

MONOLITHIC SEAL FACES |

LEVELLED DESIGN |

SECURE SPRINGS

High performance sealing solutions
including

MECHANICAL SEALS



BARNWELL

THE SEAL OF APPROVAL

QUALITY AND SERVICE GUARANTEED

Total Sealing Solutions

Founded in 1972, M Barnwell Services is a family business and prides itself on providing expert industry knowledge, technical expertise, products and services to over 5000 customers globally – quickly and reliably. Our range fluid sealing products include O Rings, Oil Seals / Rotary Shaft Seals, Hydraulic and Pneumatic Seals, Gaskets, Fasteners, Sealing Kits, Special Rubber Mouldings and many more.

We aim to work in partnership with you to reduce your supplier base, inventory and long-term costs. Applying our unique product knowledge to your specific needs, we will always offer the right sealing solution for your industry and application.

M Barnwell Services range of services include:

- ❖ Stocking/Supplying a vast and diverse product range – over 35,000 stock lines
- ❖ An efficient logistical capability offering International coverage
- ❖ Industry leading bespoke Branding and Packaging technology
- ❖ Full documentation service and manufacturer guarantees
- ❖ Strategic partnerships with large Blue Chip customers and leading worldwide brands
- ❖ Seal Maker and Clean Room services that are tailor-made to the customer's needs
- ❖ A dedicated Export Department – providing sealing solutions to over 60 countries

The Mechanical Seal

What is it?

M Barnwell Services' Mechanical Seals are highly effective for sealing rotating shafts, featuring two faces aligned at a right angle to the shaft axis, often known as Radial Face Seals, Pump Seals, or Packings. One face is stationary on the equipment casing or vessel, while the other is affixed to the rotating shaft, reducing friction, heat, and wear by maintaining a lubricant film between the faces, similar to thrust bearings.

These seals offer durability and superior quality, resulting in reduced wear, heat generation, energy consumption, and maintenance needs. They also provide precise control over shaft leakage and cost reduction.

Mechanical Seals have largely replaced traditional packings in various applications due to their advantages:

- ❖ Reduced wear (lower friction)
- ❖ Decreased heat generation (lower friction)
- ❖ Lower energy consumption (lower friction)
- ❖ Reduced maintenance requirements (less wear)
- ❖ Enhanced control over shaft leakage (minimal or zero fluid emissions)

Though they require more precise installation and higher initial investment than soft packings, M Barnwell Services partners with top manufacturers to offer a wide range of standard mechanical seals available for immediate supply.

FEATURES OF MECHANICAL SEALS

Mechanical seals offer a range of design options, but several fundamental features are common to effective designs:

Secure Springs

Traditional designs placed springs in the liquid, leading to grime accumulation and premature seal failure. Modern designs position springs outside the operation liquid to ensure their reliable functioning.

Balanced Design

Balanced seals limit the hydraulic pressure acting on the seal faces, improving lubrication, reducing heat, and enhancing durability. They have a balance ratio (B) typically between 0.6 and 0.8, with lower values offering better heat management and leak control.

Monolithic Seal Faces

Advanced seals use monolithic seal faces, which are made entirely of seal face material and offer better resistance to deformation, leakage, and wear. Finite Element Analysis (FEA) is used to design them for improved performance and durability.

Non-Fretting Design

To prevent groove formation and seal leakage, non-fretting seals are designed so that the dynamic subsidiary seal moves on a non-metallic surface, reducing wear and damage.

Stationary Design

Stationary mechanical seals have springs that do not rotate with the pump shaft, allowing them to accommodate misalignment without needing constant adjustments. These seals are suitable for a wide range of speeds and are often molded as cartridge seals for ease of use.

CONCLUSION

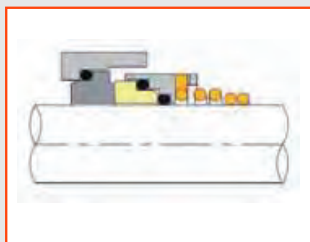
Mechanical Seals, being precision devices, typically demand more meticulous installation and a higher initial investment compared to soft packings.

