

Pioneer Weston

Mechanical Seals Component Range

At Pioneer Weston our goal is to deliver a world class service in every area of our operations.

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An **ERIKS** Company



Pioneer Weston

Mechanical Seals Component Range





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The design and specification of the items illustrated here in are subject to alteration without notice.

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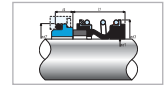
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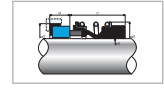
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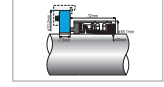
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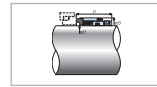
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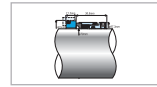
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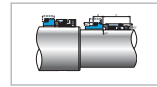
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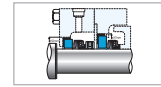
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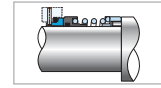
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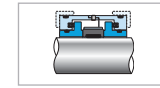


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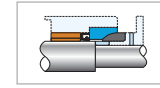
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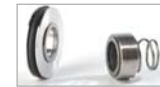


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Taper Spring Seals



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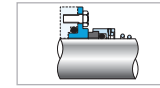
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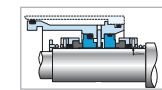
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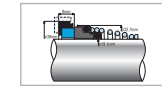
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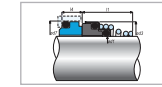
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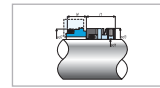
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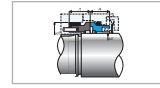
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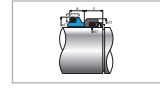
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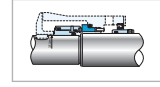
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Pioneer Weston

Pioneer Weston has been at the forefront of sealing technology for over 50 years.

We work in close partnership with our customers to innovate, design and manufacture solutions to suit a diverse range of applications, no matter how arduous the environment.

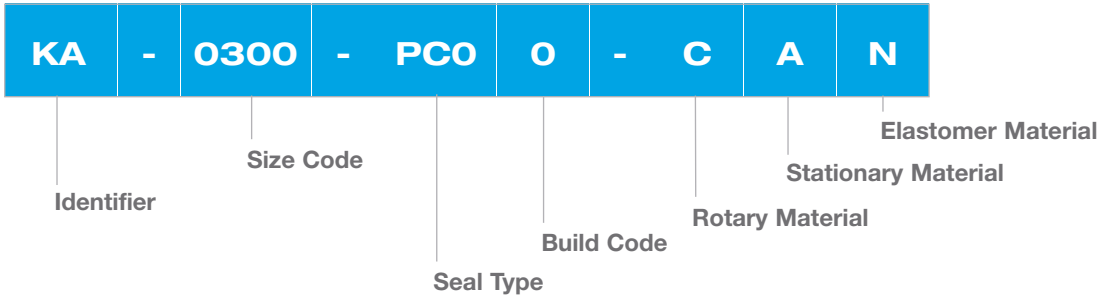
We are proud to hold both ISO/TS16949:2002 and ISO9001:2000 quality accreditations for dynamic sealing solutions and specialist moulded products.

At Pioneer Weston our goal is to deliver a world-class service in every area of our operations. Evidence of this is the considerable investment and resource that has been applied to advance our testing and validation facilities to enable us to deliver products of a known performance and life expectancy.

Quality is at the core of everything we do; our processes, our people and our products. All our employees take personal responsibility for the quality in their sphere of activity and they are further supported by S.P.C. and a 'Right First Time' culture - essential in any Total Quality Management operation.



Material Selector Information



Identifier		Build Codes		Rotary & Stationary Material Codes		Elastomer Material Codes	
KA	Assembly	0	Standard	O	Not Required	O	Not Required
KR	Rotary Only	1	SA0 Stationary	A	Alumina Ceramic	N	Nitrile
KS	Stationary Only	2	SB0 Stationary	C	Carbon	V	Viton
		3	SC0 Stationary	S	Silicon Carbide	Q	PTFE
		4	SD0 Stationary	T	Tungsten Carbide	E	EPDM
		5	SDA Stationary	X	Stainless Steel	F	FEP
		6	SE0 Stationary				
		7	SF0 Stationary				
		8	SG0 Stationary				
		9	SGA Stationary				
		R	Right Hand Spring				
		L	Left Hand Spring				
		Z	Special				

Examples

KA-0300-PC00-CAN

Assembly to suit 30mm shaft. Seal type is PC0 with standard build. Materials are Carbon Rotary, Alumina Ceramic Stationary and Nitrile Elastomers.

KR-0254-PB00-S0V

Rotary only to suit 25.4mm shaft. Rotary type is PB0 with standard build. Materials are Silicon Carbide Rotary, Stationary Not Required and Viton Elastomers.

KA-0450-TADR-CAE

Assembly to suit 45mm shaft. Seal type is TAD with right hand coil spring. Materials are Carbon Rotary, Alumina Ceramic Stationary and EPDM Elastomers.

Bellows Seals

Elastomeric Bellows seals are non-directional, technically advantageous and extremely versatile. Applications include, but are not limited to; Pumps, Mixers, Agitators and Compressors

Our range is vast and a seal to suit virtually all applications is available.

The design of the Bellows seals is such that all rotary components are contained with no loose parts that could be subject to damage during fitting.

All bellows seals feature static sealing on the shaft that cannot cause shaft wear or fretting. Another advantage of this design is that it can be used in situations where shaft fretting had previously occurred with another seal design.

Maximum Operating Limits	
Pressure	12 bar
Speed	12 bar
Temperature	-40°C to +200°C

Elastomer Material Availability		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.
Other materials available on request.		

Face Combinations				
Rotary				
		Carbon	Alumina Ceramic	Silicon Carbide
Stationary	Carbon	Not Available	Not Available	BBD Type Seals Only
	Alumina Ceramic	Standard Duty	Not Available	Not Available
	Silicon Carbide	Increased Performance	Not Available	Recommended For Aggressive Media
Other materials available on request.				

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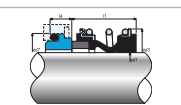
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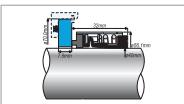
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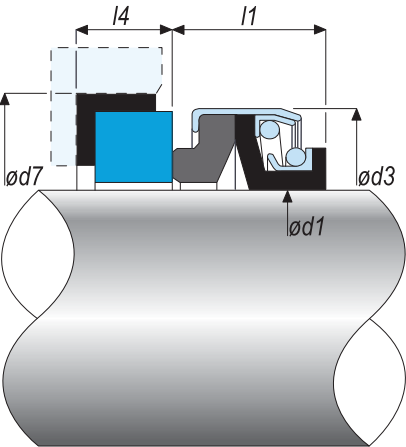


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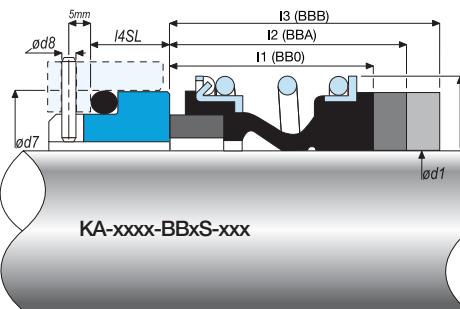
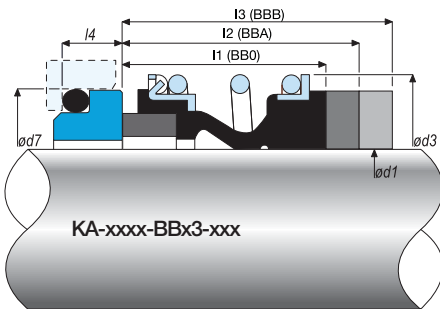
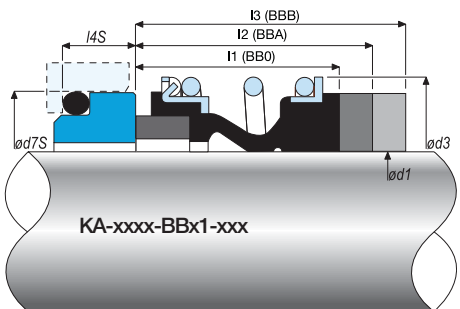
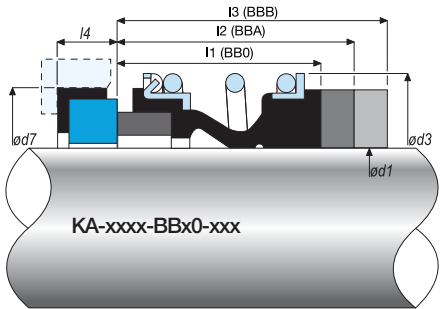


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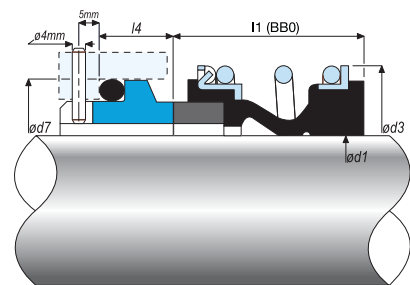
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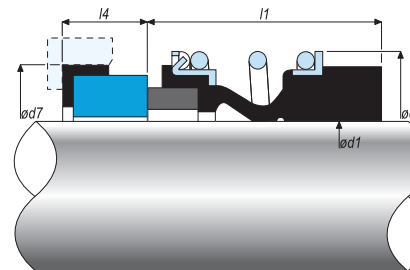
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10.0	0.394	24.0	0.945	21.0	0.827	19.2	0.756	3.0	0.118	14.5	0.571	25.9	1.020	33.4	1.315	6.6	0.260	6.6	0.260	10.1	0.398
12.0	0.472	24.0	0.945	23.0	0.905	21.6	0.850	3.0	0.118	15.0	0.591	25.9	1.020	33.4	1.315	6.6	0.260	5.6	0.220	12.0	0.472
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90.0	3.543	126.0	4.961	115.0	4.527	114.0	4.488	4.0	0.157	45.0	1.772	51.0	2.008	76.0	2.992	14.0	0.551	14.8	0.583	18.2	0.717
95.0	3.740	131.0	5.157	120.0	4.724	120.3	4.736	4.0	0.157	46.0	1.811	51.0	2.008	76.0	2.992	14.0	0.551	15.8	0.622	17.2	0.677
100.0	3.937	136.0	5.354	125.0	4.921	123.3	4.854	4.0	0.157	47.0	1.850	51.0	2.008	76.0	2.992	14.0	0.551	15.8	0.622	17.2	0.677

d1		d3		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
8.0	0.315	24.0	0.945	26.0	1.024	11.0	0.433	8.0	0.315
8.0 (B)	0.315	20.0	0.787	18.0	0.709	11.0	0.433	4.8	0.189
8.0 (C)	0.315	18.0	0.709	18.0	0.709	12.0	0.472	4.8	0.189
8.0 (D)	0.315	20.0	0.787	22.0	0.866	11.0	0.433	4.2	0.165
10.0	0.394	24.0	0.945	26.0	1.024	11.0	0.433	8.0	0.315
11.0	0.433	24.0	0.945	26.0	1.024	11.0	0.433	8.0	0.315
12.0	0.472	24.0	0.945	26.0	1.024	11.0	0.433	8.0	0.315
12.0 (B)	0.472	24.0	0.945	26.0	1.024	13.0	0.512	8.0	0.315
12.0 (C)	0.472	32.0	1.260	35.0	1.378	13.0	0.512	8.0	0.315
12.0 (D)	0.472	24.0	0.945	26.0	1.024	11.0	0.433	6.6	0.260
13.0	0.512	24.0	0.945	26.0	1.024	13.0	0.512	8.0	0.315
13.0 (B)	0.512	24.0	0.945	26.0	1.024	11.0	0.433	5.6	0.220
13.0 (C)	0.512	24.0	0.945	26.0	1.024	15.0	0.591	8.0	0.315
13.0 (D)	0.512	24.0	0.945	25.0	0.984	16.4	0.646	7.8	0.307
14.0	0.551	32.0	1.260	35.0	1.378	13.0	0.512	8.0	0.315
14.0 (B)	0.551	28.0	1.102	26.0	1.024	13.0	0.512	8.0	0.315
14.0 (C)	0.551	32.0	1.260	29.5	1.161	13.0	0.512	8.0	0.315
14.0 (D)	0.551	32.0	1.260	26.0	1.024	13.0	0.512	7.5	0.295
14.0 (E)	0.551	32.0	1.260	38.0	1.496	13.0	0.512	8.0	0.315
15.0	0.591	35.0	1.378	38.0	1.496	13.0	0.512	8.0	0.315
15.0 (B)	0.591	35.0	1.378	29.5	1.161	13.0	0.512	8.0	0.315
15.0 (C)	0.591	32.0	1.260	29.5	1.161	13.0	0.512	8.0	0.315
15.0 (D)	0.591	28.0	1.102	32.0	1.260	13.0	0.512	7.0	0.276
16.0	0.630	35.0	1.378	38.0	1.496	13.0	0.512	8.0	0.315
16.0 (B)	0.630	39.0	1.535	42.0	1.654	13.0	0.512	8.0	0.315
16.0 (C)	0.630	35.0	1.378	29.5	1.161	13.0	0.512	8.0	0.315
16.0 (D)	0.630	32.0	1.260	32.0	1.260	13.0	0.512	8.0	0.315
16.0 (E)	0.630	35.0	1.378	30.0	1.181	13.0	0.512	7.0	0.276
17.0	0.669	39.0	1.535	42.0	1.654	13.0	0.512	8.0	0.315
17.0 (B)	0.669	39.0	1.535	53.0	2.087	13.0	0.512	7.2	0.284
17.0 (C)	0.669	32.0	1.260	32.0	1.260	13.0	0.512	6.0	0.236
18.0	0.709	39.0	1.535	42.0	1.654	13.0	0.512	8.0	0.315
19.0	0.748	39.0	1.535	42.0	1.654	13.0	0.512	8.0	0.315
20.0	0.787	39.0	1.535	42.0	1.654	13.0	0.512	8.0	0.315
20.0 (B)	0.787	42.0	1.654	45.0	1.772	13.0	0.512	10.0	0.394
20.0 (C)	0.787	34.8	1.370	35.0	1.378	16.0	0.630	7.5	0.295
20.0 (D)	0.787	42.0	1.654	53.0	2.087	13.0	0.512	7.0	0.276
22.0	0.866	42.0	1.654	45.0	1.772	13.0	0.512	10.0	0.394
23.0	0.906	47.0	1.850	50.0	1.969	13.5	0.531	10.0	0.394
24.0	0.945	47.0	1.850	50.0	1.969	13.5	0.531	10.0	0.394
24.0 (B)	0.945	42.0	1.654	42.0	1.654	13.5	0.531	9.0	0.354
25.0	0.984	47.0	1.850	50.0	1.969	13.5	0.531	10.0	0.394
25.0 (B)	0.984	42.0	1.654	50.0	1.969	13.3	0.524	10.0	0.394
25.0 (C)	0.984	42.0	1.654	40.0	1.575	13.3	0.524	7.5	0.295
25.0 (D)	0.984	42.0	1.654	40.0	1.575	12.8	0.504	6.0	0.236
25.0 (E)	0.984	47.0	1.850	57.0	2.244	13.5	0.531	7.0	0.276
25.0 (F)	0.984	47.0	1.850	48.4	1.906	13.5	0.531	12.0	0.472
25.4	1.000	47.0	1.850	50.0	1.969	13.5	0.531	10.0	0.394
25.4 (B)	1.000	47.0	1.850	57.0	2.244	13.5	0.531	10.0	0.394
28.0	1.102	54.0	2.126	57.0	2.244	15.0	0.591	10.0	0.394
30.0	1.181	54.0	2.126	57.0	2.244	15.0	0.591	10.0	0.394
30.0 (B)	1.181	54.0	2.126	48.0	1.890	15.0	0.591	10.0	0.394
30.0 (C)	1.181	54.0	2.126	57.0	2.244	15.0	0.591	7.0	0.276
30.0 (D)	1.181	54.0	2.126	68.0	2.677	15.0	0.591	8.0	0.315
32.0	1.260	54.0	2.126	57.0	2.244	15.0	0.591	10.0	0.394
35.0	1.378	60.0	2.362	63.0	2.480	16.0	0.630	10.0	0.394
35.0 (B)	1.378	60.0	2.362	57.0	2.244	16.0	0.630	10.0	0.394
35.0 (C)	1.378	60.0	2.362	55.0	2.165	16.0	0.630	10.0	0.394
38.0	1.496	65.0	2.559	68.0	2.677	17.0	0.669	12.0	0.472
38.0 (B)	1.496	65.0	2.559	57.0	2.244	17.0	0.669	9.5	0.374
40.0	1.575	65.0	2.559	68.0	2.677	17.0	0.669	12.0	0.472
40.0 (B)	1.575	65.0	2.559	80.0	3.150	17.0	0.669	8.0	0.315
45.0	1.772	70.0	2.756	73.0	2.874	20.0	0.787	12.0	0.472
50.0	1.969	85.0	3.346	88.0	3.465	20.0	0.787	15.0	0.591
60.0	2.362	105.0	4.134	110.0	4.331	30.0	1.181	15.0	0.591
65.0	2.559	105.0	4.134	110.0	4.331	30.0	1.181	15.0	0.591
70.0	2.756	105.0	4.134	110.0	4.331	30.0	1.181	15.0	0.591

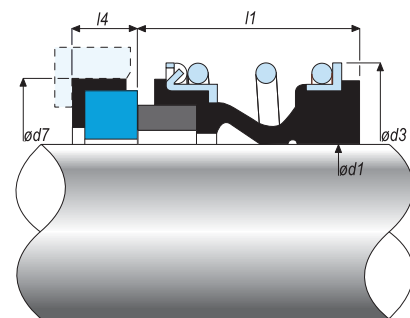
BBD



BBK



BBX



Alfa Laval ALC D Series Pump Seals

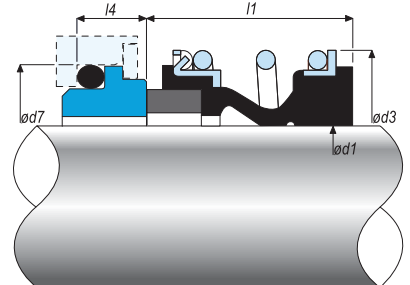
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
40.0	1.575	60.0	2.362	58.0	2.283	30.0	1.181	14.0	0.551
53.0	2.087	76.0	2.992	73.0	2.875	33.0	1.289	15.0	0.591
60.0	2.362	85.0	3.346	80.0	3.150	38.0	1.496	15.0	0.591

KSB Pump Seals

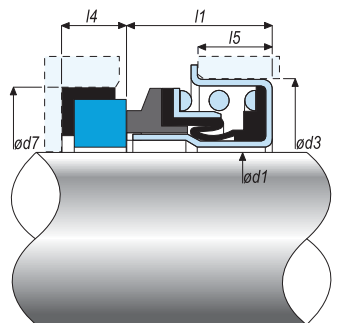
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.390	20.0	0.787	19.6	0.771	26.0	1.024	6.6	0.260
15.0	0.591	25.0	0.984	25.0	0.984	28.4	1.118	6.6	0.260
16.0	0.630	26.0	1.023	27.0	1.062	22.2	0.874	8.6	0.339
22.0	0.866	36.0	1.417	37.0	1.457	25.5	1.004	12.1	0.476
28.0	1.102	47.0	1.850	43.0	1.693	36.5	1.437	14.4	0.566
38.0	1.496	58.0	2.283	56.0	2.205	42.0	1.654	13.2	0.519
48.0	1.890	69.0	2.717	66.0	3.598	50.5	1.988	9.6	0.377

d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
15.0	0.591	28.0	1.102	35.0	1.378	17.0	0.669	3.9	0.154
17.0	0.669	31.0	1.220	33.0	1.299	19.5	0.768	7.5	0.295
20.0	0.787	36.0	1.417	36.5	1.437	21.5	0.846	12.0	0.472
25.0	0.984	41.0	1.614	40.0	1.575	22.5	0.886	7.5	0.295
30.0	1.181	47.0	1.850	50.8	2.000	23.0	0.906	9.5	0.374
32.0	1.260	51.0	2.008	48.0	1.890	40.0	1.575	7.5	0.295
32.0 (B)	1.260	51.0	2.008	50.8	2.000	33.7	1.327	12.6	0.496
40.0	1.575	60.0	2.362	50.8	2.000	30.0	1.181	12.7	0.500
45.0	1.772	65.0	2.559	65.0	2.559	30.0	1.181	12.5	0.492

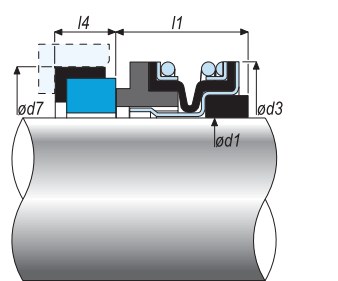
BBS



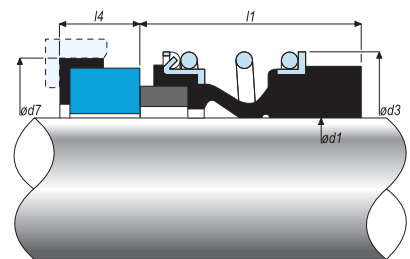
BCO/BCU



BDO/BDU



BBG



D1		D3		D7		L1		L4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
48.0	1.890	69.0	2.717	67.0	2.638	30.5	1.201	10.3	0.406
65.0	2.559	90.0	3.543	86.0	3.386	38.0	1.496	13.5	0.531
100.0	3.937	136.0	5.354	123.3	4.854	44.7	1.760	14.0	0.551

d1		d3		d7		l1		l4		l5	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
13.0	0.500	28.5	1.125	25.0	0.985	13.2	0.520	5.0	0.197	8.0	0.315
13.0	0.500	28.5	1.125	25.4	1.000	13.8	0.543	7.9	0.312	8.0	0.315
17.0	0.625	36.4	1.435	31.0	1.220	14.8	0.583	5.0	0.197	8.0	0.315
17.0(B)	0.625	36.4	1.435	27.4	1.078	14.8	0.583	5.3	0.208	8.0	0.315
17.0	0.625	36.4	1.435	31.7	1.250	15.4	0.605	10.3	0.406	8.0	0.315
20.0	0.750	40.0	1.575	35.0	1.378	15.5	0.610	5.0	0.197	9.5	0.374
20.0(B)	0.750	40.0	1.575	39.0	1.535	15.5	0.61	5.0	0.197	9.5	0.374
20.0	0.750	40.0	1.575	34.9	1.375	15.4	0.605	10.3	0.406	9.5	0.374
30.0	1.125	52.0	2.047	48.0	1.890	19.0	0.748	8.0	0.315	11.0	0.433



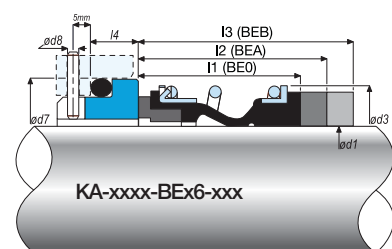
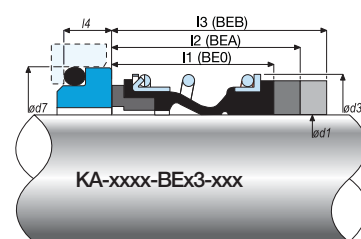
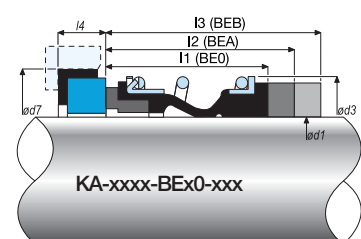
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
9.5	0.375	24.0	0.945	22.2	0.875	16.0	0.631	6.2	0.244
9.5	0.375	27.0	1.063	25.4	1.000	16.6	0.654	7.9	0.312
12.7	0.500	27.0	1.063	25.4	1.000	16.6	0.654	6.2	0.244
12.7	0.500	27.0	1.063	25.4	1.000	16.6	0.654	7.9	0.312
15.8	0.625	31.0	1.220	31.7	1.250	18.7	0.736	10.3	0.406
15.8	0.625	31.0	1.220	31.7	1.250	18.2	0.716	10.3	0.406
19.1	0.750	34.2	1.348	34.9	1.375	18.7	0.736	10.3	0.406
19.1	0.750	34.2	1.348	34.9	1.375	18.2	0.716	10.3	0.406
25.4	1.000	43.0	1.693	41.2	1.625	20.6	0.811	11.1	0.437



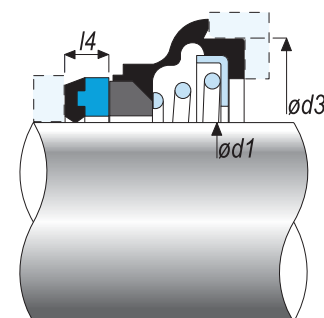
Grundfos Pump Seals

d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	24.0	0.945	23.0	0.906	25.9	1.020	15.0	0.591
16.0	0.630	28.0	1.102	27.0	1.063	28.4	1.118	12.3	0.484
22.0	0.866	36.0	1.417	37.0	1.457	30.0	1.181	11.1	0.437
33.0	1.299	51.0	2.008	48.0	1.890	35.0	1.378	7.5	0.295

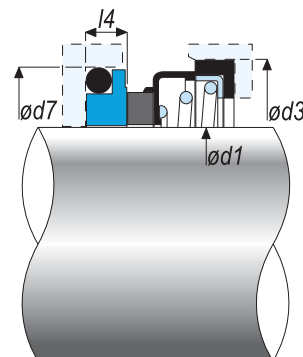
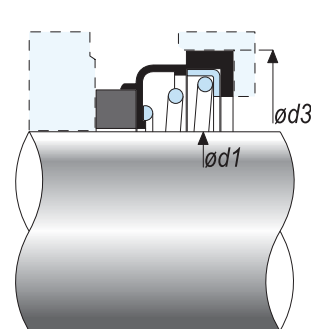
BEO/BEA/BEB



BFO

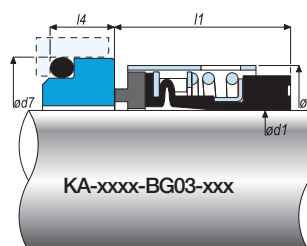
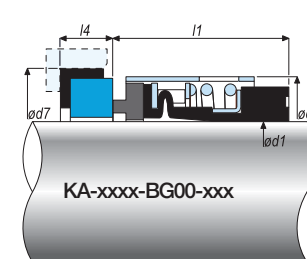


d1		d3		d7		d8		I1		I2		I3		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	20.0	0.787	21.0	0.827	4.0	0.157	13.4	0.528	25.9	1.020	33.4	1.315	6.6	0.260
12.0	0.473	22.0	0.866	23.0	0.906	4.0	0.157	14.4	0.567	25.9	1.020	33.4	1.315	6.6	0.260
14.0	0.551	24.0	0.945	25.0	0.984	4.0	0.157	14.4	0.567	28.4	1.118	33.4	1.315	6.6	0.260
16.0	0.630	26.0	1.024	27.0	1.063	4.0	0.157	14.4	0.567	28.4	1.118	33.4	1.315	6.6	0.260
18.0	0.709	32.0	1.260	33.0	1.299	5.0	0.197	18.5	0.728	30.0	1.181	37.5	1.476	7.5	0.295
20.0	0.787	34.0	1.339	35.0	1.378	5.0	0.197	18.5	0.728	30.0	1.181	37.5	1.476	7.5	0.295
22.0	0.866	36.0	1.417	37.0	1.457	5.0	0.197	18.5	0.728	30.0	1.181	37.5	1.476	7.5	0.295
24.0	0.945	38.0	1.496	39.0	1.535	5.0	0.197	18.5	0.728	32.5	1.280	42.5	1.673	7.5	0.295
25.0	0.984	39.0	1.535	40.0	1.575	5.0	0.197	18.5	0.728	32.5	1.280	42.5	1.673	7.5	0.295
28.0	1.102	42.0	1.654	43.0	1.693	5.0	0.197	24.5	0.965	35.0	1.378	42.5	1.673	7.5	0.295
30.0	1.181	44.0	1.732	45.0	1.772	5.0	0.197	25.5	1.004	35.0	1.378	42.5	1.673	7.5	0.295
32.0	1.260	46.0	1.811	48.0	1.890	5.0	0.197	25.5	1.004	35.0	1.378	47.5	1.870	7.5	0.295
33.0	1.299	47.0	1.850	48.0	1.890	5.0	0.197	25.5	1.004	35.0	1.378	47.5	1.870	7.5	0.295
35.0	1.378	49.0	1.929	50.0	1.969	5.0	0.197	26.5	1.043	35.0	1.378	47.5	1.870	7.5	0.295
38.0	1.496	54.0	2.126	56.0	2.205	5.0	0.197	29.0	1.142	36.0	1.417	46.0	1.811	9.0	0.354
40.0	1.575	56.0	2.205	58.0	2.283	5.0	0.197	29.0	1.142	36.0	1.417	46.0	1.811	9.0	0.354
43.0	1.693	59.0	2.323	61.0	2.402	5.0	0.197	29.0	1.142	36.0	1.417	51.0	2.008	9.0	0.354
45.0	1.772	61.0	2.402	63.0	2.480	5.0	0.197	29.0	1.142	36.0	1.417	51.0	2.008	9.0	0.354
48.0	1.890	64.0	2.520	66.0	2.598	5.0	0.197	31.0	1.220	36.0	1.417	51.0	2.008	9.0	0.354
50.0	1.969	66.0	2.598	70.0	2.756	5.0	0.197	30.5	1.201	38.0	1.496	50.5	1.988	9.5	0.374
53.0	2.087	69.0	2.717	73.0	2.874	5.0	0.197	29.0	1.142	36.5	1.437	59.0	2.323	11.0	0.433
55.0	2.165	71.0	2.795	75.0	2.953	5.0	0.197	29.0	1.142	36.5	1.437	59.0	2.323	11.0	0.433
58.0	2.283	78.0	3.071	78.0	3.071	5.0	0.197	32.0	1.260	41.5	1.634	59.0	2.323	11.0	0.433
60.0	2.362	80.0	3.150	80.0	3.150	5.0	0.197	34.0	1.339	41.5	1.634	59.0	2.323	11.0	0.433
65.0	2.559	85.0	3.346	85.0	3.346	5.0	0.197	34.0	1.339	41.5	1.634	69.0	2.717	11.0	0.433
68.0	2.677	88.0	3.465	90.0	3.543	5.0	0.197	33.7	1.327	41.2	1.622	68.7	2.705	11.3	0.445
70.0	2.756	90.0	3.543	92.0	3.622	5.0	0.197	33.7	1.327	48.7	1.917	68.7	2.705	11.3	0.445
75.0	2.953	99.0	3.898	97.0	3.819	5.0	0.197	40.7	1.602	48.7	1.917	68.7	2.705	11.3	0.445
80.0	3.150	104.5	4.114	105.0	4.134	5.0	0.197	40.5	1.594	48.0	1.890	78.0	3.071	12.0	0.472
85.0	3.346	109.0	4.291	110.0	4.331	5.0	0.197	38.5	1.516	46.0	1.811	76.0	2.992	14.0	0.551
90.0	3.543	114.0	4.488	115.0	4.528	5.0	0.197	38.5	1.516	51.0	2.008	76.0	2.992	14.0	0.551
95.0	3.740	119.0	4.685	120.0	4.724	5.0	0.197	38.5	1.516	51.0	2.008	76.0	2.992	14.0	0.551
100.0	3.937	124.0	4.882	125.0	4.921	5.0	0.197	38.5	1.516	51.0	2.008	76.0	2.992	14.0	0.551

