



ISO 9001:2000 CERTIFIED



Install the Perfect Seal's All Time

INVIGORATE YOUR CONFIDENCE NOW WITH OUR PRODUCTS

OUR BRANDS



Ksq - Stopoil
Rotary/Dynamic Seals



Korvaor
Idlers - Dust Seals - Circlips
Thermoplastic Bearing
Housing Machined & Fabricated Assemblies



Fit Power
Hydraulic Pneumatic Seals
Chevron & Twin Set Packings



Summerfield
Irrigation & Farm Implement Spares
Pumps & Spares



Flo - Fit
Hydraulic Fittings - NRV's
Dowty - Bonded Seals &
Machined Components



Rubber Krafters
MAKERS OF THE UNMATCHED SEAL



INDUSTRY

WE SERVE

Aeronautical
Automobile
Mining and Power Generation
Refineries and Fertilizers
Sugar & Cement
Marine
Textile
Transformer Manufacturers

EQUIPMENT

MANUFACTURERS

Conveyor and Material Handling
Hydropneumatics SPM's
Submersible Pumps
Gear Box
Air Compressors
Domestic Appliances



ABOUT US

We started in the year 1960. At our core, we are a dedicated team based in Tamil Nadu, committed to delivering top-notch rubber and hydraulic solutions. With a customer-centric approach, we strive for excellence in every aspect.

"We have a flexible set-up with all departments in-house which gives the advantage of ful-filling customers requirements"

From our extensive product range to our personalized service, Our dedicated team of experts are always ready to assist you in finding the right products for your needs, providing personalized guidance and excellent customer service.

ONE STOP SOLUTIONS

In today's fast-paced business world, entrepreneurs and companies often find themselves juggling a dizzying array of tasks and responsibilities. From managing finances and operations to marketing and sales, the demands on modern businesses can quickly become overwhelming. That's where our group krishsahel steps in, providing a comprehensive suite of services designed to streamline your operations and propel your organization to new heights of success.

RELIABLE SEALING SOLUTIONS

INSATLL THE PERFECT SEAL'S ALL TIME WITH OUR PRODUCTS



INNOVATION

For application issues, STOPOIL provides rubber, polyurethane special custom solutions and innovative solutions.

cost savings

Automated production lines reduce labor and material losses, proving cost reduction.

services

STOPOIL has more than 10,000 square meters of warehouse READY TO SHIP in China. One-stop purchasing service that fully meets various order needs.

ADDED VALUE & KEY BENEFITS

quality control

With 16 years of experience, we have established a complete production chain and supply service system. Guarantee the quality of every batch.

efficiency

STOPOIL has special CNC processing services and fast sample delivery capabilities. Low MOQ. Fast delivery. Meet all emergency orders.

24h service

We offer FULL-TIME 24 HOUR TECHNICAL SERVICE, STOPOIL will always solve the difficulties you face as soon as possible.

OUR ADVANTAGES

We serve to make your life uncomplicated. Heighten your delight with increased production, reduce downtime so as to SEE 'U' HOME IN TIME FOR DINNER.



GUIDED BY COMMITMENT

Well-equipped factory in Coimbatore, South India. Catering to leading OEMs and End Product manufacturers in the domestic and international circuit.

A TEAM OF PROFESSIONALS

Backed by 50+ years of domain experience, the group has a team of steadfast Quality Control experts.

OUR HISTORY

1960 - A trading company for industrial inputs and accessories in the name and style of messer's GIC (India) took birth at madras (now Chennai), South India.

1981 - First manufacturing unit for Rubber & Plastic components launched.

1986 - An additional product in precision pressed components (Sheet metal) primarily for integral consumption was included to our range of products.

1988 - exiting factory augmented with automatic production line to facilitate manufacturing of thermoplastic Polyurethane Products.

1990 - An exclusive unit for OIL SEALS was set up in Haryana state, North India.

1996 - Re-located operations to Coimbatore, South India.

2000 - Gave Birth to our Second UNIT in coimbatore



OUR BRANDS



Ksg - Stopoil

Rotary/Dynamic Seals



Oil seals are used to protect shafts and bearings from ingress of dirt and foreign matter and egress of oil or grease. An oil seal generally consists of an outer circular metal part and an inner flexible member that does the actual sealing and is bonded to the metal part by chemical adhesive agents.

The **Dynamic Sealing Mechanism** or pumping action is how the fluid film created from the Hydrodynamic Effect is maintained without developing a leak.

Dynamic Seals, called expellers, set up an air/liquid interface from centrifugal force at some radius in their passageway that depends on the pressure difference between the stuffing box and discharge pressure that must be overcome. The higher this differential pressure the more beneficial the dynamic seal becomes.

Seals are used to prevent the leakage of fluids in rotating equipment. A seal prevents lubricants, such as oil and grease, from entering the environment and (dirty) water from entering the installation.



IDLERS In summary, the four most commonly used types of idlers are trough idlers, flat return idlers, impact idlers and training return idlers.

They support the belt and conveyed material along its full length preventing it from stretching, sagging and eventually failing. Conveyor rollers and idlers are often required to operate in harsh environments such as dirty, dusty, high humidity, and drastically high or low temperatures.



KONVAOR

Idlers - Dust Seals - Circlips
Thermoplastic Bearing
Housing Machined & Fabricated Assemblies

TYPE

- Rubber Idlers
- Ceramic Idler
- Nylon Idlers
- Insulated Idlers

MATERIAL

- Steel covered in Rubber
- Steel with Ceramic tiles or fully Ceramic
- Nylon (Type of Plastic)
- Various insulating materials



DUST SEALS This is a rubber dust seal with double lip to prevent oil spilling. Nitrile rubber and fluorine rubber are available, so it can be used in a wide range of temperature conditions. Prevents dust from entering from the outside to protect packings and bearings.

Dust seal covers, or boots, are accordion-like rubber or plastic seals designed to keep dust out of the systems they protect. Dust seals are found on a variety of systems from brake calipers to the power steering system. They may protect shaft joints, ball studs, or steering linkages.



Circlips are typically made from stainless steel and similar metals. Alternative names for circlips include retaining rings, retaining clips, C-type, Jesus clips, snap rings, and E-type. Retaining rings serve as a removable shoulder within an assembly to retain components in a bore or on a shaft.



Circlips are used to prevent lateral movement. They are used as retaining rings on bearing assemblies and are manufactured using semi-flexible metal ring. These products are in a shape of a circle with a clip and are open from one end. The most common form of axially fitted circlips for shafts with grooves.

There are two basic types of circlips: internal (fitted into a bore) and external (fitted over a shaft). Circlips are often used to secure pinned connections.



Thermoplastic Bearing Units are corrosion resistant units for various applications and are needed for the environments of clean operating. Thermoplastic bearing units provide the desirable thermal, electrical and mechanical properties that offer the standard products.

Bearings are "parts that assist objects' rotation". They support the shaft that rotates inside the machinery. Machines that use bearings include automobiles, airplanes, electric generators and so on.



Fiat Power

Hydraulic Pneumatic Seals Chevron & Twin Set Packings



Hydraulic and pneumatic seals are sealing components used for applications with rotary or reciprocating motions, they are commonly found in cylinders. Hydraulics is liquid and pneumatics is gas. And the main difference between these two is, Hydraulic systems use liquids like water and oil to transmit power.

Hydraulic seals are gasket-like rings that are designed to seal areas between the components in a hydraulic cylinder. Hydraulic cylinders contain many different components, some of which are exposed to the fluid. To prevent fluid from leaking around these components, hydraulic seals are used.



With internal pneumatic seals, a housing bore surrounds the seal and the sealing lip touches the shaft. This seal requires very little lubricant. With external piston pneumatic seals, the seal surrounds a shaft and the sealing lip touches the housing bore. This system requires more lubrication.

The most commonly used material is acrylonitrile or nitrile butadiene rubber (NBR). Relatively inexpensive, NBR exhibits excellent resistance to petroleum-based hydraulic fluids for the temperature range -50°C to 120°C (-60°F to 250°F), but is not resistant to weathering.

Each individual lip of Chevron packing set independently reacts to pressure and automatically effect a seal. The multiple lip configurations automatically distribute pressure and effectively seal along the shaft. The seal is a combination of a Gland Ring, center V-Ring & pressure ring or header.

CHEVRON Packing is design for sealing rods, pistons and plungers in hydraulic cylinders and hydraulic presses. Extremely suitable for medium duty to heavy duty application. CHEVRON seal accepts low & high pressure, vigorous conditions & also if any misalignment between sealing gaps.



OUR BRANDS



Summerfield

Irrigation & Farm Impliment Spares Pumps & Spares

Irrigated agricultural area refers to area equipped to provide water (via artificial means of irrigation such as by diverting streams, flooding, or spraying) to the crops. In non-irrigated agricultural areas, production of crops is dependent on rain-fed irrigation.



Flo - Fit

Hydraulic Fittings - NRV's Dowty - Bonded Seals & Machined Components

Fittings allow hydraulic hoses to connect to various components and machines, and facilitate the transfer of hydraulic fluid and power. Hydraulic fittings come in various sizes, materials, types of seals, and temperature and pressure tolerances. Some can allow or prevent the flow of fluids, and some can do both.

There are several types of fittings used in different applications and environments, each with its own characteristics and benefits. Hydraulic fittings are a special type of fitting used in hydraulic systems to connect pipes and hoses that carry fluids normally under high pressure. Industrial: Hydraulic fittings and adapters are widely used in various industrial applications, such as manufacturing, processing, and handling equipment. These fittings and adapters facilitate the connection and transfer of fluids in the hydraulic system, enabling the smooth operation of the equipment.

Dowty seals, also called bonded seals, are a washer kind of seal used to tighten the connection around screws and bolts. They are typically made of both a metal and an elastomer material. In mechanical engineering, a bonded seal is a type of washer used to provide a seal around a screw or bolt. Originally made by Dowty Group, they are also known as Dowty seals or Dowty washers. Now widely manufactured, they are available in a range of standard sizes and materials.





We manufacture all kind of supporting spare parts for each stage of a submersible pump - OPEN BOREWELL PUMPS.

