

Mechanical Seals



We stock a comprehensive range of Mechanical Seals across all the major product types. There are a multitude of sizes and materials available.



PARALLEL SEALS

The Abbey Seals Type 95 to 98 Series (referred to below as the Type 9x range) mechanical seals are robust, general purpose, parallel spring, seals, to suit standard metric and imperial housing dimensions, that are commonly found mainly in the marine and textile industries. These are a direct replacement for John Crane®/Flexibox® Types R00, R10, R20 and R30 series, together with Pillar® US1, US2 and US3 series (CGU). The Type 9x seal ranges are mainly used in marine pump applications, but are designed to satisfy the sealing requirements of rotating shaft equipment for a wide variety of industrial applications, including; marine, textile, pulp and paper, refrigeration compressors, waste-water treatment etc.

Standard Parallel Seal Types:

Type 95, 96 and 97

These are the standard series 9x range, supplied with either solid or inserted rotary face, in a wide variety of face and elastomer

materials. All types provide a positive drive to the rotary face, by a heavy duty spring, which is supplied either with left or right-hand wound springs, depending on whether clockwise or anti-clockwise shaft direction. Three versions are available and vary only by the method of providing the drive to the rotary seal face.

- Type 95 – Drives directly from shaft
- Type 96 – Consists of the Type 95 components with the addition of a split ring and washer for simple shaft abutment
- Type 97 – Consists of the Type 95 components with the addition of a grub screw drive collar

Type 98

Heavy duty, single spring, pusher type seal, supplied with either solid or inserted rotary face, in a wide variety of face and elastomer materials. Seal is driven by a grub screw collar, similar to the Type 97. The Type 98 design is unique compared to Type 95, 96 and 97, as it designed to suit different housing sizes and is supplied with a double 'O'-Ring stationary seat, as standard.



WAVE SPRING

The Abbey Seals Wave Spring Range of Bi-directional mechanical seals offer proven seal design and wave spring technology, in a range of material combinations, enhanced by superior design features, all at very competitive pricing.

The 1688 range was specifically designed for short working length and hygienic requirements, such as rotary lobe pumps. Their principle applications are often also for liquids of high viscosity. These are commonly found in the food, dairy, brewery and pharmaceutical industries. The compact design makes this seal an excellent choice for confined, shallow seal housing areas, or even external seal mounted applications. The 1677 / 1678 Seal Type Series provide a high quality, general purpose seal, suitable for many sealing application requirements, including chemical duties.

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Standard Wave Spring Seal Types:

Types 1677 and 1677M

The Type 1677 is a positively driven wave spring seal, utilising crest to crest wave spring technology, offering excellent axial movement capabilities. The seal is radially compacted and designed to suit DIN24960 (EN12756). The design of this seal head enables easy utilisation of a wide range of high quality materials and elastomers, supplied as standard. Type 1677M differs in having a Monolithic seal head, for optimal heat dissipation and seal capability / performance.

Type 1678

Designed as per the Type 1677 but with a stepped face, to provide a balanced seal for stepped shafts

Types 1688

The robust wave spring seal is ideally suited for standard, rotary lobe pump, glands, of compact design. The seal is positively driven by grub screws and supplied from Abbey Seals with Monolithic seal heads, in soft and hard face materials as our standard.



WATER PUMP SEALS

Abbey Seals supply a substantial range of cost effective and reliable water pump seals, that are commonly utilised in high volume commercial, domestic and industrial water systems. These seal types generally serve applications such as swimming pools, spa pools, shower pumps, central heating systems, irrigation and light fluid duties.

Seal performance and life is frequently compromised by the nature of these applications and the fact that water is a poor lubricator of seal faces. As such, our standard stock product as shown on the following pages, incorporates superior seal face materials. That's our ethos, focusing upon seal performance. We can also manufacture and supply to enquires in more competitive standard materials

Standard Water Pump Seal Types:

Types 60 and 65

Sleeve mounted, rubber bellows seals of compact unitised design. Suitable for small shaft diameter, general low pressure applications. These rubber driven, rotary seal types are easily fitted and mass produced, under Abbey Seals' stringent quality procedures.

Types 70 and 75

Stationary based, unitised elastomer bellows seals, utilised in small shaft diameter applications. Compact, unitised design, provides excellent flexibility in accommodating shaft mis-alignment and with quality seal face materials, to extend seal performance and life. The adequate shaft clearance enables one size to be used on a number of shaft sizes, whilst being stationary based increases the seals bi-directional rotational speed capabilities

Types 18

Enclosed rubber bellows seal, with short axial fitting length, ideal for equipment where space is restricted. In addition to the standard Carbon face, Abbey Seals also offer hard face alternatives for more demanding applications. The seal is also fitted with an internal plug as standard to aid assembly, this should be removed before the seal is installed.

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SEATS

The Abbey Seals Wave Spring Range of Bi-directional mechanical seals offer proven seal design and wave spring technology, in a range of material combinations, enhanced by superior design features, all at very competitive pricing.

