



EXPERIENCE THE EXCEPTIONAL

BQFD™

Metal Bellows Single Cartridge Seal



- 12 bellows convolutions as standard
- Alloy 276 standard bellows material
- Cartridge design for reliable installation
- Quench, Flush and Drain environmental port options
- Hydraulically balanced seal face design
- Modular construction for maximum flexibility



www.aesseal.com

BQFD™ Metal Bellows Single Cartridge Seal

The AESSEAL® BQFD™ range of single cartridge mechanical seals use many of the same parts as the BSIV™ single seal but incorporates Quench, Flush and Drain connections making it suitable for more diverse applications.

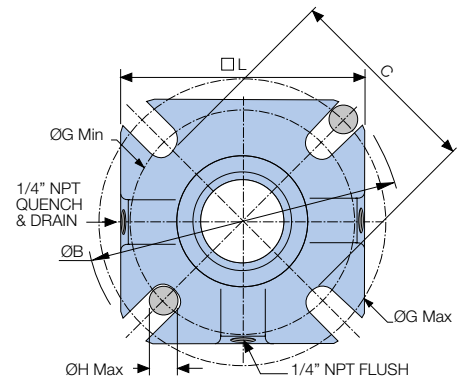
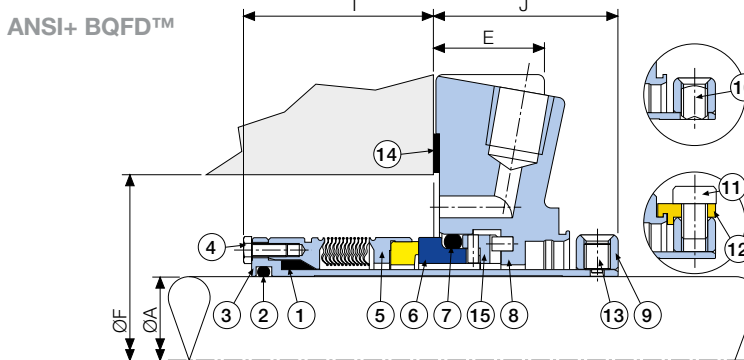
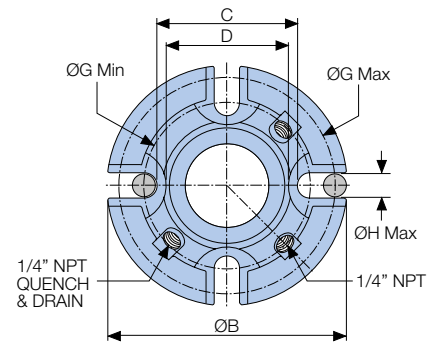
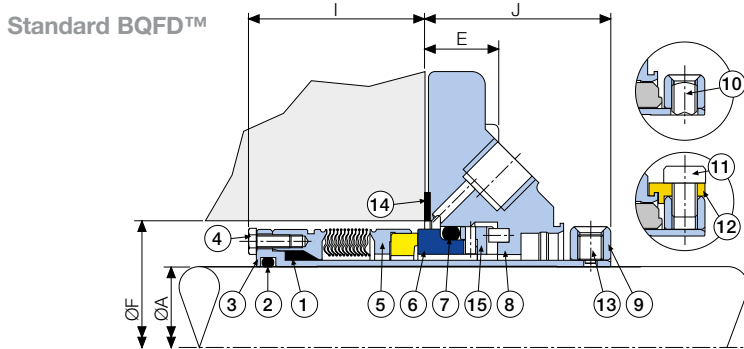
Major advantages of using AESSEAL® Metal Bellows Seals

- 50% more bellows than the industry standard means there is less stress on each convolution in the bellows stack which helps increase seal life. It is for this reason that this seal is more able to accommodate installation tolerances and will maintain a more consistent face pressure as the seal wears in use.
- Finite Element Analysis was used to optimize the bellows convolution profile on its inside diameter at 45° which means minimal stress on the weld beads.
- The standard bellows material, Alloy 276, has superior mechanical and corrosion resistance properties compared to other industry standard bellows materials such as 300 series Stainless Steel or Alloy 20. The seal face holder and drive end are inventoried as standard in 316L Stainless Steel.

