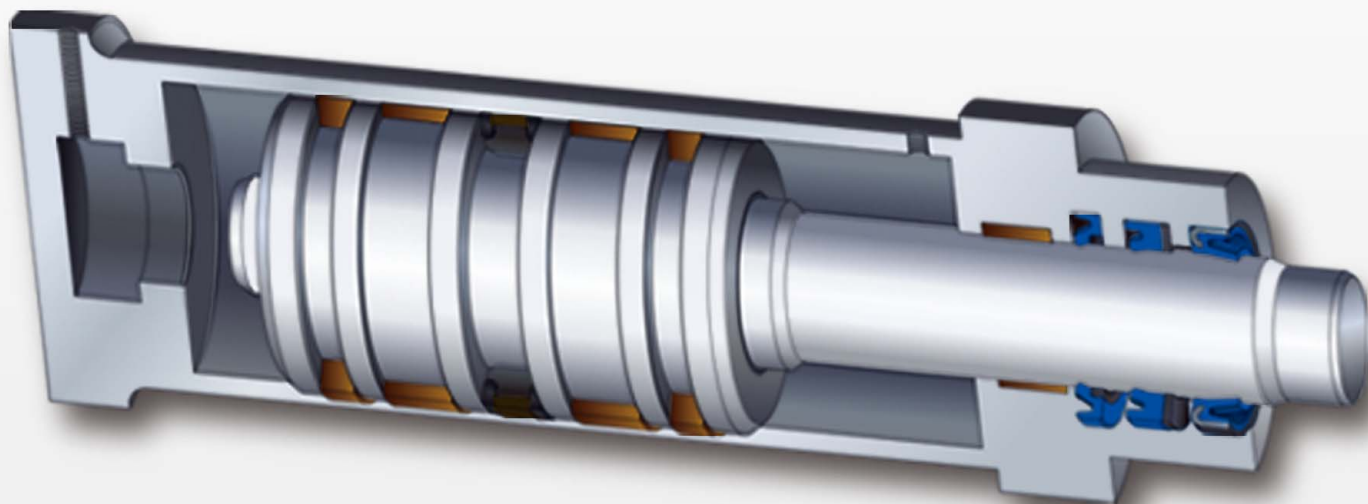


NAK Successful Cases of Hydraulic & Pneumatic Seals



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



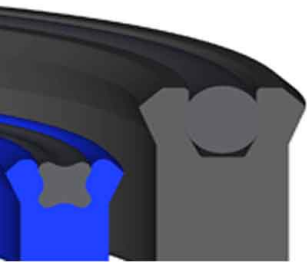
World Class Brand World Class Manufacturing

NAK's High Performance Hydraulic and Pneumatic Seals

Hydraulic and pneumatic seals are usually designed for sealing fluids in dynamically and linear reciprocating motions. In hydraulic applications, seals are designed for high-pressure dynamic conditions such as hydraulic cylinders. In pneumatic applications, seals are used in higher operating speeds and lower friction conditions such as pneumatic cylinders and valves.

Nowadays, the different operation conditions and critical requirements are found in hydraulic and pneumatic systems. As a result, a large variety of different seal types are needed and the sealing elements are required with long service life, high performance, and perfect reliability. The followings are important factors you should take into consideration when selecting seals for your hydraulic or pneumatic application:

- Speed of stroke
- Pressure
- Temperature
- Friction
- Media
- Surface properties



NAK hydraulic and pneumatic seals include rod seals, piston seals, wiper seals, and wear rings. Rod seals are installed and fixed on the cylinder groove to seal against the rod. Piston seals are placed onto the piston groove to provide a high static seal force on the inside diameter and also reduce the fluid leakage. Piston seals can be used with integrated or separate back-up rings and guide rings. Symmetric seals allow for interchangeability between rod and piston applications. Wiper seals are to prevent external contaminants from entering the system. Wear rings are to prevent metal-to-metal contact. Both U-rings and wipers are important sealing elements to retain lubricants, exclude contaminants, and maintain the hydraulic pressure when used in hydraulic and pneumatic systems.

NAK provides a wide assortment of dynamic seals made of NBR, FKM, PU and other rubber compounds for both OEM and MRO hydraulic and pneumatic applications. The final choice of seal type and material you must take account of the detailed information on the seal elements. Please contact our sales department for further information on specific applications and technical questions.





Why should I choose NAK sealing solutions?

