

PTFE BELLOW SEAL

Type: 10 Series

SSE 10 series mechanical seal is externally mounted PTFE bellow seals, which are available in various variety for different pumping media on varying parameters, they are designed for extremely corrosive fluid and in severe condition, capable of working in uneven concentrations of organic substance, acids, salt.

These seals are made of chemically inert Teflon, which is highly corrosive resistance material in all area of contact with pumping media. It has been designed hydraulically balance and flexible. They are available in integral and replaceable primary sealing faces, mounted outside with a bellow that overcome seal hang up due to accumulation of solid on the shaft.

Primary seal face

Rotary	GFT, CFT, Carbon, Silicon Carbide.
Stationary	Ceramic ($Al_2O_3 = 99.5\%$), Silicon Carbide.
Secondary seal	PTFE Bellow.
Hardware	AISI 316, Alloy-20, Hastelloy-B/C, R-55, Titanium

Operating parameters

Shaft parameter - d	20 to 100 mm
Pressure - p	up to 10 bar
Temperature - t	-45 to 125°C (228k to 398k)
Velocity - v	10m/s

Applications

Extremely corrosive media, Acids, Salts, Alkalies, Organic Compounds, Strong Oxidizing and reducing agents.



CONICAL SPRING SEAL

Type: 15 Series

SSE 15 series are internally mounted conical helical single spring mechanical seal they are unbalance simple, economical, dependent as direction of rotation, extremely rugged and reliable. They are used widely in different application, with different design as lug driven conical drive. The torque developed by conical is transmitted at the seal face contact. It also used in food industries by providing food grade elastomer.

Primary seal face

Rotary	Carbon, TC, Si Carbide, Cast Cromer Steel.
Stationary	Carbon, TC, Sil Carbide, Ceramic.
Secondary seal	Fluro carbon, Aflas, Silicon, Nitrile Neoprene, Rubber.
Hardware	AISI 316.

Operating parameters

Shaft diameter - d	5 to 80 mm.
Pressure - p	10 bar.
Temperature - t	-20 to 240°C (253k to 513k)
Velocity - v	20 m/s.

Applications

Chemical pump, Water pump, Sewage plant, Submersible pump, Circulating pump for control heating, A/C, Food industries, Dairy plants, Distilleries.



ELASTOMER BELLOW SEAL

Type: 20 Series

SSE 20 series Elastomer bellow mechanical seals internally mounted are amongst the most commonly used seal. On all rotary equipments such as pump, compressor, agitators, mixers and marine a different series of Elastomer bellow seals used for different fluid.

They are easily install in equipment and are very simple & also very economical. Different series of variety makes widely used in various application. They require minimum gland depth. Their seal faces can be interchangeable without any modification.

The genius designed bellow is eliminated by the stresses developed by shaft in addition certain function it carries seal ring, secondary sealing elements and derive collar.

Primary seal face

Rotary	Carbon, Tungsten Carbide, Silicon Carbide.
Stationary	Ceramic, Silicon Carbide, Tungsten Carbide, Cast Chromium Steel.
Secondary seal	Elastomer
Hardware	AISI 316

Operating parameters

Shaft parameter - d	20 to 100 mm.
Pressure - p	10 bar.
Temperature - t	-20 to 175°C (253 k to 448k).
Velocity - v	18 m/s.

Applications

For low pressure, aqueous solution, Light oils, in Centrifugal pump compressor, positive displacement pump refinery, Water application.



WATER SEAL

Type: 25 Series

SSE 25 series mechanical seals are internally mounted water seals. They are design for simple, economical, commonly used in water pump, submersible pump, light chemical, link plant etc.It is easy to install, it is available in mass quantity. These are low cost seals.

Primary seal face

Rotary	Carbon.
Stationary	Ceramic.
Secondary seal	Elastomer
Hardware	AISI SS.

Operating parameters

Shaft parameter - d	20 to 100 mm.
Pressure - p	5 bar.
Temperature - t	-20 to 100°C (253 k to 373k).
Velocity - v	15 m/s.

Applications

Water pump, Submersible pump, Sewage plant ,Dairy & Oil industry.



SINGLE SPRING SEAL

Type: 30 Series

SSE 30 series internally mounted single coil spring mechanical seals, which are non-clogging. They are designed for high viscosity abrasive service and solid accumulated pumping media is possible of rotation due to its unique positive lug drive design, which eliminates any torsional load on the spring.

They are designed for sturdy and long spring which tolerates great amount of misalignment vibration and thermal expansion of the pump shaft. They are designed for balance and unbalance single spring seal, their seal faces are integral and interchangeable, without any modification. They are available in enormous variety for various applications. They are also available in PTFE double v-packing, which energizes spring to provide perfect dynamic sealing.

Primary seal face

Rotary	Carbon Tungsten Carbide, Silicon.
Stationary	Ceramic ($Al_2O_3 = 99.5\%$), Silicon Carbide.
Secondary seal	PTFE Bellow.
Hardware	AISI 316, Alloy-20, Hastelloy-B/C, R-55, Titanium.