The main benefit of using a metal bellows seal is the removal of the semi-dynamic sliding elastomer from a conventional pusher type seal. This means that bellows seals can be used where chemical attack on this elastomer is a problem.

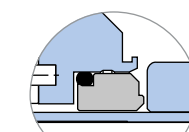
The seal is offered with the following features:

- Quench, Flush and Drain environmental port options
- Cartridge design for reliable installation
- Hydraulically balanced inboard seal faces
- Independent seal face design
- Modular construction for maximum adaptability

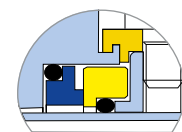


Item	Description	Material
1	Rotary Face Sealing Ring	Graphite
2	Sleeve O Ring	Viton® / EPR / Kalrez® / Aflas®
3	Sleeve	316L Stainless Steel
4	Rotary Drive Screws	Stainless Steel
5	Rotary Bellows Assembly	316L SS - Alloy 276 - 316L SS - Carbon / TC / SIC
6	Stationary Face	TC / *Ceramic / SIC
7	Stationary Sealing Ring	Viton® / EPR / Kalrez® / Aflas® / Graphite
8	Gland	316 Stainless Steel
9	Clamp Ring	316L Stainless Steel
10	Drive Screws	Stainless Steel
11	Setting Clip Screws	Stainless Steel
12	Setting Clips	Metal
13	Anti-tamper Screws	Stainless Steel
14	Gasket	AF1 / GFT
15	Spacer Ring	316L Stainless Steel

*This material is not available from 3.125" (80mm) and above.



BQFD-R™
Restriction bush option



BQFD-E™
Low pressure external seal option

BQFD™ – Imperial Dimensional Information (inches)

A	B	C	D	E	Fmin	Fmax	Gmin	Gmax	Hmax	I	J
1.000	4.125	2.125	1.937	0.519	1.625	1.937	2.687	3.562	1/2	1.531	1.590
1.125	4.250	2.250	2.063	0.519	1.750	2.062	2.812	3.687	1/2	1.531	1.590
1.250	4.375	2.375	2.187	0.519	1.875	2.187	2.937	3.812	1/2	1.531	1.590
1.375	4.375	2.500	2.312	0.519	2.000	2.250	3.062	3.812	1/2	1.531	1.590
1.500	5.000	2.812	2.562	0.644	2.250	2.375	3.375	4.437	1/2	1.687	1.752
1.625	5.000	2.812	2.562	0.644	2.375	2.500	3.375	4.437	1/2	1.687	1.752
1.750	5.500	3.187	2.812	0.644	2.500	2.750	3.750	4.937	1/2	1.687	1.752
1.875	5.500	3.187	2.812	0.644	2.625	2.875	3.750	4.937	1/2	1.687	1.752
2.000	6.000	3.562	3.063	0.644	2.750	3.000	4.125	5.437	1/2	1.750	1.752
2.000-AC	5.250	3.450	3.035	0.644	2.750	3.000	4.000	4.750	1/2	1.750	1.752
2.125	6.000	3.562	3.063	0.644	2.875	3.125	4.125	5.437	1/2	1.750	1.752
2.250	6.500	3.812	3.312	0.644	3.000	3.250	4.500	5.812	5/8	1.750	1.752
2.375	6.500	3.812	3.312	0.644	3.125	3.375	4.500	5.812	5/8	1.750	1.752
2.500	7.000	4.312	3.812	0.769	3.375	3.625	5.000	6.312	5/8	2.031	1.877
2.625	7.000	4.312	3.812	0.769	3.500	3.750	5.000	6.312	5/8	2.031	1.877
2.750	7.000	4.312	3.812	0.769	3.625	3.875	5.000	6.312	5/8	2.031	1.877
2.875	7.500	4.937	4.250	0.769	3.750	4.125	5.625	6.812	5/8	2.031	1.877
3.000	7.500	4.937	4.250	0.769	3.875	4.250	5.625	6.812	5/8	2.150	1.877
3.125	7.500	4.937	4.250	0.769	4.000	4.375	5.625	6.812	5/8	2.150	1.877
3.250	8.000	5.312	4.625	0.769	4.125	4.500	6.125	7.187	3/4	2.150	1.877
3.375	8.000	5.312	4.625	0.769	4.250	4.625	6.125	7.187	3/4	2.150	1.877
3.500	8.000	5.312	4.625	0.769	4.375	4.750	6.125	7.187	3/4	2.150	1.877
3.625	8.500	5.937	5.000	0.769	4.500	5.000	6.750	7.687	3/4	2.150	1.877
3.750	8.500	5.937	5.000	0.769	4.625	5.125	6.750	7.687	3/4	2.150	1.877
3.875	9.000	6.625	5.375	0.769	4.875	5.500	7.437	8.187	3/4	2.150	1.877
4.000	9.000	6.625	5.375	0.769	4.875	5.500	7.437	8.187	3/4	2.150	1.877