Barnwell is an authorised UK distributor of Vulcan Engineering Limited, a global leader in quality Mechanical Seals manufacturing. This partnership grants us access to an extensive selection of standard mechanical seals.

The following pages showcase some popular Mechanical Seals for pump applications, but our range extends beyond what's displayed. No matter your needs, we can promptly source and deliver the exact seal you require.



Conical Spring Type Seals



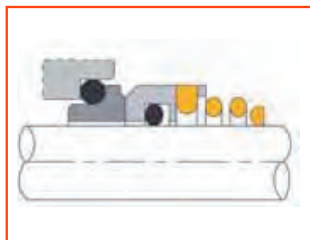
TYPE 7D

Resilient, conical spring, O Ring mounted DIN standard seal. With the advantage of being able to replace the faces. The seal is very versatile and is suitable for a large variety of general and arduous duty applications, through a choice of face material combinations.

Standard Stock Face Materials: Rotary Face - Ceramic, Silicon Carbide. Seat - Carbon, Silicon Carbide.

Other face materials to order.

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.



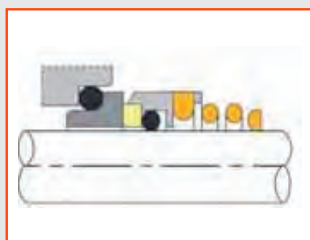
TYPE 8B

Conical spring, O Ring mounted seal and seat of similar design to the Type 8 but with a solid stainless seal head and O Ring mounted Carbon Seat. This Standard face combination is suitable for general and medium duty applications.

Standard Stock Face Materials: Rotary Face - Stainless Steel. Stat Ring- Carbon.

Other face materials to order.

Shaft Sizes: Available in standard shaft diameters 10mm to 80mm.



TYPE 8

Conical spring, O Ring mounted seal with a wide choice of elastomers and face materials. Suitable for a large variety of general duties and arduous duty applications, including those needing high pV value face combinations.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide. Stat Ring- Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 80mm.



TYPE 8 DIN

Conical spring, O Ring mounted, DIN standard seal and DIN long seat with drive slot. Suitable for a large variety of general and high duty applications through a ready choice of face material and elastomer materials.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Carbon, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 80mm.



TYPE 12 DIN

A range of highly proficient, widely utilised, O Ring mounted, conical spring seals with solid, stainless steel head and carbon seat. Available to suit DIN 24960 (EN12756) housings. Suitable for a wide variety of general and medium duties.

Standard Stock Face Materials: Rotary Face - Stainless Steel, Silicon Carbide. **Stat Ring -** Carbon, Silicon Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.

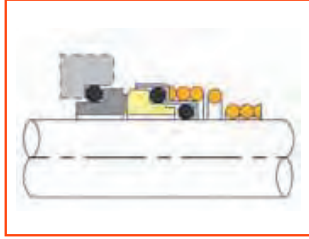


TYPE 12

A range of highly proficient, widely utilised, O Ring mounted, conical spring seals with solid, stainless steel head and carbon seat. To suit standard housings. Suitable for a wide variety of duties.

Standard Stock Face Materials: **Rotary Face** - Stainless Steel, Silicon Carbide. **Stat Ring** - Carbon, Silicon Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.

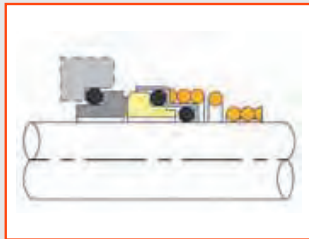


TYPE 13

O Ring mounted, conical spring seal with pressed stainless steel head retainer and pressed carbon seat. Highly productionised seal capable of wide ranging service. Seal and seat faces can be inter-changed with each other and can be easily replaced.

Standard Stock Face Materials: **Rotary Face** - Ceramic, Silicon Carbide, Tungsten Carbide, Carbon. **Stat Ring** - Carbon, Silicon Carbide, Tungsten Carbide, Ceramic. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 40mm.



TYPE 13 DIN

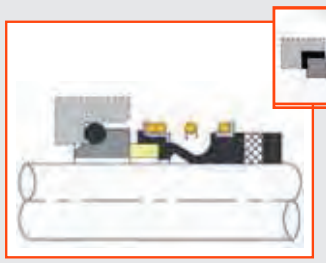
O Ring mounted, with pressed seal head and seat, plus conical spring, designed to fit DIN 24960 (EN12756) housings. Cost-effective seal, suitable for many duties with the option to replace wear faces and O Rings during over-hauls.