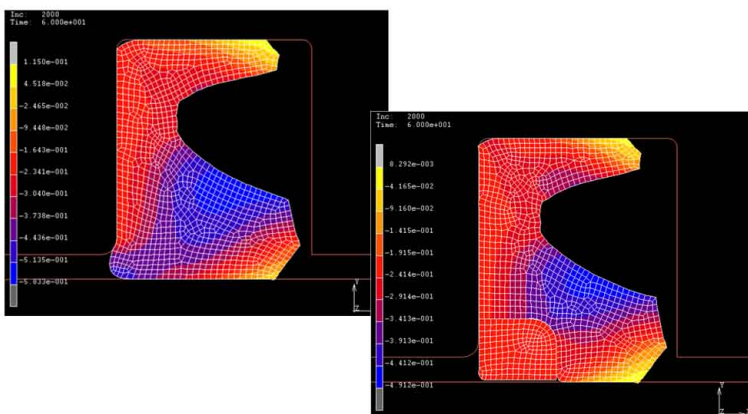


Expert and reliable supplier

NAK is an ISO-9001/14001, TS-16949 and OHSAS-18001 registered manufacturer of hydraulic and pneumatic seals. NAK offers sealing solutions which are developed with a series of advanced lab instruments and latest technologies to meet or exceed the ASTM, DIN, BS, and the SAE international standards. NAK also implements 6 σ (Six Sigma) management to advance sophisticated products and higher quality for years.

Dedicated R&D team and support

NAK has a strong and dedicated R&D team to offer technical consultation and support for mutual connection. To enhance R&D capability, NAK invests in modern software and hardware development such as FEA (Finite Element Analysis), SCAD, in house dynamic test center and etc. to build up theoretical analysis for operating conditions, decrease the failure rates during trial runs, and improve the efficiency of new product development.



Efficiency manufacturing process

NAK has implemented full automation and computerization in manufacturing process by deploying machineries such as check boarded machines, automatic spring loading machines, automatic packaging machines, automatic storage system and etc. NAK keeps improving efficiency and capability to satisfy and even exceed requirements from different OE customers.

Comprehensive products and designs

NAK offers a comprehensive range of hydraulic and pneumatic seal types and sizes including custom-made products. Special elastomer compounds are available to fit different applications. It's cost-effective for customers to find correct sealing solutions for hydraulic and pneumatic applications.



State-of-the-art Technologies

NAK has a complete line of equipment and ingredient research lab. We implement rubber testing method including processibility of unvulcanized rubber, hardness of plastic and rubber, material tensile strength and adhesive strength, heat aging / oil immersion / fuel immersion / low temperature properties / compression set, rebound properties / microscopy of compound dispersion, FT-IR analysis, and etc.



NAK's Partnership With OEM Customers

With more than 35 years of experience in manufacturing sealing products, NAK has lots of successful projects in hydraulic and pneumatic seals with OEM customers all over the world.

In Germany, NAK provides hydraulic seals for Linde group who ranks among the world's foremost makers of lift trucks and warehouse trucks and is also positioned as a major manufacturer of hydrostatic drives produced mainly for use in construction, farming and forest machinery as well as the Linde range of lift trucks. And now, Linde products and services can be found in nearly every industry, in more than 100 countries.

In China, NAK collaborates with Weifu (taishan) Mechanical And Electrical Co., Ltd. who is one of the leading manufacturers of mechanical jacks in China. Specializing in manufacturing hydraulic and mechanical lifting equipment, Weifu has rewarded excellent reputation for its high quality components. NAK also cooperates with Changchun Yidong Clutch Co., Ltd. who manufactures vehicle clutches and is as one public company of China North Industries Group Corporation. NAK supplies hydraulic and pneumatic seals to Wenjiang Liucheng Machinery Plant who is specialized in manufacturing variety of hydraulic cylinders in vehicles, industrial equipments, mining equipment, chemical engineering cylinders and etc.



In the Netherlands, NAK provides seals for Power-Packer which covers a large number of applications in hydraulic motion control. Specializing in custom-made solutions for mobile applications, Power-Packer also offers motion control solutions in other areas, such as patient handling, agriculture, marine and recreational vehicles.



In Korea, NAK cooperates with Hyundai Heavy Industries (HHI) who has a global business network in each of its seven business divisions: shipbuilding, offshore & engineering, industrial plant & engineering, engine & machinery, electro electric systems, green energy, and construction equipment. Especially excavators and skid steer loaders in construction equipment, NAK provides a series of high performance pin dust seals for oscillation movement of hinge pin and bush parts to prevent external dust and mud into internal pin connection. HHI's construction equipment models are marketed through 480 authorized distributors in 120 countries now.

In Taiwan, NAK cooperates with Mindman who is a manufacturer of pneumatic and hydraulic cylinders, valves, and equipments. Mindman's products are exported to more than 60 countries worldwide now. Besides, NAK provides seals to Yung Chi Industry Co., Ltd. for the tube tools, tube cutter, flaring tools, tube benders and other hand tools.



NAK has developed many successful projects no matter in OEM or MRO customers. Special seals can be designed and manufactured on the basis of customer's requirements. For more information, please contact with us.



Subsidiary map

Existing subsidiaries worldwide

● Factory

● Service office & warehouse



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 - 2.4 are not used in accordance with the printed user instruction materials; or
 - 2.5 are damaged due to natural deterioration, decomposition or transformation of chemical structure.
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