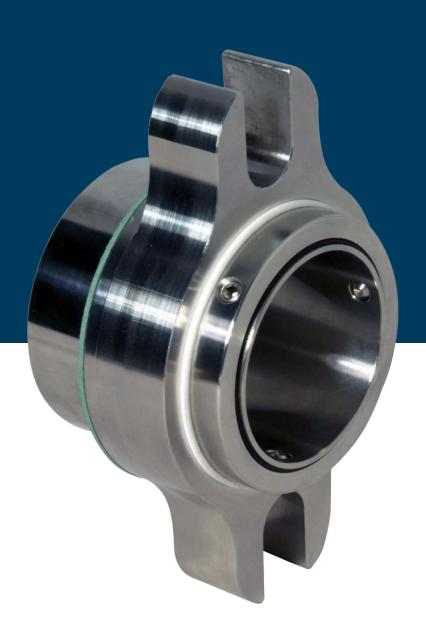


www.first4seals.com



Compact

Environmental
Cartridge Mechanical Seals
MVTM Series

single rotary mechanical cartridge seals



General industry requires sealing solutions that are reliable, simple and affordable. The MV[™] seal uses proven F4S design and high quality parts, making it an ideal solution for upgrading packed, single spring or component seal pumps.

Designed as a compact single cartridge seal to fit most pump installations, the MVTM is an excellent general purpose sealing solution.

Today's environmental issues demand that industry commit to a reduction in energy consumption. The balanced mechanical seal design absorbs less power than both unbalanced seal designs and traditional pump packing.

As leakage is eliminated, corrosion problems to pumps and bearings are substantially reduced, as are costs associated with expensive product loss.

Most packing must leak to survive, where as seals should be leak free. This reduces environmental contaminants and disposal costs.

MV™ cartridge seals can be fully refurbished with most parts being re-used.



MVTM series - technical specification

metal parts 316 Stainless Steel as standard. stationary Silicon Carbide or Tungsten Carbide.

springs Alloy 276

o-rings Viton® (Flurocarbon) or Ethylene Propylene

(EPR) as standard. Aflas®, Kalrez® and other

elastomers available to order.

rotary face Carbon, Silicon Carbide or Tungsten Carbide

temperature -30°C to 260°C (-22°F to 500°F) dependent upon specified elastomer and system configuration.

pressure limits 711mm HG Vacuum to 30 Bar (-28" HG - 440 PSI).

As the conditions of use are outside the control of first4seals, the information contained within this brochure is given in good faith but without warranty. The above temperature and pressure limits are individual maximum values for SOFT/HARD seal face combinations only. The values are provided for guidance only and are intended for use by suitably qualified application engineers. It is recommended that all users contact the first4seals Technical Department for advice on any new application.

MVTM series - design features

Anti cloa

The dynamic o-ring moves on to a clean area as the seal faces wear. Components remain free for longer seal life.

Isolated springs

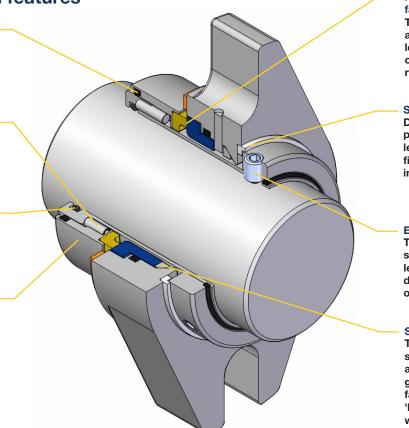
The Alloy 276 springs are not in the process fluid where they could corrode and clog, so they remain effective for the whole of the seal life.

No fretting of the pump shaft

The secondary (sleeve) seal o-ring is static on the shaft and is guaranteed never to fret the pump shaft or sleeve.

Low turbulence wetted parts

The smooth contours of the wetted surfaces create very little turbulence within the seal cavity for longer lasting seal components in abrasive media use.



Pressure balanced seal faces.

The seal is balanced to achieve optimum face loading for high pressure capability and provide cooler running for longer seal life.

Setting and centring

Dual purpose. Sets radial position and axial working length of seal. Remains fitted to seal during installation and use.

External clamping

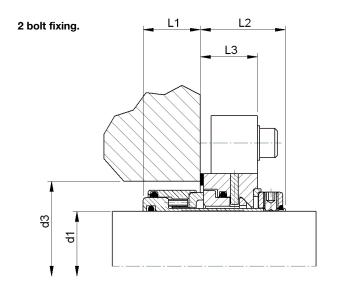
The seal is automaticallty set to the correct working length with the external drive screws. No measuring or clips required.

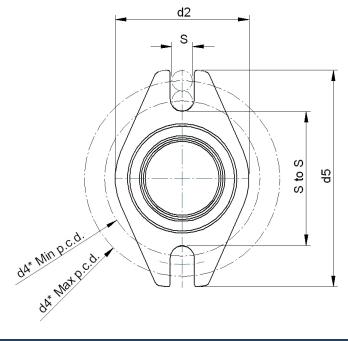
Self aligning stationary

The patented self aligning stationary eliminates fretting and spring fatigue, ensures good alignment of seal faces and provides a good 'heat sink' for cooler running with heightened face lubricity.