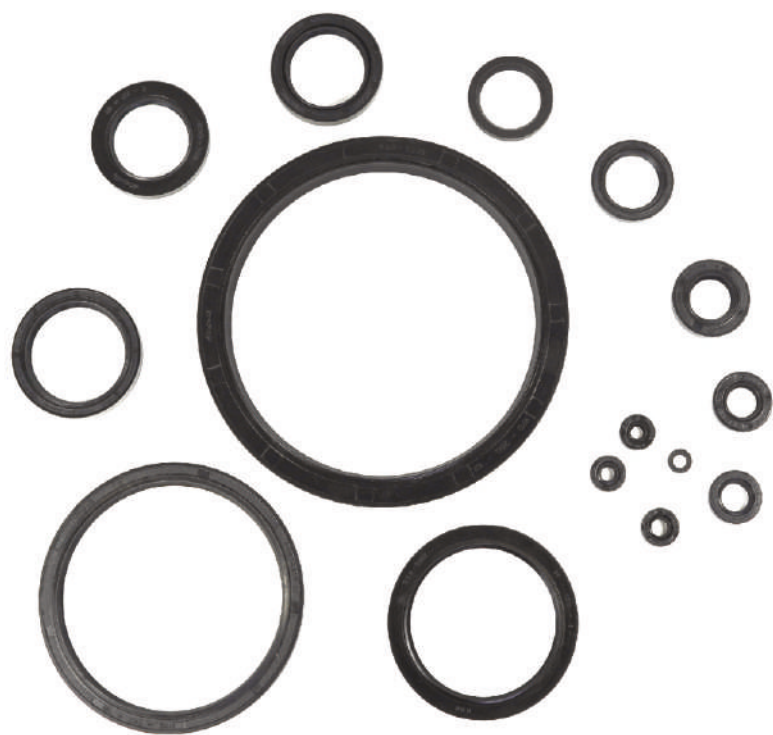
KRAFTERS The submersible pump is sometimes called a bell pump and is fully immersed in water to be extracted. These pumps are used in situations that involve flooding, such as rising groundwater in cellars or basements, flooded boats, or flooded areas.



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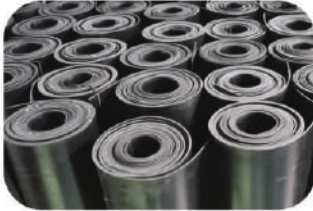
Electric submersible pumps are multistage centrifugal pumps operating in a vertical position. Liquids, accelerated by the impeller, lose their kinetic energy in the diffuser, where a conversion of kinetic to pressure energy takes place. This is the main operational mechanism of radial and mixed flow pumps.





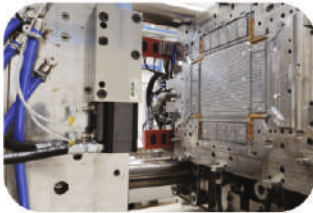
PRODUCTION CAPACITY

In order to meet the needs of our customers, Stopoil Seals and Rings is happy to make you the right seal ring for you.



1. MOULDING SHOP

Stopoil has 30 hydraulic machines
20 rubber flat vulcanizing machines
8Inches Square Upto 25Inches Square platens
6 O-ring automatic production lines
We are developing more and more automation equipment Control ensures sealing performance and reduces costs



2. INJECTION MOLDING

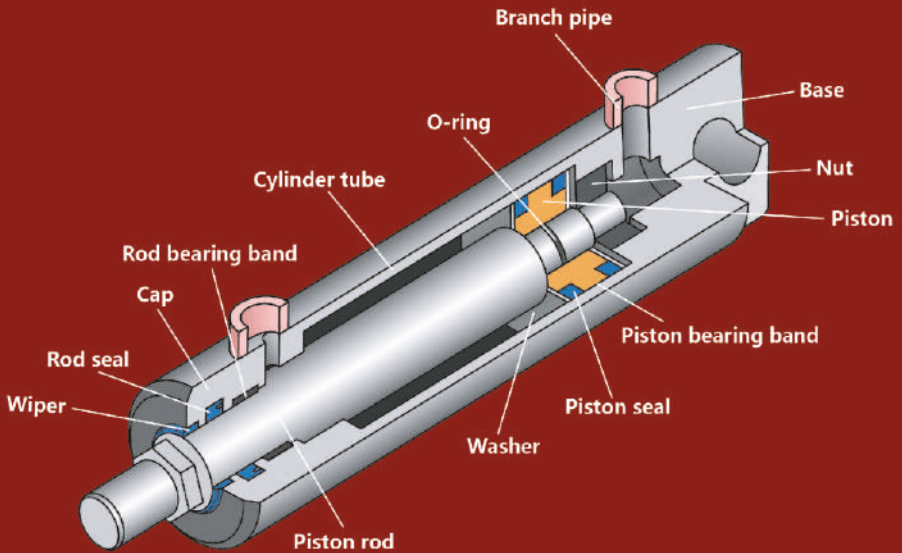
Stopoil has 3 injection molding equipment,
Which are fully automatic, Japanese machines
Used to supply thermoplastic seals and special polyurethane custom solutions. Our goal is to win the long term trust of our customers through reliable quality and service.



3. CNC-COMPUTER NUMERICAL CONTROL

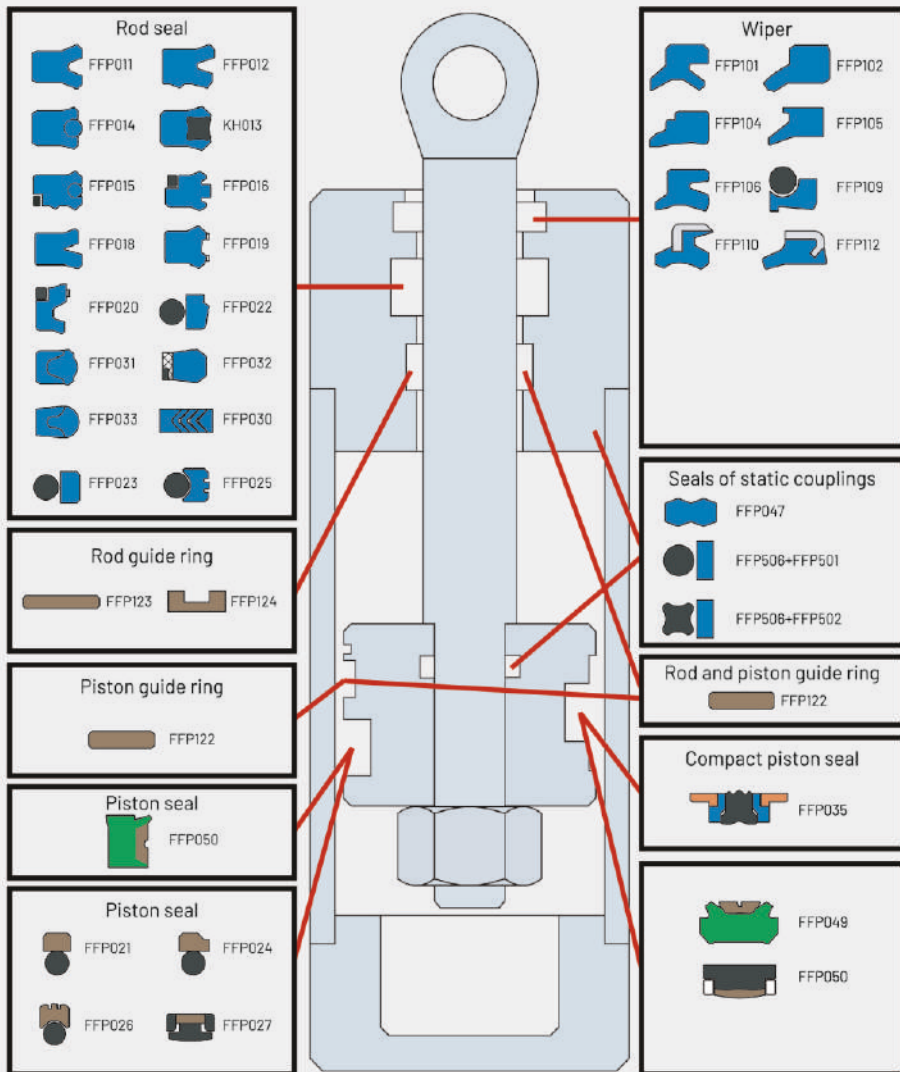
Stopoil's CNC machining service turned seals up to 2000 mm outside diameter. We can produce a variety of different composite materials, as well as polymer materials. Delivery is possible within one day at the earliest, catering to various urgent orders. In addition to standard types, please feel free to contact us and we will be happy to provide you with comprehensive sealing solutions!

HYDRAULIC SEALING ELEMENTS



TYPE OF **HYDRAULIC SEALS**

We use the term 'hydraulic sealing products' to describe the wide variety of devices used to assist and perform the sealing function in all types of hydraulic and associated equipment that help to provide dynamic reciprocating, oscillating or very slow rotational motion.



HYDRAULIC SEALING ELEMENTS



FFP011
U-Ring Piston Seal (UN)

Material : PU
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 250 bar
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP012
U-Ring Piston Seal (BS)

Material : PU
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 40 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP013
U-Ring Seal + Square Ring

Material : PU
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 50 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP014
U-Ring Seal + O-Ring

Material : PU / NBR
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 50 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP015
U-Cup Seal (BD)

Material : PU / NBR / POM
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 50 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP016
U-Cup Seal BU

Material : PU / POM
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : 50 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP017
U-Ring Seal (ODU)

Material : PU
 Hardness : 95 Shore
 Application : Piston
 Pressure : 40 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP018
U-Ring Seal (IDU)

Material : PU
 Hardness : 95 Shore
 Application : Rod
 Pressure : 40 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms



FFP019
U-Ring Seal (IDU)

Material : PU
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : ≤ 31.5 MPA
 Temperature : -30°C - +80°C
 Speed : ≤ 0.5 ms

HYDRAULIC SEALING ELEMENTS



FFP020
U-Ring Seal (HBY)

Material : PU / POM
 Hardness : 95 Shore
 Application : Piston / Rod
 Pressure : ≤ 55 MPa
 Temperature : -30°C ~ +80°C
 Speed : ≤ 0.5 m/s



FFP021
SP80 Piston Seal (BSF)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +220°C
 Speed : ≤ 4 m/s



FFP022
Rod Buffer Cap Seal (BSJ)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Rod
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +80°C
 Speed : ≤ 4 m/s



FFP023
Rod Cap Seal (GSI)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Rod
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +220°C
 Speed : ≤ 4 m/s



FFP024
Rod Cap Seal (GSD)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +220°C
 Speed : ≤ 4 m/s



FFP025
Rod Cap Seal (OEd)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +220°C
 Speed : ≤ 4 m/s



FFP026
Piston Cap Seal (OED)

Material : Bronze / PTFE / NBR & Viton
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +220°C
 Speed : ≤ 4 m/s