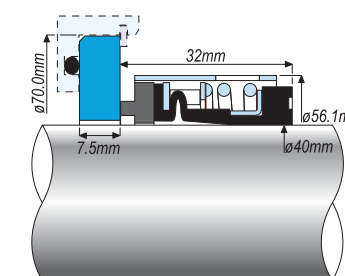
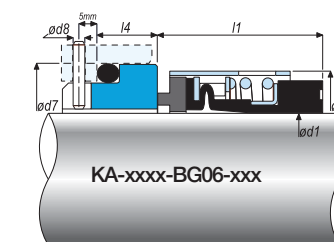


d1		d3		d7		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
25.4	1.000	46.8	1.843	N/A		5.5	0.217
31.7	1.250	57.1	2.250	N/A		N/A	
44.4	1.750	69.8	2.750	67.0	2.638	7.8	0.307

BGO

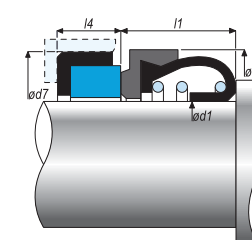
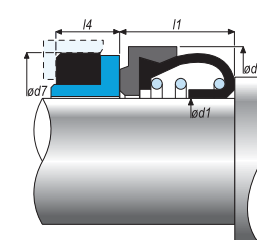


d1		d3		d7		d8		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	22.00	0.866	23.00	0.906	4.0	0.157	23.9	0.941	8.6	0.339
14.0	0.551	24.10	0.949	25.00	0.984	4.0	0.157	26.4	1.039	8.6	0.339
16.0	0.630	26.20	1.031	27.00	1.063	4.0	0.157	26.4	1.039	8.6	0.339
18.0	0.709	32.20	1.268	33.00	1.299	5.0	0.197	27.5	1.083	10.0	0.394
20.0	0.787	33.90	1.335	35.00	1.378	5.0	0.197	27.5	1.083	10.0	0.394
22.0	0.866	36.10	1.421	37.00	1.457	5.0	0.197	27.5	1.083	10.0	0.394
24.0	0.945	38.10	1.500	39.00	1.535	5.0	0.197	30.0	1.181	10.0	0.394
25.0	0.984	38.80	1.528	40.00	1.575	5.0	0.197	30.0	1.181	10.0	0.394
28.0	1.102	42.10	1.657	43.00	1.693	5.0	0.197	32.5	1.280	10.0	0.394
30.0	1.181	44.20	1.740	45.00	1.772	5.0	0.197	32.5	1.280	10.0	0.394
32.0	1.260	45.80	1.803	48.00	1.890	5.0	0.197	32.5	1.280	10.0	0.394
33.0	1.299	46.90	1.846	48.00	1.890	5.0	0.197	32.5	1.280	10.0	0.394
35.0	1.378	48.80	1.921	50.00	1.969	5.0	0.197	32.5	1.280	10.0	0.394
38.0	1.496	54.20	2.134	56.00	2.205	5.0	0.197	34.0	1.339	11.0	0.433
40.0	1.575	56.10	2.209	58.00	2.283	5.0	0.197	34.0	1.339	11.0	0.433
43.0	1.693	58.80	2.315	61.00	2.402	5.0	0.197	34.0	1.339	11.0	0.433
45.0	1.772	60.90	2.398	63.00	2.480	5.0	0.197	34.0	1.339	11.0	0.433
48.0	1.890	64.10	2.524	66.00	2.598	5.0	0.197	34.0	1.339	11.0	0.433
50.0	1.969	66.20	2.606	70.00	2.756	5.0	0.197	34.5	1.358	13.0	0.512
53.0	2.087	69.10	2.720	73.00	2.874	5.0	0.197	34.5	1.358	13.0	0.512
55.0	2.165	71.10	2.799	75.00	2.953	5.0	0.197	34.5	1.358	13.0	0.512
58.0	2.283	78.20	3.079	78.00	3.071	5.0	0.197	39.5	1.555	13.0	0.512
60.0	2.362	79.90	3.146	80.00	3.150	5.0	0.197	39.5	1.555	13.0	0.512
63.0	2.480	82.80	3.260	83.00	3.268	5.0	0.197	39.5	1.555	13.0	0.512
65.0	2.559	85.10	3.350	85.00	3.346	5.0	0.197	39.5	1.555	13.0	0.512
70.0	2.756	90.00	3.543	92.00	3.622	5.0	0.197	44.7	1.760	15.3	0.602
75.0	2.953	97.00	3.819	97.00	3.819	5.0	0.197	44.7	1.760	15.3	0.602



BGX

Goodwin CD80, CD100, CD 150 Pump Seals

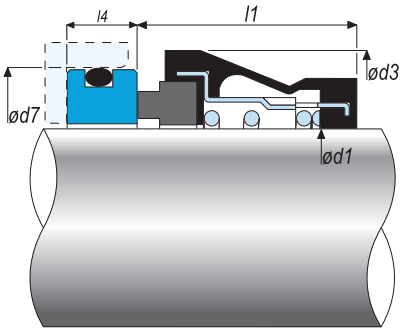


d1		d3		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
22.2	0.875	45.5	1.80	40.5	1.60	16.0	0.62	10.5	0.41
25.4	1.000	49.0	1.92	47.6	1.87	16.0	0.62	11.5	0.45

BHO



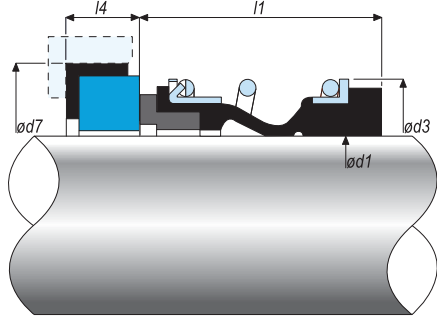
BCH



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	40.0	1.575	35.7	1.406	27.0	1.063	10.3	0.406
25.0	0.984	45.0	1.772	40.5	1.594	27.0	1.063	9.5	0.374
30.0	1.181	53.0	2.087	50.8	2.000	27.0	1.063	11.5	0.453
35.0	1.378	62.0	2.441	53.9	2.125	35.0	1.378	11.5	0.453
40.0	1.575	65.0	2.559	60.4	2.375	35.0	1.378	11.5	0.453
45.0	1.772	70.0	2.756	63.5	2.500	42.0	1.654	11.5	0.453
50.0	1.969	77.0	3.031	69.9	2.750	42.0	1.654	13.5	0.531
60.0	2.362	85.0	3.346	79.4	3.125	42.0	1.654	15.0	0.591

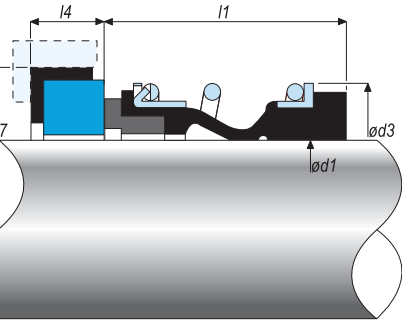
Metric

BPB



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	20.0	0.787	24.6	0.969	25.4	1.000	8.7	0.344
12.0	0.473	22.0	0.866	27.7	1.094	25.4	1.000	8.7	0.344
13.0	0.512	22.0	0.866	27.7	1.094	25.4	1.000	8.7	0.344
14.0	0.551	24.0	0.945	30.9	1.219	25.4	1.000	10.3	0.406
15.0	0.591	25.0	0.984	30.9	1.219	25.4	1.000	10.3	0.406
16.0	0.630	26.0	1.024	30.9	1.219	25.4	1.000	10.3	0.406
18.0	0.709	32.0	1.260	34.1	1.344	25.4	1.000	10.3	0.406
19.0	0.748	32.0	1.260	34.1	1.344	25.4	1.000	10.3	0.406
20.0	0.787	34.0	1.339	35.7	1.406	25.4	1.000	10.3	0.406
22.0	0.866	36.0	1.417	37.3	1.469	25.4	1.000	10.3	0.406
24.0	0.945	38.0	1.496	40.5	1.594	25.4	1.000	10.3	0.406
25.0	0.984	39.0	1.535	40.5	1.594	25.4	1.000	10.3	0.406
28.0	1.102	42.0	1.654	47.6	1.875	33.3	1.313	11.9	0.472
30.0	1.181	44.0	1.732	50.8	2.000	33.3	1.313	11.9	0.472
32.0	1.260	46.0	1.811	50.8	2.000	33.3	1.313	11.9	0.472
33.0	1.299	47.0	1.850	53.9	2.125	33.3	1.313	11.9	0.472
35.0	1.378	49.0	1.929	53.9	2.125	33.3	1.313	11.9	0.472
38.0	1.496	54.0	2.126	57.1	2.250	33.3	1.313	11.9	0.472
40.0	1.575	56.0	2.205	60.3	2.375	33.3	1.313	11.9	0.472
42.0	1.654	59.0	2.323	63.5	2.500	40.4	1.594	11.9	0.472
43.0	1.693	59.0	2.323	63.5	2.500	40.4	1.594	11.9	0.472
44.0	1.732	59.0	2.323	63.5	2.500	40.4	1.594	11.9	0.472
45.0	1.772	61.0	2.402	63.5	2.500	40.4	1.594	11.9	0.472
48.0	1.890	64.0	2.520	66.7	2.625	40.4	1.594	11.9	0.472
50.0	1.969	66.0	2.598	69.8	2.750	40.4	1.594	13.5	0.531
53.0	2.087	69.0	2.717	73.0	2.875	41.0	1.614	13.5	0.531
55.0	2.165	71.0	2.795	76.2	3.000	41.0	1.614	13.5	0.531
58.0	2.283	78.0	3.071	79.4	3.125	41.0	1.614	13.5	0.531
60.0	2.362	80.0	3.150	79.4	3.125	41.0	1.614	13.5	0.531
63.0	2.480	83.0	3.268	82.5	3.250	41.0	1.614	13.5	0.531
65.0	2.559	85.0	3.346	92.1	3.625	49.0	1.929	15.9	0.626
70.0	2.756	90.0	3.543	95.2	3.750	49.0	1.929	15.9	0.626
73.0	2.874	96.0	3.780	98.4	3.875	49.0	1.929	15.9	0.626
75.0	2.953	99.0	3.898	101.6	4.000	49.0	1.929	15.9	0.626

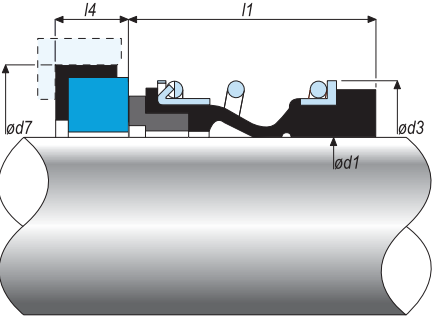
BPB



Imperial

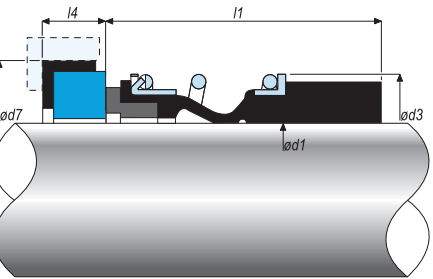
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
9.5	0.375	20.0	0.787	24.6	0.969	25.4	1.000	8.7	0.344
12.7	0.500	22.0	0.866	27.7	1.094	25.4	1.000	8.7	0.344
15.8	0.625	26.0	1.024	30.9	1.219	25.4	1.000	10.3	0.406
19.1	0.750	32.0	1.260	34.1	1.334	25.4	1.000	10.3	0.406
22.2	0.875	36.0	1.417	37.3	1.469	25.4	1.000	10.3	0.406
25.4	1.000	39.0	1.535	40.5	1.594	25.4	1.000	10.3	0.406
28.6	1.125	42.0	1.654	47.6	1.875	33.3	1.313	11.9	0.472
31.7	1.250	46.0	1.811	50.8	2.000	33.3	1.313	11.9	0.472
34.9	1.375	49.0	1.929	53.9	2.125	33.3	1.313	11.9	0.472
38.1	1.500	54.0	2.126	57.1	2.250	33.3	1.313	11.9	0.472
41.2	1.625	56.0	2.205	60.3	2.375	33.3	1.313	11.9	0.472
44.4	1.750	61.0	2.402	63.5	2.500	40.4	1.594	11.9	0.472
47.6	1.875	64.0	2.520	66.7	2.625	40.4	1.594	11.9	0.472
50.8	2.000	66.0	2.598	69.8	2.750	40.4	1.594	13.5	0.531
53.9	2.125	69.0	2.717	73.0	2.875	41.0	1.614	13.5	0.531
57.1	2.250	78.0	3.071	76.2	3.000	41.0	1.614	13.5	0.531
60.3	2.375	80.0	3.150	79.4	3.125	41.0	1.614	13.5	0.531
63.5	2.500	83.0	3.268	82.5	3.250	41.0	1.614	13.5	0.531
66.6	2.625	85.0	3.346	92.1	3.625	49.0	1.929	15.9	0.626
69.8	2.750	90.0	3.543	95.2	3.750	49.0	1.929	15.9	0.626
73.0	2.875	96.0	3.780	98.4	3.875	49.0	1.929	15.9	0.626
76.2	3.000	99.0	3.898	101.6	4.000	49.0	1.929	15.9	0.626

BPD



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	22.0	0.866	25.4	1.000	20.6	0.812	7.9	0.312
15.8	0.625	26.0	1.024	31.7	1.250	22.2	0.875	10.2	0.405
19.1	0.750	32.0	1.260	34.9	1.375	22.2	0.875	10.2	0.405
22.2	0.875	36.0	1.417	38.1	1.500	23.8	0.937	10.2	0.405
25.4	1.000	39.0	1.535	41.2	1.625	25.4	1.000	11.1	0.437
28.6	1.125	42.0	1.654	44.4	1.750	26.9	1.062	11.1	0.437
31.7	1.250	46.0	1.811	47.6	1.875	26.9	1.062	11.1	0.437
34.9	1.375	49.0	1.929	50.8	2.000	28.5	1.125	11.1	0.437
38.1	1.500	54.0	2.125	53.9	2.125	28.5	1.125	11.1	0.437
41.2	1.625	56.0	2.205	60.3	2.375	34.9	1.375	12.7	0.500
44.4	1.750	61.0	2.402	63.5	2.500	34.9	1.375	12.7	0.500
47.6	1.875	64.0	2.520	66.6	2.625	38.1	1.500	12.7	0.500
50.8	2.000	66.0	2.598	69.8	2.750	38.1	1.500	12.7	0.500
53.9	2.125	69.0	2.717	76.2	3.000	42.8	1.688	14.2	0.562
57.1	2.250	78.0	3.071	79.3	3.125	42.8	1.688	14.2	0.562
60.3	2.375	80.0	3.150	82.5	3.250	46.0	1.812	14.2	0.562
63.5	2.500	83.0	3.268	85.7	3.375	46.0	1.812	14.2	0.562
66.6	2.625	85.0	3.346	85.7	3.375	49.2	1.937	15.9	0.562
69.8	2.750	90.0	3.543	88.9	3.500	49.2	1.937	15.9	0.625
73.0	2.875	96.0	3.780	95.2	3.750	52.3	2.062	15.9	0.625
76.2	3.000	99.0	3.898	98.4	3.875	52.3	2.062	15.9	0.625

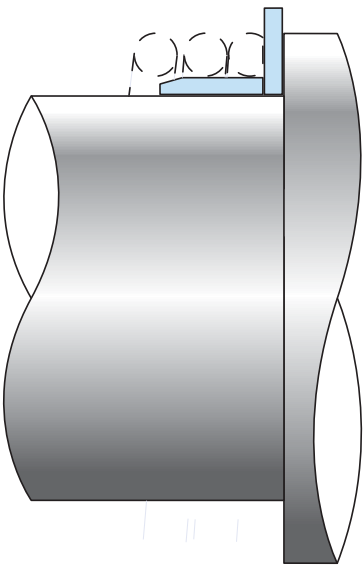
BPE



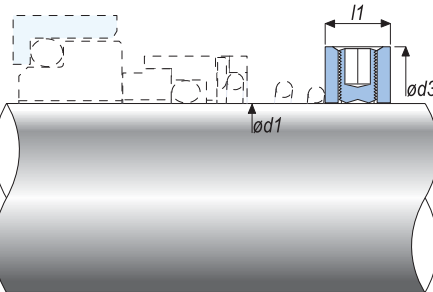
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	22.0	0.866	25.4	1.000	31.7	1.250	7.9	0.312
15.8	0.625	26.0	1.024	31.7	1.250	34.9	1.375	10.2	0.405
19.1	0.750	32.0	1.260	34.9	1.375	34.9	1.375	10.2	0.405
22.2	0.875	36.0	1.417	38.1	1.500	36.5	1.437	10.2	0.405
25.4	1.000	39.0	1.535	41.2	1.625	41.2	1.625	11.1	0.437
28.6	1.125	42.0	1.654	44.4	1.750	42.8	1.687	11.1	0.437
31.7	1.250	46.0	1.811	47.6	1.875	42.8	1.687	11.1	0.437
34.9	1.375	49.0	1.929	50.8	2.000	42.8	1.687	11.1	0.437
38.1	1.500	54.0	2.125	53.9	2.125	42.8	1.687	11.1	0.437
41.2	1.625	56.0	2.205	60.3	2.375	50.8	2.000	12.7	0.500
44.4	1.750	61.0	2.402	63.5	2.500	50.8	2.000	12.7	0.500
47.6	1.875	64.0	2.520	66.6	2.625	53.9	2.125	12.7	0.500
50.8	2.000	66.0	2.598	69.8	2.750	53.9	2.125	12.7	0.500
53.9	2.125	69.0	2.717	76.2	3.000	60.3	2.375	14.2	0.562
57.1	2.250	78.0	3.071	79.3	3.125	60.3	2.375	14.2	0.562
60.3	2.375	80.0	3.150	82.5	3.250	63.5	2.500	14.2	0.562
63.5	2.500	83.0	3.268	85.7	3.375	63.5	2.500	14.2	0.562
66.6	2.625	85.0	3.346	85.7	3.375	69.8	2.750	15.9	0.626
69.8	2.750	90.0	3.543	88.9	3.500	69.8	2.750	15.9	0.626
73.0	2.875	96.0	3.780	95.2	3.750	73.0	2.875	15.9	0.626
76.2	3.000	99.0	3.988	98.4	3.875	73.0	2.875	15.9	0.626

Split Ring & Washer To Suit PH0

CBO



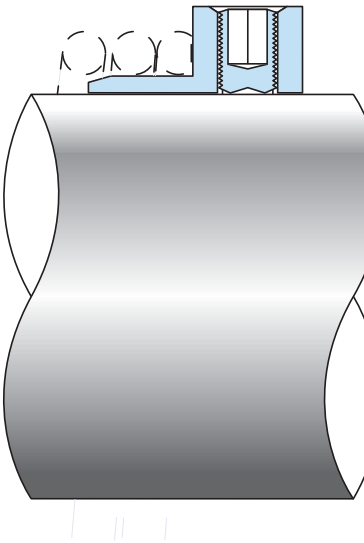
CAO



d1		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	21.0	0.827	7.5	0.295
12.7	0.500	21.0	0.827	7.5	0.295
14.0	0.551	23.0	0.906	7.5	0.295
15.0	0.591	24.0	0.945	7.5	0.295
15.8	0.625	25.0	0.984	7.5	0.295
16.0	0.630	25.0	0.984	7.5	0.295
18.0	0.709	31.0	1.220	7.5	0.295
19.1	0.750	31.0	1.220	7.5	0.295
20.0	0.787	33.0	1.299	7.5	0.295
22.0	0.866	35.0	1.378	7.5	0.295
22.2	0.875	35.0	1.378	7.5	0.295
24.0	0.945	37.0	1.457	7.5	0.295
25.0	0.984	38.0	1.496	7.5	0.295
25.4	1.000	38.0	1.496	7.5	0.295
28.0	1.102	41.0	1.614	7.5	0.295
28.6	1.125	41.0	1.614	7.5	0.295
30.0	1.181	43.0	1.693	7.5	0.295
31.7	1.250	45.0	1.772	7.5	0.295
32.0	1.260	45.0	1.772	10.0	0.394
33.0	1.299	46.0	1.811	10.0	0.394
35.0	1.375	48.0	1.890	10.0	0.394
38.0	1.500	53.0	2.087	10.0	0.394
40.0	1.575	55.0	2.165	10.0	0.394
41.2	1.625	55.0	2.165	10.0	0.394
43.0	1.693	58.0	2.283	10.0	0.394
44.4	1.750	60.0	2.362	10.0	0.394
45.0	1.772	60.0	2.362	10.0	0.394
47.6	1.875	63.0	2.480	10.0	0.394
48.0	1.890	63.0	2.480	10.0	0.394
50.0	1.969	65.0	2.559	10.0	0.394
50.8	2.000	65.0	2.559	10.0	0.394
53.0	2.087	68.0	2.677	10.0	0.394
53.9	2.125	68.0	2.677	10.0	0.394
55.0	2.165	70.0	2.756	10.0	0.394
57.1	2.250	70.0	2.756	10.0	0.394
60.0	2.362	79.0	3.110	10.0	0.394
60.3	2.375	79.0	3.110	10.0	0.394
63.5	2.500	82.0	3.228	10.0	0.394
65.0	2.559	84.0	3.307	12.0	0.472
66.6	2.625	84.0	3.307	12.0	0.472
69.8	2.750	89.0	3.504	12.0	0.472
70.0	2.756	89.0	3.504	12.0	0.472
73.0	2.875	95.0	3.740	12.0	0.472
75.0	2.953	98.0	3.858	12.0	0.472
76.2	3.000	98.0	3.858	12.0	0.472

Clamp Ring To Suit PH0

CCO



Multi Spring Seals

Multi Spring seals are bi-directional and commonly used in more arduous conditions.

The standard designs feature a PTFE Wedge shaft seal that is chemically inert. This wedge is loaded by the springs and exerts a consistent force on the shaft providing a positive seal.

Multi Spring seals are ideal for corrosive and chemical applications. Their suitability for less arduous applications is enhanced by designs that feature an o-ring in place of the wedge. These designs are more cost effective and generally utilized where demands are not too great.

Styles MC0, MCS, MD0 & MDS are compact designs in accordance with DIN 24960 (EN12756) and ISO3069.

Styles ME0, MES, MF0 & MFS are a thin section design and conform to ANSI B73 making them suitable for American equipment.

All M type seals are positively driven by grub screws which are also used to set the seal at the correct working length.

Designs MB0, MD0, & MF0 are balanced, reducing heat and friction at the faces. This prolongs life and allows for higher operating parameters.

Maximum Operating Limits	
Pressure	14 bar (Unbalanced) 20 bar (Balanced)
Speed	15 m/s
Temperature	-40°C to +200°C

Elastomer Material Availability		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
PTFE	-60°C to +250°C	Suitable for aggressive chemical applications.
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.
Other materials available on request.		

Face Material Availability

Multi spring seals are available in Carbon as a rotary component only, stationary components are selected based on the application. Other materials are available on request.

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MR0
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MBJ
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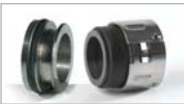
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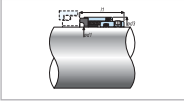
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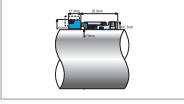
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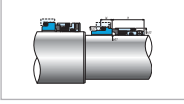
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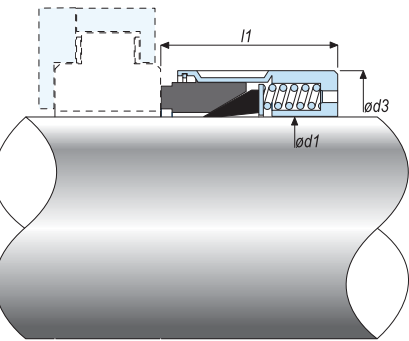


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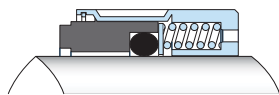


MPG
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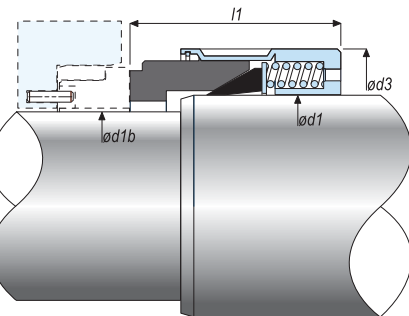
MAO/MAS



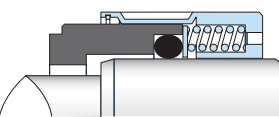
MAS



MBO/MBS



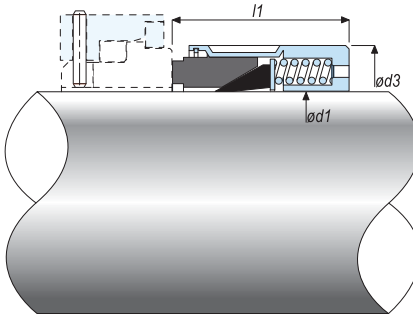
MBS



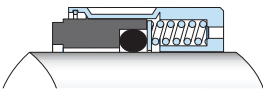
d1		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	34.7	1.366	22.2	0.875
20.0	0.787	35.7	1.405	24.0	0.945
22.0	0.866	37.0	1.457	24.0	0.945
22.2	0.875	38.0	1.496	23.8	0.937
24.0	0.945	39.7	1.563	25.0	0.984
25.0	0.984	40.8	1.606	25.0	0.984
25.4	1.000	41.0	1.614	25.4	1.000
28.0	1.102	44.5	1.752	27.0	1.063
28.6	1.125	44.0	1.732	27.0	1.063
30.0	1.181	47.5	1.870	27.0	1.063
31.7	1.250	49.0	1.929	27.0	1.063
32.0	1.260	50.7	1.996	29.0	1.142
34.9	1.375	52.0	2.047	28.6	1.126
35.0	1.378	52.0	2.047	29.0	1.142
38.0	1.496	54.6	2.150	29.0	1.142
38.1	1.500	55.6	2.189	28.6	1.126
40.0	1.575	59.9	2.358	35.0	1.378
41.2	1.625	61.0	2.402	35.0	1.378
44.4	1.750	64.3	2.531	35.0	1.378
45.0	1.772	64.9	2.555	35.0	1.378
47.6	1.875	65.1	2.563	35.0	1.378
48.0	1.890	65.1	2.563	35.0	1.378
50.0	1.969	69.9	2.752	35.0	1.378
50.8	2.000	70.7	2.783	35.0	1.378
53.9	2.125	77.0	3.031	43.0	1.693
55.0	2.165	78.2	3.079	43.0	1.693
57.1	2.250	80.1	3.153	43.0	1.693
60.0	2.362	83.1	3.272	43.0	1.693
60.3	2.375	83.1	3.272	43.0	1.693
63.5	2.500	86.6	3.409	43.0	1.693
65.0	2.559	87.9	3.461	43.0	1.693
66.6	2.625	89.6	3.527	43.0	1.693
69.8	2.750	92.8	3.653	43.0	1.693
70.0	2.756	92.8	3.653	43.0	1.693
73.0	2.875	95.9	3.776	43.0	1.693
75.0	2.953	96.2	3.787	43.0	1.693
76.2	3.000	97.7	3.846	43.0	1.693
79.3	3.125	100.7	3.964	43.0	1.693
80.0	3.150	101.2	3.984	43.0	1.693
82.5	3.250	105.5	4.153	43.0	1.693
85.0	3.346	107.7	4.240	43.0	1.693
85.7	3.375	108.7	4.279	43.0	1.693
88.9	3.500	112.0	4.409	43.0	1.693
90.0	3.543	112.8	4.441	43.0	1.693
92.0	3.625	115.9	4.563	43.0	1.693
95.0	3.740	117.7	4.634	43.0	1.693
95.2	3.750	118.2	4.653	43.0	1.693
98.4	3.875	121.3	4.775	43.0	1.693
100.0	3.937	122.7	4.831	43.0	1.693
101.6	4.000	124.6	4.905	43.0	1.693

d1		d1b		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	15.8	0.625	34.7	1.366	30.0	1.181
22.2	0.875	19.1	0.750	38.0	1.496	32.0	1.260
25.4	1.000	22.2	0.875	41.0	1.614	33.0	1.299
28.6	1.125	25.4	1.000	44.0	1.732	35.0	1.378
31.7	1.250	28.6	1.125	49.0	1.929	35.0	1.378
34.9	1.375	28.6	1.125	52.0	2.047	37.0	1.457
38.1	1.500	31.7	1.250	55.6	2.189	37.0	1.457
41.2	1.625	34.9	1.375	61.0	2.401	45.0	1.772
44.4	1.750	38.1	1.500	64.3	2.531	45.0	1.772
47.6	1.875	41.2	1.625	65.1	2.563	45.0	1.772
50.8	2.000	44.4	1.750	70.7	2.783	45.0	1.772
53.9	2.125	47.6	1.875	77.0	3.031	52.0	2.047
57.1	2.250	50.8	2.000	80.1	3.153	52.0	2.047
60.3	2.375	53.9	2.125	83.1	3.272	52.0	2.047
63.5	2.500	57.1	2.250	86.6	3.409	52.0	2.047
66.6	2.625	60.3	2.375	89.6	3.527	52.0	2.047
69.8	2.750	63.5	2.500	92.8	3.653	52.0	2.047
73.0	2.875	66.6	2.625	95.9	3.776	52.0	2.047
76.2	3.000	69.8	2.750	97.7	3.846	52.0	2.047
79.3	3.125	73.0	2.875	100.7	3.964	52.0	2.047
82.5	3.250	76.2	3.000	105.5	4.153	52.0	2.047
85.7	3.375	79.3	3.125	108.7	4.279	52.0	2.047
88.9	3.500	82.5	3.250	112.0	4.409	52.0	2.047
92.1	3.625	85.7	3.375	115.9	4.563	52.0	2.047
95.2	3.750	88.9	3.500	118.2	4.653	52.0	2.047
98.4	3.875	92.0	3.625	121.3	4.775	52.0	2.047
101.6	4.000	95.2	3.750	124.6	4.905	52.0	2.047