Operating parameters

Shaft parameter - d	20 to 100 mm.
Pressure - p	up to 10 bar.
Temperature - t	-45 to 125°C (228k to 398k)
Velocity - v	10 m/s.

Applications

Extremely corrosive media, Acids, Salts, Alkalis, Organic Compounds, Strong Oxidizing and Reducing agents .



WAVE SPRING SEAL

Type: 35 Series

SSE 35 series seals are internally mounted, Wave spring mechanical seal, which are non-clogging. They are designed for high viscous, abrasive media and are universal application and the spare parts are interchangeable without modification seal faces are easily inserted. They can be designed in which spring is isolated from pump media; A very compact seal can be developed.

Primary seal face

Rotary	Carbon, TC, Si Carbide.
Stationary	Carbon, TC, Silicon Carbide, Ceramic, Cast Cr., Steel.
Secondary seal	Fluro Carbon, Aflas, Silicon, Nitrile Neoprene, Kalrez, Rubber, PTFE, GFT, FEP, TTV.
Hardware	AISI 316, Alloy -20, Monel, Hastelloy-B/C

Operating parameters

Shaft parameter - d	up to 95 mm
Pressure - p	15 bar.
Temperature - t	-40 to 220°C (233k to 493k)
Velocity - v	15 m/s.

Applications

Sewage Plants, Highly Viscous & Abrasive media, Hydro Carbon, Chemical Industries, Sugar Industries, Iron and Ore Industry



MULTI SPRING SEAL

Type: 40 Series

SSE 040 series are internally mounted multi spring mechanical seals. These seals are designed to operate in high temperature, Such as petroleum, petrochemical, fertilizer industry. They are available in balance & unbalance type, their space can be interchanged without modification, integral seal are also available. These series can be used mostly in all types of fluid pumps by using wide range of materials. These are designed to minimize slippage on shaft to avoid galling and earlier wear and tear, independent of direction of rotation and are specially used in agitator, mixer & compressor, they are preferred in back to back arrangement for highly severe conditions.

Primary seal face

Rotary	Carbon, TC, silicon carbide, GFT, CFT.
Stationary	Carbon, TC, Si carbide, Ceramic, Cast Chrome steel
Secondary seal	Fluro carbon, Aflas, Silicon, nitrile neoprene, kalrez, rubber, PTFE, GFT, FEP, TTV, Grafoil.
Hardware	AISI 316, alloy -20, Monel, Hastelloy-B/C.

Operating parameters

Shaft diameter - d	15 to 100 mm.
Pressure - p	25 bar.
Temperature - t	-40 c to 260°C (233k to 533k)
Velocity - v	20 m/s.

Applications

Clear liquid, Petroleum refinery, Light hydrocarbons, Chemical process pump, Petro chemical industries, Pharmaceutical industries, Food Beverage.



REVERSE BALANCED SEAL

Type: 45 Series

SSE 045 series seals are externally mounted multi spring mechanical seals; these are designed to operate under high pressure, heavy duty service. They are hydraulically balanced seals. All components parts except seal rings are interchangeable with unbalanced seal. It permits to operate in highly corrosive media as no metallic parts coming in contact with the pumpage,

The characteristic of the seal is compactness, simplicity durability and non-clogging.

The elastomers are actuated by the hydraulic pressure of the media, this force also pressurizes the seal ring cavity to load the sealing face to keep them properly in contact, the seal is designed to permit ceramic sleeve.

Primary seal face

Rotary	Carbon, Silicon Carbide, TC.
Stationary	Ceramic, Silicon Carbide.
Secondary seal	Fluro carbon, Aflas, Silicon, Nitrile neoprene, Kalrez, Rubber, PTFE, GFT, FEP, TTV.
Hardware	AISI 316, Hastelloy-B/C, Monel alloy -20, R-55

Operating parameters

Shaft diameter - d	12 to 100 mm.
Pressure - p	35 bar.
Temperature - t	-45 to 250°C (228k to 523k)
Velocity - v	15 m/s.

Applications

Corrosive chemicals, High pressure pumpage, Hydro carbons, General light chemicals.



METALIC BELLOW SEAL

Type: 60 Series

SSE 60 series are internally mounted welded metal bellow seals. This series have a universal field of application, greater dependability, and independent on direction of shaft displacement. It is an ideal seal for extreme operation in petrochemical refinery, chemical industry, offshore site, marine service, pharmaceutical, power plant, pulp and paper industries, it is specially designed for extreme high temperature and high viscous corrosive fluid, they never hang-up due to isolation of 'O' ring. They are inherently balanced, self cleaning which reduces clogging.

Primary seal face

Rotary	Carbon, TC, Silicon Carbide
Stationary	Solid TC, Solid Silicon Carbide.
Secondary seal	Grafoil, GFT, Kalrez.
Bellow	AM 350.

Operating parameters

Shaft diameter - d	20 to 100 mm.
Pressure - p	16 bar.
Temperature - t	-20 to 400°C (253k to 673k)
Velocity - v	15 m/s.