FFP027
Piston Seal (SPGW)

Material : Bronze / PTFE / NBR / POM
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 60 MPa
 Temperature : -30°C ~ +110°C
 Speed : ≤ 1.5 m/s



FFP028
Rod Cap Seal (HBT)

Material : PU / NBR
 Hardness : 90 / 70 Shore
 Application : Rod
 Pressure : ≤ 40 MPa
 Temperature : -30°C ~ +110°C
 Speed : ≤ 4 m/s

HYDRAULIC SEALING ELEMENTS



FFP029
Piston Cup Seal (GSF)

Material : PU / NBR
 Hardness : 95 / 70 Shore
 Application : Piston
 Pressure : ≤ 40 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 4 ms



FFP030
Vee Packing Seal

Material : NBR / FKM+Fabric
 Hardness : 90 / 70 Shore
 Application : Piston / Rod
 Pressure : ≤ 70 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP031
Compact Seal (S8)

Material : NBR / FKM+Fabric
 Hardness : 90 Shore
 Application : Rod
 Pressure : ≤ 70 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP032
Compact Seal (TSE)

Material : NBR / FKM+Fabric
 Hardness : 90 Shore
 Application : Rod
 Pressure : ≤ 40 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP033
Compact Seal (B18)

Material : NBR+Fabric
 Hardness : 90 Shore
 Application : Rod
 Pressure : ≤ 40 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP034
Compact Seal (D56)

Material : NBR / FKM+Fabric
 Hardness : 90 Shore
 Application : Piston
 Pressure : ≤ 40 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP035
Compact Seal (KDAS)

Material : NBR-TPE / POM
 Hardness : 90 Shore
 Application : Piston
 Pressure : ≤ 40 MPA
 Temperature : -50°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP036
Vee Pack Sata

Material : NBR
 Hardness : 75 Shore
 Application : Rod / Piston
 Pressure : ≤ 40 MPA
 Temperature : -30°C ~ +110°C
 Speed : ≤ 0.5 ms



FFP037
U-Ring Piston Seal (ODU)

Material : NBR / FKM
 Hardness : 90 Shore
 Application : Piston
 Pressure : ≤ 30 MPA
 Temperature : -30°C ~ +200°C
 Speed : ≤ 0.5 ms

HYDRAULIC SEALING ELEMENTS



FFP038
U-Ring Rod Seal (IDU)

Material : NBR / FKM
 Hardness : 90 Shore
 Application : Rod
 Pressure : ≤ 30 MPA
 Temperature : -30°C - +200°C
 Speed : ≤ 0.5 m/s



FFP039
U-Ring Seal (USH)

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Rod / Piston
 Pressure : ≤ 30 MPA
 Temperature : -20°C - +200°C
 Speed : ≤ 0.5 m/s



FFP040
U-Ring Seal (UPH)

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Rod / Piston
 Pressure : ≤ 30 MPA
 Temperature : -30°C - +200°C
 Speed : ≤ 0.5 m/s



FFP041
Combination Seals (SPB)

Material : Bronze + PTFE / NBR
 Hardness : 90 Shore
 Application : Piston
 Pressure : ≤ 40 MPA
 Temperature : -30°C - +180°C
 Speed : ≤ 5 m/s



FFP042
Combination Seals (KR)

Material : PU / NBR
 Hardness : 90 Shore
 Application : Piston
 Pressure : ≤ 40 MPA
 Temperature : -20°C - +110°C
 Speed : ≤ 0.5 m/s



FFP043
Combination Seals (A06)

Material : Bronze + PTFE / NBR
 Hardness : 90 Shore
 Application : Double Acting Piston
 Pressure : ≤ 40 MPA
 Temperature : -30°C - +110°C
 Speed : ≤ 0.5 m/s



FFP044
Combination Seals (OK)

Material : POM / NBR
 Hardness : 95 Shore
 Application : Piston
 Pressure : ≤ 50 MPA
 Temperature : -30°C - +180°C
 Speed : ≤ 1 m/s



FFP045
Rotation Seals (ROI)

Material : TPU
 Hardness : 95 Shore
 Application : Rod
 Pressure : ≤ 50 MPA
 Temperature : -30°C - +110°C
 Speed : ≤ 1.5 m/s



FFP046
Combined Seal (OHM)

Material : NBR / Nylon
 Hardness : 95 Shore
 Application : Piston
 Pressure : ≤ 25 MPA
 Temperature : -50°C - +100°C
 Speed : ≤ 0.5 m/s

HYDRAULIC SEALING ELEMENTS



KON047
Double-acting Seal (GDS)

Material	: TPU
Hardness	: 95 Shore
Application	: Piston / Rod
Pressure	: ≤ 50 MPa
Temperature	: -30°C – +80°C
Speed	: ≤ 0.5 ms



KON048
Double-acting Seal (GDS)

Material	: TPU
Hardness	: 95 Shore
Application	: Piston / Rod
Pressure	: ≤ 50 MPa
Temperature	: -30°C – +80°C
Speed	: ≤ 0.5 ms



KON049
Double-acting Seal (GDS)

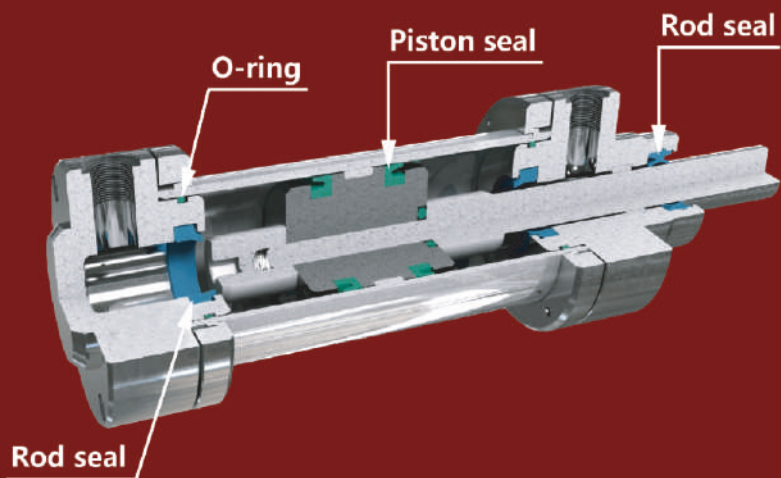
Material	: TPU
Hardness	: 95 Shore
Application	: Piston / Rod
Pressure	: ≤ 50 MPa
Temperature	: -30°C – +80°C
Speed	: ≤ 0.5 ms



KON050
Double-acting Seal (GDS)

Material	: TPU
Hardness	: 95 Shore
Application	: Piston / Rod
Pressure	: ≤ 50 MPa
Temperature	: -30°C – +80°C
Speed	: ≤ 0.5 ms

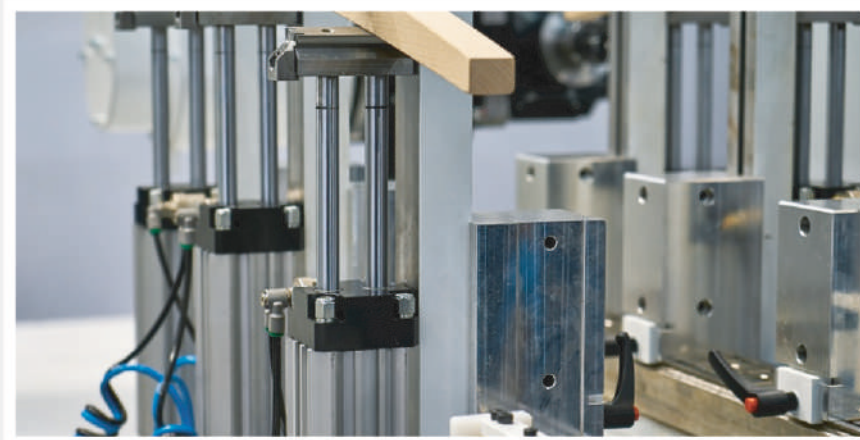
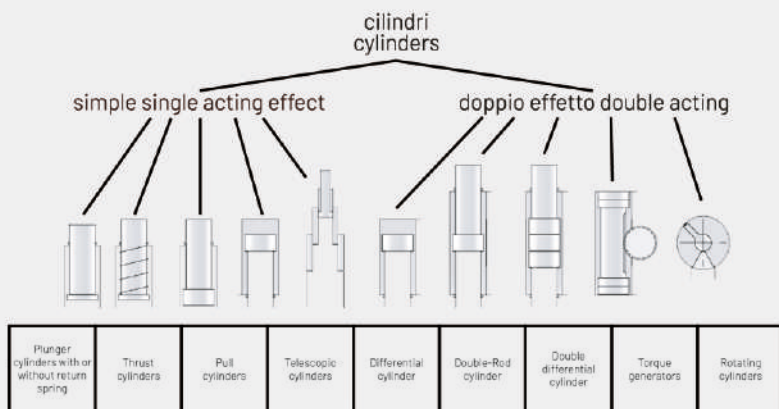
PNEUMATIC SEALING ELEMENTS



TECHNICAL OVERVIEW PNEUMATICS

Pneumatics is a general discipline of fluid dynamics, which deals with the transmission of energy through fluids under pressure. Solving problems in these areas often requires the development of complex equations that define the properties of the fluid, such as velocity, pressure, density and temperature as a function of space and time.

Hydraulics and pneumatics have been successful in many applications due to their numerous advantages and their ability to combine a great concentration of power with excellent control and regulation capabilities.