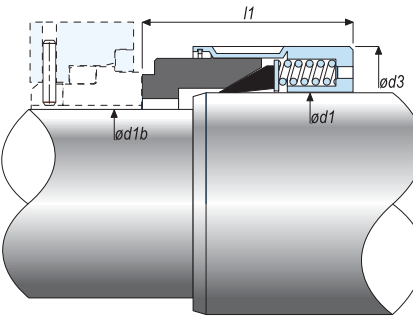
MCO/MCS



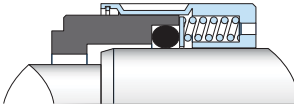
MCS



MDO/MDS



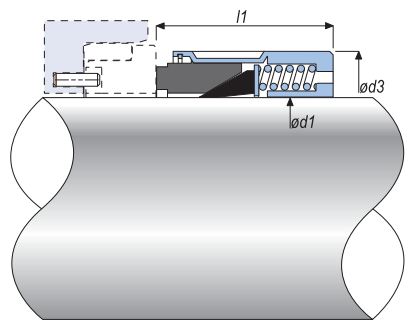
MDS



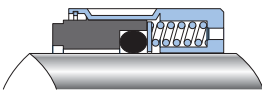
d1		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	34.2	1.346	24.0	0.945
22.0	0.866	36.5	1.437	24.0	0.945
24.0	0.945	37.8	1.488	26.7	1.051
25.0	0.984	39.5	1.555	27.0	1.063
28.0	1.102	42.5	1.673	30.0	1.181
30.0	1.181	44.5	1.752	30.5	1.201
32.0	1.260	46.5	1.831	30.5	1.201
33.0	1.299	47.5	1.870	30.5	1.201
35.0	1.378	49.5	1.949	30.5	1.201
38.0	1.496	55.0	2.165	32.0	1.260
40.0	1.575	57.0	2.244	32.0	1.260
43.0	1.693	60.0	2.362	32.0	1.260
45.0	1.772	62.0	2.441	32.0	1.260
48.0	1.890	65.0	2.559	32.0	1.260
50.0	1.969	66.3	2.610	34.0	1.339
53.0	2.087	68.7	2.705	34.0	1.339
55.0	2.165	70.8	2.787	34.0	1.339
58.0	2.283	78.5	3.091	39.0	1.535
60.0	2.362	79.8	3.142	39.0	1.535
63.0	2.480	82.8	3.260	39.0	1.535
65.0	2.559	85.5	3.366	39.0	1.535
68.0	2.677	87.8	3.457	39.0	1.535
70.0	2.756	90.5	3.563	45.5	1.791
75.0	2.953	95.2	3.748	45.5	1.791
80.0	3.150	103.8	4.087	45.0	1.772
85.0	3.346	109.1	4.295	45.0	1.772
90.0	3.543	113.8	4.480	50.0	1.969
95.0	3.740	118.5	4.665	50.0	1.969
100.0	3.937	123.5	4.862	50.0	1.969

d1		d1b		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	16.0	0.630	34.2	1.346	30.5	1.201
22.0	0.866	18.0	0.709	36.5	1.437	31.5	1.240
24.0	0.945	20.0	0.787	37.8	1.488	31.5	1.240
28.0	1.102	24.0	0.945	42.5	1.673	34.2	1.346
30.0	1.181	25.0	0.984	44.5	1.752	34.2	1.346
33.0	1.299	28.0	1.102	47.5	1.870	37.5	1.476
35.0	1.378	30.0	1.181	49.5	1.949	38.0	1.496
38.0	1.496	33.0	1.299	55.0	2.165	38.0	1.496
40.0	1.575	35.0	1.378	57.0	2.244	38.0	1.496
43.0	1.693	38.0	1.496	60.0	2.362	39.5	1.555
45.0	1.772	40.0	1.575	62.0	2.441	39.5	1.555
48.0	1.890	43.0	1.693	65.0	2.559	39.5	1.555
50.0	1.969	45.0	1.772	66.3	2.610	39.5	1.555
53.0	2.087	48.0	1.890	68.7	2.705	39.5	1.555
55.0	2.165	50.0	1.969	70.8	2.787	44.0	1.732
58.0	2.283	53.0	2.087	78.5	3.091	44.0	1.732
60.0	2.362	55.0	2.165	79.8	3.142	44.0	1.732
63.0	2.480	58.0	2.283	82.8	3.260	49.0	1.929
65.0	2.559	60.0	2.362	85.5	3.366	49.0	1.929
68.0	2.677	63.0	2.480	87.8	3.457	49.0	1.929
70.0	2.756	65.0	2.559	90.5	3.563	49.0	1.929
75.0	2.953	70.0	2.756	95.2	3.748	55.5	2.185
80.0	3.150	75.0	2.953	103.8	4.087	55.5	2.185
85.0	3.346	80.0	3.150	109.1	4.295	55.0	2.165
90.0	3.543	85.0	3.346	113.8	4.480	60.0	2.362
95.0	3.740	90.0	3.543	118.5	4.665	60.0	2.362
100.0	3.937	95.0	3.740	123.5	4.862	60.0	2.362

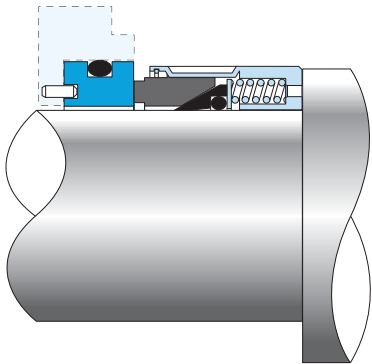
MEO/MES



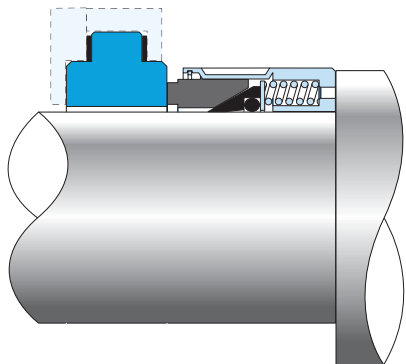
MES



d1		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	30.2	1.190	23.8	0.937
22.2	0.875	33.4	1.315	23.8	0.937
25.4	1.000	36.6	1.440	25.4	1.000
28.6	1.125	39.8	1.565	25.4	1.000
31.7	1.250	42.9	1.690	25.4	1.000
34.9	1.375	49.3	1.940	34.9	1.375
38.1	1.500	49.3	1.940	28.6	1.125
41.2	1.625	57.2	2.250	29.4	1.156
44.4	1.750	58.8	2.315	34.9	1.375
47.6	1.875	63.5	2.500	34.9	1.375
50.8	2.000	66.7	2.625	34.9	1.375
53.9	2.125	71.5	2.815	42.8	1.687
57.1	2.250	72.3	2.845	34.9	1.375
60.3	2.375	76.2	3.000	42.8	1.687
63.5	2.500	79.4	3.125	34.9	1.375
66.6	2.625	82.6	3.250	42.8	1.687
69.8	2.750	85.7	3.375	42.8	1.687
73.0	2.875	88.9	3.500	42.8	1.687
76.2	3.000	92.1	3.625	42.8	1.687
79.3	3.125	95.3	3.750	42.8	1.687
82.5	3.250	98.4	3.875	42.8	1.687
85.7	3.375	101.6	4.000	42.8	1.687
88.9	3.500	104.8	4.125	42.8	1.687
92.0	3.625	108.0	4.250	42.8	1.687
95.2	3.750	111.1	4.375	42.8	1.687
98.4	3.875	114.3	4.500	42.8	1.687
101.6	4.000	117.5	4.625	42.8	1.687

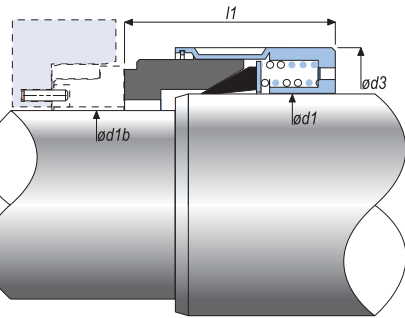


MQS

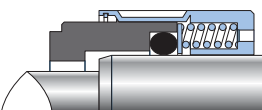


MRO

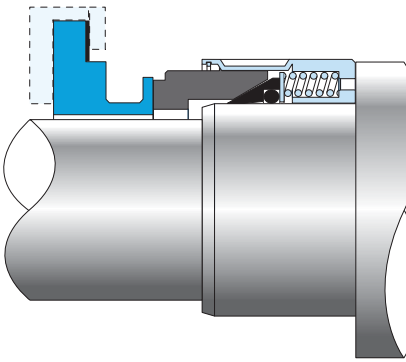
MFO/MFS



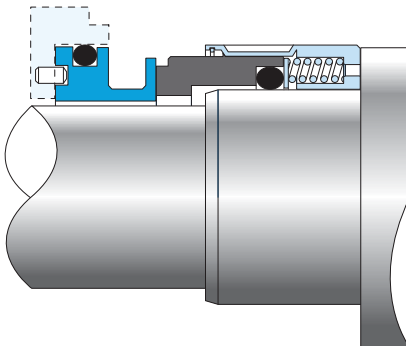
MFS



d1		d1B		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	15.8	0.625	30.2	1.190	31.7	1.250
22.2	0.875	19.1	0.750	33.4	1.315	31.7	1.250
25.4	1.000	22.2	0.875	36.6	1.440	33.3	1.312
28.6	1.125	25.4	1.000	39.8	1.565	34.9	1.375
31.7	1.250	28.5	1.125	42.9	1.690	34.9	1.375
34.9	1.375	28.6	1.125	49.3	1.940	42.8	1.687
38.1	1.500	31.7	1.250	49.3	1.940	36.4	1.437
41.2	1.625	34.9	1.375	57.2	2.250	40.4	1.593
44.4	1.750	38.1	1.500	58.8	2.315	44.4	1.750
47.6	1.875	41.2	1.625	63.5	2.500	44.4	1.750
50.8	2.000	44.4	1.750	66.7	2.625	44.4	1.750
53.9	2.125	47.6	1.875	71.5	2.815	52.3	2.062
57.1	2.250	50.8	2.000	72.3	2.845	44.4	1.750
60.3	2.375	53.9	2.125	76.2	3.000	52.3	2.062
63.5	2.500	57.1	2.250	79.4	3.125	44.4	1.750
66.6	2.625	60.3	2.375	82.6	3.250	52.3	2.062
69.8	2.750	63.5	2.500	85.7	3.375	52.3	2.062
73.0	2.875	66.6	2.625	88.9	3.500	52.3	2.062
76.2	3.000	69.8	2.750	92.1	3.625	52.3	2.062
79.3	3.125	73.0	2.875	95.3	3.750	52.3	2.062
82.5	3.250	76.2	3.000	98.4	3.875	52.3	2.062
85.7	3.375	79.3	3.125	101.6	4.000	52.3	2.062
88.9	3.500	82.5	3.250	104.8	4.125	52.3	2.062
92.0	3.625	85.7	3.375	108.0	4.250	52.3	2.062
95.2	3.750	88.9	3.500	111.1	4.375	52.3	2.062
98.4	3.875	92.0	3.625	114.3	4.500	52.3	2.062
101.6	4.000	95.2	3.750	117.5	4.625	52.3	2.062

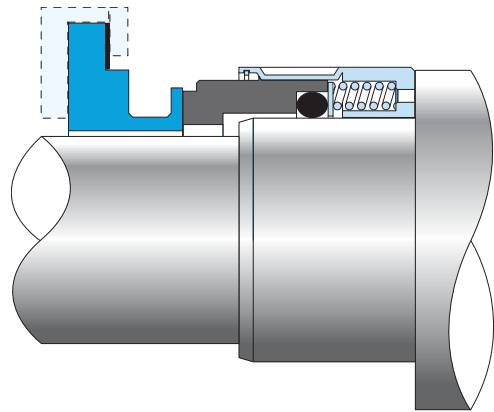


MBJ



MSH

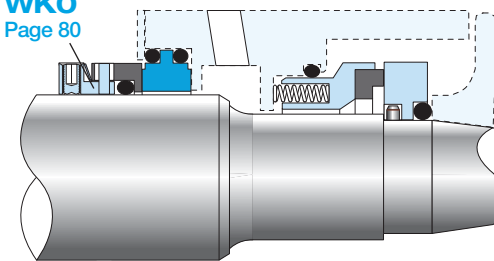
MSJ



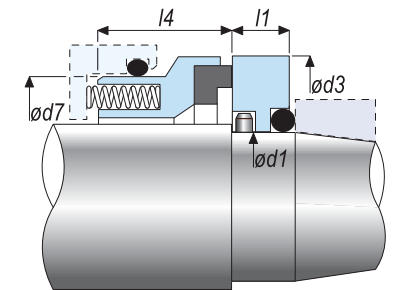
Inoxpa Prolac Pump Seal

d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
15.8	0.625	44.5	1.752	36.1	1.421	10.5	0.413	24.0	0.945
25.4	1.000	53.5	2.106	44.0	1.732	10.0	0.394	24.0	0.945
38.1	1.500	74.0	2.913	64.0	2.520	15.5	0.610	28.0	1.102

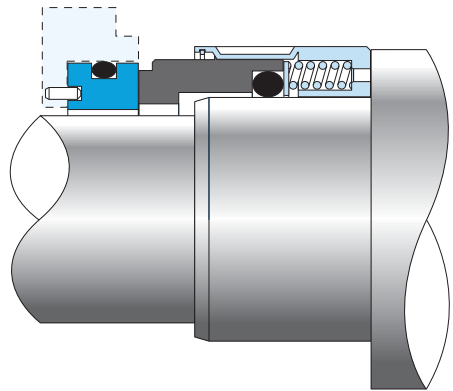
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MGO

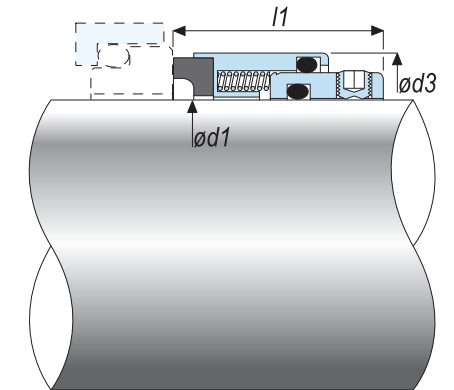


MFS

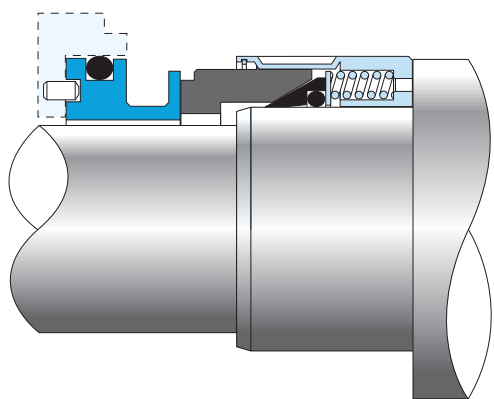


d1		d3		l1	
Metric	Inches	Metric	Inches	Metric	Inches
18.0	0.708	32.0	1.260	27.9	1.098
20.0	0.787	34.0	1.338	27.9	1.098
22.0	0.866	36.0	1.417	27.9	1.098
24.0	0.944	38.0	1.496	29.9	1.177
25.0	0.984	39.0	1.535	29.9	1.177
28.0	1.102	42.0	1.653	32.4	1.276
30.0	1.181	44.0	1.732	32.4	1.276
32.0	1.260	46.0	1.811	32.4	1.276
33.0	1.299	47.0	1.850	32.4	1.276
35.0	1.377	49.0	1.929	32.4	1.276
38.0	1.496	52.7	2.075	33.9	1.335
40.0	1.575	55.9	2.200	33.9	1.335
43.0	1.692	59.1	2.325	33.9	1.335
45.0	1.772	59.6	2.347	33.9	1.335
48.0	1.889	62.2	2.450	33.9	1.335
50.0	1.968	65.4	2.575	34.4	1.354
53.0	2.087	68.6	2.700	34.4	1.354
55.0	2.165	70.1	2.760	34.4	1.354
58.0	2.283	74.9	2.950	38.9	1.531
60.0	2.362	74.9	2.950	38.9	1.531
63.0	2.480	78.1	3.075	38.9	1.531
65.0	2.559	84.2	3.314	38.9	1.531
68.0	2.677	87.4	3.439	37.4	1.472
70.0	2.756	87.4	3.439	37.4	1.472
75.0	2.952	93.7	3.689	44.9	1.768
80.0	3.149	100.1	3.939	44.2	1.740
85.0	3.346	103.2	4.064	44.2	1.740
90.0	3.543	109.6	4.314	49.2	1.937
95.0	3.740	112.8	4.439	49.2	1.937
100.0	3.937	119.1	4.689	49.2	1.937

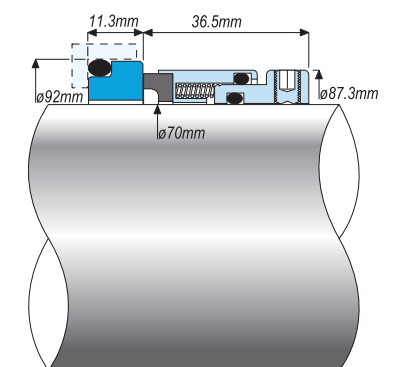
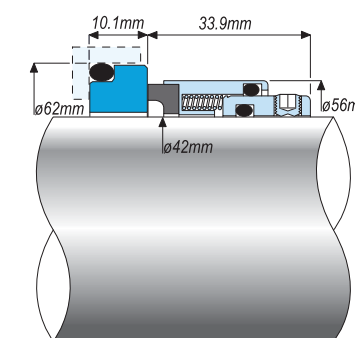
MJO



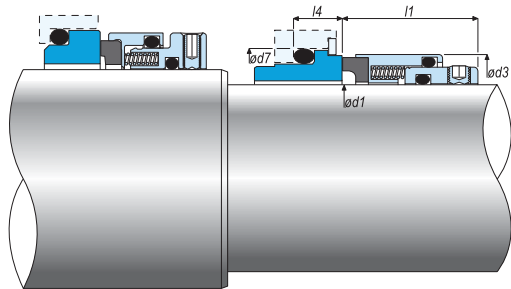
MDH



Haigh Macipump Seal MJX

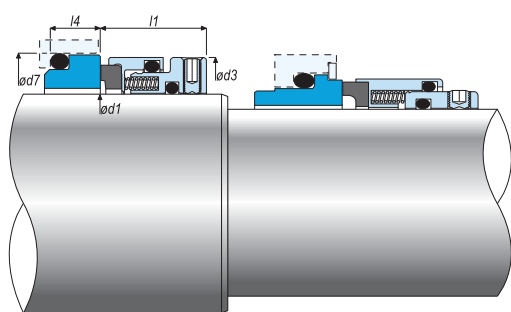


MJS Sarlin Lower Seals



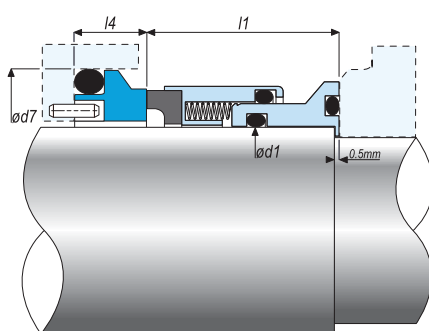
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
25.0	0.984	39.0	1.535	38.0	1.496	29.9	1.177	9.6	0.378
32.0	1.260	46.0	1.811	48.0	1.890	32.4	1.276	11.0	0.433
38.0	1.496	54.0	2.126	55.0	2.165	33.9	1.335	11.2	0.441
50.0	1.969	66.0	2.598	69.3	2.728	34.4	1.354	14.0	0.551
65.0	2.559	85.0	3.346	85.4	3.362	38.9	1.531	15.3	0.602

SSA Sarlin Upper Seals



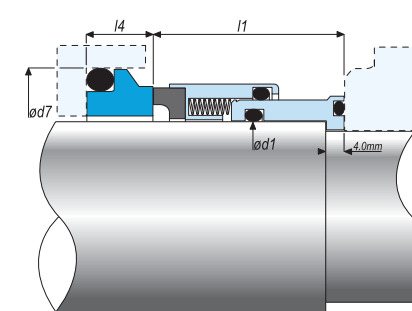
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
30.0	1.181	46.0	1.811	45.0	1.772	24.0	0.945	10.0	0.394
38.0	1.496	58.0	2.283	56.0	2.205	27.0	1.063	11.0	0.433
50.0	1.969	70.0	2.756	70.0	2.756	27.0	1.063	13.0	0.512
65.0	2.559	90.0	3.543	85.0	3.346	32.0	1.260	13.0	0.512

MJA Hilge Pump Seals



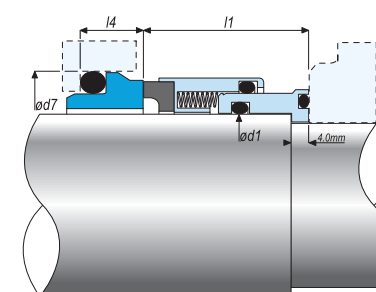
d1		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.0	1.102	48.0	1.890	34.5	1.358	10.6	0.417
38.0	1.496	57.1	2.250	35.0	1.375	10.6	0.417

Hilge Pump Seals



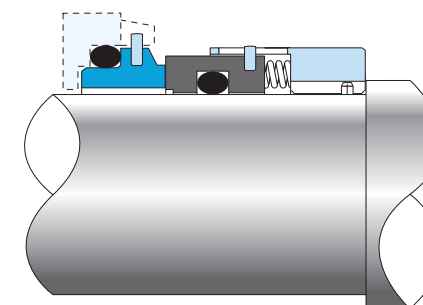
d1		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.0	1.102	48.0	1.890	38.0	1.500	10.6	0.417

Hilge Pump Seals

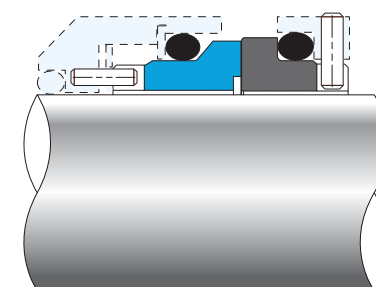


d1		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.0	1.102	43.0	1.693	33.0	1.299	9.0	0.354

Grasso RC11 Compressor Seals



Alfa Laval LKH110, LKH112, LKH113 and LKH114 Pump Seals



MJB

MJC

MOG

MPG

Parallel Spring Seals

Widely used as the standard upgrade from packing to mechanical seals, parallel spring seals are common place in industry. General applications include but are not limited to Water, Food and Chemical processes. They can be utilised in many pumps, mixers, agitators and compressors.

The majority of Parallel spring designs utilize a rubber diaphragm to seal against the shaft and provide drive to the face. Parallel spring designs that utilize an o-ring to seal against the shaft are driven by the spring.

Designs PAU, PBU, PDU & PEU are balanced, reducing heat and friction at the faces. This prolongs life and allows for higher operating parameters.

Maximum Operating Limits		
Pressure	12 bar (Unbalanced) 13 bar (Balanced)	
Speed	15 m/s (Unbalanced) 18 m/s (Balanced)	
Temperature	-40°C to +200°C	

Elastomer Material Availability		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.
Other materials available on request.		

		Face Combinations		
		Rotary		
		Carbon	Alumina Ceramic	Silicon Carbide
Stationary	Carbon	Not Recommended	Standard Duty	Increased Performance
	Alumina Ceramic	Standard Duty	Not Recommended	Not Recommended
	Silicon Carbide	Increased Performance	Not Recommended	Recommended For Aggressive Media
Other materials available on request.				