Applications

Petrochemical Refinery, Chemical plant, Offshore site, Marine service
Pharmaceutical pulp and paper industries.



CARTRIDGE SEAL

Type: 70 Series

SSE 70 series are internally mounted easy installation mechanical seals. They are specially designed for quick & easy installation in ANSI pumps and other equipments assembled package include sleeve mechanical seal and gland plate. Due to positive drive eliminates slippage which protects shaft and sleeve from wear. They are very well suited in abrasive viscous media which contain solid and spring is isolated with pumpage. It is consider as universal (ideal) seal in vast variety of industrial application. They can be design in various ranges by changing material of seal components, they are self aligning.

Primary seal face

Rotary	Carbon, TC, Silicon Carbide
Stationary	TC, Silicon Carbide.
Secondary seal	Fluro Carbon, Aflas, Silicon, Nitrile Neoprene, Kalrez, Rubber, PTFE, GFT, FEP, TTV.
Hardware	AISI 316, alloy -20, Monel, Hastelloy-B/C.

Operating parameters

Shaft diameter - d	20 to 100 mm.
Pressure - p	17 bar.
Temperature - t	-20 to 180°C (253k to 453 k)
Velocity - v	18 m/s.

Applications

Paper and Pulp Industries, Slurry pump, Chemical plants, Food processing and Beverage plants, Marine, Mixer and Agitators, Paint and Ink, Thermal plants, Sewage plants, Pharmaceutical.



AGITATOR SEAL

Type: 100 Series

SSE 100 series are complete cartridge unit for top, bottom and side entry drive, that is clamped in design which prevents displacement of seal rings. They are simple, easy to install, rugged drive that withstands constant displacement and vibrations of mixer, & agitator vessel seals are designed for moderate to high pressure service, seal component, can be chose to match the pressure vessel.

The various varieties of agitator seal available as per requirements.

The agitator is designed with inboard and outboard primary and secondary sealing components selected as per the pumpage.

Primary seal face

Rotary	Carbon, TC, Silicon Carbide
Stationary	TC, Silicon Carbide, Cast Chrome Steel.
Secondary seal	Fluro carbon, Aflas, Silicon, Nitrile neoprene, Kalrez, Rubber, PTFE, GFT, FEP, TTV
Hardware	AISI 316, alloy -20, Morel, Hastelloy-B/C.

Operating parameters

Shaft diameter - d	25 to 100 mm.
Pressure - p	25 bar.
Temperature - t	-20 to 260°C (253k to 533k)
Velocity - v	18 m/s.

Applications

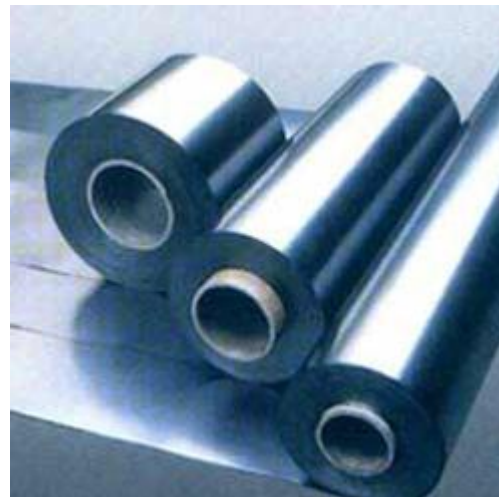
Corrosive Chemical, Pharmaceutical Industries, Food Industry, Petrochemical Refinery.



FLEXIBLE GRAPHITE

Flexible Graphite are widely used in Valves, Pumps, Boilers, Reactors etc. Made from quality materials our product range categories are as follows.

- Pure Flexible Graphite Rolls.
- Pure Flexible Graphite Sheets.
- Flexible Graphite Metal Reinforced Sheets.
- Flexible Graphite Tapes.(Filler material for Spiral wound gasket)
- Pure Flexible Graphite Rings & Gaskets.
- Pure Flexible Graphite Adhesive & non Adhesive Tapes.
- Pure Flexible Graphite Yarn. (Metallic & non Metallic)
- Pure Flexible Graphite Braided Packing (Rope) & Rings.
- Self Sealing Rings (Metallic & non Metallic)
- Asbestos Products(Rope, Ring, Webbing Tape, Cloth etc)
- Non Asbestos Braided Packing.
- Ceramic Products.(Rope, Webbing Tape, Cloth etc)
- Spiral Wound Gasket
- Cut Gaskets(Graphite, Asbestos & non Asbestos, PTFE Rubber)
- Ring join Gaskets(Soft Iron Gaskets)
- Teflon Products (Brush, Rod, Sheets, Envelope Gaskets & Solid Gaskets, Teflon 'O' Ring, TTV 'O' Ring, Incapsulated 'O' Ring, Flat Ring etc)
- Rubber products ('O' Ring in Viton, Neoprene, Nitrile, Aflas etc)
- Carbon Products, Resin, Antimony etc.



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