MV[™] dimensional information





MV™ series - size chart

d1	d2 d3		I 3	d4*pcd		d5	L1	L2	L3	S to S	S
Metric	Gland Width	S/B I.D. Min	S/B I.D. Max	Min	Max	Gland O.D.	Inboard length	Outboard length	Bolting Surface	Slot to Slot	Max Bolt
24	56.1	40.0	48.0	69.9	88.9	101.6	23.6	33.3	21.1	55.6	M12
25	56.1	41.0	48.0	69.9	88.9	101.6	23.6	33.3	21.1	55.6	M12
28	59.3	44.0	50.0	73.1	92.1	104.8	23.6	33.3	21.9	58.8	M12
30	62.4	46.0	54.0	76.2	95.3	108.0	23.6	33.3	22.4	61.9	M12
32	62.4	48.0	54.0	76.2	95.3	108.0	23.6	33.3	22.4	61.9	M12
33	62.4	49.0	55.0	76.2	95.3	108.0	23.6	33.3	22.4	61.9	M12
35	67.2	51.0	59.0	81.0	95.3	108.0	23.6	35.2	22.8	66.7	M12
38	72.0	58.0	62.0	85.8	101.6	114.3	23.6	35.2	23.6	71.5	M12
40	72.0	60.0	64.0	85.8	101.6	114.3	23.6	35.2	23.6	71.5	M12
43	75.1	63.0	67.0	88.9	108.0	120.7	23.6	35.2	23.6	74.6	M12
45	78.3	65.0	69.0	92.1	114.3	127.0	23.6	35.2	23.6	77.8	M12
48	81.5	68.0	72.0	95.3	120.7	133.4	23.6	35.2	23.6	81.0	M12
50	81.5	70.0	74.0	95.3	120.7	133.4	23.6	35.2	23.6	81.0	M12
53	84.7	73.0	77.0	101.6	123.9	139.7	22.6	37.9	26.3	84.2	M16
55	87.8	75.0	79.0	104.8	130.2	146.1	22.6	37.9	26.3	87.3	M16
58	98.9	78.0	85.7	115.9	146.0	165.1	23.6	36.9	25.3	95.3	M20
60	98.9	80.0	85.7	115.9	146.0	165.1	23.6	36.9	25.3	95.3	M20
63	121.2	86.0	101.6	131.8	158.7	177.8	26.8	41.7	23.6	111.2	M20
65	121.2	89.0	101.6	131.8	158.7	177.8	26.8	41.7	23.6	111.2	M20
68	121.2	92.0	101.6	131.8	158.7	177.8	26.8	41.7	23.6	111.2	M20
70	121.2	92.0	101.6	131.8	158.7	177.8	26.8	41.7	23.6	111.2	M20
75	130.7	99.0	114.3	146.1	171.4	190.5	26.8	42.2	28.1	125.4	M20
80	130.7	102.0	114.3	146.1	171.4	190.5	26.8	43.2	29.1	125.4	M20

d1	d2	d	13	d4*	pcd	d5	L1	L2	L3	S to S	S
Imperial	Gland Width	S/B I.D. Min	S/B I.D. Max	Min	Max	Gland O.D.	Inboard length	Outboard length	Bolting Surface	Slot to Slot	Max Bolt
1.000	2.208	1.614	1.875	2.750	3.500	4.000	0.929	1.310	0.829	2.187	0.500
1.125	2.333	1.772	2.000	2.875	3.625	4.125	0.929	1.310	0.864	2.312	0.500
1.250	2.458	1.890	2.125	3.000	3.750	4.250	0.929	1.310	0.880	2.437	0.500
1.375	2.645	2.008	2.250	3.187	3.750	4.250	0.929	1.385	0.896	2.625	0.500
1.500	2.833	2.283	2.500	3.375	4.000	4.500	0.929	1.385	0.928	2.812	0.500
1.625	2.958	2.402	2.625	3.500	4.250	4.750	0.929	1.385	0.928	2.937	0.500
1.750	3.083	2.559	2.750	3.625	4.500	5.000	0.929	1.385	0.928	3.062	0.500
1.875	3.207	2.677	2.875	3.750	4.750	5.250	0.929	1.452	0.996	3.187	0.500
2.000	3.333	2.756	3.000	4.000	4.875	5.500	0.929	1.452	0.996	3.312	0.625
2.125	3.458	2.913	3.125	4.125	5.125	5.750	0.929	1.452	0.996	3.437	0.625
2.250	3.895	3.071	3.375	4.562	5.750	6.500	0.929	1.452	0.996	3.750	0.750
2.375	3.895	3.150	3.375	4.562	5.750	6.500	0.929	1.452	0.996	3.750	0.750
2.500	4.770	3.386	4.000	5.187	6.250	7.000	1.057	1.640	0.930	4.375	0.750
2.625	4.770	3.504	4.000	5.187	6.250	7.000	1.057	1.640	0.930	4.375	0.750
2.750	4.770	3.622	4.000	5.187	6.250	7.000	1.057	1.640	0.930	4.375	0.750
2.875	5.145	3.740	4.500	5.750	6.750	7.500	1.057	1.660	1.105	4.937	0.750
3.000	5.145	3.898	4.500	5.750	6.750	7.500	1.057	1.660	1.105	4.937	0.750
3.125	5.145	4.016	4.500	5.750	6.750	7.500	1.017	1.701	1.145	4.937	0.750

*Based on the largest bolt diameter (specials can be produced)

first4seals product range



single spring seals



component seals



mv[™] single rotary cartridge seals



301[™]/303A[™] single rotary cartridge seals



302[™] double rotary cartridge seals



f4s100[™] single stationary cartridge seals



f4s200[™] double stationary cartridge seals



seal support systems



THIS DOCUMENT IS DESIGNED TO PROVIDE DIMENSIONAL DATA AND IS NOT AN INDICATION OF AVAILABLITY FROM STOCK. SOME DESIGNS MAY BE SUBJECT TO MINIMUM ORDER QUANTITIES AND MANUFACTURING LEAD TIMES.



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