Standard Stock Face Materials: **Rotary Face** - Ceramic, Silicon Carbide, Tungsten Carbide.

Stat Ring - Carbon, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 40mm.

Elastomeric Bellows Type Seals



TYPE 14 / 142 / 143

Universal compact DIN seal and seat with a choice of standard DIN working lengths. The robust, heavy-duty bellows design provides excellent flexibility and durability. The seal is supplied as standard with Type 19B seat. Alternatively, specify Type 14S, 142S, or 143S for this seal to be supplied with a Type 8 DIN Short Seat.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.



TYPE 19 / 192 / 193

A robust rubber bellows seal, with a wide non-DIN cross section for optimum flexibility and durability. Available with a non-DIN seat (as shown) or a wide range of O Ring or Boot Mounted DIN seats. Types 192 and 193 have an extended bellows to meet DIN L1K and L1N working lengths, when fitted with a Type 8 DIN Short O Ring or 19B boot mounted seat.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.



TYPE 1520 Metric

Metric DIN profile seal and a standard seat with working length to suit a common International standard. Seal has same working length and the same seat as Type 20, but can provide improved seal capability, performance, and life.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 10mm to 100mm.



TYPE 1520 Imperial

Imperial DIN profile seal and a standard seat with working length to suit a common International standard. Seal has same working length and the same seat as Type 20, but can provide improved seal capability, performance, and life.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 0.375" to 4.000".



TYPE 1511 / 1522

DIN profile seal and a standard seat, with a choice of working length to suit common American standards. Seal has same working length and the same seat as Type 11 or Type 22, but can provide improved sealing performance.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft diameters 0.500" to 3.000".



TYPE 1724

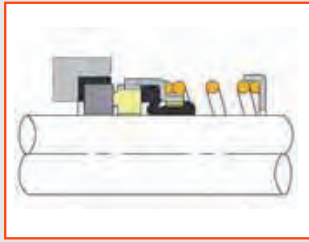
High performance, wide duty, full convolution rubber bellows seal inside a stainless steel housing. Type 1724 features a non-clogging spring and self alignment capability, and is offered with a choice of Type 24 boot mounted or O Ring Short / Long DIN seats.

Standard Stock Face Materials: **Rotary Face** - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 14mm to 100mm.

Parallel Spring Diaphragm Type Seals



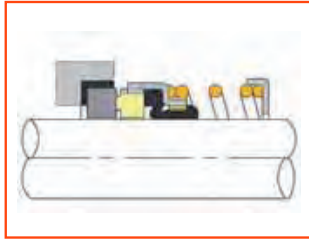
TYPE 10 / 20 Metric

Metric shaft size resilient, single spring, rubber diaphragm seal with boot mounted seat as standard. A widely specified and utilised seal type, capable of long service life.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 10mm to 100mm.



TYPE 10 / 20 Imperial

Imperial shaft size rubber diaphragm seal with parallel single spring and boot mounted seat as standard. The most common, imperial shaft, single spring design, suitable for use in many applications.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.375" to 4.000".



TYPE 11 / 22

Single spring, rubber diaphragm seal, designed for different sized seat housings and seal working lengths to the Types 10 / 20. The imperial sizes are most commonly found on American equipment.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.500" to 3.000". **Metric:** 12mm to 75mm.



TYPE 24

Compact single spring, rubber diaphragm seal specifically designed to comply with DIN 24960 (EN12756) housings. Shown with boot mounted seat, but is also often specified with a Type 24 O Ring mounted DIN Long / Short seat (Types 24L or 24S respectively.)

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 12mm to 100mm.

Balanced Diaphragm Type Seals



TYPE A1

Robust, long working highly accommodating and reliable rubber diaphragm balanced seal, which provides enhanced seal capability, performance, and life. Improved design features further enhance this popular seal. Suitable for common UK and Euro housing dimensions.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.500" to 3.000". **Metric:** 12mm to 75mm.