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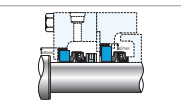
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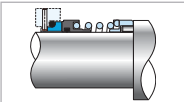
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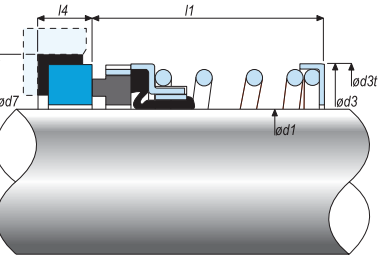


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PBB
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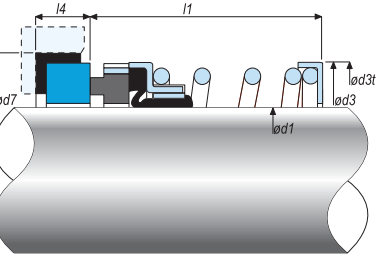
PAO



Imperial

d1		d3		d3t (PAOT)		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
9.5	0.375	23.0	0.906	20.0	0.787	24.6	0.969	43.6	1.719	8.7	0.344
12.7	0.500	24.0	0.945	22.8	0.897	27.7	1.094	43.6	1.719	8.7	0.344
15.8	0.625	26.7	1.053	26.7	1.053	30.9	1.219	43.6	1.719	10.3	0.406
19.1	0.750	31.2	1.230	30.4	1.201	34.1	1.344	43.6	1.719	10.3	0.406
22.2	0.875	33.5	1.319	33.4	1.319	37.3	1.469	43.6	1.719	10.3	0.406
25.4	1.000	43.2	1.703	39.3	1.547	40.5	1.594	43.6	1.719	10.3	0.406
28.6	1.125	46.5	1.831	42.0	1.654	47.6	1.875	60.3	2.375	11.9	0.472
31.7	1.250	49.5	1.949	45.8	1.803	50.8	2.000	60.3	2.375	11.9	0.472
34.9	1.375	52.7	2.077	49.3	1.941	53.9	2.125	60.3	2.375	11.9	0.472
38.1	1.500	56.0	2.205	52.8	2.078	57.1	2.250	60.3	2.375	11.9	0.472
41.2	1.625	62.2	2.451	55.5	2.185	60.3	2.376	60.3	2.375	11.9	0.472
44.4	1.750	66.0	2.598	61.0	2.402	63.5	2.500	70.6	2.781	11.9	0.472
47.6	1.875	66.0	2.598	64.0	2.520	66.7	2.625	70.6	2.781	11.9	0.472
50.8	2.000	73.0	2.874	66.0	2.598	69.8	2.750	70.6	2.781	13.5	0.531
53.9	2.125	73.5	2.894	71.5	2.814	73.0	2.875	71.0	2.795	13.5	0.531
57.1	2.250	78.5	3.091	79.6	3.133	76.2	3.000	71.0	2.795	13.5	0.531
60.3	2.375	82.0	3.228	79.6	3.133	79.4	3.125	71.0	2.795	13.5	0.531
63.5	2.500	85.0	3.346	81.5	3.209	82.5	3.250	71.0	2.795	13.5	0.531
66.6	2.625	88.5	3.484	84.6	3.331	92.1	3.625	70.0	2.756	15.9	0.626
69.8	2.750	92.7	3.652	90.0	3.543	95.2	3.750	70.0	2.756	15.9	0.626
73.0	2.875	95.0	3.740	92.0	3.622	98.4	3.875	73.0	2.874	15.9	0.626
76.2	3.000	102.0	4.016	96.8	3.811	101.6	4.000	73.0	2.874	15.9	0.626

PAO

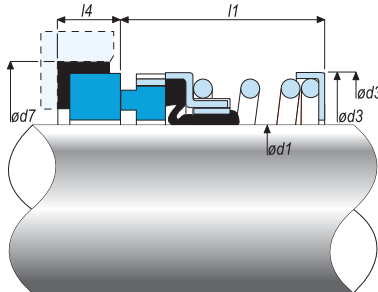


Metric

d1		d3		d3t (PAOT)		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	23.0	0.906	20.5	0.807	24.6	0.969	43.6	1.719	8.7	0.344
12.0	0.473	24.0	0.945	22.8	0.897	27.7	1.094	43.6	1.719	8.7	0.344
13.0	0.512	24.0	0.945	24.0	0.945	27.7	1.094	43.6	1.719	8.7	0.344
14.0	0.551	26.7	1.053	24.2	0.952	30.9	1.219	43.6	1.719	10.3	0.406
15.0	0.591	26.7	1.053	26.7	1.053	30.9	1.219	43.6	1.719	10.3	0.406
16.0	0.630	26.7	1.053	26.7	1.053	30.9	1.219	43.6	1.719	10.3	0.406
18.0	0.709	31.2	1.230	30.4	1.201	34.1	1.344	43.6	1.719	10.3	0.406
19.0	0.748	31.2	1.230	30.4	1.201	34.1	1.344	43.6	1.719	10.3	0.406
20.0	0.787	33.5	1.319	33.4	1.319	35.7	1.406	43.6	1.719	10.3	0.406
22.0	0.866	33.5	1.319	33.4	1.319	37.3	1.469	43.6	1.719	10.3	0.406
24.0	0.945	39.2	1.545	37.7	1.485	40.5	1.594	43.6	1.719	10.3	0.406
25.0	0.984	39.3	1.547	39.3	1.547	40.5	1.594	43.6	1.719	10.3	0.406
28.0	1.102	46.5	1.831	41.9	1.649	47.6	1.875	60.3	2.375	11.9	0.472
30.0	1.181	49.5	1.949	43.8	1.724	50.8	2.000	60.3	2.375	11.9	0.472
32.0	1.260	49.5	1.949	45.8	1.803	50.8	2.000	60.3	2.375	11.9	0.472
33.0	1.299	52.7	2.077	45.8	1.803	53.9	2.125	60.3	2.375	11.9	0.472
35.0	1.378	52.7	2.077	49.3	1.941	53.9	2.125	60.3	2.375	11.9	0.472
38.0	1.496	56.0	2.205	52.8	2.087	57.1	2.250	60.3	2.375	11.9	0.472
40.0	1.575	62.2	2.451	55.8	2.196	60.3	2.375	60.3	2.375	11.9	0.472
42.0	1.654	66.0	2.598	58.8	2.314	63.5	2.500	70.6	2.781	11.9	0.472
43.0	1.693	66.0	2.598	58.8	2.314	63.5	2.500	70.6	2.781	11.9	0.472
44.0	1.732	66.0	2.598	58.8	2.314	63.5	2.500	70.6	2.781	11.9	0.472
45.0	1.772	66.0	2.598	61.0	2.402	63.5	2.500	70.6	2.781	11.9	0.472
48.0	1.890	66.7	2.628	64.0	2.520	66.7	2.625	70.6	2.781	11.9	0.472
50.0	1.969	71.7	2.825	66.0	2.598	69.8	2.750	70.6	2.781	13.5	0.531
53.0	2.087	73.5	2.894	71.5	2.815	73.0	2.875	71.0	2.795	13.5	0.531
55.0	2.165	78.5	3.091	71.5	2.815	76.2	3.000	71.0	2.795	13.5	0.531
58.0	2.283	82.0	3.228	79.6	3.134	79.4	3.125	71.0	2.795	13.5	0.531
60.0	2.362	82.0	3.228	79.6	3.134	79.4	3.125	71.0	2.795	13.5	0.531
63.0	2.480	85.0	3.346	81.5	3.209	82.5	3.250	71.0	2.795	13.5	0.531
65.0	2.559	88.5	3.484	84.6	3.331	92.1	3.625	70.0	2.756	15.9	0.626
70.0	2.756	92.7	3.652	90.0	3.543	95.2	3.750	70.0	2.756	15.9	0.626
73.0	2.874	95.0	3.740	92.0	3.622	98.4	3.875	73.0	2.874	15.9	0.626
75.0	2.953	102.0	4.016	96.8	3.811	101.6	4.000	73.0	2.874	15.9	0.626

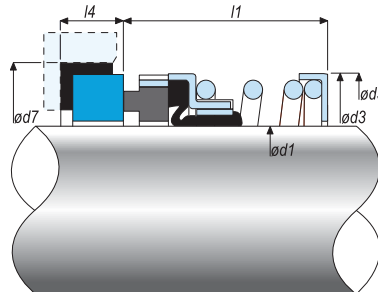
Imperial

PBO



Metric

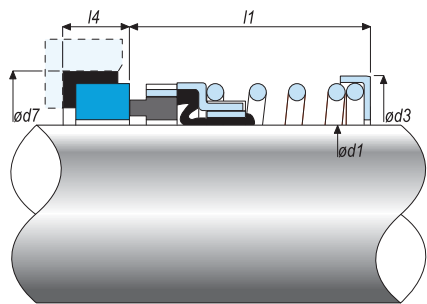
PBO



d1		d3		d3t (PBOT)		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
9.5	0.375	23.0	0.906	20.0	0.787	24.6	0.969	25.4	1.000	8.7	0.344
12.7	0.500	24.0	0.945	22.8	0.897	27.7	1.094	25.4	1.000	8.7	0.344
15.8	0.625	26.7	1.053	26.7	1.053	30.9	1.219	25.4	1.000	10.3	0.406
19.1	0.750	31.2	1.230	30.4	1.201	34.1	1.344	25.4	1.000	10.3	0.406
22.2	0.875	33.5	1.319	33.4	1.319	37.3	1.469	25.4	1.000	10.3	0.406
25.4	1.000	43.2	1.703	39.3	1.547	40.5	1.594	25.4	1.000	10.3	0.406
28.6	1.125	46.5	1.831	42.0	1.654	47.6	1.875	33.3	1.313	11.9	0.472
31.7	1.250	49.5	1.945	45.8	1.803	50.8	2.000	33.3	1.313	11.9	0.472
34.9	1.375	52.7	2.078	49.3	1.941	53.9	2.125	33.3	1.313	11.9	0.472
38.1	1.500	56.0	2.205	52.8	2.078	57.1	2.250	33.3	1.313	11.9	0.472
41.2	1.625	62.2	2.451	55.5	2.185	60.3	2.375	33.3	1.313	11.9	0.472
44.4	1.750	66.0	2.598	61.0	2.402	63.5	2.500	40.4	1.594	11.9	0.472
47.6	1.875	66.0	2.598	64.0	2.520	66.7	2.625	40.4	1.594	11.9	0.472
50.8	2.000	73.0	2.874	66.0	2.598	69.8	2.750	40.4	1.594	13.5	0.531
53.9	2.125	73.5	2.894	71.5	2.814	73.0	2.875	41.0	1.614	13.5	0.531
57.1	2.250	78.5	3.091	79.6	3.133	76.2	3.000	41.0	1.614	13.5	0.531
60.3	2.375	82.0	3.228	79.6	3.133	79.4	3.125	41.0	1.614	13.5	0.531
63.5	2.500	85.0	3.346	81.5	3.209	82.5	3.250	41.0	1.614	13.5	0.531
66.6	2.625	88.5	3.484	84.6	3.331	92.1	3.625	49.0	1.929	15.9	0.625
69.8	2.750	92.7	3.652	90.0	3.543	95.2	3.750	49.0	1.929	15.9	0.625
73.0	2.875	95.0	3.740	92.0	3.622	98.4	3.875	49.0	1.929	15.9	0.625
76.2	3.000	102.0	4.016	96.8	3.811	101.6	4.000	49.0	1.929	15.9	0.625

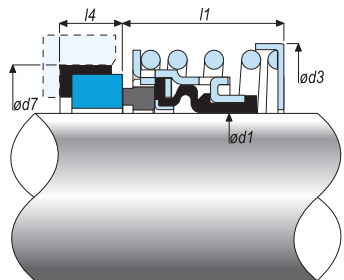
d1		d3		d3t (PBOT)		d7		I1		I4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	23.0	0.906	20.5	0.807	24.6	0.969	25.4	1.000	8.7	0.344
12.0	0.472	24.0	0.945	22.8	0.897	27.7	1.094	25.4	1.000	8.7	0.344
13.0	0.512	24.0	0.945	24.0	0.945	27.7	1.094	25.4	1.000	8.7	0.344
14.0	0.551	26.7	1.053	24.2	0.952	30.9	1.219	25.4	1.000	10.3	0.406
15.0	0.591	26.7	1.053	26.7	1.053	30.9	1.219	25.4	1.000	10.3	0.406
16.0	0.630	26.7	1.053	26.7	1.053	30.9	1.219	25.4	1.000	10.3	0.406
18.0	0.709	31.2	1.230	30.4	1.201	34.1	1.344	25.4	1.000	10.3	0.406
19.0	0.748	31.2	1.230	30.4	1.201	34.1	1.344	25.4	1.000	10.3	0.406
20.0	0.787	33.5	1.319	33.4	1.319	35.7	1.406	25.4	1.000	10.3	0.406
22.0	0.866	33.5	1.319	33.4	1.319	37.3	1.469	25.4	1.000	10.3	0.406
24.0	0.945	39.2	1.545	38.0	1.496	40.5	1.594	25.4	1.000	10.3	0.406
25.0	0.984	39.3	1.547	39.3	1.547	40.5	1.594	25.4	1.000	10.3	0.406
28.0	1.102	46.5	1.831	42.0	1.654	47.6	1.875	33.3	1.313	11.9	0.472
30.0	1.181	49.5	1.949	43.9	1.728	50.8	2.000	33.3	1.313	11.9	0.472
32.0	1.260	49.5	1.949	45.8	1.803	50.8	2.000	33.3	1.313	11.9	0.472
33.0	1.299	52.7	2.077	45.8	1.803	53.9	2.125	33.3	1.313	11.9	0.472
35.0	1.378	52.7	2.077	49.3	1.941	53.9	2.125	33.3	1.313	11.9	0.472
38.0	1.496	56.0	2.205	52.8	2.087	57.1	2.250	33.3	1.313	11.9	0.472
40.0	1.575	62.2	2.451	55.8	2.196	60.3	2.375	33.3	1.313	11.9	0.472
42.0	1.654	66.0	2.598	58.8	2.314	63.5	2.500	40.4	1.594	11.9	0.472
43.0	1.693	66.0	2.598	58.8	2.314	63.5	2.500	40.4	1.594	11.9	0.472
44.0	1.732	66.0	2.598	58.8	2.314	63.5	2.500	40.4	1.594	11.9	0.472
45.0	1.772	66.0	2.598	61.0	2.402	63.5	2.500	40.4	1.594	11.9	0.472
48.0	1.890	66.7	2.628	64.0	2.520	66.7	2.625	40.4	1.594	11.9	0.472
50.0	1.969	71.7	2.825	66.0	2.598	69.8	2.750	40.4	1.594	13.5	0.531
53.0	2.087	73.5	2.894	71.5	2.815	73.0	2.875	41.0	1.614	13.5	0.531
55.0	2.165	78.5	3.091	71.5	2.815	76.2	3.000	41.0	1.614	13.5	0.531
58.0	2.283	82.0	3.228	79.6	3.134	79.4	3.125	41.0	1.614	13.5	0.531
60.0	2.362	82.0	3.228	79.6	3.134	79.4	3.125	41.0	1.614	13.5	0.531
63.0	2.480	85.0	3.346	81.5	3.209	82.5	3.250	41.0	1.614	13.5	0.531
65.0	2.559	88.5	3.484	84.6	3.331	92.1	3.625	49.0	1.929	15.9	0.625
70.0	2.756	92.7	3.652	90.0	3.543	95.2	3.750	49.0	1.929	15.9	0.625
73.0	2.874	95.0	3.740	92.0	3.622	98.4	3.875	49.0	1.929	15.9	0.625
75.0	2.953	102.0	4.016	96.8	3.811	101.6	4.000	49.0	1.929	15.9	0.625

PCO



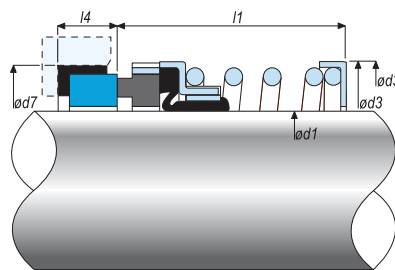
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	21.7	0.856	23.0	0.906	23.9	0.941	8.60	0.339
14.0	0.551	24.0	0.945	25.0	0.984	26.4	1.039	8.60	0.339
16.0	0.630	26.7	1.053	27.0	1.063	26.4	1.039	8.60	0.339
18.0	0.709	30.5	1.201	33.0	1.299	27.5	1.083	10.0	0.399
20.0	0.787	33.5	1.319	35.0	1.378	27.5	1.083	10.0	0.394
22.0	0.866	33.5	1.319	37.0	1.457	27.5	1.083	10.0	0.394
24.0	0.945	38.0	1.496	39.0	1.535	30.0	1.181	10.0	0.394
25.0	0.984	39.5	1.555	40.0	1.575	30.0	1.181	10.0	0.394
28.0	1.102	42.0	1.654	43.0	1.693	32.5	1.280	10.0	0.394
30.0	1.181	44.0	1.732	45.0	1.772	32.5	1.280	10.0	0.394
32.0	1.260	46.0	1.811	48.0	1.890	32.5	1.280	10.0	0.394
33.0	1.299	46.0	1.811	48.0	1.890	32.5	1.280	10.0	0.394
35.0	1.378	49.0	1.929	50.0	1.969	32.5	1.280	10.0	0.394
38.0	1.496	53.0	2.087	56.0	2.205	34.0	1.339	11.0	0.433
40.0	1.575	56.0	2.205	58.0	2.283	34.0	1.339	11.0	0.433
43.0	1.693	58.8	2.314	61.0	2.402	34.0	1.339	11.0	0.433
45.0	1.772	61.0	2.402	63.0	2.480	34.0	1.339	11.0	0.433
48.0	1.890	64.0	2.520	66.0	2.598	34.0	1.339	11.0	0.433
50.0	1.969	66.0	2.598	70.0	2.756	34.5	1.358	13.0	0.512
55.0	2.165	71.7	2.825	75.0	2.953	34.5	1.358	13.0	0.512
58.0	2.283	79.6	3.134	78.0	3.071	39.5	1.555	13.0	0.512
60.0	2.362	78.5	3.091	80.0	3.150	39.5	1.555	13.0	0.512
63.0	2.480	81.5	3.209	83.0	3.268	39.5	1.555	13.0	0.512
65.0	2.559	84.5	3.327	85.0	3.346	39.5	1.555	13.0	0.512
68.0	2.677	89.7	3.533	90.0	3.543	37.2	1.465	15.3	0.602
70.0	2.756	89.7	3.533	92.0	3.622	44.7	1.760	15.3	0.602
75.0	2.953	97.0	3.819	97.0	3.819	44.7	1.760	15.3	0.602

PDU



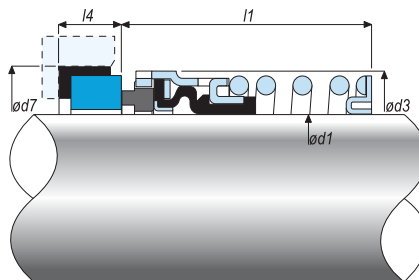
d1		d3		d3t (PDUT)		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	30.2	1.187	28.6	1.125	25.4	1.000	20.7	0.813	7.9	0.312
15.9	0.625	33.3	1.312	31.8	1.250	31.8	1.250	22.2	0.875	10.3	0.405
19.1	0.750	36.5	1.438	34.9	1.375	34.9	1.375	22.2	0.875	10.3	0.405
22.2	0.875	39.7	1.564	39.9	1.570	38.1	1.500	23.8	0.937	10.3	0.405
25.4	1.000	45.3	1.783	43.7	1.720	41.3	1.625	25.4	1.000	11.1	0.437
28.6	1.125	48.5	1.908	46.9	1.845	44.5	1.750	27.0	1.062	11.1	0.437
31.8	1.250	52.8	2.079	51.2	2.016	47.6	1.875	27.0	1.062	11.1	0.437
34.9	1.375	56.0	2.204	54.4	2.141	50.8	2.000	28.6	1.125	11.1	0.437
38.1	1.500	59.2	2.329	57.6	2.266	54.0	2.125	28.6	1.125	11.1	0.437
41.3	1.625	67.0	2.636	65.0	2.557	60.3	2.375	34.9	1.375	12.7	0.500
44.5	1.750	70.1	2.761	68.1	2.682	63.5	2.500	34.9	1.375	12.7	0.500
47.6	1.875	73.2	2.880	71.2	2.802	66.7	2.625	38.1	1.500	12.7	0.500
50.8	2.000	76.5	3.011	74.5	2.932	69.9	2.750	38.1	1.500	12.7	0.500
53.9	2.125	82.7	3.256	80.7	3.178	76.2	3.000	42.8	1.687	14.3	0.562
57.2	2.250	85.9	3.381	83.9	3.303	79.4	3.125	42.8	1.687	14.3	0.562
60.3	2.375	89.1	3.506	87.1	3.428	82.6	3.250	46.0	1.812	14.3	0.562
63.5	2.500	92.2	3.631	90.3	3.553	85.7	3.375	46.0	1.812	14.3	0.562
66.7	2.625	98.4	3.875	96.4	3.796	85.7	3.375	49.2	1.937	15.9	0.625
69.9	2.750	101.6	4.000	99.6	3.921	88.9	3.500	49.2	1.937	15.9	0.625
73.0	2.875	104.8	4.125	102.8	4.046	95.3	3.750	52.4	2.062	15.9	0.625
76.2	3.000	108.0	4.250	105.9	4.171	98.4	3.875	52.4	2.062	15.9	0.625

PEO



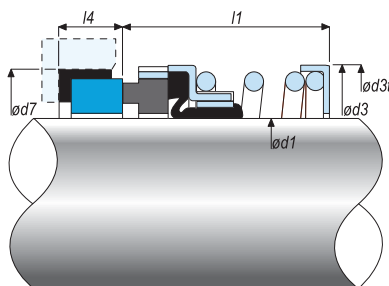
d1		d3		d3t (PEOT)		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	24.0	0.945	22.8	0.897	25.4	1.000	31.7	1.250	7.9	0.312
15.8	0.625	26.7	1.053	26.7	1.053	31.7	1.250	34.9	1.375	10.2	0.405
19.1	0.750	31.2	1.230	30.4	1.201	34.9	1.375	34.9	1.375	10.2	0.405
22.2	0.875	33.5	1.319	33.4	1.319	38.1	1.500	36.5	1.437	10.2	0.405
25.4	1.000	43.2	1.703	39.3	1.547	41.2	1.625	41.2	1.625	11.1	0.437
28.6	1.125	46.5	1.831	42.0	1.654	44.4	1.750	42.8	1.687	11.1	0.437
31.7	1.250	49.5	1.949	45.8	1.803	47.6	1.875	42.8	1.687	11.1	0.437
34.9	1.375	52.7	2.077	49.3	1.941	50.8	2.000	42.8	1.687	11.1	0.437
38.1	1.500	56.0	2.205	52.8	2.078	53.9	2.125	42.8	1.687	11.1	0.437
41.2	1.625	62.2	2.451	55.5	2.185	60.3	2.375	50.8	2.000	12.7	0.500
44.4	1.750	66.0	2.598	61.0	2.402	63.5	2.500	50.8	2.000	12.7	0.500
47.6	1.875	66.0	2.598	64.0	2.520	66.6	2.625	53.9	2.125	12.7	0.500
50.8	2.000	73.0	2.874	66.0	2.598	69.8	2.750	53.9	2.125	12.7	0.500
53.9	2.125	73.5	2.894	71.5	2.814	76.2	3.000	60.3	2.375	14.2	0.562
57.1	2.250	79.6	3.134	79.6	3.134	79.3	3.125	60.3	2.375	14.2	0.562
60.3	2.375	82.0	3.228	79.6	3.133	82.5	3.250	63.5	2.500	14.2	0.562
63.5	2.500	85.0	3.346	81.5	3.209	85.7	3.375	63.5	2.500	14.2	0.562
66.6	2.625	88.5	3.484	84.6	3.331	85.7	3.375	69.8	2.750	15.9	0.625
69.8	2.750	92.7	3.652	90.0	3.543	88.9	3.500	69.8	2.750	15.9	0.625
73.0	2.875	95.0	3.740	92.0	3.622	95.2	3.750	73.0	2.875	15.9	0.625
76.2	3.000	102.0	4.016	96.8	3.811	98.4	3.875	73.0	2.875	15.9	0.625

PEU



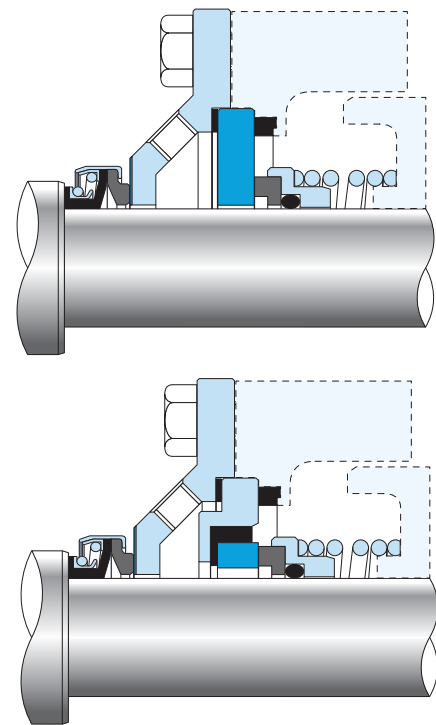
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	23.8	0.937	25.4	1.000	30.1	1.187	7.9	0.312
15.9	0.625	27.8	1.093	31.8	1.250	33.3	1.312	10.3	0.405
19.1	0.750	30.9	1.218	34.9	1.375	33.3	1.312	10.3	0.405
22.2	0.875	34.1	1.343	38.1	1.500	34.9	1.375	10.3	0.405
25.4	1.000	38.1	1.500	41.3	1.625	39.7	1.562	11.1	0.437
28.6	1.125	41.3	1.625	44.5	1.750	41.3	1.625	11.1	0.437
31.8	1.250	46.0	1.812	47.6	1.875	41.3	1.625	11.1	0.437
34.9	1.375	48.7	1.917	50.8	2.000	42.8	1.687	11.1	0.437
38.1	1.500	51.8	2.041	54.0	2.125	42.8	1.687	11.1	0.437
41.3	1.625	58.1	2.287	60.3	2.375	50.8	2.000	12.7	0.500
44.5	1.750	61.3	2.412	63.5	2.500	50.8	2.000	12.7	0.500
47.6	1.875	64.4	2.537	66.7	2.625	54.0	2.125	12.7	0.500
50.8	2.000	67.6	2.662	69.9	2.750	54.0	2.125	12.7	0.500
53.9	2.125	72.0	2.835	76.2	3.000	60.3	2.375	14.3	0.562
57.2	2.250	75.3	2.965	79.4	3.125	60.3	2.375	14.3	0.562
60.3	2.375	78.3	3.083	82.6	3.250	63.5	2.500	14.3	0.562
63.5	2.500	81.5	3.210	85.7	3.375	63.5	2.500	14.3	0.562
66.7	2.625	86.2	3.394	85.7	3.375	69.9	2.750	15.9	0.625
69.9	2.750	89.4	3.520	88.9	3.500	69.9	2.750	15.9	0.625
73.0	2.875	92.6	3.644	95.3	3.750	73.0	2.875	15.9	0.625
76.2	3.000	95.8	3.770	98.4	3.875	73.0	2.875	15.9	0.625

PDO

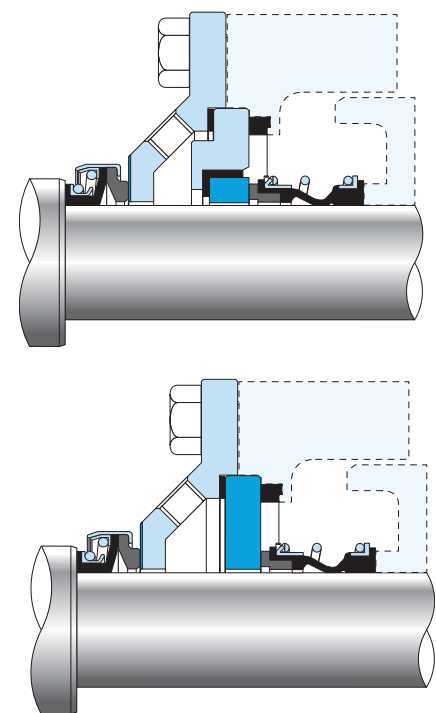


d1		d3		d3t (PDOT)		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.7	0.500	24.0	0.945	22.8	0.897	25.4	1.000	20.6	0.812	7.9	0.312
15.8	0.625	26.7	1.053	26.7	1.053	31.7	1.250	22.2	0.875	10.2	0.405
19.1	0.750	31.2	1.230	30.4	1.201	34.9	1.375	22.2	0.875	10.2	0.405
22.2	0.875	33.5	1.319	33.4	1.319	38.1	1.500	23.8	0.937	10.2	0.405
25.4	1.000	43.2	1.703	39.3	1.547	41.2	1.625	25.4	1.000	11.1	0.437
28.6	1.125	46.5	1.831	42.0	1.654	44.4	1.750	26.9	1.062	11.1	0.437
31.7	1.250	49.5	1.949	45.8	1.803	47.6	1.875	26.9	1.062	11.1	0.437
34.9	1.375	52.7	2.077	49.3	1.941	50.8	2.000	28.5	1.125	11.1	0.437
38.1	1.500	56.0	2.205	52.8	2.078	53.9	2.125	28.5	1.125	11.1	0.437
41.2	1.625	62.2	2.451	55.5	2.185	60.3	2.375	34.9	1.375	12.7	0.500
44.4	1.750	66.0	2.598	61.0	2.402	63.5	2.500	34.9	1.375	12.7	0.500
47.6	1.875	66.0	2.598	64.0	2.520	66.6	2.625	38.1	1.500	12.7	0.500
50.8	2.000	73.0	2.874	66.0	2.598	69.8	2.750	38.1	1.500	12.7	0.500
53.9	2.125	73.5	2.894	71.5	2.814	76.2	3.000	42.8	1.688	14.2	0.562
57.1	2.250	79.6	3.133	79.6	3.133	79.3	3.125	42.8	1.688	14.2	0.562
60.3	2.375	82.0	3.228	79.6	3.133	82.5	3.250	46.0	1.812	14.2	0.562
63.5	2.500	85.0	3.346	81.5	3.209	85.7	3.375	46.0	1.812	14.2	0.562
66.6	2.625	88.5	3.484	84.6	3.331	85.7	3.375	49.2	1.937	15.9	0.625
69.8	2.750	92.7	3.652	90.0	3.543	88.9	3.500	49.2	1.937	15.9	0.625
73.0	2.875	95.0	3.740	92.0	3.622	95.2	3.750	52.3	2.062	15.9	0.625
76.2	3.000	102.0	4.016	96.8	3.811	98.4	3.875	52.3	2.062	15.9	0.625

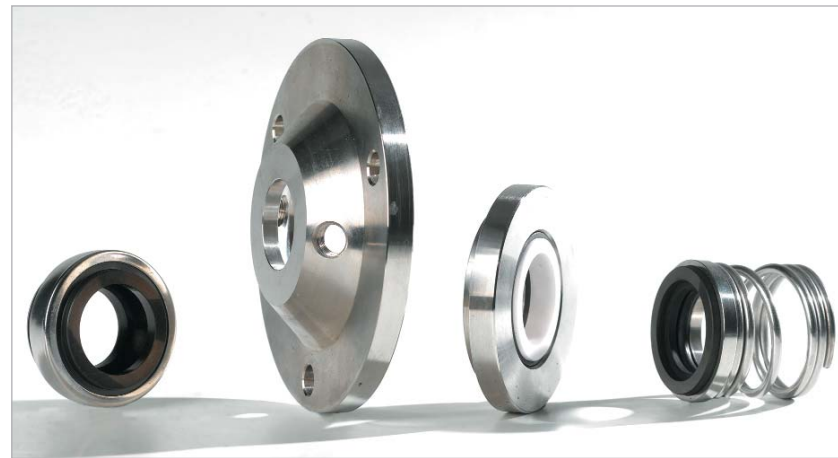
PFO



BPF



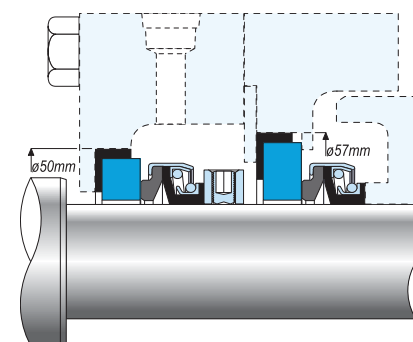
APV Puma Pump Seals



APV Puma Pump Seals (Non Shaft Fretting)

