



## **P04U™ and P05U™**

### **Single Bellows Component Seal Range**



- **PATENT PENDING ROTARY BELLOWS DESIGN**
- **INNOVATIVE ROTARY DRIVE MECHANISM**
- **ENGINEERED DRIVE PLATE RETAINMENT**
- **SEAL SUPPLIED COMPLETE WITH STATIONARY**

## AESSEAL® - Component Seal Division overview

**Growing environmental awareness, changing consumer behavior and more aggressive competition mean that both new and traditional markets are demanding ideas, innovative products and above all, service.**

P04U™ and P05U™ development is the result of a global strategy to expand the AESSEAL® product range which will allow further penetration into new markets and offer a more complete service to existing customers.

At the core of this strategy is the improvement of existing products and design excellence which has helped us achieve superior product performance.



AESSEAL® Inventory Carousel system



AESSEAL Inc. Knoxville USA.

AESSEAL® has probably the widest component seal range in the industry. Products include unitized rubber bellows designs as well as conventional single & multi spring pusher products. For further information see or download our comprehensive component seal literature from [www.aesseal.com](http://www.aesseal.com)

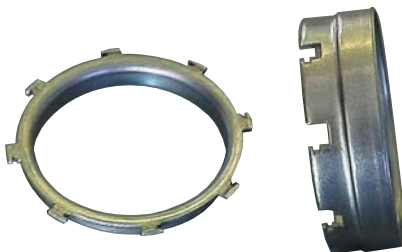
AESSEAL® embraces new technology throughout the entire corporation. Component Seals are inventoried in state of the art, computer controlled carousel systems. This un-manned storage facility is linked to the corporate business system to automate customer order processing. This strong customer focus results in exceptional customer service.

## P04U™/P05U™ - better by design

### P04U™ & P05U™ Development

The P04U™ and P05U™ seal range has been developed in the UK at the AESSEAL® Global Research & Development headquarters using the latest 3D CAD software. The result is a truly world class innovative solution.

A common failure mode in seals of this type, is the drive mechanism between two relatively thin metallic members.



Non-AESSEAL® design showing seal failure as a result of poor metal to metal drive technology.

The design above shows the effect of thin metal parts digging into each other. This is not an AESSEAL® design and was rejected during the development of the P04U and P05U seals.

To overcome this problem, AESSEAL® has spread the drive force over a large surface area. The resulting AESSEAL® patent pending design incorporates over 250% additional drive area compared to some seals found in the market place. This reduces the possibility of seal face hang-up and/or premature seal failure.

A further unique design feature of the product range is the engineered rotary retainment mechanism, which aids seal installation.

Not only is the AESSEAL® design unique, premium "cartridge seal" materials have been incorporated into the seal face technology.

The P04U™ and P05U™ product have been verified by performance tests, each result scientifically analyzed. Test results were further compared against multiple competitor benchmark test results, all conducted in identical conditions over many thousands of hours duration.



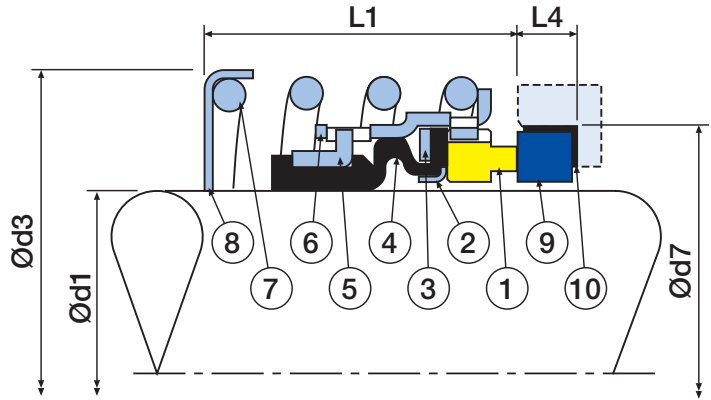
AESSEAL® design showing engineered rotary retainment technology.

The result is a P04U™ and P05U™ design, which is, in the opinion of AESSEAL®, unsurpassed in the market place.

As standard the P04U™ and P05U™ are offered with a boot mounted stationary seat. However O-ring mounted stationary seats can be supplied from an extensive inventoried product range upon request.

The P04U™ and P05U™ use superior Carbon which is triple impregnated. This higher grade of carbon allows for a higher PV rating, and is a significant advantage over other products in this market.