Minimum bolt circle based on bolt size shown.

BQFD™ – Metric Dimensional Information (millimetres)

A	B	C	D	E	Fmin	Fmax	Gmin	Gmax	Hmax	I	J
24	104.8	54.0	49.2	13.2	41.0	49.0	67.0	90.5	12	38.9	40.5
25	104.8	54.0	49.2	13.2	41.0	49.0	67.0	90.5	12	38.9	40.5
28	108.0	57.2	52.4	13.2	44.0	52.3	70.3	93.6	12	38.9	40.5
30	111.0	60.4	55.6	13.2	46.0	55.5	73.5	96.8	12	38.9	40.5
32	111.0	60.4	55.6	13.2	48.0	55.5	73.5	96.8	12	38.9	40.5
33	111.0	60.4	55.6	13.2	49.0	55.5	73.5	96.8	12	38.9	40.5
35	111.0	63.5	58.8	13.2	51.0	57.5	76.6	96.8	12	38.9	40.5
38	127.0	71.5	65.0	16.4	57.2	60.4	85.7	114.3	12	42.9	44.5
40	127.0	71.5	65.0	16.4	58.0	60.4	85.7	114.3	12	42.9	44.5
43	139.7	81.0	71.4	16.4	61.0	69.9	95.3	127.0	12	42.9	44.5
45	139.7	81.0	71.4	16.4	63.5	69.9	95.3	127.0	12	42.9	44.5
48	139.7	81.0	71.4	16.4	66.7	73.0	95.3	127.0	12	42.9	44.5
50	152.4	90.5	77.8	16.4	68.0	76.2	104.8	139.7	12	44.5	44.5
53	152.4	90.5	77.8	16.4	71.0	76.2	104.8	139.7	12	44.5	44.5
55	165.1	96.8	84.1	16.4	74.0	82.5	114.3	149.2	16	44.5	44.5
58	165.1	96.8	84.1	16.4	76.2	82.6	114.3	149.2	16	44.5	44.5
60	165.1	96.8	84.1	16.4	79.4	85.7	114.3	149.2	16	44.5	44.5
63	177.8	109.5	96.8	19.6	85.8	92.1	127.0	160.3	16	51.6	47.7
65	177.8	109.5	96.8	19.6	88.9	95.3	127.0	160.3	16	51.6	47.7
68	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	51.6	47.7
70	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	51.6	47.7
75	190.5	125.4	108.0	19.6	98.5	108.0	142.9	173.0	16	54.6	47.7
80	190.5	125.4	108.0	19.6	101.6	111.1	142.9	173.0	16	54.6	47.7
85	203.2	135.0	117.5	19.6	108.0	117.5	155.6	182.5	20	54.6	47.7
90	215.9	150.8	127.0	19.6	114.3	127.0	171.5	195.2	20	54.6	47.7
95	215.9	150.8	127.0	19.6	117.5	130.2	171.5	195.2	20	54.6	47.7
100	228.6	168.3	136.5	19.6	123.9	139.7	188.9	207.9	20	54.6	47.7



Minimum bolt circle based on bolt size shown.