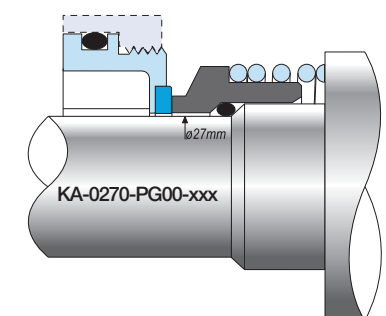
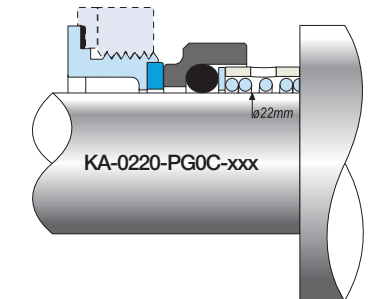
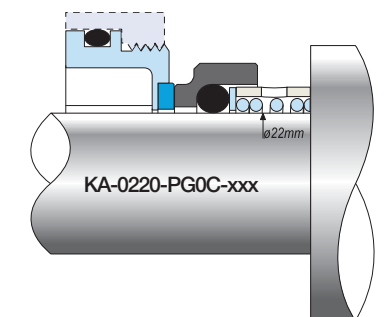
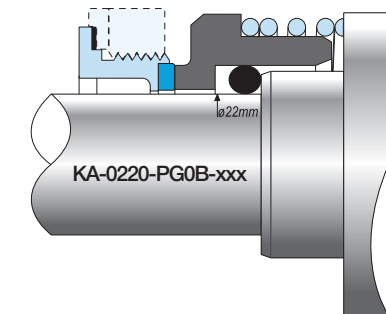
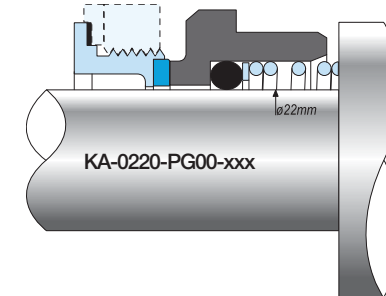


PFO-BAO APV Puma Pump Seals



Alfa Laval CN, EM, FM, GM, LKH, ME, MR and ALC F Series Pump Seals

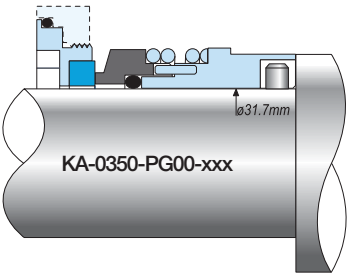
PGO



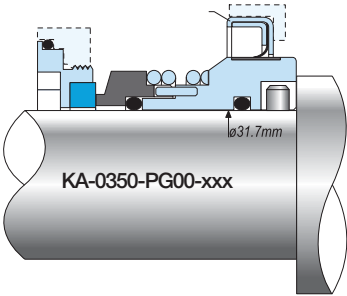
PGO

Single Seal

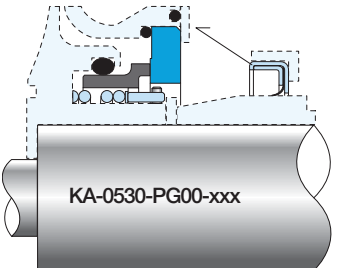
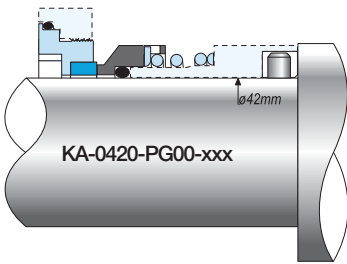
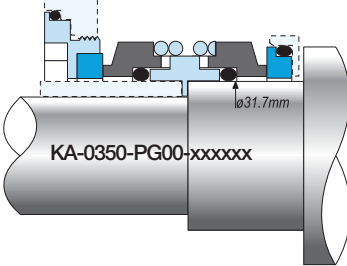
Alfa Laval CN, EM, FM, GM, LKH, ME, MR and ALC F Series Pump Seals



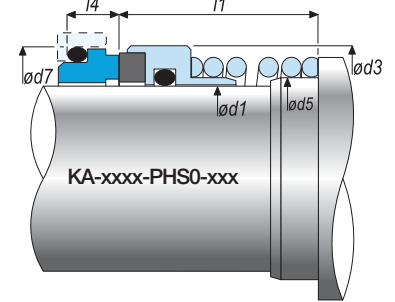
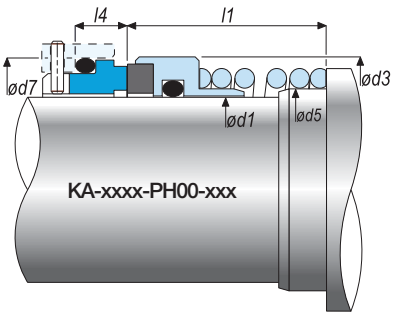
Flushed Seal



Double Seal



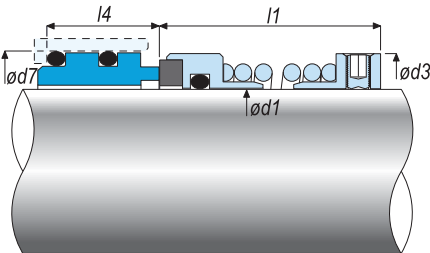
PHS



d1		d3		d5		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
15.8	0.625	29.0	1.142	19.1	0.750	28.6	1.125	24.5	0.965	9.0	0.354
19.1	0.750	32.5	1.280	22.2	0.875	31.7	1.250	24.5	0.965	9.0	0.354
20.0	0.787	34.5	1.358	24.0	0.945	33.3	1.312	27.5	1.083	9.0	0.354
22.2	0.875	34.9	1.375	25.4	1.000	34.9	1.375	26.0	1.024	9.0	0.354
25.0	0.984	38.1	1.500	28.6	1.125	39.9	1.569	30.0	1.181	10.0	0.394
25.4	1.000	38.1	1.500	28.6	1.125	39.9	1.569	30.0	1.181	10.0	0.394
28.0	1.102	42.0	1.654	31.8	1.250	43.1	1.695	31.5	1.240	10.0	0.394
28.6	1.125	42.9	1.687	31.8	1.250	43.1	1.695	31.5	1.240	10.0	0.394
30.0	1.181	45.5	1.791	33.3	1.312	44.6	1.757	31.5	1.240	10.0	0.394
31.7	1.250	46.0	1.811	34.9	1.375	46.3	1.824	34.5	1.358	10.0	0.394
32.0	1.260	47.0	1.850	34.9	1.375	46.3	1.824	34.5	1.358	10.0	0.394
34.9	1.375	49.2	1.937	38.1	1.500	49.5	1.948	37.5	1.476	10.0	0.394
35.0	1.378	50.0	1.969	38.1	1.500	49.5	1.948	37.5	1.476	10.0	0.394
38.0	1.496	53.0	2.087	42.9	1.688	52.6	2.069	37.5	1.476	10.0	0.394
38.1	1.500	52.4	2.063	42.9	1.688	52.6	2.069	37.5	1.476	10.0	0.394
40.0	1.575	55.0	2.165	44.5	1.750	54.3	2.136	37.5	1.476	10.0	0.394
41.2	1.625	55.5	2.185	46.0	1.812	55.8	2.198	37.5	1.476	10.0	0.394
42.0	1.654	55.5	2.185	46.0	1.812	55.8	2.198	37.5	1.476	10.0	0.394
44.4	1.750	58.7	2.313	49.2	1.937	59.0	2.324	37.5	1.476	10.0	0.394
45.0	1.772	60.0	2.362	49.2	1.937	59.0	2.324	37.5	1.476	10.0	0.394
47.6	1.875	61.9	2.437	52.4	2.062	63.7	2.507	42.5	1.673	10.0	0.394
50.0	1.969	66.0	2.598	54.0	2.125	65.4	2.574	45.5	1.791	10.0	0.394
50.8	2.000	66.7	2.625	55.6	2.188	66.9	2.632	45.5	1.791	10.0	0.394
53.9	2.125	69.9	2.750	58.7	2.312	70.0	2.757	47.0	1.850	10.0	0.394
55.0	2.165	71.0	2.795	58.7	2.312	70.0	2.757	47.0	1.850	10.0	0.394
57.1	2.250	73.0	2.875	61.9	2.437	73.2	2.882	47.0	1.850	10.0	0.394
60.0	2.362	77.0	3.031	65.1	2.562	76.4	3.007	50.5	1.988	10.0	0.394
60.3	2.375	76.2	3.000	65.1	2.562	76.4	3.007	50.5	1.988	10.0	0.394
63.5	2.500	79.4	3.125	68.3	2.688	79.6	3.132	50.5	1.988	10.0	0.394
65.0	2.559	82.0	3.228	69.9	2.750	81.2	3.198	53.5	2.106	10.0	0.394
66.6	2.625	82.6	3.250	71.4	2.812	82.7	3.257	53.5	2.106	10.0	0.394
69.8	2.750	85.7	3.375	74.6	2.937	85.9	3.382	53.5	2.106	10.0	0.394
70.0	2.756	87.0	3.425	74.6	2.937	85.9	3.382	53.5	2.106	10.0	0.394
73.0	2.875	90.0	3.543	77.8	3.062	89.1	3.507	56.5	2.224	10.0	0.394
75.0	2.953	91.5	3.602	79.4	3.125	90.8	3.574	56.6	2.228	10.0	0.394
76.2	3.000	95.3	3.750	81.0	3.188	95.4	3.757	63.0	2.480	10.0	0.394

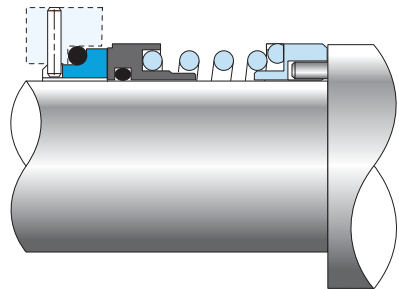
Clamping Option Is Available on Page 16

PHA



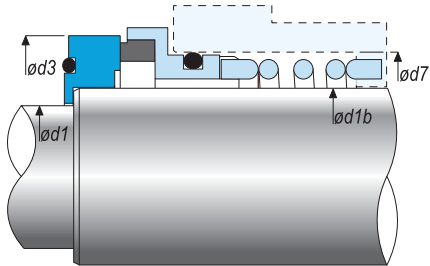
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
25.0	0.984	38.1	1.500	40.0	1.575	38.0	1.496	23.0	0.906
28.0	1.102	42.0	1.654	44.0	1.732	40.0	1.575	23.0	0.906
30.0	1.181	45.5	1.791	47.0	1.850	40.0	1.575	24.0	0.945
32.0	1.260	47.0	1.850	48.0	1.890	40.0	1.575	24.0	0.945
35.0	1.378	50.0	1.969	51.0	2.008	40.0	1.575	24.0	0.945
38.0	1.496	53.0	2.087	54.0	2.126	45.0	1.772	24.0	0.945
40.0	1.575	55.0	2.165	57.0	2.244	45.0	1.772	24.0	0.945
42.0	1.654	55.5	2.185	60.5	2.382	50.0	1.969	24.0	0.945
45.0	1.772	60.0	2.362	61.0	2.402	50.0	1.969	24.0	0.945
48.0	1.890	61.9	2.437	64.0	2.520	55.0	2.165	24.0	0.945
50.0	1.969	66.0	2.598	67.0	2.638	55.0	2.165	24.0	0.945
52.0	2.047	68.0	2.677	70.0	2.756	58.0	2.283	24.0	0.945
55.0	2.165	71.0	2.795	73.0	2.874	58.0	2.283	24.0	0.945
58.0	2.283	74.0	2.913	76.0	2.992	58.0	2.283	24.0	0.945
60.0	2.362	77.0	3.031	80.0	3.150	60.0	2.362	26.0	1.024
62.0	2.441	78.0	3.071	83.0	3.268	60.0	2.362	26.0	1.024
65.0	2.559	82.0	3.228	86.0	3.386	62.0	2.441	26.0	1.024
68.0	2.677	84.0	3.307	89.0	3.504	62.0	2.441	26.0	1.024
70.0	2.756	87.0	3.425	89.0	3.504	65.0	2.559	26.0	1.024
75.0	2.953	91.5	3.602	95.0	3.740	65.0	2.559	26.0	1.024

PHD



J & E Hall V54 (4, 6 and 8 Cylinder) Compressor V92
(3 and 4 Cylinder) Compressor Seals

PIA

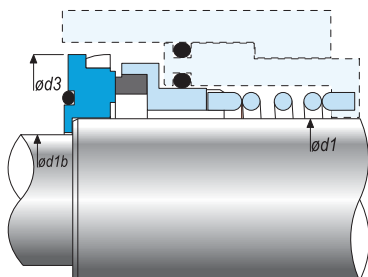


Tuchenhagen AR, AG, ZR and ZG Seals



d1		d1b		d3		d7	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	16.0	0.630	35.0	1.378	30.0	1.181
18.0	0.709	25.0	0.984	59.0	2.323	50.0	1.969
21.0	0.827	25.0	0.984	59.0	2.323	50.0	1.969
28.0	1.102	36.0	1.417	59.0	2.323	50.0	1.969
40.0	1.575	50.0	1.969	73.0	2.874	64.0	2.520

PIS

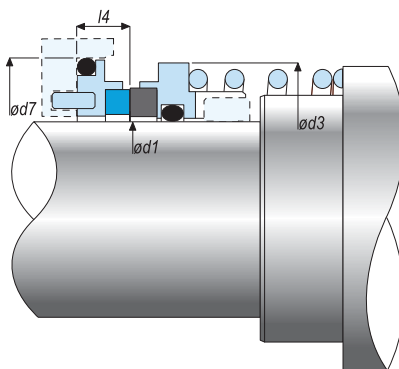


Tuchenhagen VPB, VPC, VPD Seals



d1		d1b		d3	
Metric	Inches	Metric	Inches	Metric	Inches
22.0	0.866	18.0	0.709	52.0	2.047
30.0	1.181	22.0	0.866	66.0	2.598
35.0	1.378	30.0	1.181	66.0	2.598

PKO

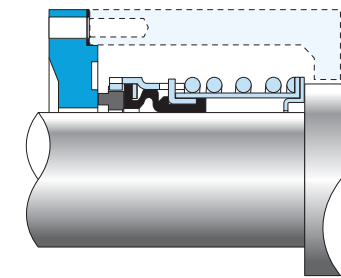


Viking Pump Seals

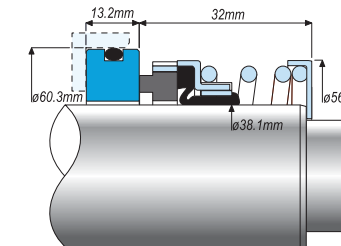


d1		d3		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.6	0.625	47.2	1.858	50.8	2.000	9.4	0.370
36.5	1.437	56.5	2.224	58.8	2.313	9.4	0.370

Carrier 05G, 5F20, 30, 40 and 60 Compressor, 5H40, 46, 60, 66, 80 and 86 Compressor Seals



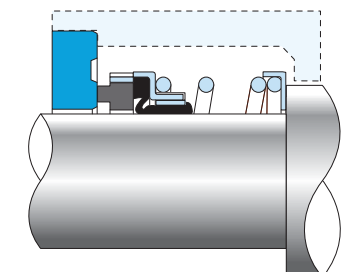
PBC



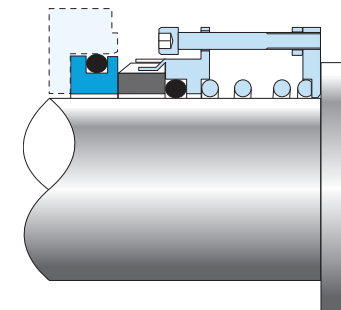
Gorman Rupp T3, T4 and T6 Pump Seals

PBG

Stal P2C, P24, P28, P42, PK6, PK8 and PK24 Compressor Seals

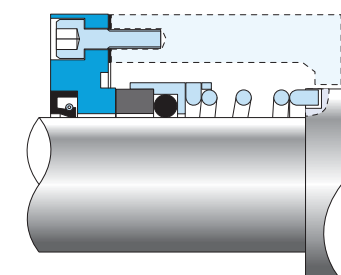


PBS



Bitzer 4H.2 and 6F.2 Compressor Seals

PBA



Bock F4 and F5 (BFO 4 and BFO 5) Compressor Seals

PBB

Stationary Components

Generally O-Ring mounted stationary components, or seats, are available in various materials to suit application requirements.

Some designs feature a pin groove to improve seat retention. It is important to consider the application conditions and condition of the equipment when selecting a stationary component.

The stationaries illustrated are those commonly found in use today.

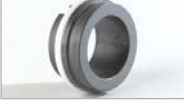
Elastomer Selections		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
PTFE	-60°C to +250°C	Suitable for aggressive chemical applications. (SH0, SJ0 & SAA Only)
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.

Stationary Materials

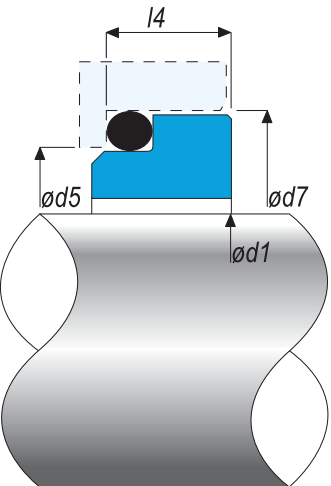
Stationary face material should be selected based on application and Rotary face selection. Common combinations are shown below.

		Face Combinations			
		Rotary			
		Carbon	Alumina Ceramic	Silicon Carbide	Stainless Steel
Stationary	Carbon	Not Recommended	Standard Duty	Increased Performance	Standard Duty
	Alumina Ceramic	Standard Duty	Not Recommended	Not Recommended	Not Recommended
	Silicon Carbide	Increased Performance	Not Recommended	Recommended For Aggressive Media	Not Recommended
Other combinations available on request.					

Stationary Components Index

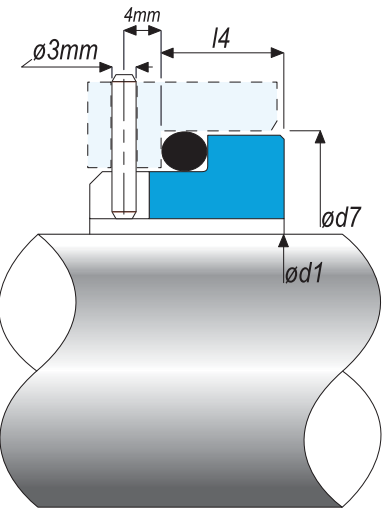
	SA0 Page 42		SG0/SGA Page 45
	SAS Page 42		SH0 Page 46
	SB0 Page 43		SHA Page 46
	SC0 Page 43		SIO Page 46
	SD0/SDA Page 44		SAA Page 47
	SE0 Page 44		SHH Page 47
	SF0 Page 45		SJA Page 47

SAO



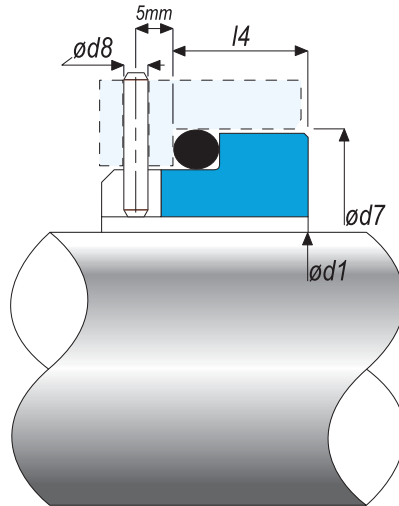
d1		d5		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	15.5	0.610	19.2	0.756	6.6	0.260
12.0	0.472	17.5	0.689	21.6	0.850	5.6	0.220
14.0	0.551	20.5	0.807	24.6	0.969	5.6	0.220
15.0	0.591	20.5	0.807	24.6	0.969	6.6	0.260
16.0	0.630	22.0	0.866	28.0	1.102	7.5	0.295
18.0	0.709	24.0	0.945	30.0	1.181	8.0	0.315
20.0	0.787	29.5	1.161	35.0	1.378	7.5	0.295
22.0	0.866	29.5	1.161	35.0	1.378	7.5	0.295
24.0	0.945	32.0	1.260	38.0	1.496	7.5	0.295
25.0	0.984	32.0	1.260	38.0	1.496	7.5	0.295
28.0	1.102	36.0	1.417	42.0	1.654	9.0	0.354
30.0	1.181	39.2	1.543	45.0	1.772	10.5	0.413
32.0	1.260	42.2	1.661	48.0	1.890	10.5	0.413
33.0	1.299	42.2	1.661	50.0	1.969	11.0	0.433
35.0	1.378	46.2	1.819	52.0	2.047	11.0	0.433
38.0	1.496	49.2	1.937	55.0	2.165	10.3	0.406
40.0	1.575	52.2	2.055	58.0	2.283	10.8	0.425
43.0	1.693	53.3	2.098	62.0	2.441	12.0	0.472
45.0	1.772	53.3	2.098	64.0	2.520	11.6	0.457
48.0	1.890	59.7	2.350	68.4	2.693	11.6	0.457
50.0	1.969	60.8	2.394	69.3	2.728	11.6	0.457
53.0	2.087	63.8	2.512	72.3	2.846	12.3	0.484
55.0	2.165	66.5	2.618	75.4	2.969	13.3	0.524
58.0	2.283	69.5	2.736	78.4	3.087	13.3	0.524
60.0	2.362	71.5	2.815	80.4	3.165	13.3	0.524
65.0	2.559	76.5	3.012	85.4	3.362	13.0	0.512
68.0	2.677	82.7	3.256	91.5	3.602	13.7	0.539
70.0	2.756	83.0	3.268	92.0	3.622	13.0	0.512
75.0	2.953	90.2	3.551	99.0	3.898	14.0	0.551
80.0	3.150	95.2	3.748	104.0	4.094	15.0	0.591
85.0	3.346	100.2	3.945	109.0	4.291	14.8	0.583
90.0	3.543	105.2	4.142	114.0	4.488	14.8	0.583
95.0	3.740	111.6	4.394	120.3	4.736	15.8	0.622
100.0	3.937	114.2	4.496	123.3	4.854	15.8	0.622

SAS



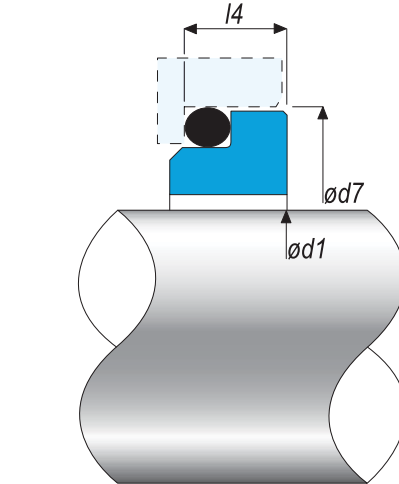
d1		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.2	0.756	5.6	0.220
12.0	0.473	21.6	0.850	5.6	0.220
14.0	0.551	24.6	0.969	6.6	0.260
15.0	0.591	24.6	0.969	6.6	0.260
16.0	0.630	28.0	1.102	7.0	0.276
18.0	0.709	30.0	1.181	8.0	0.315
19.0	0.748	35.0	1.378	7.5	0.295
20.0	0.787	35.0	1.378	7.5	0.295
22.0	0.866	35.0	1.378	7.5	0.295
24.0	0.945	38.0	1.496	7.5	0.295
25.0	0.984	38.0	1.496	7.5	0.295
26.0	1.024	38.0	1.496	7.5	0.295
28.0	1.102	42.0	1.654	9.0	0.354
30.0	1.181	45.0	1.772	10.5	0.413
32.0	1.260	48.0	1.890	10.5	0.413
35.0	1.378	52.0	2.047	11.0	0.433
38.0	1.496	55.0	2.165	10.3	0.406
40.0	1.575	58.0	2.283	10.8	0.425
42.0	1.654	62.0	2.441	12.2	0.480
45.0	1.772	64.0	2.520	11.8	0.465
48.0	1.890	68.4	2.693	11.8	0.465
50.0	1.969	69.3	2.728	11.8	0.465
55.0	2.165	75.4	2.969	13.5	0.531
58.0	2.283	78.4	3.087	13.5	0.531
60.0	2.362	80.4	3.165	13.5	0.531
65.0	2.559	85.4	3.362	13.2	0.520
68.0	2.677	91.5	3.602	13.7	0.539
70.0	2.756	92.0	3.622	13.2	0.520
75.0	2.953	99.0	3.898	14.2	0.559
80.0	3.150	104.0	4.094	15.2	0.598

SBO



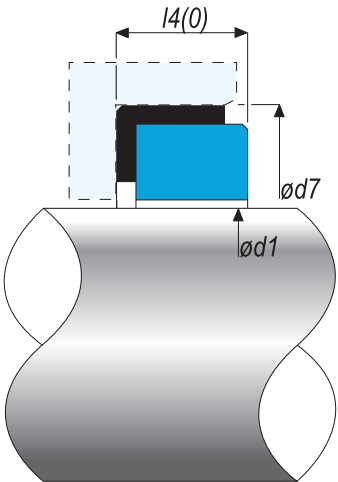
d1		d7		d8		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	23.0	0.906	3.0	0.118	10.0	0.394
14.0	0.551	25.0	0.984	3.0	0.118	10.0	0.394
16.0	0.630	27.0	1.063	3.0	0.118	10.0	0.394
18.0	0.709	33.0	1.299	3.0	0.118	11.5	0.453
20.0	0.787	35.0	1.378	3.0	0.118	11.5	0.453
22.0	0.866	37.0	1.457	3.0	0.118	11.5	0.453
24.0	0.945	39.0	1.535	3.0	0.118	11.5	0.453
25.0	0.984	40.0	1.575	3.0	0.118	11.5	0.453
28.0	1.102	43.0	1.693	3.0	0.118	11.5	0.453
30.0	1.181	45.0	1.772	3.0	0.118	11.5	0.453
32.0	1.260	48.0	1.890	3.0	0.118	11.5	0.453
33.0	1.299	48.0	1.890	3.0	0.118	11.5	0.453
35.0	1.378	50.0	1.969	3.0	0.118	11.5	0.453
38.0	1.496	56.0	2.205	4.0	0.157	14.0	0.551
40.0	1.575	58.0	2.283	4.0	0.157	14.0	0.551
43.0	1.693	61.0	2.402	4.0	0.157	14.0	0.551
45.0	1.772	63.0	2.480	4.0	0.157	14.0	0.551
48.0	1.890	66.0	2.598	4.0	0.157	14.0	0.551
50.0	1.969	70.0	2.756	4.0	0.157	15.0	0.591
53.0	2.087	73.0	2.875	4.0	0.157	15.0	0.591
55.0	2.165	75.0	2.953	4.0	0.157	15.0	0.591
58.0	2.283	78.0	3.071	4.0	0.157	15.0	0.591
60.0	2.362	80.0	3.150	4.0	0.157	15.0	0.591
65.0	2.559	85.0	3.346	4.0	0.157	15.0	0.591
68.0	2.677	90.0	3.543	4.0	0.157	18.0	0.709
70.0	2.756	92.0	3.622	4.0	0.157	18.0	0.709
75.0	2.953	97.0	3.819	4.0	0.157	18.0	0.709
80.0	3.150	105.0	4.134	4.0	0.157	18.2	0.717
85.0	3.346	110.0	4.331	4.0	0.157	18.2	0.717
90.0	3.543	115.0	4.528	4.0	0.157	18.2	0.717
95.0	3.740	120.0	4.724	4.0	0.157	17.2	0.677
100.0	3.937	125.0	4.921	4.0	0.157	17.2	0.677

SCO



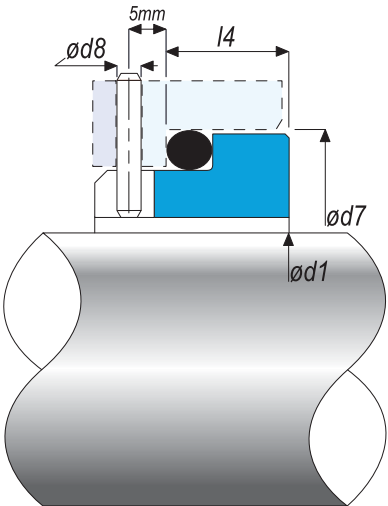
d1		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	21.0	0.827	6.6	0.260
12.0	0.472	23.0	0.906	6.6	0.260
14.0	0.551	25.0	0.984	6.6	0.260
16.0	0.630	27.0	1.063	6.6	0.260
18.0	0.709	33.0	1.299	7.5	0.295
20.0	0.787	35.0	1.378	7.5	0.295
22.0	0.866	37.0	1.457	7.5	0.295
24.0	0.945	39.0	1.535	7.5	0.295
25.0	0.984	40.0	1.575	7.5	0.295
28.0	1.102	43.0	1.693	7.5	0.295
30.0	1.181	45.0	1.772	7.5	0.295
32.0	1.260	48.0	1.890	7.5	0.295
33.0	1.299	48.0	1.890	7.5	0.295
35.0	1.378	50.0	1.969	7.5	0.295
38.0	1.496	56.0	2.205	9.0	0.354
40.0	1.575	58.0	2.283	9.0	0.354
43.0	1.693	61.0	2.402	9.0	0.354
45.0	1.772	63.0	2.480	9.0	0.354
48.0	1.890	66.0	2.598	9.0	0.354
50.0	1.969	70.0	2.756	9.5	0.374
53.0	2.087	73.0	2.874	11.0	0.433
55.0	2.165	75.0	2.953	11.0	0.433
58.0	2.283	78.0	3.071	11.0	0.433
60.0	2.362	80.0	3.150	11.0	0.433
65.0	2.559	85.0	3.346	11.0	0.433
68.0	2.677	90.0	3.543	11.3	0.445
70.0	2.756	92.0	3.622	11.3	0.445
75.0	2.953	97.0	3.819	11.3	0.445
80.0	3.150	105.0	4.134	12.0	0.472
85.0	3.346	110.0	4.331	14.0	0.551
90.0	3.543	115.0	4.528	14.0	0.551
95.0	3.740	120.0	4.724	14.0	0.551
100.0	3.937	125.0	4.921	14.0	0.551