PNEUMATIC SEALING ELEMENTS



FFP201
Pneumatic Rod Seal (OYd)

Material	: TPU / NBR / FKM
Hardness	: 80 Shore
Application	: Rod
Pressure	: ≤ 1.6 MPA
Temperature	: -30°C -- +60°C
Speed	: ≤ 0.5 ms



FFP202
Pneumatic Piston Seal (OYd)

Material	: TPU / NBR / FKM
Hardness	: 60 Shore
Application	: Piston
Pressure	: ≤ 1.6 MPA
Temperature	: -30°C -- +100°C
Speed	: ≤ 1 ms



FFP203
Double Acting Piston Seal (COP)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Piston
Pressure	: ≤ 1 MPA
Temperature	: -30°C -- +100°C
Speed	: ≤ 1 ms



FFP204
Piston Seal (PBV)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Piston
Pressure	: ≤ 1 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms



FFP205
Single Acting Piston Seal (ZB)

Material	: TPU / NBR / FKM
Hardness	: 70 Shore
Application	: Piston
Pressure	: ≤ 1 - 1.5 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms



FFP206
Double Acting Piston Seal (Z5)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Piston
Pressure	: ≤ 1.6 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms



FFP207
U-Ring Rod Seal (C1)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Rod
Pressure	: ≤ 1.6 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms



FFP208
Compact Seal (KDN)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Short - stroke cylinders
Pressure	: ≤ 1 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms



FFP209
Double Acting Piston Seal (PZ)

Material	: NBR / FKM
Hardness	: 70 Shore
Application	: Short - stroke cylinders
Pressure	: ≤ 1.5 MPA
Temperature	: -30°C -- +200°C
Speed	: ≤ 1 ms

PNEUMATIC SEALING ELEMENTS



FFP210
Piston Seal (EA)

Material : NBR / TPU / FKM
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 2 MPa
 Temperature : -30°C ~ +200°C
 Speed : ≤ 1 m/s



FFP211
Double Acting Piston Seal (ZT)

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Piston
 Pressure : ≤ 1.6 MPa
 Temperature : -30°C ~ +200°C
 Speed : ≤ 1 m/s



FFP212
Piston Seal (C2)

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Piston
 Pressure : ≤ 1.6 MPa
 Temperature : -30°C ~ +200°C
 Speed : ≤ 0.5 m/s



FFP213
Double Acting Piston Seal (PPD)

Material : NBR / FKM
 Hardness : 70 Shore
 Application : Piston
 Pressure : ≤ 1 MPa
 Temperature : -30°C ~ +200°C
 Speed : ≤ 1 m/s



FFP214
Double Acting Piston (DP)

Material : NBR
 Hardness : 72 Shore
 Application : Piston
 Pressure : ≤ 1.2 MPa
 Temperature : -30°C ~ +100°C
 Speed : ≤ 1 m/s



FFP215
Versatile Complete Piston (DE)

Material : NBR
 Hardness : 72 Shore
 Application : Piston
 Pressure : ≤ 1.2 MPa
 Temperature : -30°C ~ +100°C
 Speed : ≤ 1 m/s



FFP216
Double Acting Piston (DK)

Material : NBR
 Hardness : 72 Shore
 Application : Pneumatic Piston
 Pressure : ≤ 1.2 MPa
 Temperature : -30°C ~ +100°C
 Speed : ≤ 1 m/s



FFP217
Complete Piston (DSBC)

Material : PU POM ALUMINUM
 Hardness : 92 Shore
 Application : Pneumatic Piston
 Pressure : ≤ 1.6 MPa
 Temperature : -30°C ~ +80°C
 Speed : ≤ 1 m/s



FFP218
Combined Piston (DPRS)

Material : PU POM ALUMINUM
 Hardness : 92 Shore
 Application : Pneumatic Piston
 Pressure : ≤ 1.6 MPa
 Temperature : -30°C ~ +80°C
 Speed : ≤ 1 m/s

PNEUMATIC SEALING ELEMENTS



FFP219
Complete Piston (MYA)

Material	: NBR / FKM
Hardness	: 72 Shore
Application	: Solenoid Valves
Pressure	: ≤ 0.8 MPA
Temperature	: -25°C ~ +130°C
Speed	: ≤ 0.4 ms



FFP220
Cushioning Seal (PP)

Material	: TPU / NBR / FKM
Hardness	: 85 Shore
Application	: Pneumatic
Pressure	: ≤ 1.5 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP221
Cushion Seal (AEI / HC-2)

Material	: NBR / FKM
Hardness	: 80 Shore
Application	: Pneumatic
Pressure	: ≤ 1.0 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP222
Pneumatic Valve Seal (OE)

Material	: NBR
Hardness	: 70 Shore
Application	: Quick exhaust valve
Pressure	: ≤ 1.6 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP223
Pneumatic Cushion Seal (PA / V6)

Material	: NBR / FKM
Hardness	: 85 Shore
Application	: Quick exhaust valve
Pressure	: ≤ 1.6 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP224
Pneumatic Backing Ring (YDK)

Material	: TPU
Hardness	: 82 Shore
Application	: Pneumatic
Pressure	: ≤ 1.6 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP225
Pneumatic Buffer Ring (DNC)

Material	: RUBBER
Hardness	: 85 Shore
Application	: Festo Pneumatic
Pressure	: ≤ 1.6 MPA
Temperature	: -25°C ~ +200°C
Speed	: ≤ 1 ms



FFP226
Magnetic Piston Seal (MPS / MK)

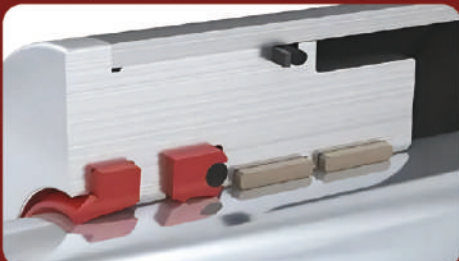
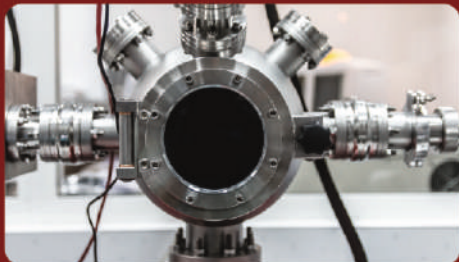
Material	: TPU
Hardness	: 80 Shore
Application	: Piston
Pressure	: ≤ 2 MPA
Temperature	: -25°C ~ +60°C
Speed	: ≤ 1 ms



FFP227
Cushion Seal (PCS)

Material	: NBR + Metal
Hardness	: 80 Shore
Application	: Absorb shock at the end of a cylinder
Pressure	: ≤ 1 MPA
Temperature	: -5°C ~ +80°C
Speed	: ≤ 0.5 ms

WIPER SEAL & GUIDE RING



WIPER SEALS **AND** GUIDE RING

Hydraulic and pneumatic cylinders operate in a variety of applications and environmental conditions, including exposure to dust, debris or outside weather conditions. To prevent these contaminants from entering the cylinder assembly and hydraulic system, wiper seals (also known as scrapers, excluders or dust seals) are fitted on the external side of the cylinder head.

Wiper seals maintain sealing contact to the piston rod when the equipment is stationary (static, no reciprocating motion of rod) and in use (dynamic, reciprocating rod), whereas the tolerance for the rod diameter d is determined by the rod seal. Without a wiper seal, the retracting piston rod could transport contaminants into the cylinder.

The outside static sealing of the wiper seal within the housing is also important to avoid moisture or particles from entering around the outside of the wiper seal.



WIPER SEAL & GUIDE RING



FFP110
Twin Lip Wiper (DKB)

Material : Metal / NBR
 Hardness : 85 Shore
 Application : Hydraulic Wiper
 Pressure : ≤ 32 MPa
 Temperature : -35°C ~ +120°C
 Speed : ≤ 2 ms



FFP111
Twin Lip Wiper (DKBI)

Material : Metal / PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ≤ 32 MPa
 Temperature : -35°C ~ +90°C
 Speed : ≤ 2 ms



FFP112
Twin Lip Wiper (GA)

Material : Metal / NBR
 Hardness : 80 Shore
 Application : Hydraulic Wiper
 Pressure : ≤ 32 MPa
 Temperature : -35°C ~ +90°C
 Speed : ≤ 2 ms



FFP113
Rod Wiper Combination (EU)

Material : PU
 Hardness : 90 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPa
 Temperature : -35°C ~ +80°C
 Speed : ≤ 1 ms



FFP114
Double Acting Wiper Seal (POU)

Material : NBR
 Hardness : 75 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1 MPa
 Temperature : -20°C ~ +80°C
 Speed : ≤ 1 ms



FFP115
Double Acting Wiper Seal (EH)

Material : PU
 Hardness : 90 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPa
 Temperature : -20°C ~ +80°C
 Speed : ≤ 1 ms



FFP116
Double Acting Wiper Seal (ZHM)

Material : NBR
 Hardness : 75 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPa
 Temperature : -20°C ~ +80°C
 Speed : ≤ 1 ms



FFP117
Double Acting Thin Wiper (FC-2)

Material : NBR / FKM
 Hardness : 75 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1 MPa
 Temperature : -20°C ~ +200°C
 Speed : ≤ 1 ms



FFP118
Wiper Combination (EB)

Material : PTFE & PU / NBR & FKM
 Hardness : 80 to 98 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPa
 Temperature : -20°C ~ +200°C
 Speed : ≤ 1 ms

WIPER SEAL & GUIDE RING



FFP119
Double Acting Wiper (EL)

Material : PU
 Hardness : 92 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPA
 Temperature : -20°C ~ $+200^{\circ}\text{C}$
 Speed : ≤ 1 ms



FFP120
Double Acting Wiper (DRP)

Material : NBR / FKM
 Hardness : 75 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1 MPA
 Temperature : -20°C ~ $+200^{\circ}\text{C}$
 Speed : ≤ 1 ms



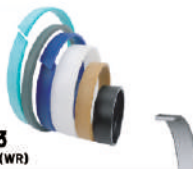
FFP121
Double Acting Wiper (PDR)

Material : NBR & Metal
 Hardness : 75 Shore
 Application : Pneumatic Wiper Seal
 Pressure : ≤ 1.6 MPA
 Temperature : -20°C ~ $+85^{\circ}\text{C}$
 Speed : ≤ 1 ms



FFP122
Guide Strip

Material : PTFE & BRONZE / Phenolic
 Hardness : 90 Shore
 Application : Guide Pistons And Rods
 Pressure : ≤ 16 N/mm²
 Temperature : -35°C ~ $+200^{\circ}\text{C}$
 Speed : ≤ 15 ms



FFP123
Guide Ring (WR)

Material : PTFE / POM / Phenolic / PTFE + BRONZE
 Hardness : 90 Shore
 Application : Guide Pistons And Rods
 Pressure : ≤ 16 N/mm²
 Temperature : -35°C ~ $+200^{\circ}\text{C}$
 Speed : ≤ 15 ms



FFP124
Guide Ring (FAI-WR)

Material : PTFE / POM / Phenolic / PTFE + BRONZE
 Hardness : 90 Shore
 Application : Guide Pistons And Rods
 Pressure : ≤ 16 N/mm²
 Temperature : -35°C ~ $+200^{\circ}\text{C}$
 Speed : ≤ 15 ms

WIPER SEAL & GUIDE RING



FFP101
Single Acting Double Wiper (DHS)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤1 ms



FFP102
Single Acting Wiper (JA)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤1 ms