BQFD™ – ANSI+ Gland Format Dimensional Information (inches)

A	B	C	E	F min	F max	G min	G max	H max	I	J	□L
1.125	5.000	3.188	1.000	2.625	2.850	3.750	4.250	0.500	1.531	1.565	3.990
1.375	5.375	3.438	1.000	2.875	3.100	4.000	4.625	0.500	1.531	1.565	4.240
1.750	6.750	4.438	0.644	3.500	4.100	5.000	6.000	0.500	1.687	1.690	5.480
1.875	6.750	4.438	0.644	3.625	4.100	5.000	6.000	0.500	1.687	1.690	5.480
2.125	7.625	4.688	0.644	3.875	4.225	5.375	6.687	0.625	1.750	1.690	6.230
2.500	8.250	5.438	0.644	4.500	5.100	6.125	7.312	0.625	2.031	1.890	6.730
2.625	8.250	5.438	0.644	4.625	5.100	6.125	7.312	0.625	2.031	1.890	6.730
2.750	8.250	5.438	0.644	4.625	5.100	6.125	7.312	0.625	2.031	1.890	6.730

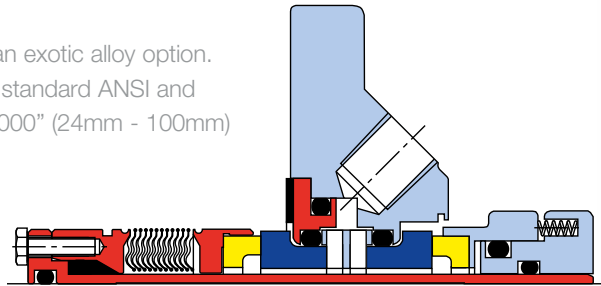


Minimum bolt circle based on bolt size shown.

BQFD™ Metal Bellows Single Cartridge Seal

Exotic BQFD™

The BQFD™ range is complemented with an exotic alloy option. It is available with Alloy 276 wetted parts in standard ANSI and ANSI+ gland formats. Sizes: Ø1.000" - Ø4.000" (24mm - 100mm) available to order.



AESSEAL® also produce a further range of single and double cartridge mechanical seals using the same modular Metal Bellows technology. The main products in this range are the BSAI™, BDTP™, BDFI™ and BCFG™ which all have their own brochure which can be requested from AESSEAL®.



These brochures can be downloaded from the AESSEAL® website at www.aesseal.com or copies can be requested by email from marketing@aes seal.com.

For further information and safe operating limits contact our technical specialists at the locations below.



Use double mechanical seals with hazardous products.

Always take safety precautions:

- Guard your equipment
- Wear protective clothing

WARNING

UK Sales & Technical advice:

AESSEAL plc
 Mill Close
 Bradmarsh Business Park
 Rotherham, S60 1BZ
 United Kingdom
 Tel: +44 (0) 1709 369966
 Fax: +44 (0) 1709 720788
 E-mail: seals@aes seal.com

Distributed by:

'Our purpose is to give our customers such exceptional service that they need never consider alternative sources of supply.'



USA Sales & Technical advice:

AESSEAL Inc.
 355 Dunavant Drive
 Rockford,
 TN. 37853
 USA
 Tel: +1 865 531 0192
 Fax: +1 865 531 0571
 E-mail: usa@aes seal.com

Important: Since the conditions and methods of use of this product are beyond our control, AESSEAL plc expressly disclaims any and all liability resulting or arising from any use of this product or reliance on any information contained in this document - AESSEAL plc standard conditions of sale apply. All sizes are subject to manufacturing tolerances. We reserve the right to modify specifications at any time. AESSEAL® is a Registered Trademark of AESSEAL plc, AESSEAL plc recognizes all trademarks and trademark names as the property of their owners.