The 1688 range was specifically designed for short working length and hygienic requirements, such as rotary lobe pumps. Their principle applications are often also for liquids of high viscosity. These are commonly found in the food, dairy, brewery and pharmaceutical industries. The compact design makes this seal an excellent choice for confined, shallow seal housing areas, or even external seal mounted applications. The 1677 / 1678 Seal Type Series provide a high quality, general purpose seal, suitable for many sealing application requirements, including chemical duties.

Standard Seat Seal Types:

Type 8Din Short/Long 'O'-Ring Seats

Common 'O'-Ring mounted stationaries to suit EURO-DIN housing sizes, designed to provide a wide range of compatibility with Abbey Seals rotary seal types. Type 8DIN LONG has an anti-rotation pin provision and is recommended particularly for larger shaft sizes and / or more viscous media. Type 8DIN SHORT is a standard short EURO-DIN seat with no pin slot.

Type 24 Short/Long 'O'-Ring Seats

Common 'O'-Ring mounted stationaries to suit DIN housing sizes, designed to provide

a wide range of compatibility with Abbey Seals rotary types. Type 24DIN LONG has anti-rotation provision and is recommended particularly for larger shaft sizes and / or more viscous media. Type 24DIN SHORT is a standard short DIN seat with no pin slot.

Standard 'O'-Ring Mounted Seats

Common Abbey Seals 'O'-Ring mounted designs without anti-rotation provision, to suit common European housing sizes including DIN. These are industry standard seats, commonly specified for Conical Spring Seals on general duties. However, consideration should be given to using long-style seats, with anti-rotation provision, should the conditions necessitate.

Type 21/31 Non-Din 'O'-Ring Seats

'O'-Ring mounted, monolithic 'H'-configuration stationaries, to suit common European housings (Type 21) or common American (Type 31) housing dimensions. These stationaries provide the benefits of both a short fitting length with a rear face pinhole and thus of being able to be pinned throughout the size range. This provides an optional anti-rotation feature within a seat of short operational length.

Type 32 Push-Fit "Block" Seats

Monolithic stationary ring, with an 'O'-Ring installed in a radial groove outside of the stationary ring. This method of installation allows direct contact between the back of the stationary ring and the pump housing. This design of stationary promotes efficient heat transfer, from the seal faces and the seat ring, to the pump body. Making this seat design ideal for higher temperature media duties. The anti-rotation provision is recommended on this Type 32.

Type 23 P.T.F.E. Boot mounted seats

'L'-Shaped P.T.F.E. boot-mounted stationary, to suit common American housing sizes. Due to the low-friction nature of P.T.F.E., this stationary seat has necessarily been

designed with an anti-rotation provision, and it is recommended to ensure this is utilised. Widely utilised in chemical process equipment, due to the exceptional chemical resistance that can be provided.

Din/Non-Din Boot Mounted Seats

Common Abbey Seals boot-mounted stationary designs, to fit and suit a variety of international housing and working length standards. Boot-mounted stationaries offer optimum cost and performance benefits. The ribbed profile and increased elastomer contact area with the housing is often preferred. Please specify the actual shaft size code required when ordering, as a seat separate to the seal, as each size has a unique I.D.

Type 25 Gasket Clamped "V" Seats

The Type 25 stationary is an industry standard design with a "T"-shaped profile. Supplied complete with two P.T.F.E. flat gaskets, for clamping as illustrated. The Type 25 is designed for media that are aggressive towards elastomers, and is widely utilised with Type 1609/1645/1659 series multi-spring rotaries. For shaft sizes up-to 1.000"/25mm; please add 1.60mm to dimension L2 for the gaskets width, similarly add 3.20mm for shaft sizes 1.125"/28.00mm and above.

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OEM REPLACEMENT PUMP SEALS

OEM Replacement Pump Seals are an integral part of maintaining your machinery and pumps. It is important to have replacement parts for pump seals on site and Abbey Seals stock a variety of standard sizes and can also custom make to suit most requirements.

DIAPHRAGM SEALS

Abbey Seals' Parallel Spring Diaphragm Type Seals are highly proficient and widely utilised, covering all standard pump shaft, working length and housing size ranges. The parallel spring family range of designs are ideal for a wide spectrum of application conditions, ranging from general duties through to more demanding applications, through their accommodating Single Springs and elastomer Diaphragms. The seals are highly effective and widely utilised in pumps, mixers, agitators, compressors and other rotary shaft equipment.

Standard Diaphragm Seal Types:

Type 10, 20 and 20H

Parallel spring, rubber diaphragm seals to common industry standard dimensions. Fitted as standard with Type 20 boot mounted seats, Type 20H has a Type 21 'O'-Ring mounted stationary.

Types 11, 11J and 22

Much like Type 10, 20 and 20H, to common American standard dimensions, fitted with a Type 11 boot mounted seats, or Type 11J has a Type 31 'O'-Ring mounted seat

Types U11/N11

Type 11, but to full ANSI compatibility, through incorporating a narrow profile seal design. Type U11 utilises the same seal head internal design as our Type 24, whilst Type N11 incorporates an elastomer resiliently mounted ring face.