SDO/SDA



d1		d7		l4 (SDO)		l40 (SDA)	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	23.0	0.906	8.6	0.339	6.6	0.260
14.0	0.551	25.0	0.984	8.6	0.339	6.6	0.260
16.0	0.630	27.0	1.063	8.6	0.339	6.6	0.260
18.0	0.709	33.0	1.299	10.0	0.394	7.5	0.295
20.0	0.787	35.0	1.378	10.0	0.394	7.5	0.295
22.0	0.866	37.0	1.457	10.0	0.394	7.5	0.295
24.0	0.945	39.0	1.535	10.0	0.394	7.5	0.295
25.0	0.984	40.0	1.575	10.0	0.394	7.5	0.295
28.0	1.102	43.0	1.693	10.0	0.394	7.5	0.295
30.0	1.181	45.0	1.772	10.0	0.394	7.5	0.295
32.0	1.260	48.0	1.890	10.0	0.394	7.5	0.295
33.0	1.299	48.0	1.890	10.0	0.394	7.5	0.295
35.0	1.378	50.0	1.969	10.0	0.394	7.5	0.295
38.0	1.496	56.0	2.205	11.0	0.433	9.0	0.354
40.0	1.575	58.0	2.283	11.0	0.433	9.0	0.354
43.0	1.693	61.0	2.402	11.0	0.433	9.0	0.354
45.0	1.772	63.0	2.480	11.0	0.433	9.0	0.354
48.0	1.890	66.0	2.598	11.0	0.433	9.0	0.354
50.0	1.969	70.0	2.756	13.0	0.512	9.5	0.374
53.0	2.087	73.0	2.874	13.0	0.512	11.0	0.433
55.0	2.165	75.0	2.953	13.0	0.512	11.0	0.433
58.0	2.283	78.0	3.071	13.0	0.512	11.0	0.433
60.0	2.362	80.0	3.150	13.0	0.512	11.0	0.433
63.0	2.480	83.0	3.268	13.0	0.512	11.0	0.433
65.0	2.559	85.0	3.346	13.0	0.512	11.0	0.433
68.0	2.677	90.0	3.543	15.3	0.602	11.3	0.445
70.0	2.756	92.0	3.622	15.3	0.602	11.3	0.445
75.0	2.953	97.0	3.819	15.3	0.602	11.3	0.445
80.0	3.150	105.0	4.134	15.7	0.618	12.0	0.472
85.0	3.346	110.0	4.331	15.7	0.618	14.0	0.551
90.0	3.543	115.0	4.528	15.7	0.618	14.0	0.551
95.0	3.740	120.0	4.724	15.7	0.618	14.0	0.551
100.0	3.937	125.0	4.921	15.7	0.618	14.0	0.551

SEO

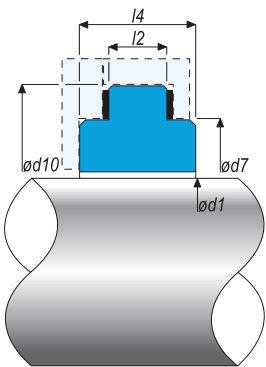


d1		d7		d8		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	21.0	0.827	4.0	0.157	8.6	0.339
12.0	0.472	23.0	0.906	4.0	0.157	8.6	0.339
14.0	0.551	25.0	0.984	4.0	0.157	8.6	0.339
16.0	0.630	27.0	1.063	4.0	0.1579	8.6	0.339
18.0	0.709	33.0	1.260	5.0	0.197	10.0	0.394
20.0	0.787	35.0	1.378	5.0	0.197	10.0	0.394
22.0	0.866	37.0	1.457	5.0	0.197	10.0	0.394
24.0	0.945	39.0	1.535	5.0	0.197	10.0	0.394
25.0	0.984	40.0	1.575	5.0	0.197	10.0	0.394
28.0	1.102	43.0	1.693	5.0	0.197	10.0	0.394
30.0	1.181	45.0	1.772	5.0	0.197	10.0	0.394
32.0	1.260	48.0	1.890	5.0	0.197	10.0	0.394
33.0	1.299	48.0	1.890	5.0	0.197	10.0	0.394
35.0	1.378	50.0	1.969	5.0	0.197	10.0	0.394
38.0	1.496	56.0	2.205	5.0	0.197	11.0	0.433
40.0	1.575	58.0	2.283	5.0	0.197	11.0	0.433
43.0	1.693	61.0	2.402	5.0	0.197	11.0	0.433
45.0	1.772	63.0	2.480	5.0	0.197	11.0	0.433
48.0	1.890	66.0	2.598	5.0	0.197	11.0	0.433
50.0	1.969	70.0	2.756	5.0	0.197	13.0	0.512
53.0	2.087	73.0	2.874	5.0	0.197	13.0	0.512
55.0	2.165	75.0	2.953	5.0	0.197	13.0	0.512
58.0	2.283	78.0	3.071	5.0	0.197	13.0	0.512
60.0	2.362	80.0	3.150	5.0	0.197	13.0	0.512
63.0	2.480	83.0	3.268	5.0	0.197	13.0	0.512
65.0	2.559	85.0	3.346	5.0	0.197	13.0	0.512
68.0	2.677	90.0	3.543	5.0	0.197	15.3	0.602
70.0	2.756	92.0	3.622	5.0	0.197	15.3	0.602
75.0	2.953	97.0	3.819	5.0	0.197	15.3	0.602
80.0	3.150	105.0	4.134	5.0	0.197	15.7	0.618
85.0	3.346	110.0	4.331	5.0	0.197	15.7	0.618
90.0	3.543	115.0	4.528	5.0	0.197	15.7	0.618
95.0	3.740	120.0	4.724	5.0	0.197	15.7	0.618
100.0	3.937	125.0	4.921	5.0	0.197	15.7	0.618

d1		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	21.0	0.827	8.6	0.339
12.0	0.472	23.0	0.906	8.6	0.339
14.0	0.551	25.0	0.984	8.6	0.339
16.0	0.630	27.0	1.063	8.6	0.339
18.0	0.709	33.0	1.260	10.0	0.394
20.0	0.787	35.0	1.378	10.0	0.394
22.0	0.866	37.0	1.457	10.0	0.394
24.0	0.945	39.0	1.535	10.0	0.394
25.0	0.984	40.0	1.575	10.0	0.394
28.0	1.102	43.0	1.693	10.0	0.394
30.0	1.181	45.0	1.772	10.0	0.394
32.0	1.260	48.0	1.890	10.0	0.394
33.0	1.299	48.0	1.890	10.0	0.394
35.0	1.378	50.0	1.969	10.0	0.394
38.0	1.496	56.0	2.205	11.0	0.433
40.0	1.575	58.0	2.283	11.0	0.433
43.0	1.693	61.0	2.402	11.0	0.433
45.0	1.772	63.0	2.480	11.0	0.433
48.0	1.890	66.0	2.598	11.0	0.433
50.0	1.969	70.0	2.756	13.0	0.512
53.0	2.087	73.0	2.874	13.0	0.512
55.0	2.165	75.0	2.953	13.0	0.512
58.0	2.283	78.0	3.071	13.0	0.512
60.0	2.362	80.0	3.150	13.0	0.512
63.0	2.480	83.0	3.268	13.0	0.512
65.0	2.559	85.0	3.346	13.0	0.512
68.0	2.677	90.0	3.543	15.3	0.602
70.0	2.756	92.0	3.622	15.3	0.602
75.0	2.953	97.0	3.819	15.3	0.602
80.0	3.150	105.0	4.134	15.7	0.618
85.0	3.346	110.0	4.331	15.7	0.618
90.0	3.543	115.0	4.528	15.7	0.618
95.0	3.740	120.0	4.724	15.7	0.618
100.0	3.937	125.0	4.921	15.7	0.618

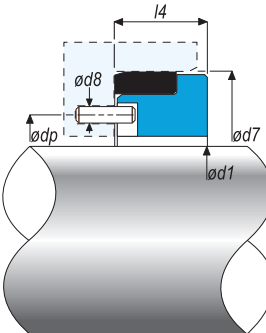
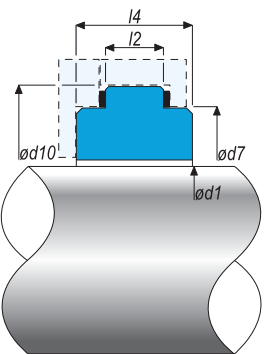
d1		d7		d70		d8		l4		l40	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	24.6	0.969	N/A	N/A	3.0	0.118	8.7	0.344	N/A	N/A
12.0	0.472	27.8	1.094	N/A	N/A	3.0	0.118	8.7	0.344	N/A	N/A
12.7	0.500	27.8	1.094	25.4	1.000	3.0	0.118	8.7	0.344	7.9	0.311
13.0	0.512	27.8	1.094	N/A	N/A	3.0	0.118	8.7	0.344	N/A	N/A
14.0	0.551	31.0	1.219	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
15.0	0.591	31.0	1.219	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
15.8	0.625	30.9	1.217	31.7	1.250	3.0	0.118	10.3	0.406	10.3	0.406
16.0	0.630	31.0	1.219	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
18.0	0.709	34.2	1.344	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
19.1	0.750	34.2	1.346	34.9	1.375	3.0	0.118	10.3	0.406	10.3	0.406
20.0	0.787	35.7	1.406	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
22.0	0.866	37.3	1.469	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
22.2	0.875	37.3	1.469	38.1	1.500	3.0	0.118	10.3	0.406	10.3	0.406
24.0	0.945	40.5	1.594	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
25.0	0.984	40.5	1.594	N/A	N/A	3.0	0.118	10.3	0.406	N/A	N/A
25.4	1.000	40.5	1.594	41.2	1.625	3.0	0.118	10.3	0.406	11.1	0.437
28.0	1.102	47.6	1.875	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
28.6	1.125	47.6	1.875	44.4	1.750	3.5	0.138	11.9	0.469	11.1	0.437
30.0	1.181	50.8	2.000	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
31.7	1.250	50.8	2.000	47.6	1.875	3.5	0.138	11.9	0.469	11.1	0.437
32.0	1.260	50.8	2.000	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
33.0	1.299	54.0	2.125	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
35.0	1.375	53.9	2.125	50.8	2.000	3.5	0.138	11.9	0.469	11.1	0.437
38.0	1.500	57.1	2.250	53.9	2.125	3.5	0.138	11.9	0.469	11.1	0.437
40.0	1.575	60.4	2.375	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
41.2	1.625	60.3	2.375	60.3	2.375	3.5	0.138	11.9	0.469	12.7	0.500
42.0	1.654	63.5	2.500	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
43.0	1.693	63.5	2.500	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
44.4	1.750	63.5	2.500	63.5	2.500	3.5	0.138	11.9	0.469	12.7	0.500
45.0	1.772	63.5	2.500	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
47.6	1.875	66.6	2.625	66.6	2.625	3.5	0.138	11.9	0.469	12.7	0.500
48.0	1.890	66.7	2.625	N/A	N/A	3.5	0.138	12.0	0.472	N/A	N/A
50.0	1.969	69.9	2.750	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
50.8	2.000	69.8	2.750	69.8	2.750	3.5	0.138	13.5	0.531	12.7	0.500
53.0	2.087	73.1	2.875	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
53.9	2.125	73.0	2.875	76.2	3.000	3.5	0.138	13.5	0.531	14.2	0.559
55.0	2.165	76.2	3.000	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
57.1	2.250	76.2	3.000	79.4	3.125	3.5	0.138	13.5	0.531	14.2	0.559
58.0	2.283	79.4	3.125	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
60.0	2.362	79.4	3.125	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
60.3	2.375	79.4	3.125	82.5	3.250	3.5	0.138	13.5	0.531	14.2	0.559
63.0	2.480	82.6	3.250	N/A	N/A	3.5	0.138	13.5	0.531	N/A	N/A
63.5	2.500	82.5	3.250	85.7	3.375	3.5	0.138	13.5	0.531	14.2	0.559
65.0	2.559	92.1	3.625	N/A	N/A	4.5	0.177	15.9	0.626	N/A	N/A
66.6	2.625	92.1	3.625	85.7	3.375	4.5	0.177	15.9	0.626	15.8	0.625
69.8	2.750	95.2	3.750	88.9	3.500	4.5	0.177	15.9	0.626	15.8	0.625
70.0	2.756	95.3	3.750	N/A	N/A	4.5	0.177	15.9	0.626	N/A	N/A
73.0	2.875	98.4	3.875	95.2	3.750	4.5	0.177	15.9	0.626	15.8	0.625
75.0	2.953	101.7	4.000	N/A	N/A	4.5	0.177	15.9	0.626	N/A	N/A
76.2	3.000	101.6	4.000	98.4	3.875	4.5	0.177	15.9	0.626	15.8	0.625

SHO



d1		d7		d10		l4		l2	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	36.5	1.437	48.0	1.889	17.4	0.685	7.9	0.311
22.2	0.875	39.7	1.563	51.0	2.007	17.4	0.685	7.9	0.311
25.4	1.000	42.9	1.689	54.0	2.125	17.4	0.685	7.9	0.311
28.6	1.125	46.0	1.811	65.0	2.559	26.9	1.059	11.1	0.437
31.7	1.250	50.8	2.000	68.0	2.677	26.9	1.059	11.1	0.437
34.9	1.375	53.9	2.125	71.0	2.795	26.9	1.059	11.1	0.437
38.1	1.500	57.1	2.250	78.0	3.070	26.9	1.059	11.1	0.437
41.2	1.625	63.5	2.500	81.0	3.188	26.9	1.059	11.1	0.437
44.4	1.750	66.7	2.625	84.0	3.307	26.9	1.059	11.1	0.437
47.6	1.875	69.8	2.750	87.0	3.425	26.9	1.059	11.1	0.437
50.8	2.000	73.0	2.875	97.0	3.818	26.9	1.059	11.1	0.437
53.9	2.125	79.4	3.125	100.0	3.937	33.3	1.311	14.3	0.563
57.1	2.250	82.5	3.250	103.0	4.055	33.3	1.311	14.3	0.563
60.3	2.375	85.7	3.375	106.0	4.173	33.3	1.311	14.3	0.563
63.5	2.500	88.9	3.500	110.0	4.330	33.3	1.311	14.3	0.563
66.6	2.625	92.0	3.625	113.0	4.448	33.3	1.311	14.3	0.563
69.8	2.750	95.2	3.750	116.0	4.566	33.3	1.311	14.3	0.563
73.0	2.875	98.4	3.875	117.0	4.606	33.3	1.311	14.3	0.563
76.2	3.000	100.0	3.937	121.0	4.763	33.3	1.311	14.3	0.563

SHA

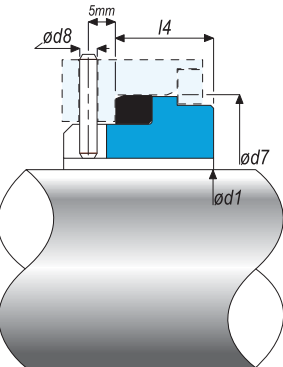


d1		d7		d10		l4		l2	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.6	1.125	47.4	1.865	56.8	2.237	9.5	0.375	20.6	0.812
34.9	1.375	53.7	2.115	66.1	2.604	9.5	0.375	22.2	0.875
34.9 (G)	1.375	50.5	1.990	59.9	2.360	12.7	0.500	25.4	1.000
44.4	1.750	66.4	2.615	78.8	3.104	9.5	0.375	22.2	0.875
44.4 (G)	1.750	63.2	2.490	76.1	2.995	12.7	0.500	25.4	1.000

SIO

d1		d7		d8		dp		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.750	34.9	1.375	2.0	0.078	23.9	0.941	10.3	0.405
22.2	0.875	38.1	1.500	2.0	0.078	27.0	1.062	10.3	0.405
25.4	1.000	41.2	1.625	2.0	0.078	30.1	1.187	11.1	0.437
28.6	1.125	44.4	1.750	2.0	0.078	33.3	1.313	11.1	0.437
31.7	1.250	47.6	1.875	2.0	0.078	36.5	1.437	11.1	0.437
34.9	1.375	50.8	2.000	2.0	0.078	39.7	1.563	11.1	0.437
38.1	1.500	53.9	2.125	2.0	0.078	42.8	1.687	11.1	0.437
41.2	1.625	60.3	2.375	3.0	0.118	47.6	1.875	12.7	0.500
44.4	1.750	63.5	2.500	3.0	0.118	50.8	2.000	12.7	0.500
47.6	1.875	66.6	2.625	3.0	0.118	54.0	2.125	12.7	0.500
50.8	2.000	69.8	2.750	3.0	0.118	57.1	2.250	12.7	0.500
53.9	2.125	76.2	3.000	3.0	0.118	60.3	2.375	14.3	0.563
57.1	2.250	79.4	3.125	3.0	0.118	63.5	2.500	14.3	0.563
60.3	2.375	82.5	3.250	3.0	0.118	66.7	2.625	14.3	0.563
63.5	2.500	85.7	3.375	3.0	0.118	69.8	2.750	14.3	0.563
66.6	2.625	85.7	3.375	3.0	0.118	73.0	2.875	15.9	0.625
69.8	2.750	88.9	3.500	3.0	0.118	76.2	3.000	15.9	0.625
73.0	2.875	95.2	3.750	3.0	0.118	79.3	3.125	15.9	0.625
76.2	3.000	98.4	3.875	3.0	0.118	82.5	3.250	15.9	0.625

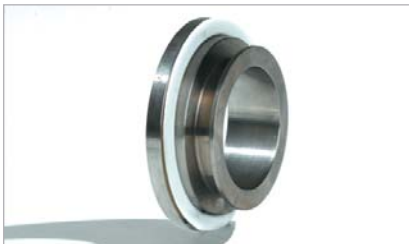
SAA



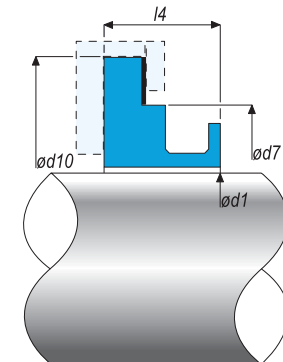
d1		d7		d8		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	35.0	1.378	3.0	0.118	13.5	0.531
22.0	0.866	37.0	1.457	3.0	0.118	13.5	0.531
24.0	0.945	39.0	1.535	3.0	0.118	13.5	0.531
25.0	0.984	40.0	1.575	3.0	0.118	13.0	0.511
28.0	1.102	43.0	1.693	3.0	0.118	12.5	0.492
30.0	1.181	45.0	1.772	3.0	0.118	12.0	0.472
32.0	1.260	48.0	1.890	3.0	0.118	12.0	0.472
33.0	1.299	48.0	1.890	3.0	0.118	12.0	0.472
35.0	1.378	50.0	1.969	3.0	0.118	12.0	0.472
38.0	1.496	56.0	2.205	4.0	0.157	13.0	0.511
40.0	1.575	58.0	2.283	4.0	0.157	13.0	0.511
43.0	1.693	61.0	2.402	4.0	0.157	13.0	0.511
45.0	1.772	63.0	2.480	4.0	0.157	13.0	0.511
48.0	1.890	66.0	2.598	4.0	0.157	13.0	0.511
50.0	1.969	70.0	2.756	4.0	0.157	13.5	0.531
53.0	2.087	73.0	2.874	4.0	0.157	13.5	0.531
55.0	2.165	75.0	2.953	4.0	0.157	13.5	0.531
58.0	2.283	78.0	3.071	4.0	0.157	13.5	0.531
60.0	2.362	80.0	3.150	4.0	0.157	13.5	0.531
63.0	2.480	83.0	3.268	4.0	0.157	13.5	0.531
65.0	2.559	85.0	3.346	4.0	0.157	13.5	0.531
68.0	2.677	90.0	3.543	4.0	0.157	13.5	0.531
70.0	2.756	92.0	3.622	4.0	0.157	14.5	0.571
75.0	2.953	97.0	3.819	4.0	0.157	14.5	0.571
80.0	3.149	105.0	4.133	4.0	0.157	15.0	0.591
85.0	3.346	110.0	4.330	4.0	0.157	15.0	0.591
90.0	3.543	115.0	4.527	4.0	0.157	15.0	0.591
95.0	3.740	120.0	4.724	4.0	0.157	15.0	0.591
100.0	3.937	125.0	4.921	4.0	0.157	15.0	0.591

d1		d7		d8		dp		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
19.1	0.752	34.1	1.344	3.0	0.118	26.0	1.024	20.6	0.811
28.6	1.125	47.6	1.875	3.5	0.138	38.1	1.500	23.9	0.941
31.7	1.250	50.8	2.000	3.5	0.138	41.2	1.625	23.9	0.941
34.9	1.375	53.9	2.125	3.5	0.138	44.4	1.750	23.9	0.941
38.1	1.500	57.1	2.250	3.5	0.138	47.6	1.875	23.9	0.941
41.2	1.625	60.3	2.375	3.5	0.138	50.8	2.000	23.9	0.941
44.4	1.750	63.5	2.500	3.5	0.138	53.9	2.125	23.9	0.941
50.8	2.000	69.8	2.750	3.5	0.138	60.3	2.375	27.0	1.063
53.9	2.125	73.0	2.875	3.5	0.138	63.5	2.500	27.0	1.063
66.6	2.625	92.1	3.625	4.5	0.177	79.4	3.125	31.9	1.256

d1		d7		d10		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
53.9	2.125	79.5	3.125	95.3	3.750	27.0	1.063
66.6	2.625	91.8	3.625	107.9	4.250	32.5	1.280
85.7	3.375	111.0	4.375	127.0	5.000	36.5	1.437



SJA



Pump Specific Seals

To fully complete our range of Component Mechanical Seals we offer many seal designs specific to a manufacturers pump. Many seals available exceed the performance of the OEM designs by utilizing the following advantages;

- Appreciation of customer applications
- In house design, simulation and testing
- Bespoke 3D CAD designs to solve customer specific problems
- Quality & Service committed team of professionals

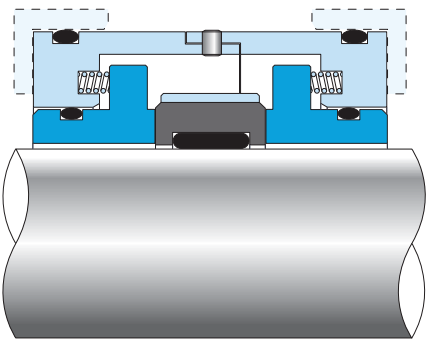
Seals are available to suit all of the major brands, whilst the list is extensive, it is not exhaustive. Pioneer Weston is committed to providing sealing solutions for all volumes and applications.

Major Pump Manufacturers	
A.B.S.®	ITT®
A.P.V.®	IBEX®
Alfa Laval®	Inoxpa®
Allweiler®	Iron®
Armstrong®	Jacuzzi®
Beresford®	Johnson®
Biral®	K.S.B.®
Calpeda®	Lee Howl®
Crane®	Mission®
D.A.B.®	Pullen®
Doughboy®	S.S.P.®
E.M.U.®	Sihl®
Ebara®	Silverstone®
Flygt®	Sta-Rite®
Fristam®	Tri-Clover®
Girdlestone®	Tuchenhagen®
Grindex®	Tuthill®
Hamworthy®	Viking®
Holden & Brooke®	Weir®
Hidrosta®	Worthington®

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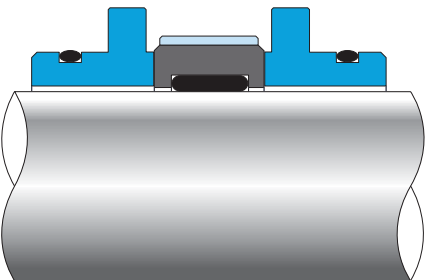
SEC



EMU (35mm, 50mm and 75mm) Complete Kit



SEA



EMU (35mm, 50mm and 75mm) Double Face Kits

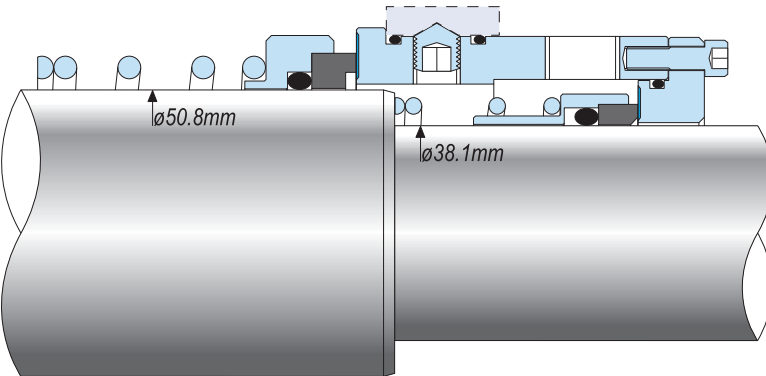
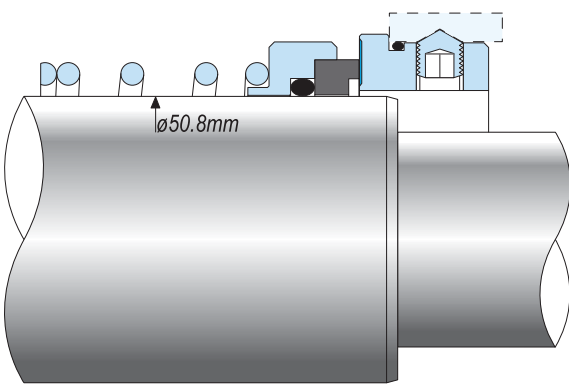


d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
85.0	3.346	103.2	4.063	109.0	4.291	44.2	1.740	14.8	0.583
105.0	4.134	129.0	5.079	134.3	5.287	36.5	1.437	14.8	0.583

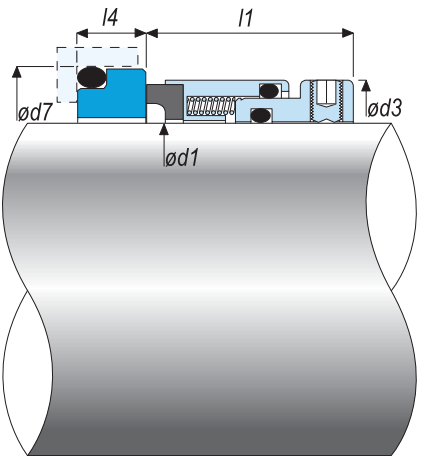
Alfa Laval Conthem Scraped Surface Heat Exchange Seals



SZO



SAE

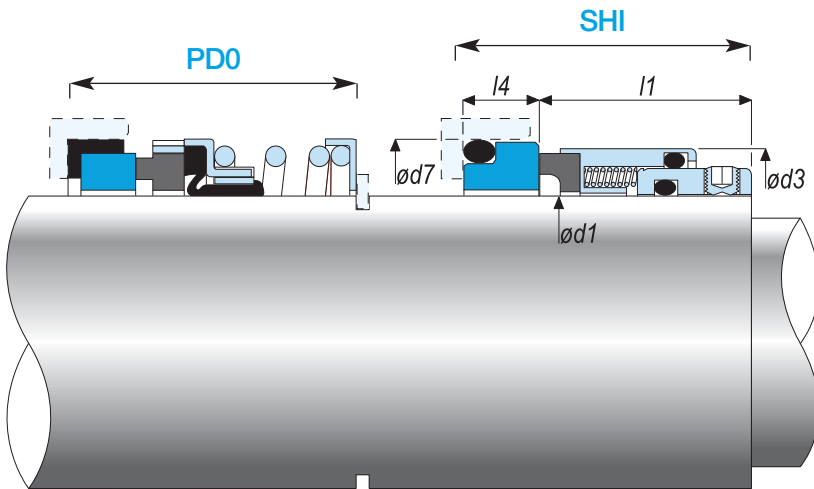


EMU Pump Seals

d1		d3		d7		l1		Seat Type
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	
28.6	1.125	43.1	1.698	44.4	1.750	38.1	1.500	O Ring Mounted
38.1	1.500	52.7	2.073	53.9	2.125	39.6	1.559	
50.8	2.000	65.9	2.593	69.8	2.750	46.6	1.835	Boot Mounted
76.2	3.000	93.6	3.687	98.4	3.875	52.4	2.063	

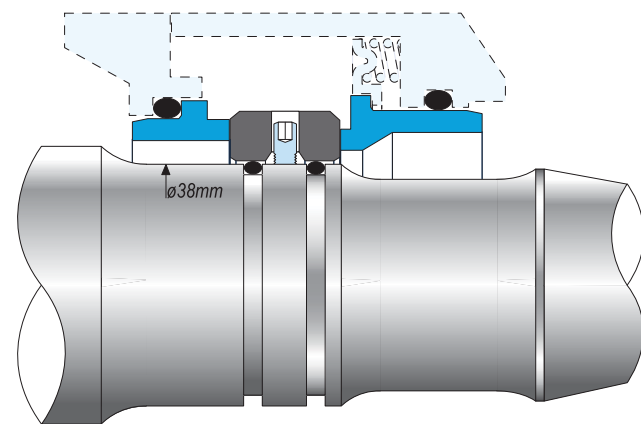
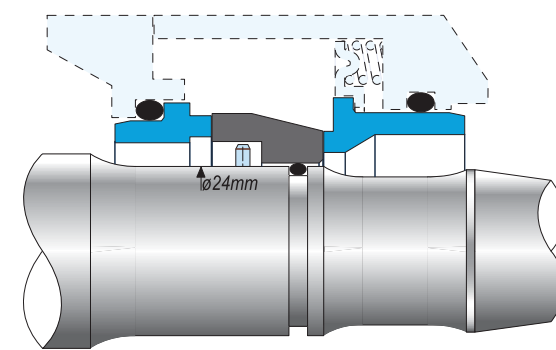
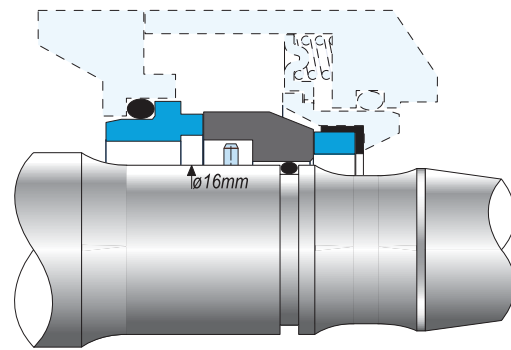