FFP103
Single Acting Double Wiper (LBI)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤1 ms



FFP104
Single Acting Wiper (A1)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤2 ms



FFP105
Single Acting Wiper (PW, GHK)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤0.8 ms



FFP106
Single Acting Double Wiper (AY)

Material : PU
 Hardness : 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤2 ms



FFP107
Single Acting Double Wiper (LBH)

Material : NBR / FKM
 Hardness : 82 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +100°C
 Speed : ≤2 ms



FFP108
Single Acting Wiper (JA)

Material : PU / NBR / FKM
 Hardness : 82 to 95 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +200°C
 Speed : ≤2 ms



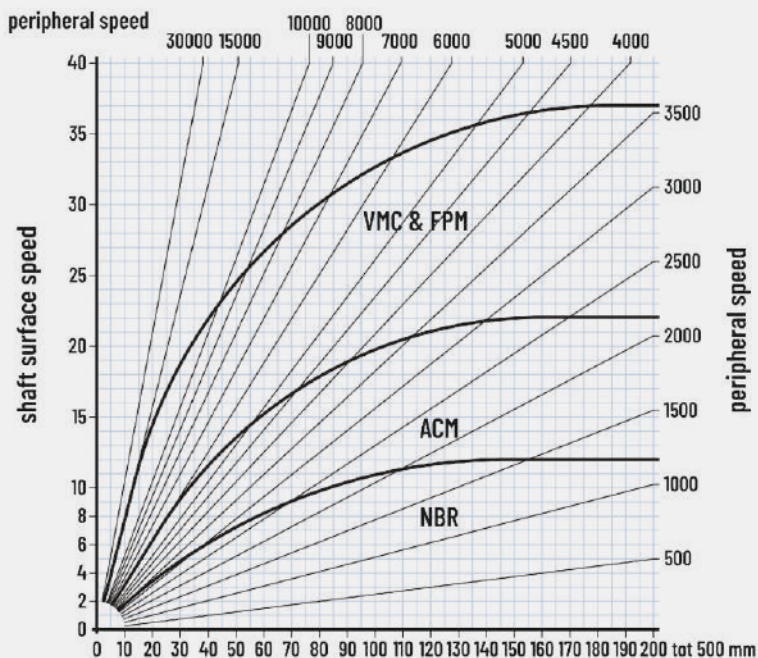
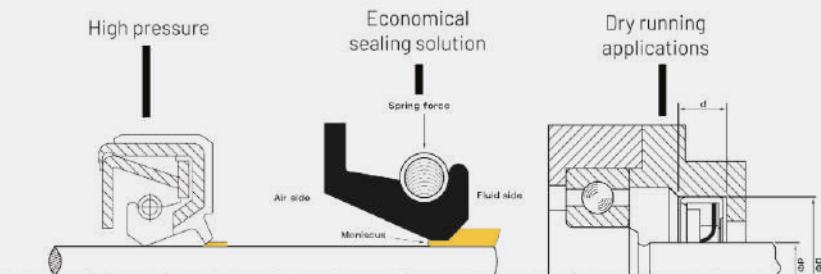
FFP109
Double-Lip-Energized Wiper (AL5)

Material : PTFE + Bronze / NBR & FKM
 Hardness : 85 Shore
 Application : Hydraulic Wiper
 Pressure : ±
 Temperature : -35°C ~ +200°C
 Speed : ≤2 ms

RADIAL ROTARY SEAL

The common radial oil seals works by creating a thin layer of oil between the rubber sealing lip and the shaft which results in the oil lifting the sealing lip clear of the shaft.

This thin layer of oil performs a barrier and prevents leakage of the oil past the sealing lip. For this reason rubber oil seals are not suitable for dryrunning applications or high pressure. For dry grinding, PTFE series seals such as "STOPOIL" SR328-SR333 can be used. For high pressure, "STOPOIL" seals SR321 SR322 series can be used



RADIAL ROTARY SEAL



ST301
TG4 Oil Seal

Material : FKM / NBR / ACM
 Hardness : 75 Shore
 Application : Radial rotation axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST302
TC Oil Seal

Material : ACM / NBR / FKM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST303
TC4 Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST304
SG Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST305
VC Oil Seal

Material : ACM / NBR / FKM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST306
SC Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST307
SB Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST308
TB Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST309
VB Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data

RADIAL ROTARY SEAL



ST310
KB Oil Seal

Material : NBR / ACM / FKM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST311
SA Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST312
TA Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST313
Split Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST314
DB Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST315
ZF Seals

Material : NBR
 Hardness : 75 Shore
 Application : Anti-Friction Bearing Block
 Pressure : --
 Temperature : -30°C ~ +100°C
 Speed : Refer To Shaft Speed Data



ST316
MG Seals

Material : NBR
 Hardness : 75 Shore
 Application : Anti-Friction Bearing Block
 Pressure : --
 Temperature : -30°C ~ +120°C



ST317
Cassette Oil Seals

Material : NBR / FKM
 Hardness : 85 Shore
 Application : Wheel - End Applications
 Pressure : --
 Temperature : -30°C ~ +200°C



ST318
Combi Oil Seals

Material : NBR & PTFE
 Hardness : 85 Shore
 Application : Heavy Duty Wheel Seals and Agricultural
 Pressure : --
 Temperature : -30°C ~ +200°C

RADIAL ROTARY SEAL



ST319
HTCT Oil Seal

Material : FKM / NBR / ACM
 Hardness : 75 Shore
 Application : Radial rotation axis
 Pressure : 0.03 MPA
 Temperature : -30°C -- +200°C
 Speed : Refer To Shaft Speed Data



ST320
TBG Oil Seal

Material : ACM / NBR / FKM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C -- +200°C
 Speed : Refer To Shaft Speed Data



ST321
TCN Oil Seal

Material : NBR / FKM
 Hardness : 80 Shore
 Application : High Pressure Rotary
 Pressure : 1 MPA
 Temperature : -30°C -- +200°C
 Speed : Refer To Shaft Speed Data



ST322
TCV Oil Seal

Material : NBR / FKM
 Hardness : 80 Shore
 Application : High Pressure Rotary
 Pressure : 1 MPA
 Temperature : -30°C -- +200°C
 Speed : Refer To Shaft Speed Data



ST323
EC End Cup

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Gear Units And Gear Box
 Pressure : --
 Temperature : -30°C -- +200°C
 Speed : --



ST324
SC Oil Seal

Material : NBR / FKM
 Hardness : 80 Shore
 Application : Gear Units And Gear Box
 Pressure : --
 Temperature : -30°C -- +200°C
 Speed : --



ST325
V-Ring (VA)

Material : NBR / FKM
 Hardness : 75 Shore
 Application : One - Piece All Rubber Rotary Shaft Seal
 Pressure : --
 Temperature : -30°C -- +200°C
 Speed : --



ST326
V-Ring (VA)

Material : NBR / FKM
 Hardness : 75 Shore
 Application : One - Piece All Rubber Rotary Shaft Seal
 Pressure : --
 Temperature : -30°C -- +200°C
 Speed : --



ST327
DC Oil Seal

Material : NBR / FKM / ACM
 Hardness : 75 Shore
 Application : All Types Of Relative Applications
 Pressure : --
 Temperature : -30°C -- +200°C
 Speed : --

RADIAL ROTARY SEAL



ST328
PTFE Oil Seal (Single lip)

Material : NBR / ACM / FKM
 Hardness : 75 Shore
 Application : Radial Rotation Axis
 Pressure : 0.03 MPA
 Temperature : -30°C ~ +200°C
 Speed : Refer To Shaft Speed Data



ST329
PTFE Oil Seal (Double lip)

Material : PTFE / 304SS
 Hardness : 85 Shore
 Application : High Temperatures, Pressures Dry Running
 Pressure : ≤ 3.5 MPA
 Temperature : -70°C ~ +250°C
 Speed : ≤ 30 M/s



ST330
PTFE Oil Seal (Reverse lips)

Material : PTFE / 304SS
 Hardness : 85 Shore
 Application : High Temperatures, Pressures dry running
 Pressure : ≤ 3.5 MPA
 Temperature : -70°C ~ +250°C
 Speed : ≤ 30 M/s



ST331
PTFE Oil Seal (Triple lips)

Material : PTFE / 304SS
 Hardness : 85 Shore
 Application : High Temperatures, Pressures Dry Running
 Pressure : ≤ 3.5 MPA
 Temperature : -70°C ~ +250°C
 Speed : ≤ 30 M/s



ST332
Overall PTFE Seal (Single lip)

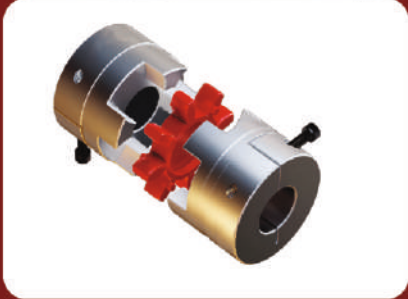
Material : PTFE
 Hardness : 90 Shore
 Application : High Temperatures, Pressures Dry Running
 Pressure : ≤ 3.5 MPA
 Temperature : -70°C ~ +250°C
 Speed : ≤ 30 M/s



ST333
Overall PTFE Seal (Double lip)

Material : PTFE
 Hardness : 90 Shore
 Application : High Temperatures, Pressures Dry Running
 Pressure : ≤ 3.5 MPA
 Temperature : -70°C ~ +250°C
 Speed : ≤ 30 M/s

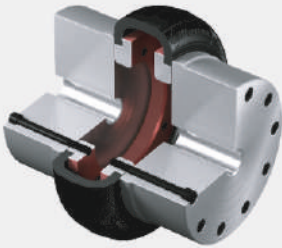
COUPLING ELASTOMETER



Elastometer couplings are the durable solution for positioning applications, wherever high torques must be transmitted in compact installation spaces. By means of elastomeric spider elements in different grades of hardness, the characteristic features of our claw couplings can be modified from vibration reducing to torsionally rigid depending on the requirements. The pretension of the elastomeric spider elements in the jaws of the coupling allows a servo-ready, backlash-free version.