Type 24 Series

As Types U11 and N11 but to full DIN24960 (EN12756) dimensions, L1K-length. Type 24 is supplied with a Type 24 boot mounted seat as standard. You should specify Type 24S, if a Type 24.DINS stationary is required and Type 24L for the Type 24.DINL stationary.

CONICAL MECHANICAL SEALS

The Conical Spring 'O'-Ring Mounted Type Seals offered by Abbey Seals are extremely popular seals. These robust, technically proficient seals are designed to suit DIN and common, standard housing dimensions. The Conical Spring 'O'-Ring Mounted Type Seals offered by Abbey Seals are extremely popular seals. These robust, technically proficient seals are designed to suit DIN and common, standard housing dimensions.

Standard Conical spring Types:

Type 8, 8DIN, 8DINS, 82 and 126

Inserted rotary faced, O-Ring mounted, conical spring shaft seals suit standard European or DIN fitting dimensions. The Type 82 is a stepped shaft balanced version of type 8DIN. Type 126 is a type 8DINS seals and seat assembly modified to DIN24960 (EN12756) L1K working length that is also available with Monolithic Stainless Steel Head.

Type 8B and 126

O-Ring Mounted, conical spring seals very similar to Type 8, except with a monolithic Stainless Steel Head and a Carbon Stationary. Type 126 Is To Full DIN24960 (EN12756) Dimension Compatibility, L1K Working Length.

Type 9

Conical spring, O-Ring mounted seals, with a Monolithic seals head and type 8.STD stationary.

Type 12 and Type 12DIN

O-Ring Mounted, conical spring seals available with a Monolithic Stainless Steel Head as standard, or an inserted SiC/T.C ring face.

Type 13 and Type 13DIN

O-Ring Mounted, conical spring seals with a pressed in O Ring mounted, rotary face enabling face material interchange ability, to suit common European or DIN dimensions.

Type 7D

O-Ring Mounted, conical spring seals with a pressed in O Ring mounted, rotary face, with a machined head retainer. Supplied as standard with type 7D stationary to suit DIN housings.

Please contact us with your specific requirements.

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BELLOWS SEAL

Abbey Seals offer an extensive range of bellows seals, suitable for any application, via the vast range we hold in stock. If you have a requirement beyond that we are happy to manufacture your exact requirement.

Bellows seals are recommended for applications with media containing solids and for hygienic applications, due to their non-clogging, self-adjusting and robust design. These very reliable seals are also customisable, as they can be specially produced to any working length and seat housing configuration. Suitable for pumps, mixers, agitators, compressors and other rotary shaft equipment.

Standard Bellows Seal Types:

Type 14DIN series

Universal compact DIN seals to suit three standard DIN working lengths.

Type 19 Series

Robust bellows seal with non-DIN cross-section, available in three standard DIN working lengths and with stationaries to suit all common European housing sizes.

Type 1511/1511J

Compact DIN profile, ANSI-compliant, bellows seals to suit the most common, American standard working lengths, with a choice of boot or 'O'-Ring stationaries to suit American housing sizes

Type 1520

DIN profiled bellows seal to suit common European working length and housing sizes. Seal has same working length and seat as the Abbey Seals Type 20 and Type A2 seals.

Type 1724 Series

Metal encased, rubber bellows seals to full DIN24960 (EN12756) L1K compatibility. The Abbey Seals seal face is retained to avoid damage during seal installation, a common problem with competitor seal designs.



BALANCED DIAPHRAGM SEALS

We refer to this family of Type A1 – A5 seals as the Ax range. The mechanical drive mechanism of the Ax range incorporates a patented design. This innovative solution eliminates the problem of seal failure, due to excessive wear by the thin metal drive components cutting a groove into the retainer, common to competitors' seals. The drive area has been increased by over 250%, to greatly reduce the contact drive pressure and consequent wear. As a result, the drive ring does not cut nor groove into the seal head retainer. The unique seal head design also retains the drive ring by a locking mechanism. This results in security and ease of assembly, due to the unitised design of the entire seal head assembly.

The Ax range seals are hydraulically balanced to a recognised industry standard, to reduce heat and friction at the seal interface. This allows for higher operating parameters to be achieved and prolongs seal life.

The Ax seal family includes a bellows disk, as a standard design feature. This component provides radial support to the bellows, ensuring no bellows / shaft contact, which could result in seal wear and possible hang-up. Without the disk, the bellows ID's are very close to the shaft and can be problematic, due to bellows extrusion and shaft contact / friction.

The flexible bellows compensates for primary seal face wear and machinery misalignment, such as shaft end float. The Ax bellows contains an additional drive ring supporting lip, to ensure that the drive ring is held in a positive position, away from the bellows.

Types A2 to A5 seal retain the base plates on the coil as standard, providing support during seal fitting.

The Abbey Seals seal face is retained by inert grease and NOT glue. Some seal suppliers chose to utilise glue which can create a leakage path, and upon chemical attack, the glue can migrate into seal components and product.

Please contact us with your specific requirements.