SHI



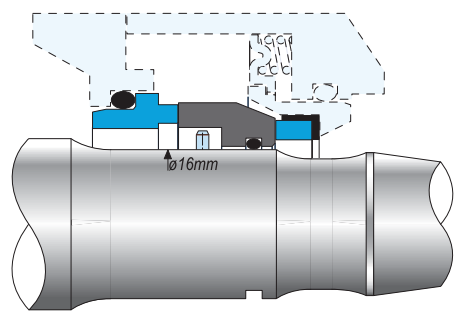
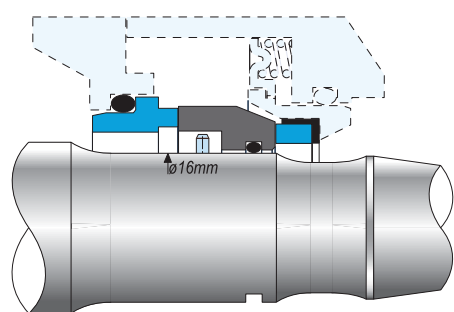
SSO

Sarlin Pumps Double Seal Arrangement



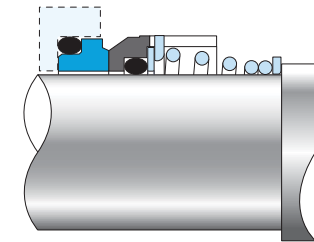
SSS

Sarlin Pumps Double Seal Arrangement

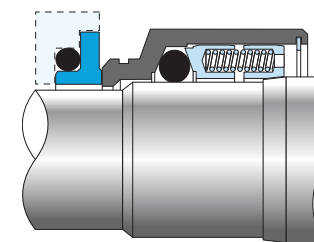


Sabroe SMC 4-65, 6-65, 8-65 and 10-65 (Mk1) Compressor Seals

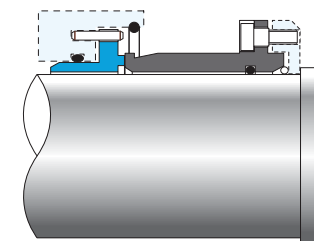
SAB



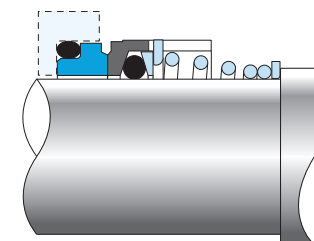
Sabroe CM0 14, 16 and 18 (Mk1) Compressor Seals



Sabroe CM0 24, 26 and 28 (Mk2) Compressor HPO 24, 26 and 28 (Mk2) Compressors TCM0 24, 26 and 28 (Mk2) Compressor Seals

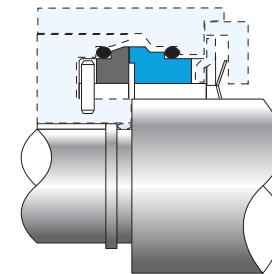
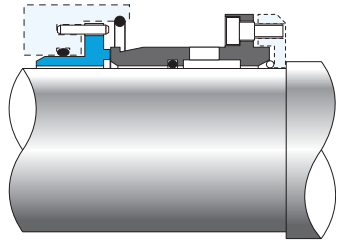


Sabroe SMC 4, 6, 8, 12 and 16-100 (Mk1) Compressor SMC 104, 106, 108, 112 and 116 (Mk2) Compressor TSMC 8, 16-100 (Mk1) and 108, 116 (Mk2) Compressor Seals



SAB

Sabroe HPC 104, 106 and 108 (Mk3 and 4) Compressor
SMC 104, 106, 108, 112 and 116 (Mk3 and 4) Compressor
TCMC 108 and 116 (Mk3 and 4) Compressor Seals

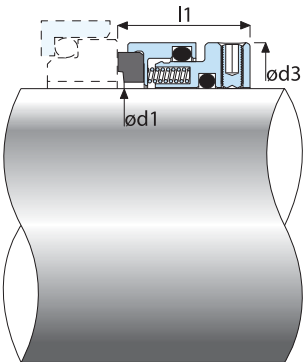


APV DW Pump Seals

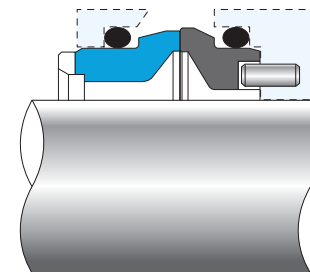
TWW



SSI

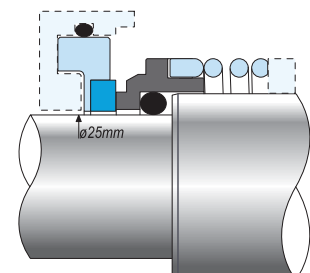


d1 Metric	Inches	d3 Metric	Inches	l1 Metric	Inches
20.0	0.787	36.0	1.417	20.0	0.787
22.0	0.866	38.0	1.496	20.0	0.787
24.0	0.945	40.0	1.575	22.0	0.866
25.0	0.984	41.0	1.614	23.0	0.906
28.0	1.102	44.0	1.732	23.0	0.906
30.0	1.181	46.0	1.811	24.0	0.945
32.0	1.260	48.0	1.890	24.0	0.945
33.0	1.299	49.0	1.929	24.0	0.945
35.0	1.378	51.0	2.008	24.0	0.945
38.0	1.496	58.0	2.283	27.0	1.063
40.0	1.575	60.0	2.362	28.0	1.102
43.0	1.693	63.0	2.480	28.0	1.102
45.0	1.772	65.0	2.559	28.0	1.102
48.0	1.890	68.0	2.677	28.0	1.102
50.0	1.969	70.0	2.756	27.0	1.063
53.0	2.087	73.0	2.874	27.0	1.063
55.0	2.165	75.0	2.953	27.0	1.063
58.0	2.283	83.0	3.268	29.0	1.142
60.0	2.362	85.0	3.346	29.0	1.142
63.0	2.480	88.0	3.465	32.0	1.260
65.0	2.559	90.0	3.543	32.0	1.260
68.0	2.677	93.0	3.661	32.0	1.260
70.0	2.756	95.0	3.740	32.0	1.260
75.0	2.953	104.0	4.094	32.0	1.260
80.0	3.150	109.0	4.291	32.0	1.260
85.0	3.346	114.0	4.488	32.0	1.260
90.0	3.543	119.0	4.685	38.0	1.496
95.0	3.740	124.0	4.882	38.0	1.496
100.0	3.937	129.0	5.079	38.0	1.496



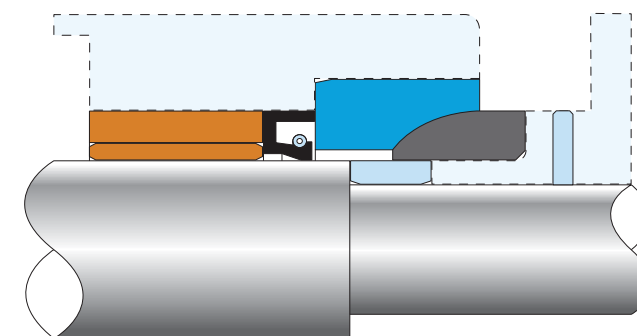
APV W Plus Pump Seals

TWP



APV Sim 20/30-220 Pump Seals

TWS



Hayward Tyler Side Entry Mixer Seal

HTOC

Taper Spring Seals

Taper spring seals are an extremely popular design featuring technical proficiency and positive drive via the spring. Taper spring seals are available to suit DIN and most other housing dimensions.

With a wide variation of sizes and styles to choose from, Taper spring seals are used in an array of equipment. Applications include but are not limited to; Pumps, Mixers, Agitators and Compressors

All designs feature o-ring sealing on the shaft and positive spring drive.

Maximum Operating Limits	
Pressure	10 bar
Speed	15 m/s
Temperature	-40°C to +180°C

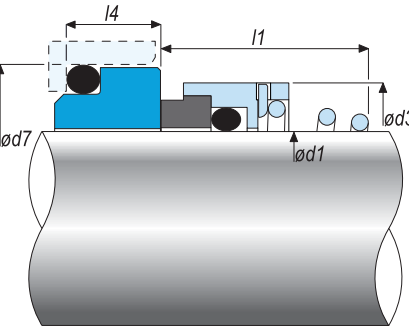
Elastomer Selections		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.

		Face Combinations			
		Rotary			
		Carbon	Silicon Carbide	Stainless Steel	Tungsten Carbide
Stationary	Carbon	Not Available	Increased Performance	Standard	Not Available
	Alumina Ceramic	Increased Performance	Recommended For Aggressive Media	Not Available	Not Available
	Silicon Carbide	Not Available	Recommended For Aggressive Media	Not Available	Recommended For Aggressive Media
Other materials available on request.					

Taper Spring Seals Index

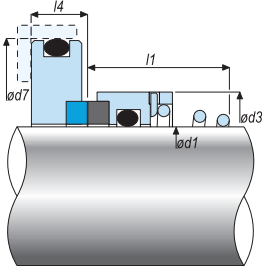
	TA0 Page 58		TDO Page 70
	TAA Page 58		TDD Page 70
	TAD Page 59		TFD Page 70
	TAB Page 59		TG0 Page 71
	TAS Page 59		TGD Page 71
	TAL Page 60		TGX Page 71
	TAX Page 60		TCZ Page 72
	TAF Page 61-67		TR0 Page 72
	TB0 Page 68		TRV Page 72
	TC0 Page 68		TW0 Page 73
	TCD Page 69		TWD Page 73
	TDM Page 69		

TAO



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	19.2	0.756	16.9	0.665	6.6	0.260
12.0	0.472	21.0	0.827	21.6	0.850	17.4	0.685	5.6	0.220
14.0	0.551	23.0	0.906	24.6	0.969	17.4	0.685	5.6	0.220
15.0	0.591	24.0	0.945	24.6	0.969	17.4	0.685	6.6	0.260
16.0	0.630	26.0	1.024	28.0	1.102	19.5	0.768	7.5	0.295
18.0	0.709	29.0	1.142	30.0	1.181	20.5	0.807	8.0	0.315
19.0	0.748	31.0	1.220	31.0	1.220	22.0	0.866	7.5	0.295
20.0	0.787	31.0	1.220	35.0	1.378	22.0	0.866	7.5	0.295
22.0	0.866	33.0	1.299	35.0	1.378	23.5	0.925	7.5	0.295
24.0	0.945	35.0	1.378	38.0	1.496	25.0	0.984	7.5	0.295
25.0	0.984	36.0	1.417	38.0	1.496	26.5	1.043	7.5	0.295
26.0	1.024	36.0	1.417	40.0	1.575	26.5	1.043	8.0	0.315
28.0	1.102	40.0	1.575	42.0	1.654	26.5	1.043	9.0	0.354
30.0	1.181	43.0	1.693	45.0	1.772	25.0	0.984	10.5	0.413
32.0	1.260	46.0	1.811	48.0	1.890	28.5	1.122	10.5	0.413
33.0	1.299	46.0	1.811	50.0	1.969	28.5	1.122	10.5	0.413
35.0	1.378	49.0	1.929	52.0	2.047	28.5	1.122	11.0	0.433
38.0	1.496	53.0	2.087	55.0	2.165	32.2	1.268	10.3	0.406
40.0	1.575	56.0	2.205	58.0	2.283	34.7	1.366	10.8	0.425
42.0	1.654	59.0	2.323	62.0	2.441	37.3	1.469	12.0	0.472
43.0	1.693	59.0	2.323	62.0	2.441	37.3	1.469	12.0	0.472
45.0	1.772	61.0	2.402	64.0	2.520	39.2	1.543	11.6	0.457
48.0	1.890	64.0	2.520	68.4	2.693	44.7	1.760	11.6	0.457
50.0	1.969	66.0	2.598	69.3	2.728	45.7	1.799	11.6	0.457
55.0	2.165	71.0	2.795	75.4	2.969	49.0	1.929	13.3	0.524
58.0	2.283	76.0	2.992	78.4	3.087	52.0	2.047	13.3	0.524
60.0	2.362	78.0	3.071	80.4	3.165	53.0	2.087	13.3	0.524
65.0	2.559	84.0	3.307	85.4	3.362	54.3	2.138	13.0	0.512
68.0	2.677	87.0	3.425	91.5	3.602	55.3	2.177	13.7	0.539
70.0	2.756	89.8	3.533	92.0	3.622	56.3	2.217	13.0	0.512
75.0	2.953	98.0	3.858	99.0	3.898	56.3	2.217	14.0	0.551
80.0	3.150	100.0	3.937	104.0	4.094	59.3	2.335	15.0	0.591

TAA

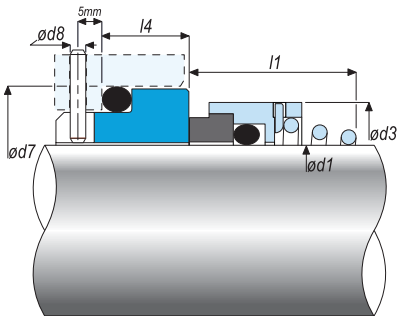


d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
15.0	0.591	24.0	0.945	38.0	1.496	15.0	0.591	8.0	0.315
20.0	0.787	31.0	1.220	45.0	1.772	19.5	0.768	8.5	0.335

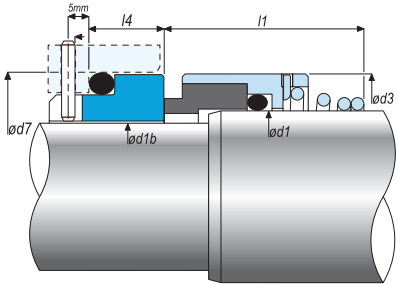
d1		d3		d7		d8		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	21.0	0.827	3.0	0.118	15.5	0.610	10.0	0.394
12.0	0.472	20.0	0.787	23.0	0.906	3.0	0.118	16.0	0.630	10.0	0.394
14.0	0.551	23.0	0.906	25.0	0.984	3.0	0.118	16.5	0.650	10.0	0.394
16.0	0.630	26.0	1.024	27.0	1.064	3.0	0.118	18.0	0.709	10.0	0.394
18.0	0.709	29.0	1.142	33.0	1.299	3.0	0.118	19.5	0.768	11.5	0.453
20.0	0.787	31.0	1.220	35.0	1.378	3.0	0.118	22.0	0.866	11.5	0.453
22.0	0.866	33.0	1.299	37.0	1.457	3.0	0.118	21.5	0.846	11.5	0.453
24.0	0.945	35.0	1.378	39.0	1.535	3.0	0.118	23.5	0.925	11.5	0.453
25.0	0.984	36.0	1.417	40.0	1.575	3.0	0.118	26.5	1.043	11.5	0.453
28.0	1.102	40.0	1.575	43.0	1.693	3.0	0.118	26.5	1.043	11.5	0.453
30.0	1.181	43.0	1.693	45.0	1.772	3.0	0.118	26.5	1.043	11.5	0.453
32.0	1.260	46.0	1.811	48.0	1.890	3.0	0.118	28.5	1.122	11.5	0.453
33.0	1.299	46.0	1.811	48.0	1.890	3.0	0.118	28.5	1.122	11.5	0.453
35.0	1.378	49.0	1.929	50.0	1.969	3.0	0.118	28.5	1.122	11.5	0.453
38.0	1.496	53.0	2.087	56.0	2.205	4.0	0.157	33.5	1.319	14.0	0.551
40.0	1.575	56.0	2.205	58.0	2.283	4.0	0.157	36.0	1.417	14.0	0.551
43.0	1.693	59.0	2.323	61.0	2.402	4.0	0.157	38.5	1.516	14.0	0.551
45.0	1.772	61.0	2.402	63.0	2.480	4.0	0.157	39.5	1.555	14.0	0.551
48.0	1.890	64.0	2.520	66.0	2.598	4.0	0.157	46.0	1.811	14.0	0.551
50.0	1.969	66.0	2.598	70.0	2.756	4.0	0.157	45.0	1.772	15.0	0.591
53.0	2.087	69.0	2.717	73.0	2.874	4.0	0.157	47.0	1.850	15.0	0.591
55.0	2.165	71.0	2.795	75.0	2.953	4.0	0.157	49.0	1.929	15.0	0.591
58.0	2.283	76.0	2.992	78.0	3.071	4.0	0.157	55.0	2.165	15.0	0.591
60.0	2.362	78.0	3.071	80.0	3.150	4.0	0.157	55.0	2.165	15.0	0.591
65.0	2.559	84.0	3.307	85.0	3.346	4.0	0.157	55.0	2.165	15.0	0.591
68.0	2.677	88.0	3.465	90.0	3.543	4.0	0.157	55.0	2.165	18.0	0.709
70.0	2.756	90.0	3.543	92.0	3.622	4.0	0.157	57.0	2.244	18.0	0.709
75.0	2.953	98.0	3.858	97.0	3.819	4.0	0.157	62.0	2.441	18.0	0.709
80.0	3.150	100.0	3.937	105.0	4.134	4.0	0.157	61.8	2.433	18.2	0.717

d1		d1b din seal size		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
14.0	0.551	10.0	0.394	23.0	0.906	21.0	0.827	25.5	1.004	10.0	0.394
16.0	0.630	12.0	0.472	26.0	1.024	23.0	0.906	26.5	1.043	10.0	0.394
18.0	0.709	14.0	0.551	29.0	1.142	25.0	0.984	29.5	1.161	10.0	0.394
20.0	0.787	16.0	0.630	31.0	1.220	27.0	1.063	31.0	1.220	10.0	0.394
22.0	0.866	18.0	0.709	33.0	1.299	33.0	1.299	32.5	1.280	11.5	0.453
24.0	0.945	20.0	0.787	35.0	1.378	35.0	1.378	32.5	1.280	11.5	0.453
28.0	1.102	24.0	0.945	40.0	1.575	39.0	1.535	32.5	1.280	11.5	0.453
30.0	1.181	25.0	0.984	43.0	1.693	40.0	1.575	33.5	1.319	11.5	0.453
33.0	1.299	28.0	1.102	46.0	1.811	43.0	1.693	35.5	1.398	11.5	0.453
35.0	1.378	30.0	1.181	49.0	1.929	45.0	1.772	35.5	1.398	11.5	0.453
38.0	1.496	33.0	1.299	53.0	2.087	48.0	1.890	39.5	1.555	11.5	0.453
40.0	1.575	35.0	1.378	56.0	2.205	50.0	1.969	43.5	1.713	11.5	0.453
43.0	1.693	38.0	1.496	59.0	2.323	56.0	2.205	46.0	1.811	14.0	0.551
45.0	1.772	40.0	1.575	61.0	2.402	58.0	2.283	48.0	1.890	14.0	0.551
48.0	1.890	43.0	1.693	64.0	2.520	61.0	2.402	51.0	2.008	14.0	0.551
50.0	1.969	45.0	1.772	66.0	2.598	63.0	2.480	55.0	2.165	14.0	0.551
53.0	2.087	48.0	1.890	69.0	2.717	66.0	2.598	55.0	2.165	14.0	0.551
55.0	2.165	50.0	1.969	71.0	2.795	70.0	2.756	58.0	2.283	15.0	0.591
58.0	2.283	53.0	2.087	76.0	2.992	73.0	2.874	60.0	2.362	15.0	0.591
60.0	2.362	55.0	2.165	78.0	3.071	75.0	2.953	60.0	2.362	15.0	0.591
65.0	2.559	60.0	2.362	84.0	3.307	80.0	3.150	60.0	2.362	15.0	0.591
68.0	2.677	63.0	2.480	88.0	3.465	83.0	3.268	60.0	2.362	15.0	0.591
70.0	2.756	65.0	2.559	90.0	3.543	85.0	3.346	61.0	2.402	15.0	0.591
75.0	2.953	70.0	2.756	98.0	3.858	92.0	3.622	63.0	2.480	18.0	0.709
80.0	3.150	75.0	2.953	100.0	3.937	97.0	3.819	68.0	2.677	18.0	0.709

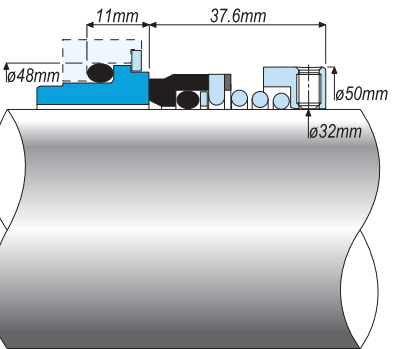
TAD



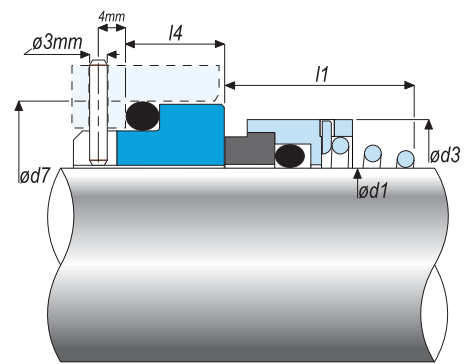
TAB



Sarlin Lower Seals TAS



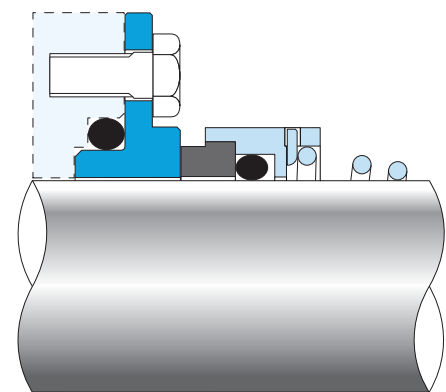
TAL



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	19.2	0.756	16.9	0.665	5.6	0.220
12.0	0.473	21.0	0.827	21.6	0.850	17.4	0.685	5.6	0.220
14.0	0.551	23.0	0.906	24.6	0.969	17.4	0.685	6.6	0.260
15.0	0.591	24.0	0.945	24.6	0.969	17.4	0.685	6.6	0.260
16.0	0.630	26.0	1.024	28.0	1.102	19.5	0.768	7.0	0.276
18.0	0.709	29.0	1.142	30.0	1.181	20.5	0.807	8.0	0.315
19.0	0.748	31.0	1.220	35.0	1.378	22.0	0.866	7.5	0.295
20.0	0.787	31.0	1.220	35.0	1.378	22.0	0.866	7.5	0.295
22.0	0.866	33.0	1.299	35.0	1.378	23.5	0.925	7.5	0.295
24.0	0.945	35.0	1.378	38.0	1.496	25.0	0.984	7.5	0.295
25.0	0.984	36.0	1.417	38.0	1.496	26.5	1.043	7.5	0.295
26.0	1.024	36.0	1.417	38.0	1.496	26.5	1.043	7.5	0.295
28.0	1.102	40.0	1.575	42.0	1.654	26.5	1.043	9.0	0.354
30.0	1.181	43.0	1.693	45.0	1.772	25.0	0.984	10.5	0.413
32.0	1.260	46.0	1.811	48.0	1.890	28.5	1.122	10.5	0.413
35.0	1.378	49.0	1.929	52.0	2.047	28.5	1.122	11.0	0.433
38.0	1.496	53.0	2.087	55.0	2.165	32.2	1.268	10.3	0.406
40.0	1.575	56.0	2.205	58.0	2.283	34.7	1.366	10.8	0.425
42.0	1.654	59.0	2.323	62.0	2.441	37.3	1.469	12.2	0.480
45.0	1.772	61.0	2.402	64.0	2.520	39.2	1.543	11.8	0.465
48.0	1.890	64.0	2.520	68.4	2.693	44.7	1.760	11.8	0.465
50.0	1.969	66.0	2.598	69.3	2.728	45.7	1.799	11.8	0.465
55.0	2.1655	71.0	2.795	75.4	2.969	49.0	1.929	13.5	0.531
58.0	2.283	76.0	2.992	78.4	3.087	52.0	2.047	13.5	0.531
60.0	2.362	78.0	3.071	80.4	3.165	53.0	2.087	13.5	0.531
65.0	2.559	84.0	3.307	85.4	3.362	54.3	2.138	13.2	0.520
68.0	2.677	87.0	3.425	91.5	3.602	55.3	2.177	13.7	0.539
70.0	2.756	89.8	3.533	92.0	3.622	56.3	2.217	13.2	0.520
75.0	2.953	98.0	3.858	99.0	3.898	56.3	2.217	14.2	0.559
80.0	3.150	100.0	3.937	104.0	4.094	59.3	2.335	15.2	0.598

TAX

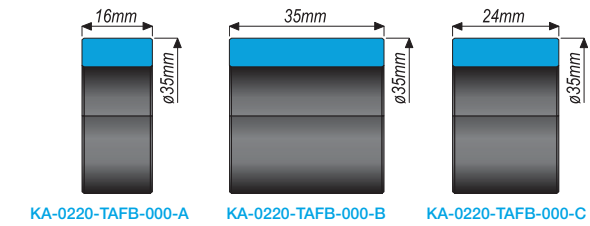
Anema ZA pump seals



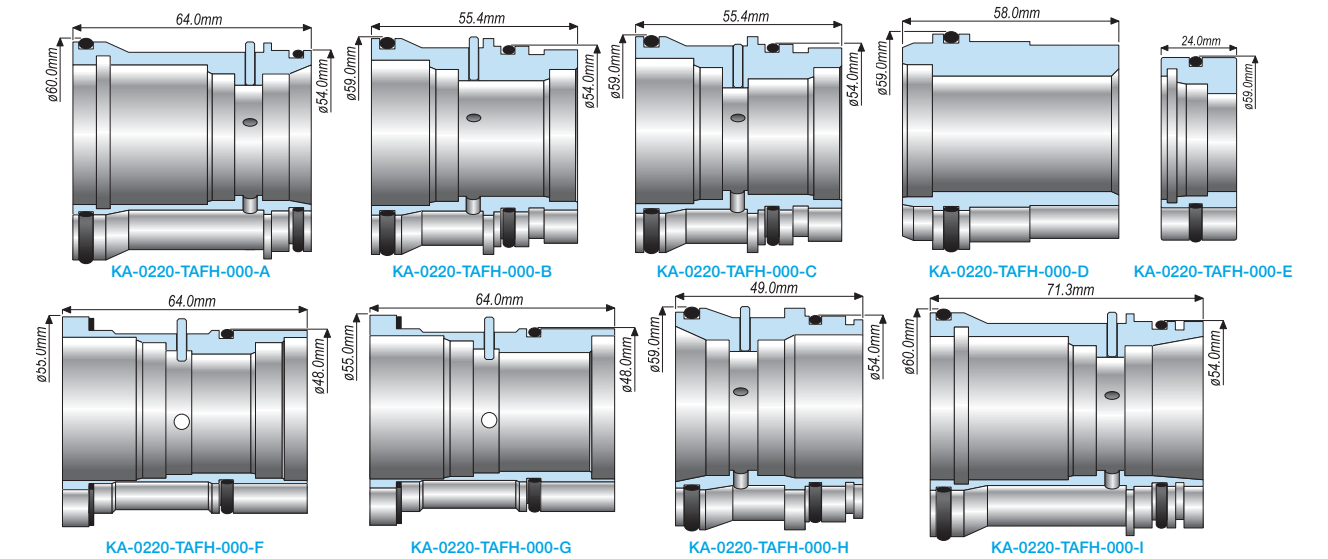
Fristam Pump 22mm parts

TAF

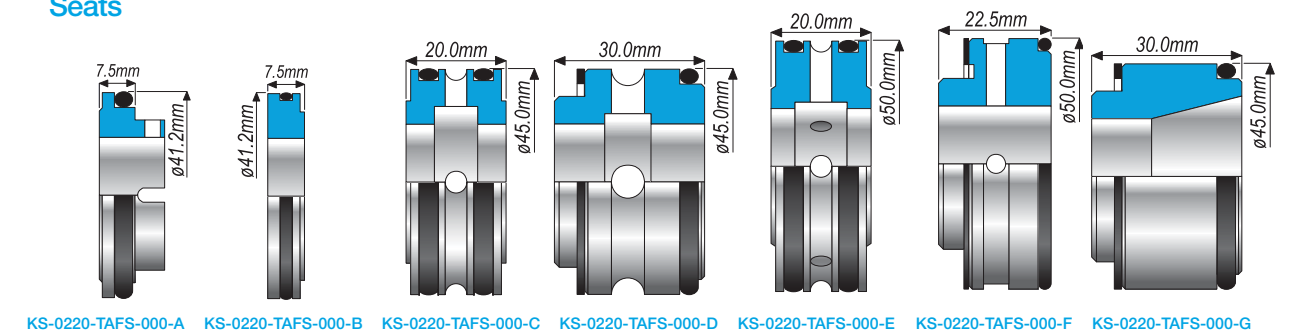
Carbon Brushes



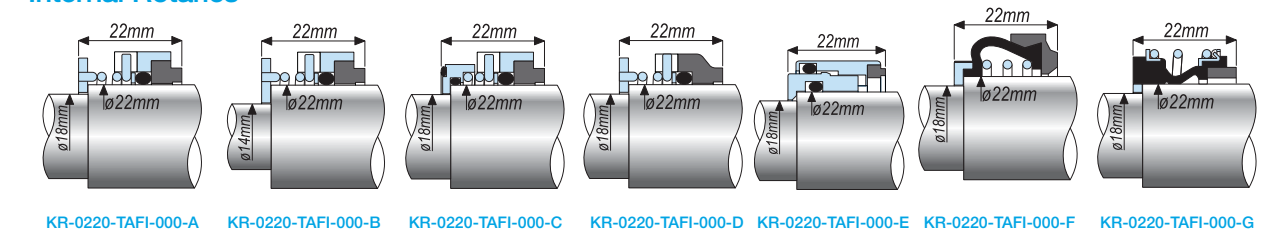
Housing/Glands



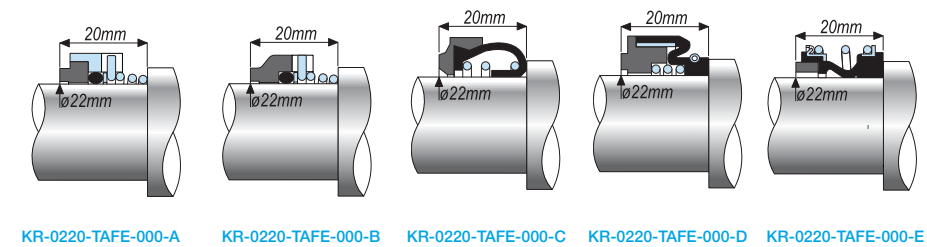
Seats



Internal Rotaries

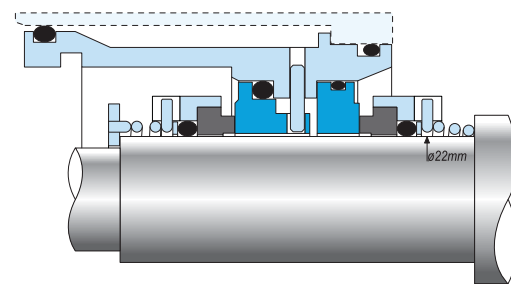


External Rotaries

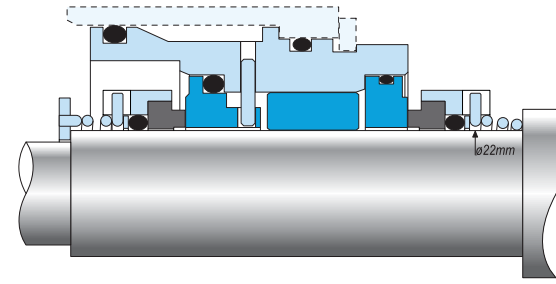


TAF

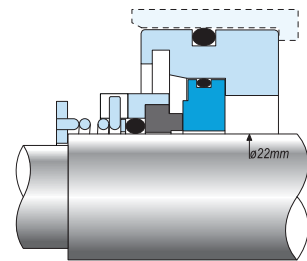
Fristam Pump 22mm Complete Seal Arrangements