# P04U™ - Dimensional information



P04U™ - Inch (Imperial) Sizes

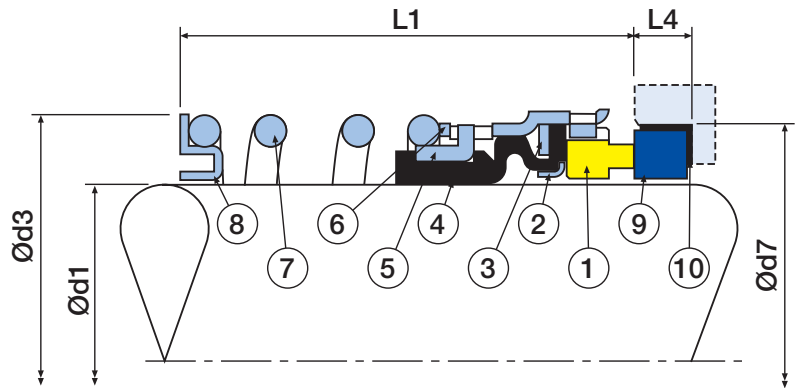
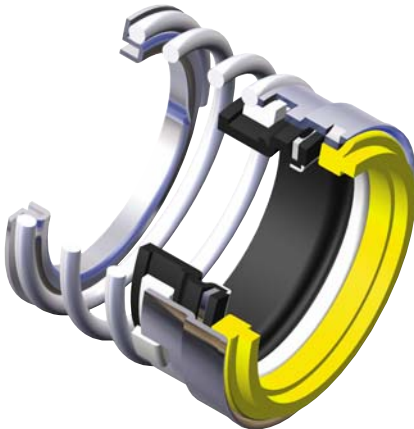
Item	Description	Material
1	Seal Face	Carbon-TC *
2	Disk	Stainless Steel
3	Face Plate	Stainless Steel
4	Bellows Unit	Nitrile-EPR-Viton®
5	Drive Plate	Stainless Steel
6	Retainer	Stainless Steel
7	Spring	Stainless Steel
8	Base	Stainless Steel
9	Stationary	Ceramic-TC-SiC
10	Stationary Boot	Nitrile-EPR-Viton®

\*Item 1 is available in SiC to order only.

Ød1	Ød3	Ød7	L1	L4
0.500	1.187	1.000	0.813	0.312
0.625	1.312	1.250	0.875	0.405
0.750	1.438	1.375	0.875	0.405
0.875	1.564	1.500	0.937	0.405
1.000	1.783	1.625	1.000	0.437
1.125	1.908	1.750	1.062	0.437
1.250	2.079	1.875	1.062	0.437
1.375	2.204	2.000	1.007	0.437
1.500	2.329	2.125	1.125	0.437
1.625	2.636	2.375	1.375	0.500
1.750	2.761	2.500	1.375	0.500
1.875	2.880	2.625	1.500	0.500
2.000	3.011	2.750	1.500	0.500
2.125	3.256	3.000	1.687	0.562
2.250	3.381	3.125	1.687	0.562
2.375	3.506	3.250	1.812	0.562
2.500	3.631	3.375	1.812	0.562
2.625	3.875	3.375	1.937	0.625
2.750	4.000	3.500	1.937	0.625
2.875	4.125	3.750	2.062	0.625
3.000	4.250	3.875	2.062	0.625

Seals available for Inch (Imperial) shaft sizes only

# P05U™ - Dimensional information



P05U™ - Inch (Imperial) Sizes

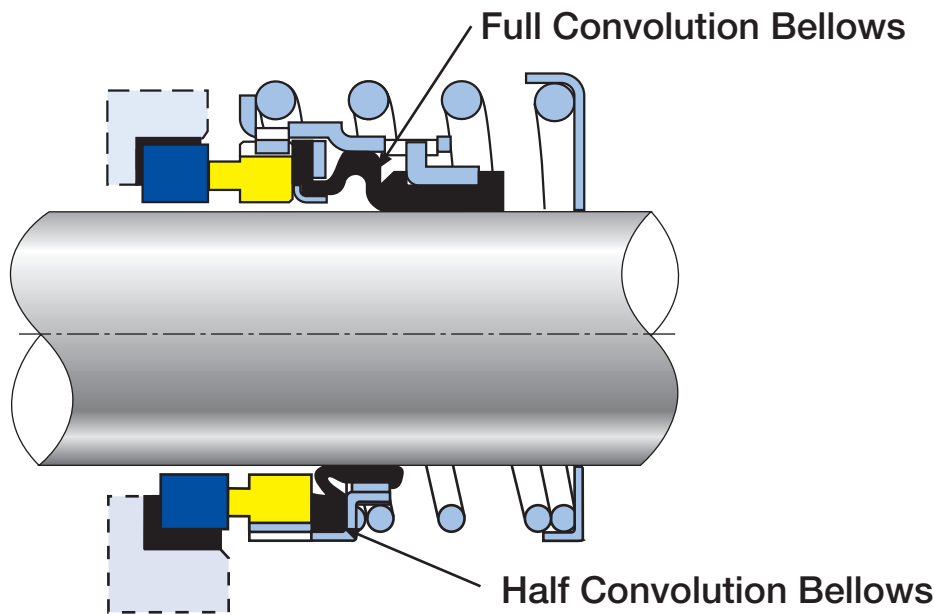
Item	Description	Material
1	Seal Face	Carbon-TC *
2	Disk	316 SS
3	Face Plate	316 SS
4	Bellows Unit	Nitrile-EPR-Viton®
5	Drive Plate	316 SS
6	Retainer	316 SS
7	Spring	Stainless Steel
8	Base	316 SS
9	Stationary	Ceramic-TC-SiC
10	Stationary Boot	Nitrile-EPR-Viton®

