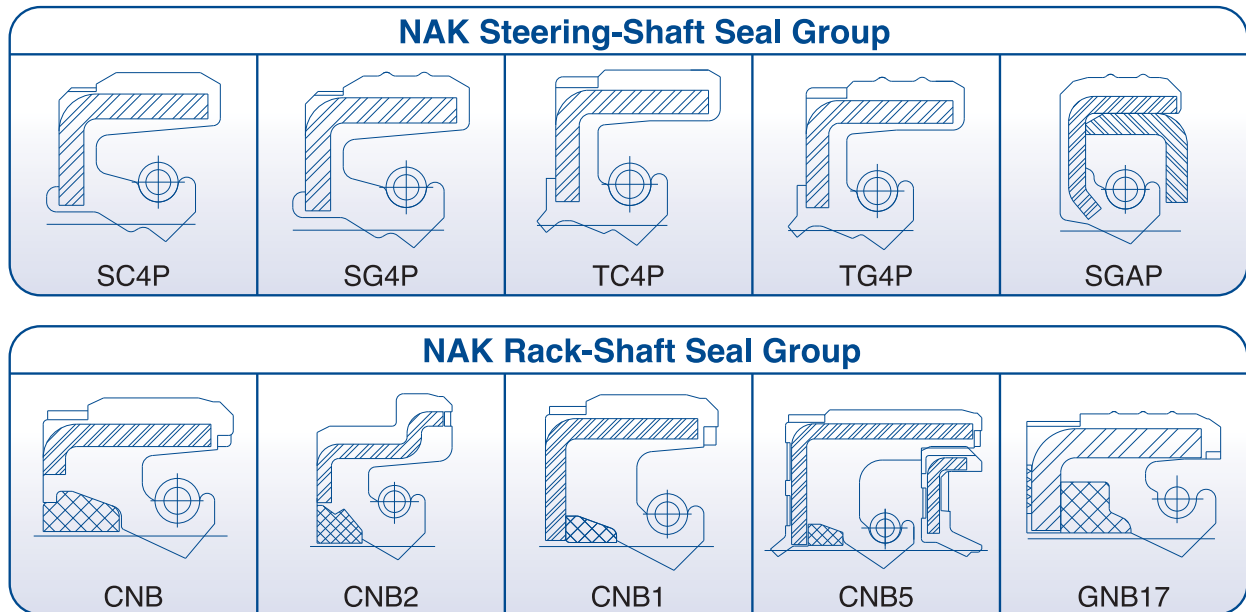
Material Selection

While **NBR** is still the most widely used material for power steering seals, in many cases **HNBR** is replacing **NBR** especially for applications with higher pressure, more extreme temperature, higher friction and higher heat generation. Features of **HNBR** for power steering seals include:

- 1 Better capability to maintain stability under various fluids and additives
- 2 Better resistance to oil and ozone
- 3 Better resistance to wear
- 4 Better low and high temperature capabilities
- 5 Better mechanical properties e.g. tensile strength
- 6 Can be vulcanize by either sulfur or peroxide



NAK Seals Types



These are example types of NAK Power Steering Seals. For more information please contact us.

New Generation NAK GNB17 Power Steering Rack Shaft Seal

The **NAK GNB17** is a revolutionary design for the new generation rack shaft seal. The back-up ring is molded together with the metal casing and rubber sealing element to offer an excellent fit between the back-up ring and the rubber elastomer. **GNB17** made with high-performance HNBR elastomer offers excellent sealing capability for higher pressure and more critical applications.



Disclaimer

1. NAK product is prohibited to use, install or apply in or on any aerospace related instrument and equipment.
2. NAK has no liability under any express or implied Warranty if NAK Product:
 - is modified or tampered;
 - is misused, abused or misapplied;
 - is used in a critical environment or specific equipment without NAK prior written acknowledgement;
 - is not used in accordance with the printed user instruction materials
 - is damaged owing to natural deterioration, decomposition or transformation of chemical structure
3. If NAK's product to be applied in critical environment or specific equipment, it is only allowed to launch into mass production when the sample has been passed the testing conducted by the user.



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