TYPE A2

Robust, short working length, highly accommodating and reliable rubber diaphragm balanced seal, which provides enhanced seal capability, performance, and life. Improved design features further enhance this popular seal. Suitable for common UK and Euro housing dimensions.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.500" to 3.000". **Metric:** 12.13mm to 75mm.



TYPE A3 / A4

Robust, short working length, highly accommodating and reliable rubber diaphragm balanced seal, which provides enhanced seal capability, performance, and life. Improved design features further enhance this popular seal. Suitable for common US standard housing and working length dimensions.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.500" to 3.000". **Metric:** 12mm to 75mm.



TYPE A5

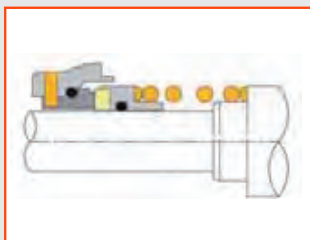
Robust, long working length, highly accommodating and reliable rubber diaphragm balanced seal, which provides enhanced seal capability, performance, and life. Improved design features further enhance this popular seal. Suitable for common US standard housing and working length dimensions.

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide.

Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.500" to 3.000". **Metric:** 12mm to 75mm.

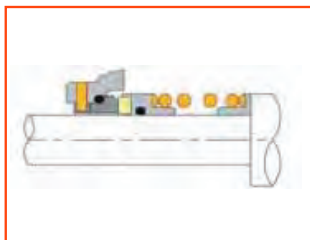
Parallel Spring O Ring Mounted Seals



TYPE 95 / 95N

Robust, general purpose, unbalanced pusher type seal, capable of many shaft-sealing duties. The Type 95 drives directly from the shaft, and is also available with a short, non-pinned seat as Type 95N. Seal illustrated shows a Stainless Steel rotary face.

Standard Stock Face Materials: **Rotary Face** - Silicon Carbide, Tungsten Carbide, Ceramic, Stainless Steel, Chrome Oxide Coated Stainless Steel. **Stat Ring** - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*
Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.625" to 4.500". **Metric:** 20mm to 120mm.



TYPE 96

Robust, general purpose, unbalanced pusher type seal, capable of many shaft-sealing duties. The Type 96 drives directly from the shaft via the split ring, inserted into the coil tail, and is also available with a short, non-pinned seat as Type 96N. Seal illustrated shows a Silicon Carbide rotary face.

Standard Stock Face Materials: **Rotary Face** - Silicon Carbide, Tungsten Carbide, Ceramic, Stainless Steel, Chrome Oxide Coated Stainless Steel. **Stat Ring** - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*
Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.625" to 4.500". **Metric:** 16mm to 120mm.



TYPE 97

Robust, general purpose, unbalanced pusher type seal, capable of many shaft-sealing duties. The Type 97 drives from the shaft via the drive collar with grub screws inserted in the coil tail. Type 97 is also available with a short, non-pinned seat as Type 97N.

Standard Stock Face Materials: **Rotary Face** - Silicon Carbide, Tungsten Carbide, Ceramic, Stainless Steel, Chrome Oxide Coated Stainless Steel. **Stat Ring** - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*
Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.625" to 4.500". **Metric:** 16mm to 120mm.

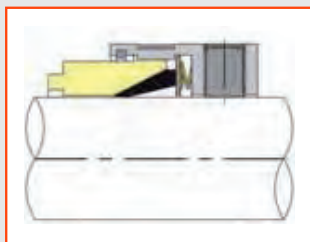


TYPE 98

Robust O Ring mounted, unbalanced, metric shaft, parallel spring seal, as per Type 97, but with the addition of a double O Ring mounted Stationary Seat. Most commonly found in marine and textile dyeing applications.

Standard Stock Face Materials: **Rotary Face** - Silicon Carbide, Tungsten Carbide, Stainless Steel, Chrome Oxide Coated Stainless Steel. **Stat Ring** - Silicon Carbide, Tungsten Carbide. *Other face materials to order.*
Shaft Sizes: Available in standard shaft sizes 20mm to 130mm.