\*Item 1 is available in SiC to order only.

Ød1	Ød3	Ød7	L1	L4
0.500	0.937	1.000	1.187	0.312
0.625	1.093	1.250	1.312	0.405
0.750	1.218	1.375	1.312	0.405
0.875	1.343	1.500	1.375	0.405
1.000	1.500	1.625	1.562	0.437
1.125	1.625	1.750	1.625	0.437
1.250	1.812	1.875	1.625	0.437
1.375	1.917	2.000	1.687	0.437
1.500	2.041	2.125	1.687	0.437
1.625	2.287	2.375	2.000	0.500
1.750	2.412	2.500	2.000	0.500
1.875	2.537	2.625	2.125	0.500
2.000	2.662	2.750	2.125	0.500
2.125	2.835	3.000	2.375	0.562
2.250	2.965	3.125	2.375	0.562
2.375	3.083	3.250	2.500	0.562
2.500	3.210	3.375	2.500	0.562
2.625	3.394	3.375	2.750	0.625
2.750	3.520	3.500	2.750	0.625
2.875	3.644	3.750	2.875	0.625
3.000	3.770	3.875	2.875	0.625

Seals available for Inch (Imperial) shaft sizes only

# P04U™/P05U™ - Full Convolution Bellows vs. Half Convolution Bellows



The Full Convolution Bellows allows for more axial movement of the rotary face than the Half-Convolution Bellows.

This enables the seal rotary to track the stationary much better in the event of misalignment of the two faces (due to seat mis-positioning, shaft mis-alignment, etc).

The full convolution bellows can also compensate for more wear of the rotary face, and handle higher pressures, than the half-convolution bellows.

The full convolution bellows is standard on the P04U™ and P05U™ seals.

The half-convolution bellows is standard on the P04™ and P05™ seals.

## Other AESSEAL® Single Spring Component Seals

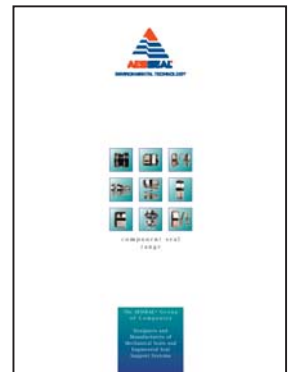
AESSEAL® is able to offer one of the largest ranges of Component (Single-Spring) Mechanical Seals in the industry.

Through continued development, our Component Seal range offers a seal to cover almost all of your low to medium-duty sealing requirements. Due to our commitment and investment in the Component Seal market, we ship most of our orders the same day that they are placed.

The Component Seal range covers the following major product families: Enclosed Rubber Bellows Seals in metric and imperial sizes, Parallel-Spring Rubber Diaphragm Seals in metric and imperial sizes, Tapered Spring Seals in metric sizes, PTFE Wedge Seals in metric and imperial sizes and many OEM specific seals.

For more information on any AESSEAL® Component Seal contact our UK and USA branches at the addresses below.

To order the literature contact the Marketing Department at [marketing@aesseal.com](mailto:marketing@aesseal.com) or download it from [www.aesseal.com](http://www.aesseal.com).



THIS DOCUMENT IS DESIGNED TO PROVIDE DIMENSIONAL INFORMATION AND AN INDICATION OF AVAILABILITY.  
FOR FURTHER INFORMATION AND SAFE OPERATING LIMITS CONTACT OUR TECHNICAL SPECIALISTS AT THE LOCATIONS BELOW.



AESSEAL® Seals and Systems are ATEX compliant.

**USE DOUBLE MECHANICAL SEALS WITH HAZARDOUS PRODUCTS. ALWAYS TAKE SAFETY PRECAUTIONS:**

- GUARD YOUR EQUIPMENT
- WEAR PROTECTIVE CLOTHING



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