COUPLING ELASTOMETER

Flexible Couplings Element



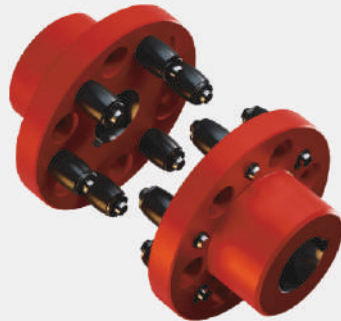
Gear Coupling Element



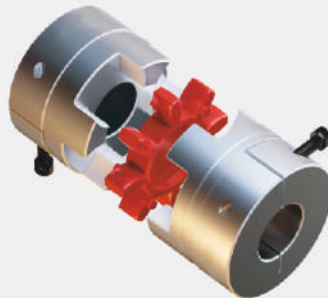
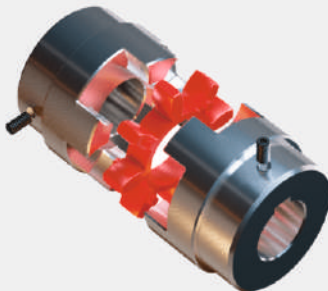
Pin Coupling Element



Clamp Couplings Element



Precision Couplings Element



COUPLING ELASTOMETER



KON601
Elastic Coupling Elements (T6)

Material	: FKM / NBR / TPU / PVC / NR + Fabric
Hardness	: 70 - 90 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +200°C
Speed	: --



KON602
Elastic Coupling Elements (MT)

Material	: TPU / NBR / FKM
Hardness	: 90 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +200°C
Speed	: --



KON603
Elastic Coupling Elements (OR)

Material	: NBR / FKM / TPU
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +200°C
Speed	: --



KON604
Elastic Coupling Elements (GS)

Material	: TPU
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +80°C
Speed	: --



KON605
Elastic Coupling Elements (K)

Material	: TPU
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +80°C
Speed	: --



KON606
Elastic Coupling Elements (BWN)

Material	: TPU
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +80°C
Speed	: --



KON607
Elastic Coupling Elements (HRC)

Material	: TPU / NR
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +100°C
Speed	: --



KON608
Elastic Coupling Elements (L8)

Material	: TPU / NR
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +100°C
Speed	: --



KON609
Elastic Coupling Elements (H2)

Material	: TPU / NR
Hardness	: 92 Shore
Application	: Transmission Coupling
Pressure	: ≤ 32 MPa
Temperature	: -20°C ~ +100°C
Speed	: --

COUPLING ELASTOMETER



KON610
Elastic Coupling Elements (MH)

Material : TPU / NR + Metal
 Hardness : 92 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON611
Elastic Coupling Elements (AR)

Material : NR
 Hardness : 80 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON612
Elastic Coupling Elements (T8)

Material : PU
 Hardness : 92 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON613
Elastic Coupling Elements (Y0X)

Material : PU / NR
 Hardness : 92 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON614
Elastic Coupling Elements (NM)

Material : NR
 Hardness : 80 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON615
Elastic Coupling Elements (NL)

Material : Nylon
 Hardness : 99 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON616
Elastic Coupling Elements

Material : NR / PU / PVC
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON617
Elastic Coupling Elements

Material : NR / PU / PVC
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞



KON618
Elastic Coupling Elements

Material : NR / PU
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : $-20^{\circ}\text{C} \sim +100^{\circ}\text{C}$
 Speed : ∞

COUPLINGELASTOMETER



KON619
Elastic Coupling Elements

Material : NR
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : -20°C ~ +100°C
 Speed : --



KON620
Elastic Coupling Elements (HS)

Material : PU
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : -20°C ~ +100°C
 Speed : --



KON621
Elastic Coupling Elements

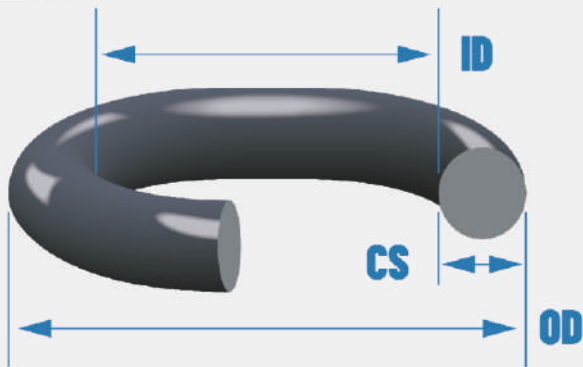
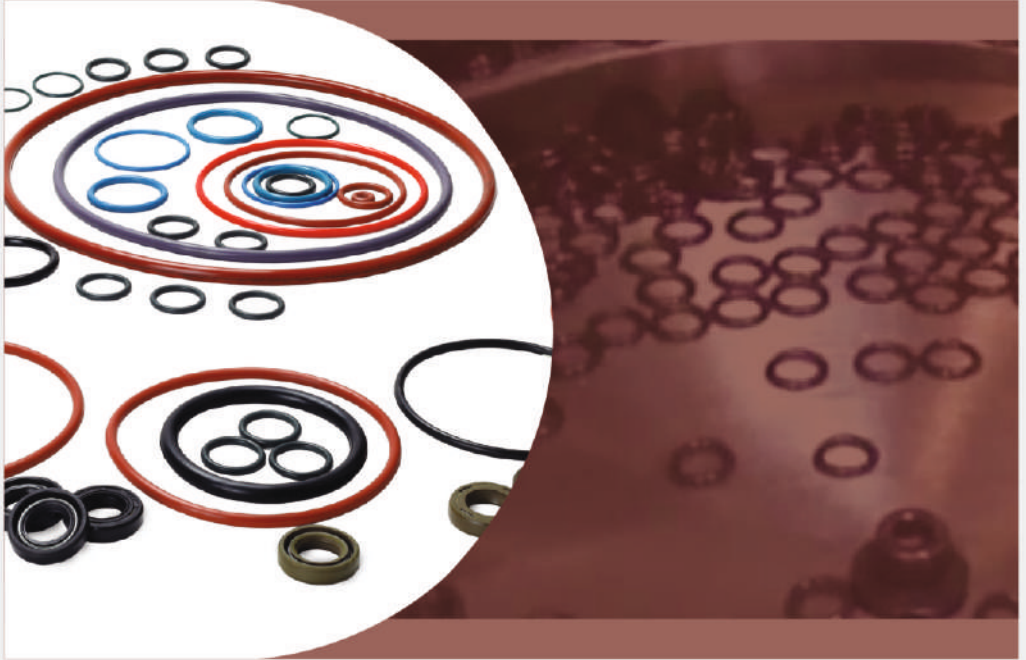
Material : PU
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : -20°C ~ +100°C
 Speed : --



KON622
Elastic Coupling Elements

Material : NR
 Hardness : 90 Shore
 Application : Transmission Coupling
 Pressure : ≤ 32 MPa
 Temperature : -20°C ~ +100°C
 Speed : --

O-RING AND OTHER SEALING PROFILES



O-RING AND OTHER SEALING PROFILES

The O-ring may be used in static applications or in dynamic applications where there is relative motion between the parts and the O-ring. Dynamic examples include rotating pump shafts and hydraulic cylinder pistons. Static applications of O-rings may include fluid or gas sealing applications in which: the O-ring is compressed resulting in zero clearance, the o-ring material is vulcanized solid such that is impermeable to the fluid or gas, and the O-ring material is resistant to degradation by the fluid or gas. The wide range of potential liquids and gases that need to be sealed has necessitated the development of a wide range of O-ring materials.

O-RING AND OTHER SEALING PROFILES

ID means **Inner diameter**; **TOL** means **Tolerance**

Inner diameter > 670mm, **Tolerance** is 0.64% of the inner diameter

ID	TOL (±)	ID	TOL (±)	ID	TOL (±)	ID	TOL (±)
0.00-1.79	0.012	71.01-73.00	0.66	206.01-212.00	1.57	425.01-429.00	2.96
1.80-2.80	0.12	73.01-75.00	0.65	212.01-218.00	1.61	429.01-433.00	2.99
2.81-4.00	0.14	75.01-77.50	0.67	218.01-224.00	1.65	433.01-437.00	3.01
4.01-5.30	0.15	77.51-80.00	0.69	224.01-227.00	1.67	437.01-443.00	3.05
5.31-7.10	0.16	80.01-82.50	0.71	227.01-230.00	1.69	443.01-450.00	3.09
7.11-8.50	0.17	82.51-85.00	0.72	230.01-236.00	1.73	450.01-456.00	
8.51-9.75	0.18	85.01-87.50	0.74	236.01-239.00	1.75	456.01-462.00	3.17
9.79-11.80	0.19	87.51-90.00	0.76	239.01-243.00	1.77	462.01-466.00	3.19
11.81-13.20	0.21	90.01-92.50	0.77	243.01-250.00	1.82	466.01-470.00	
13.21-15.00	0.22	92.51-95.00	0.79	250.01-254.00	1.84	470.01-475.00	3.25
15.01-16.00	0.23	95.01-97.50	0.81	254.01-258.00	1.87	475.01-479.00	3.28
16.01-17.00	0.24	97.51-100.00	0.82	258.01-261.00	1.89	479.01-483.00	
17.01-19.00	0.25	100.01-103.00	0.85	261.01-265.00	1.91	483.01-487.00	3.33
19.01-20.60	0.26	103.01-106.00	0.87	265.01-268.00	1.92	487.01-493.00	3.36
20.61-21.20	0.27	106.01-109.00	0.89	268.01-272.00	1.96	493.01-500.00	
21.61-22.40	0.28	109.01-112.00	0.91	272.01-276.00	1.98	500.01-508.00	3.46
22.41-23.60	0.29	112.01-115.00	0.93	276.01-280.00	2.01	508.01-515.00	3.50
23.61-25.00	0.30	115.01-118.00	0.95	280.01-283.00	2.03	515.01-523.00	
25.01-26.50	0.31	118.01-122.00	0.97	283.01-286.00	2.05	523.01-530.00	3.60
26.51-28.00	0.32	122.01-125.00	0.99	286.01-290.00	2.08	530.01-538.00	3.65
28.01-29.00	0.33	125.01-128.00	1.01	290.01-295.00	2.11	538.01-545.00	
29.01-30.00	0.34	128.01-132.00	1.04	295.01-300.00	2.14	545.01-553.00	3.74
31.01-31.50	0.35	132.01-136.00	1.07	300.01-303.00	2.16	553.01-560.00	3.78
31.51-33.50	0.36	136.01-140.00	1.09	303.01-307.00	2.19	560.01-570.00	
33.51-34.50	0.37	140.01-142.50	1.11	307.01-311.00	2.21	570.01-580.00	3.91
34.51-36.50	0.38	142.51-145.00	1.13	311.01-315.00	2.24	580.01-590.00	3.97
36.51-37.50	0.39	145.01-147.50	1.14	315.01-320.00	2.27	590.01-600.00	
37.51-38.70	0.40	147.51-150.00	1.16	320.01-325.00	2.30	600.01-608.00	4.08
38.71-40.00	0.41	150.01-152.50	1.18	325.01-330.00	2.33	608.01-615.00	4.12
40.01-42.20	0.42	152.51-155.00	1.19	330.01-335.00	2.36	608.01-615.00	
41.21-42.50	0.43	155.01-157.50	1.21	335.01-340.00	2.40	623.01-630.00	4.22
42.51-45.00	0.44	157.51-160.00	1.23	340.01-345.00	2.43	630.01-640.00	4.28
45.01-46.20	0.45	160.01-162.50	1.24	345.01-350.00	2.46	640.01-650.00	
46.21-47.50	0.46	162.51-165.00	1.26	350.01-355.00	2.49	650.01-660.00	4.40
47.51-48.70	0.47	165.01-167.50	1.28	355.01-360.00	2.52	660.01-670.00	4.47
48.71-50.00	0.48	167.51-170.00	1.29	360.01-365.00	2.56		
51.01-51.50	0.49	170.01-172.50	1.31	365.01-370.00	2.59		
51.51-53.00	0.50	172.51-175.00	1.33	370.01-375.00	2.62		
53.01-54.50	0.51	175.01-177.50	1.34	375.01-379.00	2.64		
54.51-56.00	0.52	177.51-180.00	1.36	379.01-383.00	2.67		
56.01-58.00	0.54	180.01-182.50	1.38	383.01-387.00	2.70		
58.01-60.00	0.55	182.51-185.00	1.39	387.01-391.00	2.72		
60.01-61.50	0.56	185.01-187.50	1.41	391.01-395.00	2.75		
61.51-63.00	0.57	187.51-190.00	1.43	395.01-400.00	2.78		
63.01-65.00	0.58	190.01-195.00	1.46	400.01-406.00	2.82		
65.01-67.00	0.60	195.01-200.00	1.49	406.01-412.00	2.85		
67.01-69.00	0.61	200.01-203.00	1.51	412.01-418.00	2.89		
69.01-71.00	0.63	230.01-204-00	1.53	418.01-425.00	2.93		
						Cross-sectional Tolerance (±)	
						0.00-1.79	0.07
						0.80-2.64	0.08
						2.65-3.54	0.09
						3.55-5.29	0.10
						5.30-6.99	0.13
						7.00-8.00	0.15
						8.01-10.00	0.20
						10.01-15.00	0.25
						15.01-25.00	0.35
						25.01-100.00	0.45