P.T.F.E. Wedge Type Seals

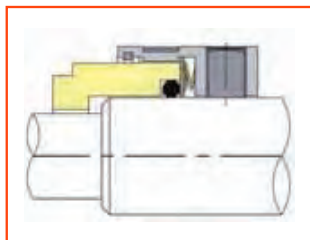


TYPE 1609 / 1609S

Multiple spring seal with a highly effective design, commonly used in a chemical and petro-chemical duties. These seals are frequently fitted with the Type 25 seat. Standard Type 1609 incorporates a PTFE Wedge secondary seal, with the alternative O Ring Type as 1609S. (1609 drawing shown.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.625" to 5.500". **Metric:** 20mm to 50mm.

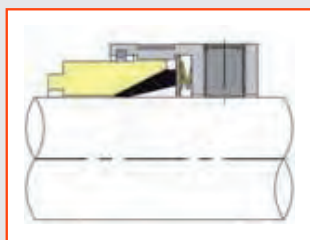


TYPE 1609B / 1609BS

Multiple spring, stepped shaft, balanced seal, alternative to the Type 1609 / 1609S. Standard Type 1609B utilises a PTFE Wedge shaft seal, or specify Type 1609BS for the O Ring version. Commonly fitted with the next shaft size down; Type 25 seat. (1609BS drawing shown.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.625" to 4.500".

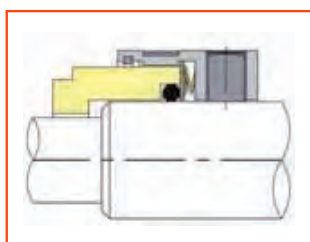


TYPE 1645 / 1645S

Narrow profile, multiple spring seal, designed for common American installation dimensions, in chemical process industry equipment. Complies with ANSI B73-1974 centrifugal pump standard. Standard Type 1645S utilises a PTFE Wedge secondary, and Type 1645S uses an O Ring. Commonly fitted with Type 25 seat. (1645 drawing.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.500" to 3.625".

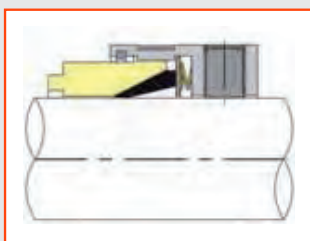


TYPE 1645B / 1645BS

Multiple spring, stepped shaft, balanced seal to common American installation dimensions. Standard Type 1645B incorporates a PTFE Wedge secondary seal and Type 1645BS being the O Ring variant. Commonly fitted with the next shaft size down; Type 25 seat. (1645BS drawing shown.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 16mm to 100mm.

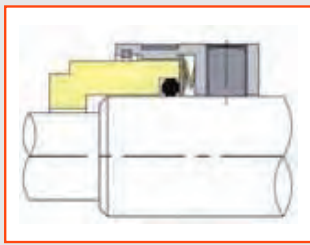


TYPE 1659 / 1659S

Narrow profile, multiple spring seal with a highly efficient design, frequently specified in chemical process industry pumps. Use Type 1659 with a PTFE Wedge or Type 1659S for O Ring variant. Commonly fitted with Type 24 DIN Long / SHort Stats. (1659 drawing shown.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 16mm to 100mm.



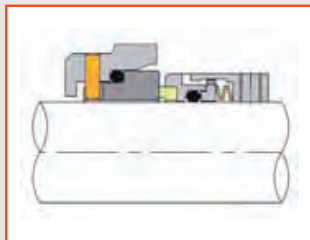
TYPE 1659B / 1659BS

Multiple spring, stepped shaft, balanced seal. Standard Type 1659B incorporates a PTFE Wedge shaft seal, or specify Type 1659BS for the O Ring version. Commonly supplied with a suitable smaller shaft size Type 24 DIN Long / Short Seat. (1659BS drawing shown.)

Standard Stock Face Materials: Rotary Face - Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 18mm to 100mm.

Wave Spring Type Seals

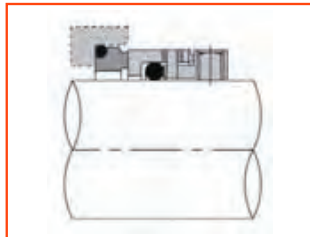


TYPE 1677 / 1677M

Wave spring, O Ring mounted seal commonly utilised in the European chemical process industries. Manufactured to suit DIN 24960 (EN12756) dimensions. Supplied as Type 1677 with an inserted face or increasingly as Type 1677M, with a monolithic face design for exceptional performance. Type 8 DIN Long Seat shown is standard, with other variants available.

Standard Stock Face Materials: **Rotary Face** - Sintered Silicon Carbide. **Stat Ring** - Sintered Silicon Carbide, Carbon. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 14mm to 100mm.

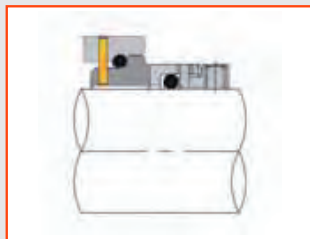


TYPE 1688

Wave spring mechanical seal with thin cross section and short working length. Most commonly used on rotary lobe pumps, found extensively in the food, process, dairy, and brewery industries. Popular, common sizes are fitted with Sinusoidal Split Wave Springs.

Standard Stock Face Materials: **Rotary Face** - Stainless Steel, Tungsten Carbide. **Stat Ring** - Carbon, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes - **Inch:** 0.625" to 3.000" **Metric:** 16mm to 100mm.



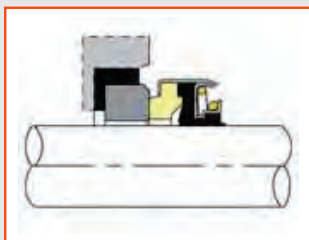
TYPE 1688L

Rotary based wave sprung mechanical seal with thin cross section and short working length, supplied as standard with Type 24 DIN Long seat. Most commonly used on rotary lobe pumps found extensively in the food, process, dairy, and brewery industries. Popular, common sizes are fitted with Sinusoidal Split Wave Rings.

Standard Stock Face Materials: **Rotary Face** - Stainless Steel, Tungsten Carbide. **Stat Ring** - Carbon, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 16mm to 100mm.

Water Pump Type Seals

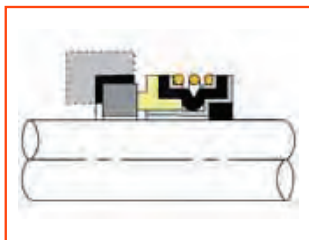


TYPE 18

Compact, enclosed rubber bellows seal with a wide stationary seat. Very short working length makes the Type 18 ideal for equipment where space for a seal is restricted. Seal is supplied with a top hat retainer (remove upon installation.)

Standard Stock Face Materials: Rotary Face - Carbon, Silicon Carbide, Tungsten Carbide. Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. N.B Sic or T.C. stocked in certain common sizes only. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 8mm to 70mm.



TYPE 60

Sleeve mounted, rubber bellows seal with shaft drive ring. Mass produced and easily fitted for low pressure, general applications on small diameter shafts.

Standard Stock Face Materials: Rotary Face - Carbon. Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.375" to 1.000".

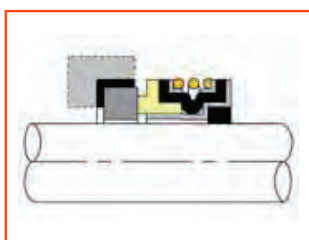


TYPE 70

Coolant pump seal primarily utilised in combustion engine water pumps. The clearance of the seal and seat above the shaft allows one size to be used on several shaft diameters.

Standard Stock Face Materials: Rotary Face - Carbon. Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 13mm, 17mm, 20mm, and 30mm.

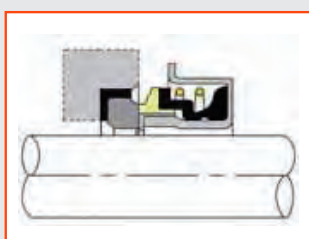


TYPE 65

Sleeve mounted, rubber bellows seal, with dimensions to equate to the common American seal standard. Mass produced and easily fitted for low pressure, general applications on small shaft diameters.

Standard Stock Face Materials: Rotary Face - Carbon. Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.375" to 1.000".