O-RING AND OTHER SEALING PROFILES

Piston seal (static / dynamic)



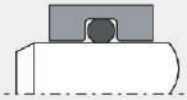
Depending on the pressure, additional support rings are used for flange, piston and rod application

Shape and surface deviation

The DIN ISO 3601-3 standard defines permissible form and surface deviations of O-rings.

It distinguishes between admissible mistakes according to their type characteristics.

Rod seal (static / dynamic)



O-rings with the grade characteristic N are intended for general applications and meet the high demands on dynamic and static seals. O-rings with grade characteristic S are intended for applications that require a higher quality standard

with regard to permissible deviations and surface qualities.

O-ring alternatives, static sealing elements

Depending on the application, functional problems can also occur with O-rings (twisting, pressure, extrusion, DVR, leakage). The solution is sealing profiles specially

developed for the application:

Rectangular rings; static, axial and radial sealing

X-rings; radial, dynamic sealing

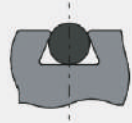
Roof edge profiles: static, axial and radial sealing at

higher pressures

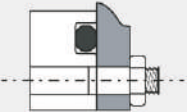
Rectangular rings; static, axial and radial sealing

Rectangular rings; static, axial and radial sealing

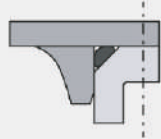
Trapezoidal groove (static)



Flange gasket (static)



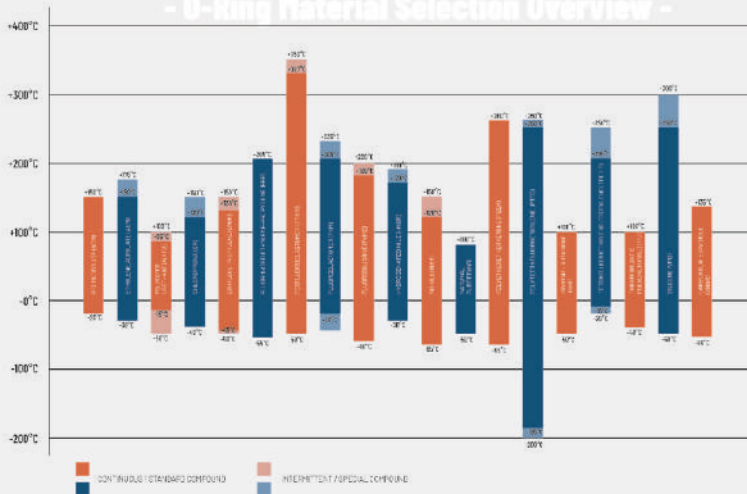
Triangular groove (static)



PTFE

The PTFE O-ring is only suitable for static applications such as flange sealing in chemical plant engineering and is the first choice for aggressive media.

- O-Ring Material Selection Overview -



O-RING AND OTHER SEALING PROFILES



STOR501 O-Ring

Material	: See list for details
Hardness	: 30 - 90 Shore
Application	: All Fluids, Including Liquids And Gases
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



STOR502 O-Ring

Material	: See list for details
Hardness	: 30 - 90 Shore
Application	: All Fluids, Including Liquids And Gases
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



STOR503 DIN3688 - Profile Ring

Material	: EPDM / FKM / NBR
Hardness	: 85 Shore
Application	: Fuel, Hydraulic Oil, Power Steams, Water And Seawater
Pressure	: See list for details
Temperature	: -45°C -- +200°C
Speed	: See list for details



STOR504 Encapsulated Ring

Material	: SILICONE / FKM +FEP / PFA
Hardness	: 85 Shore
Application	: Hostile Environments Over A Wide Temperature
Pressure	: See list for details
Temperature	: -45°C -- +200°C
Speed	: See list for details



STOR505 Encapsulated Spring

Material	: 304ss Spring - PFA / FEP
Hardness	: 80 Shore
Application	: Hostile Environments Over A Wide Temperature
Pressure	: See list for details
Temperature	: -45°C -- +220°C
Speed	: See list for details



STOR506 Elastic Coupling Elements (NL)

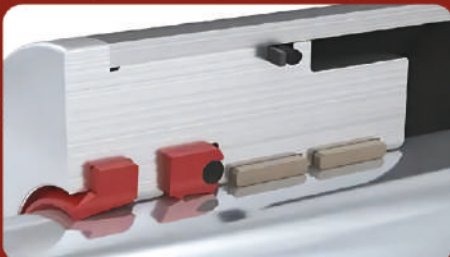
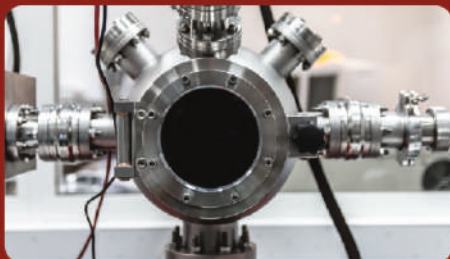
Material	: Nylon
Hardness	: 85 Shore
Application	: Transmission Coupling
Pressure	: 5.32 MPA
Temperature	: -20°C -- +100°C
Speed	: --



STOR507 Backup Ring

Material	: PTFE / PU / POM / Bronze
Hardness	: 90 Shore
Application	: Backup Ring In Rotating And Sliding Contact Seal Applications
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details

THREADS AND FLANGE JOINTS SEAL



THREADS AND **FLANGE JOINTS SEAL**

The bonded seal consist of a metal washer of rectangular cross-section with a bonded and vulcanised inner rubber ring of trapezoidal cross-section. The type of metal and rubber family are selected according to application, fluid to be sealed, temperature and pressure.

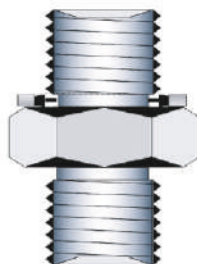
The bonded seal is particularly suitable for sealing under screw heads, bolts and in Banjo fittings and pip fittings (high and low pressure) . It has the advantage of being removable and reusable, unlike other seals such as copper washers.

Self-centralising bonded seal

The centred positioning of the bonded seal is achieved by a thin membrane with an inner diameter equal to the core diameter of the locating thread.

Benefits of self-centralisation:

- Correct positioning of the seal and retention in case of disassembly
- Ease of installation
- Reduced assembly time
- Lower machining costs

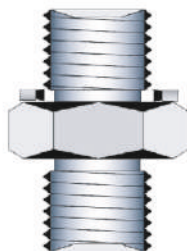


Bonded seal without self-centralisation

The bonded seal can also be made in a version without self-centralisation.

This version does not have a lip to ensure centralisation.

Bonded seals are offered in the catalogue in the 4 compounds below, in combination with a mild steel or T316 stainless steel metal insert. A selection of standard dimensions . To meet special requirements, our bonded seals can also be made with other compounds in our range.



Dimensions			Recommended torque	
Metric	BOLT	BSP	Torque single ring (Nm)	Torque double ring (Nm)
< M 8	5/16	-	5.3	8.5
M 10	3/8	1/8	7.1	11.4
M 11	7/16	-	11.8	15.3
M 12	1/2	1/4	15.8	20.5
M 14	9/16	-	22.6	29.4
M 16	5/8	3/8	30.5	39.7

Dimensions			Recommended torque	
Metric	BOLT	BSP	Torque single ring (Nm)	Torque double ring (Nm)
M 18	3/4	-	40.7	52.9
M 20	13/16	1/2	56.5	67.8
M 22	7/8	5/8	67.8	74.6
M 24	1.0	3/4	73.4	73.4
> M 27	1.1/16	-	79.0	79.0

Find out more. Please contact us

THREADS AND FLANGE JOINTS SEAL



FF701

Bonded Seal (Metric)

Material	: See list for details
Hardness	: 30 – 90 Shore
Application	: For Sealing Threaded And Flanged Joints
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



FF702

Bonded Seal (Inches)

Material	: See List For Details
Hardness	: 30 – 90 Shore
Application	: For Sealing Threaded And Flanged Joints
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



FF703

Bonded Seal (German)

Material	: See list for details
Hardness	: 30 – 90 Shore
Application	: For Sealing Threaded And Flanged Joints
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



FF704

Bonded Seal (KDS)

Material	: See list for details
Hardness	: 30 – 90 Shore
Application	: For Sealing Threaded And Flanged Joints
Pressure	: See list for details
Temperature	: See list for details
Speed	: See list for details



ENERGIZED SPRING SEAL

Outstanding dry running characteristics

Low wear

Low friction

Variable friction conditions through
choice of spring characteristics

Extremely low breakaway forces even after
prolonged down times

No stick-slip even with low sliding speeds

High dimensional stability

High chemical and thermal resistance

No volumetric change by swelling or
shrinkage

Compact seal, suitable for O-ring assembly
spaces acc. to ARP 568 A, DIN 371 and ISO
3601/1

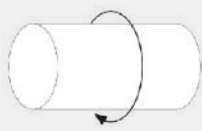
Good cost-benefit ratio: Dimensions from
0.8 to 3000mm available

Very good wiping effect: with abrasive
media such as paints and lacquers

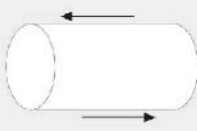


WHERE TO USE **SPRING ENERGIZED SEALS?**

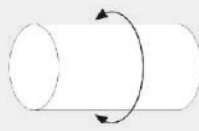
Outstanding physical features and technical characteristics make spring energized seals the ideal choice in wide variety of critical industrial equipment and applications. Spring energized seals can be used in both dynamic and static applications. Dynamic applications cover reciprocating (linear), rotary, and oscillating movements or any combination.



Rotary



Reciprocating



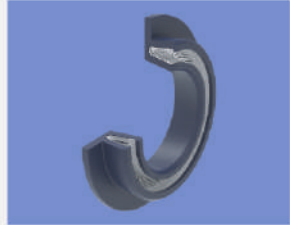
Oscillating

WHERE TO USE SPRING ENERGIZED SEALS?

Spring energized seals are used in a broad range of rotary, reciprocating, oscillating, and stationary fluid power and material process equipment/systems.

Primary industrial areas for use include:

- Oil & Gas Industry (upstream and downstream)
- Aerospace
- Instrumentation Spring-Energized Seals - For Critical Applications
- Chemical processing
- Energy sector
- Medical
- Military
- Transportation
- Automotive



Sample: Oil & Gas Industry Applications

Focusing on the Oil & Gas Industry, typical spring energized applications are:

Transfer systems:

- Couplings (connect/disconnect and breakaway)
- Swivel Joints
- Subsea equipment:
- Valves and Manifolds
- Flowmeters
- Hydraulic Couplings
- Pumps

Exploration:

- Tools (drilling and downhole)
- Wellheads (surface and subsea)
- Floating production:
- Turret Swivels
- Offshore Platforms:
- Pumps
- Compressors



SEAL JACKET MATERIALS

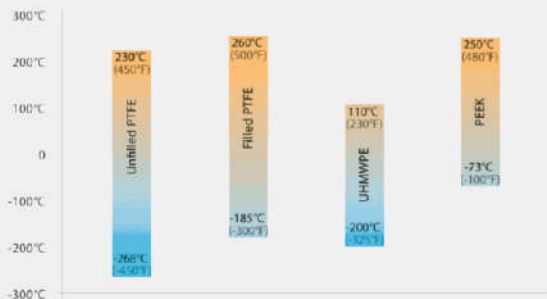
A spring-energized seal jacket can be manufactured from almost any base material. But the unique physical properties and performance characteristics of these polymers make them ideal for sealing service:

- Oil & Gas Industry (upstream and downstream)
- Aerospace
- Instrumentation Spring-Energized Seals - For Critical Applications
- Chemical processing
- Energy sector
- Medical
- Military
- Transportation
- Automotive

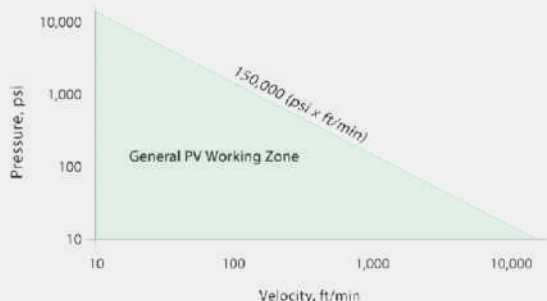


These materials can be used in their unfilled (virgin) form, or they can be filled with graphite, carbon, glass, molybdenum disulfide, and various other polymers to enhance performance. They are sintered, and can be machined to very tight tolerances. Filled seal jacket materials significantly outperform virgin materials in harsh, viscous, abrasive, and rigorous operating conditions, and typically deliver longer service life than virgin materials, depending on the type and percentage of filler used. Seal materials conform to hardware surface irregularities and prevent the formation of leak paths, and how these materials perform in specific temperatures, pressures, speeds, and media.

Material Temperature Limits:



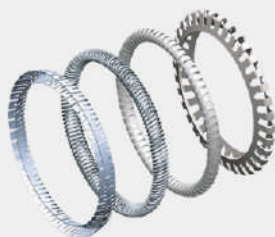
Pressure-Velocity (PV) Factor:



SPRING TYPES

Choosing the right energizer - with the ideal combination of force, fit, and finish-is as critical to the success of a seal's design as the material itself. Popular energizer components for the spring-energized seal consist of:

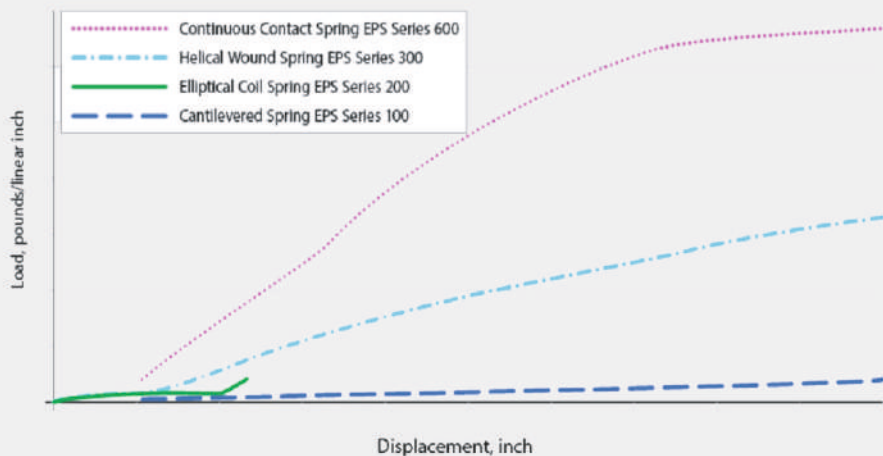
- V' spring
- Spiral spring
- Helical spring
- Continuous contact spring

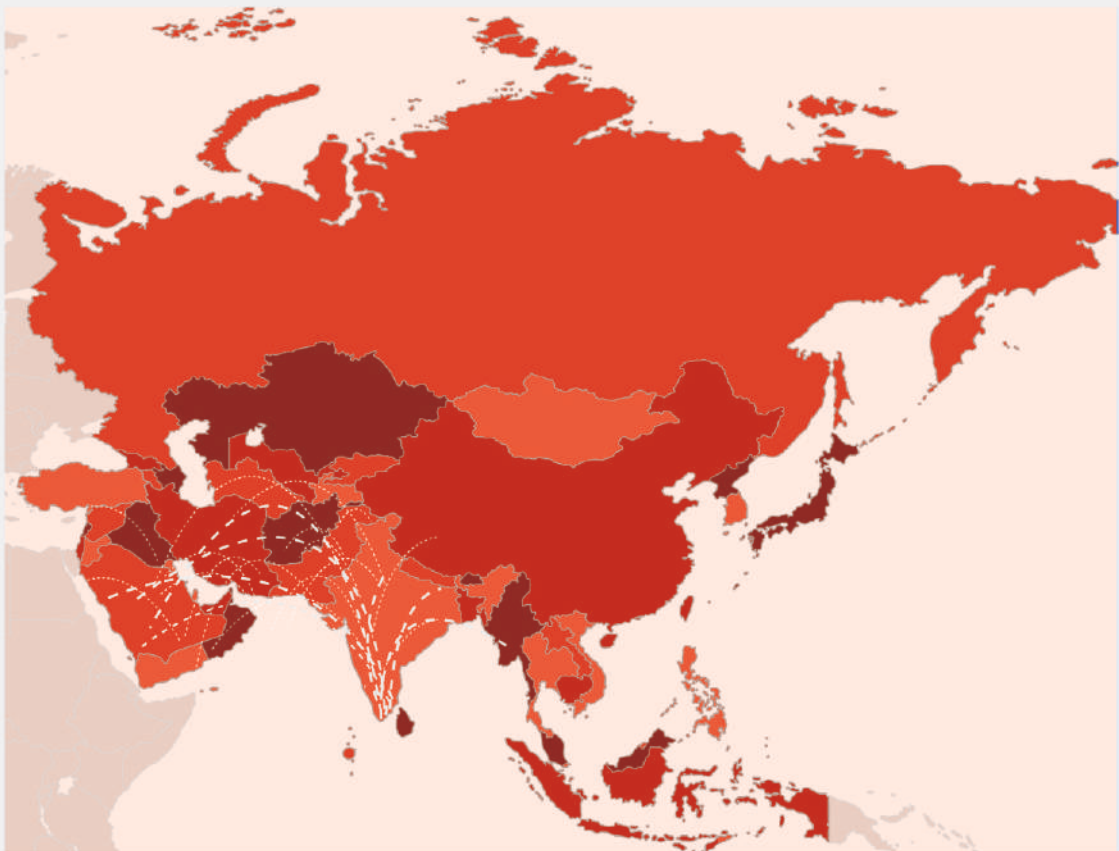


Seal Energizer Materials

Media resistance, galvanic compatibility, and biocompatibility are key factors that impact the selection of seal energizer materials. Although it's not uncommon to find energizers made from elastomers and even polymers (such as PEEK), metals are often the more popular choice because they offer greater durability and design flexibility. Metal energizers can withstand higher operating temperatures, resist compression set, and allow for more precise control over a wider range of forces.

Different spring types have different spring characteristics, described by the **Displacement/Load ratio**. The typical spring characteristic curves of each spring type are demonstrated by following chart:





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STOPOIL has a professional and experienced team of engineers, in addition to sales and after-sales application engineering, project development, on-site technical support services, also delivers



After-sales
technical support



More than 30,000+
different products in stock



Project
development



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