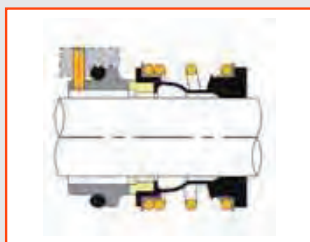
TYPE 75

Coolant pump seal primarily utilised in combustion engine water pumps, with dimensions to equate to the common American seal standard.

Standard Stock Face Materials: Rotary Face - Carbon. Stat Ring - Ceramic, Silicon Carbide, Tungsten Carbide. *Other face materials to order.*

Shaft Sizes: Available in standard shaft sizes 0.500", 0.625", and 0.750".

Mechanical Seals to Suit Common Food and Dairy Industry Pumps



Shaft Sizes: Available in standard shaft sizes 40mm, 53mm, and 60mm.

TYPE 19C Seals to Suit Alfa Laval Equipment

Seals to suit Alfa Laval ALC® and other pump equipment ranges.

Barnwell supplies a special Type 19 Seal to suit the Alfa Laval ALC® series pumps, from the 1.5kW to 22kW motor sizes.

Readily available with Silicon Carbide vs Carbon Seat and in all common elastomers. Barnwell also offers a range of seals to fully replace all components used in the Alfa Laval Contherm® Dryer Seal System as commonly used in the food industry.

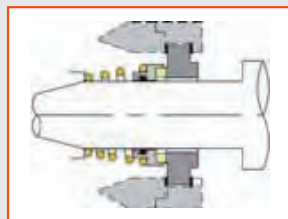


TYPE 26 Seals to Suit APV Puma® Pumps

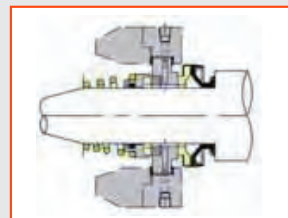
Barnwell now stocks a full range of seals to suit the APV Puma® pump range, which are commonly utilised in the dairy and beverage industries.

Commonly used on the 1.000" and 1.500" shaft Puma pumps, every seal, seat, and gasket component used on this range of pumps is now readily available.

Shaft Sizes: Available in standard shaft sizes 1.000mm, 1.500mm



Single seal arrangement and standard dimension.



Double seal arrangement and standard dimension.

TYPE 16 Seals to Suit APV W® / APV W+® Pumps

The APV W® pumps have been introduced as a standard replacement to the APV Puma® pumps.

Barnwell has a complete range of mechanical seals available, designed to suit both pump types in single and double configuration. These are available in both 25mm and 35mm shaft sizes in various standard and hard face material combinations.

Shaft Sizes: Available in standard shaft sizes 25mm, 35mm.



APV W+ Seal Face Kits

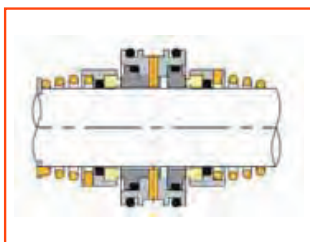


Shaft Sizes: Available in standard shaft sizes 20mm, 25mm, and 35mm.

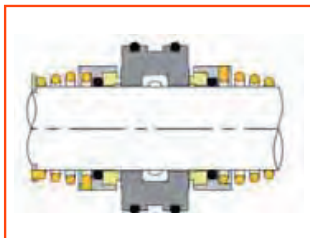
TYPE 29 Series Seals to Suit APV® Pumps

Barnwell now stocks a range of mechanical seals designed specifically to replace all common APV® pump seals. The Type 29 is suitable for APV®, ZMA, ZMD, ZMS, ZMH, and ZMK Rosista® Pasilac® pumps. These seals are available with either Carbon rotary face vs Stainless Steel seat as standard or with Silicon Carbide faces in all standard elastomers.

Mechanical Seals to Suit Fristam® Pump Applications



Barnwell offers direct design replacements for all Fristam® seal, seat, and collet arrangements. All inboard and outboard rotaries and seats, carbon bushes and all collet designs are readily available in a variety of face materials, with all common elastomer types as required.



We have illustrated the most common assemblies only, but please contact us for any other Fristam® seal equivalents you may require.

Shaft Sizes: Available in standard shaft sizes 22mm, 30mm, and 35mm.





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