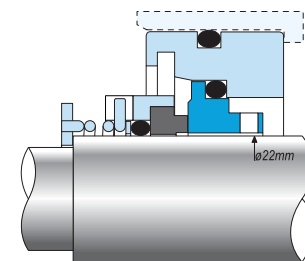
KA-0220-TAF1-xxxxxx



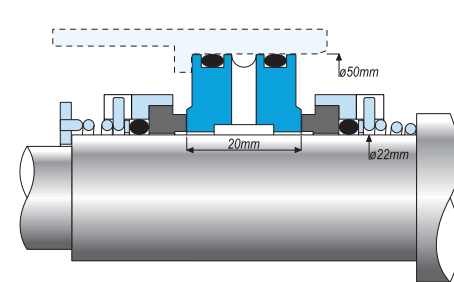
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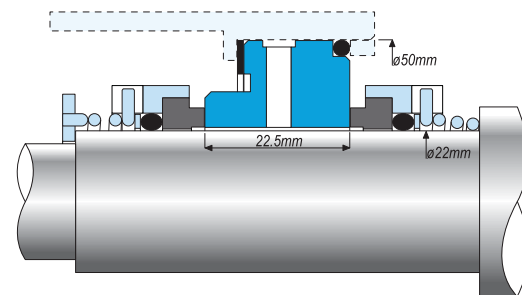
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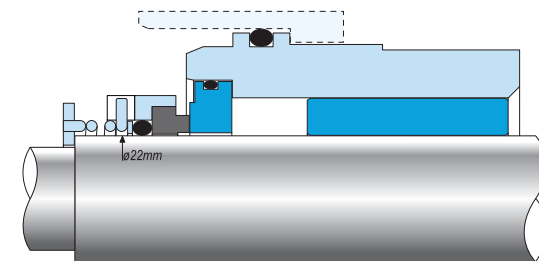
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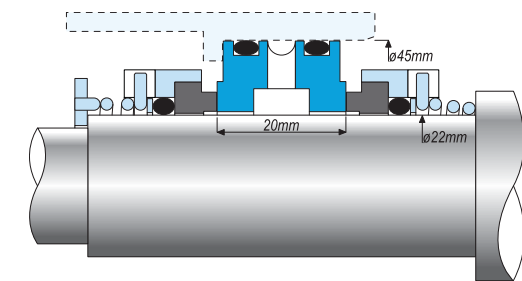
KA-0220-TAF5-xxxxxx



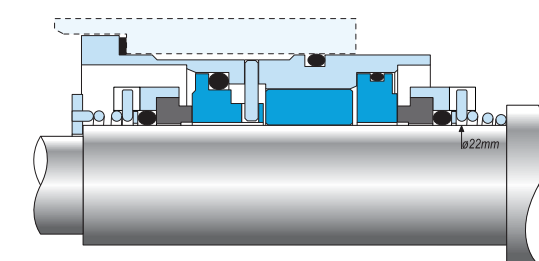
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KA-0220-TAF7-xxx

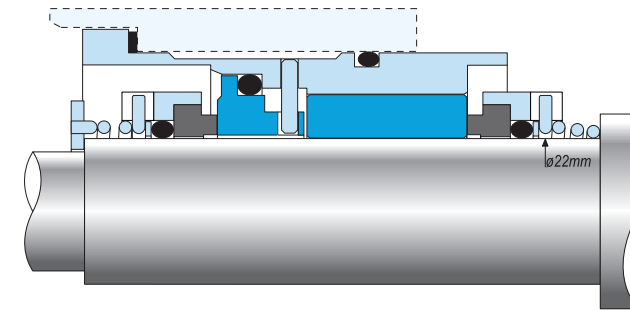


KA-0220-TAF8-xxxxxx

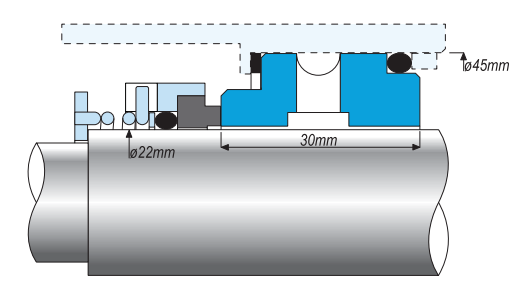


KA-0220-TAF9-xxxxxx

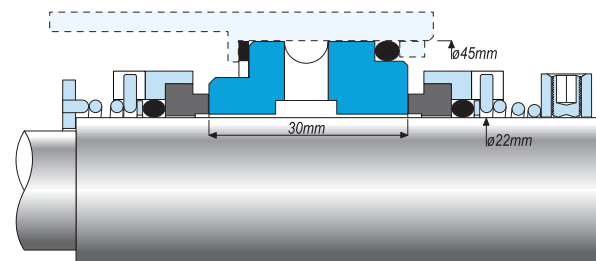
TAF



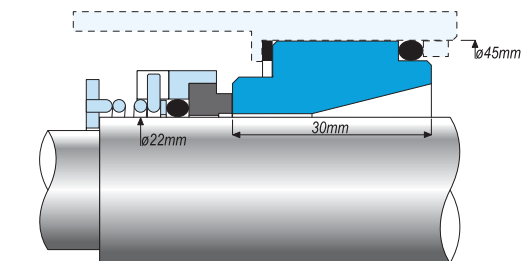
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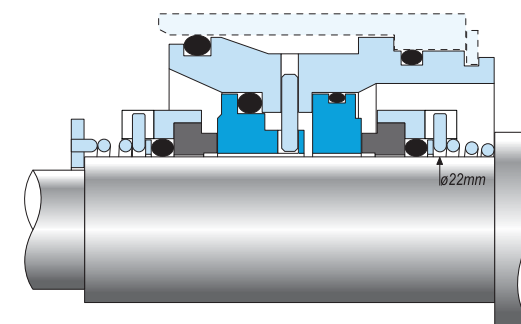
KA-0220-TAF11-xxx



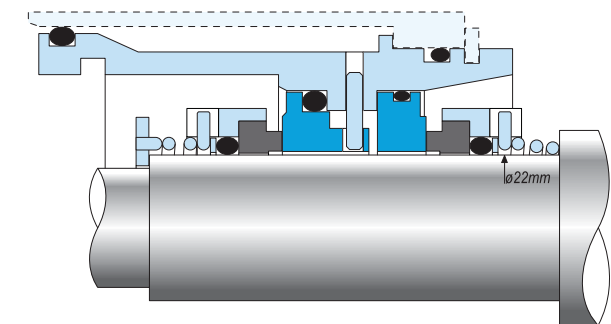
KA-0220-TAF12-xxxxxx



KA-0220-TAF13-xxx



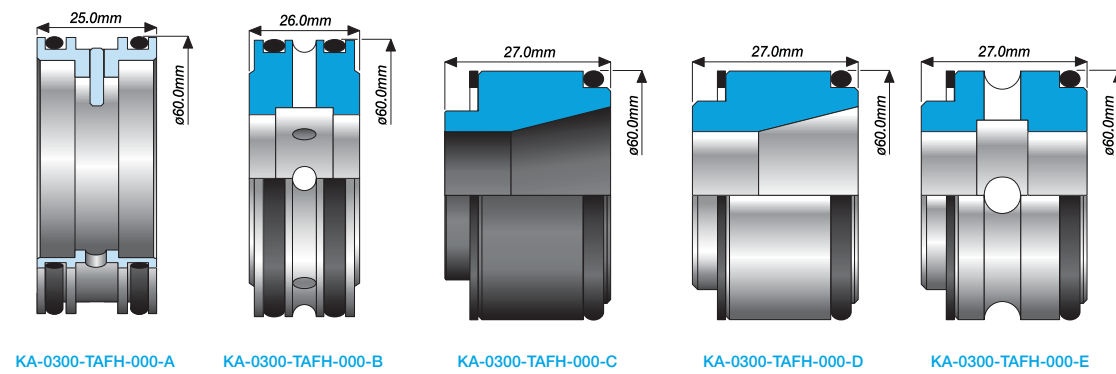
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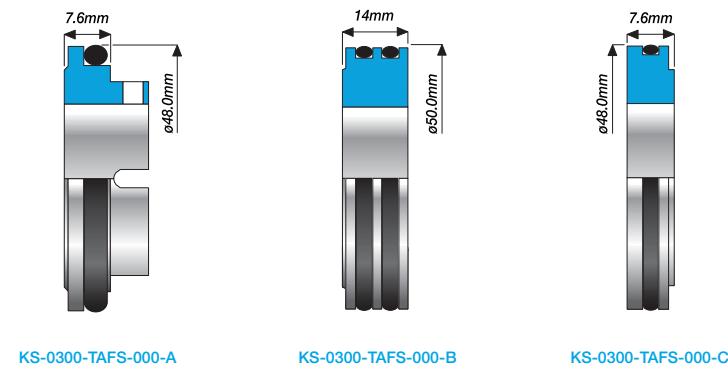
KA-0220-TAF15-xxxxxx

TAF Housing/Seats

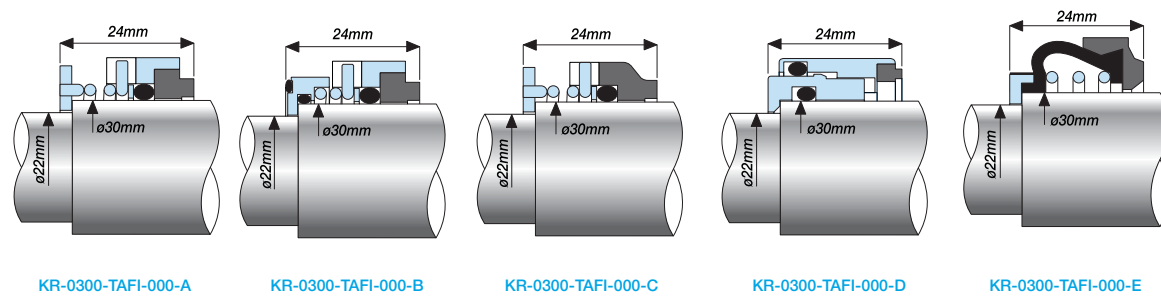
Fristam Pump 30mm Parts



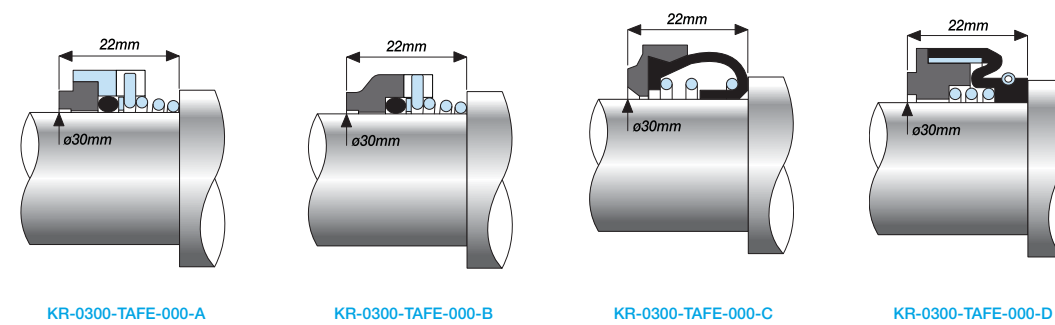
Seats



Internal Rotaries

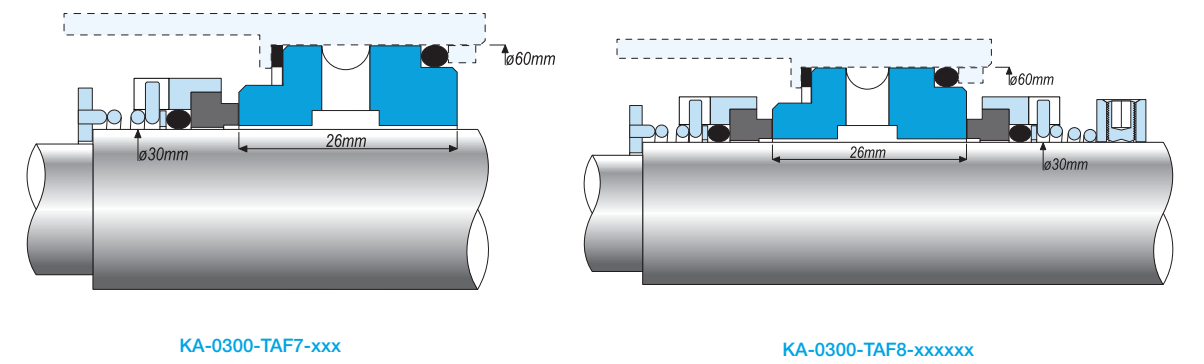
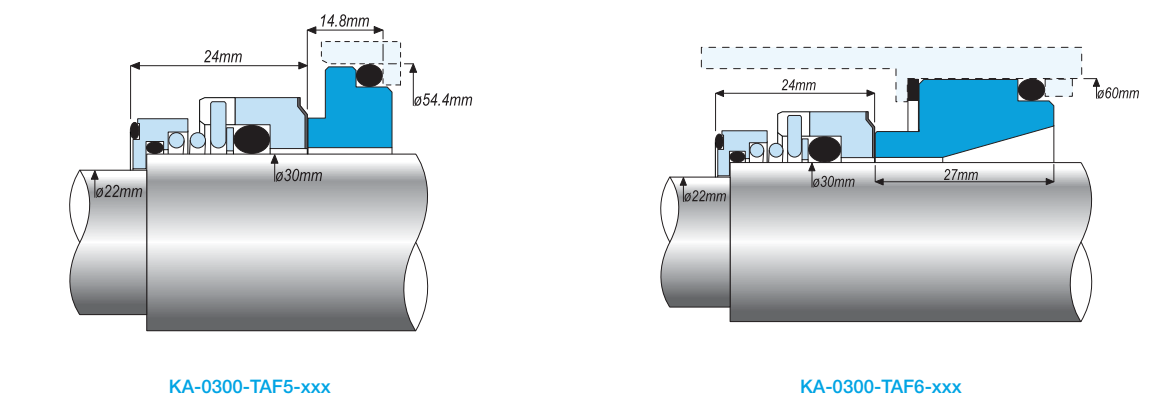
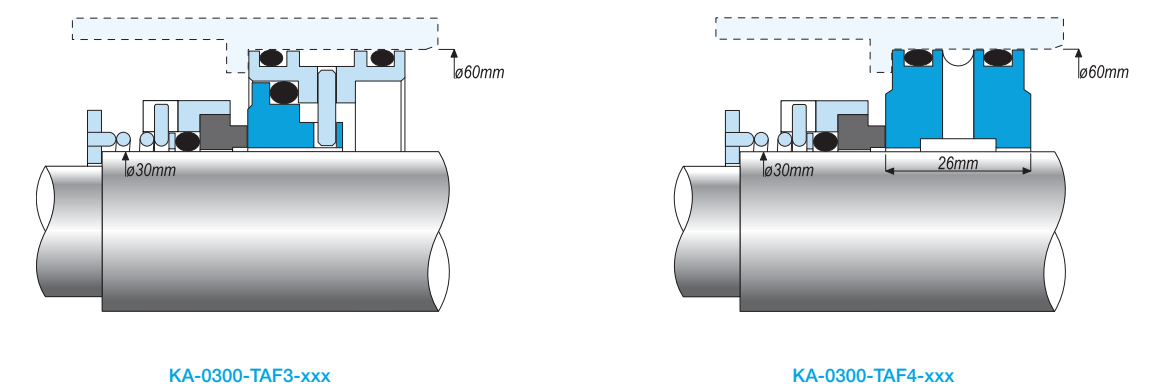
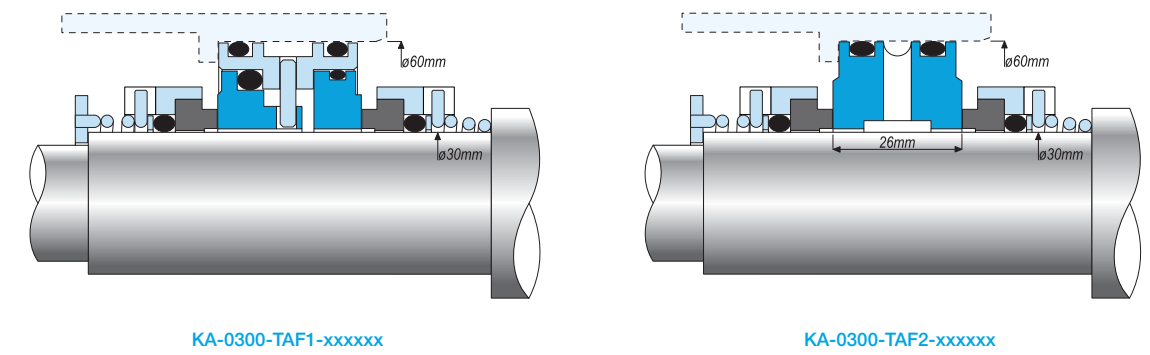


External Rotaries



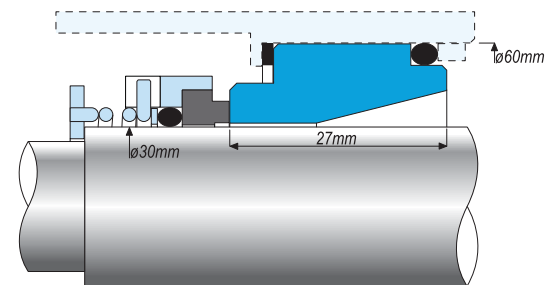
Fristam Pump 30mm Complete Seal Arrangements

TAF

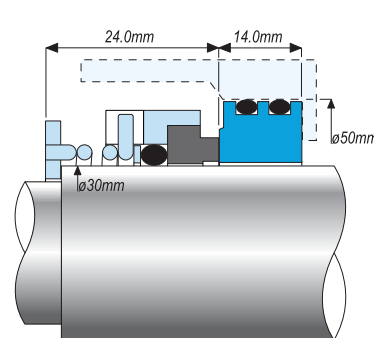


TAF

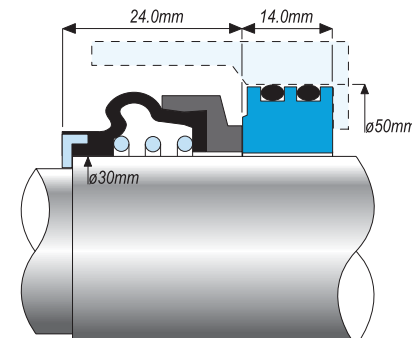
Fristam Pump 30mm Complete Seal Arrangements



KA-0300-TAF9-xxx



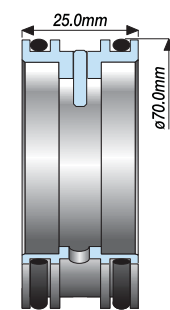
KA-0300-TAF10-xxx



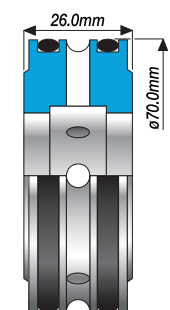
KA-0300-TAF11-xxx

Housings/Seats

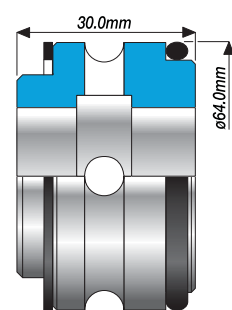
Fristam Pump 35mm Parts



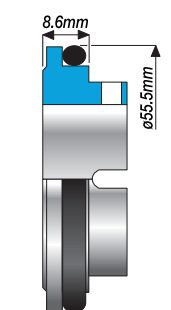
KA-0350-TAFH-000-A



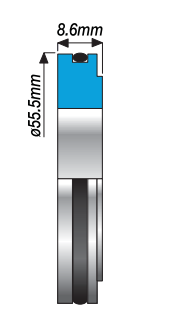
KA-0350-TAFH-000-B



KA-0350-TAFH-000-C

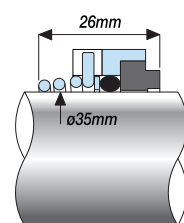


KA-0350-TAFH-000-D

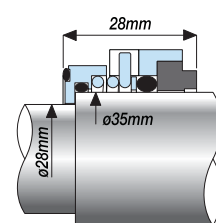


KA-0350-TAFH-000-E

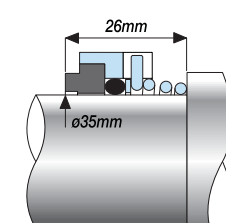
Internal Rotaries



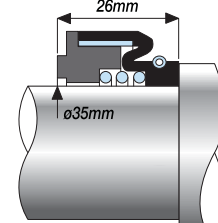
KR-0350-TAFI-000-A



KR-0350-TAFI-000-B



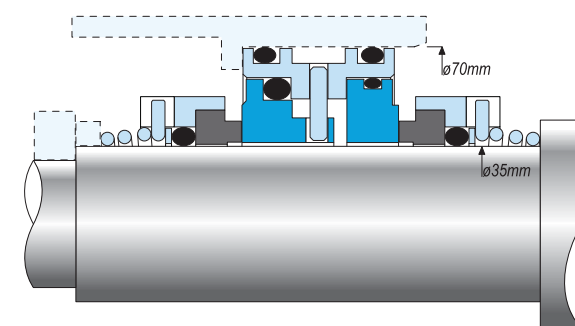
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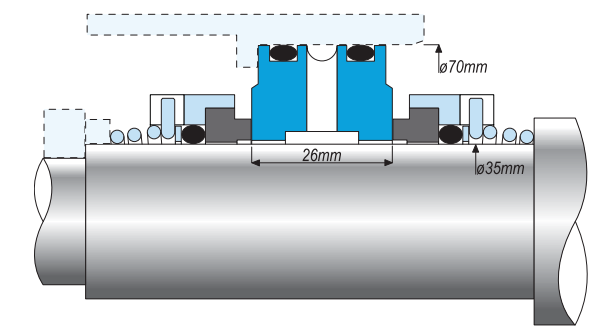
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Fristam Pump 35mm Complete Seal Arrangements

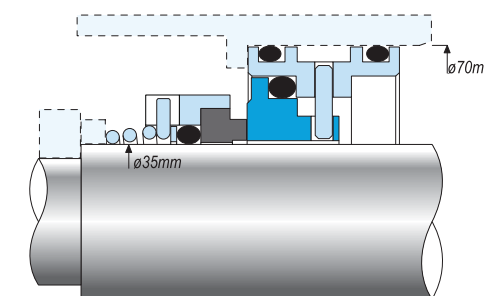
TAF



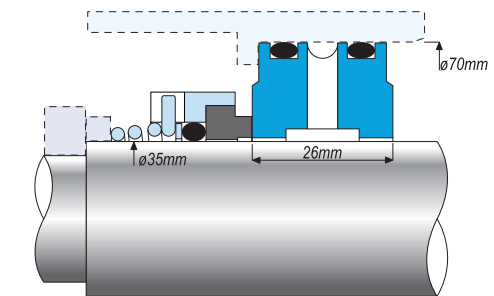
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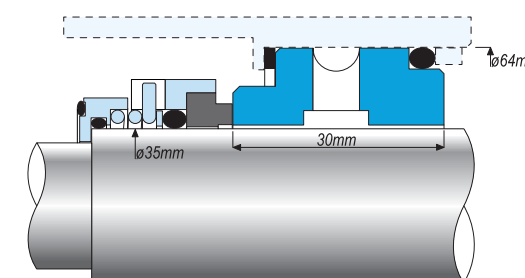
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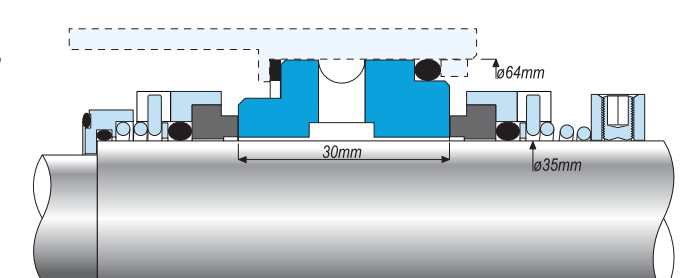
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KA-0350-TAF4-xxx

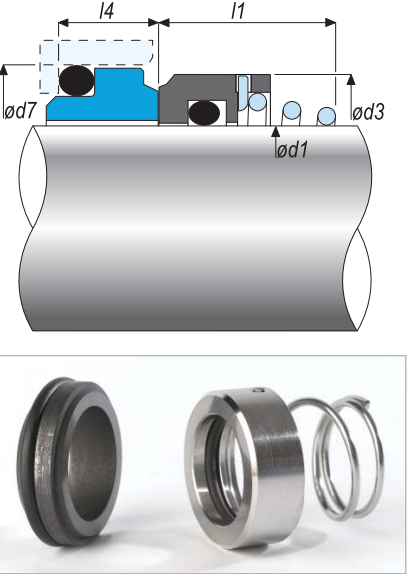


KA-0350-TAF5-xxx



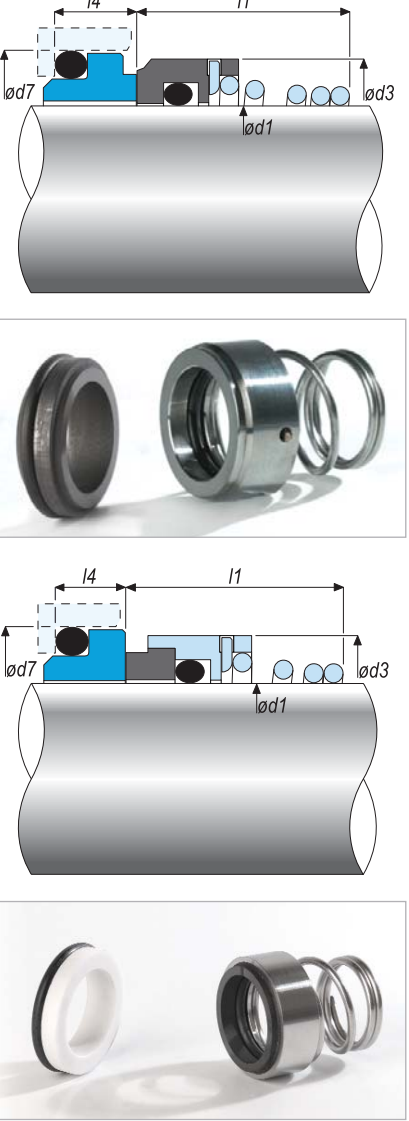
KA-0350-TAF6-xxxxxx

TBO



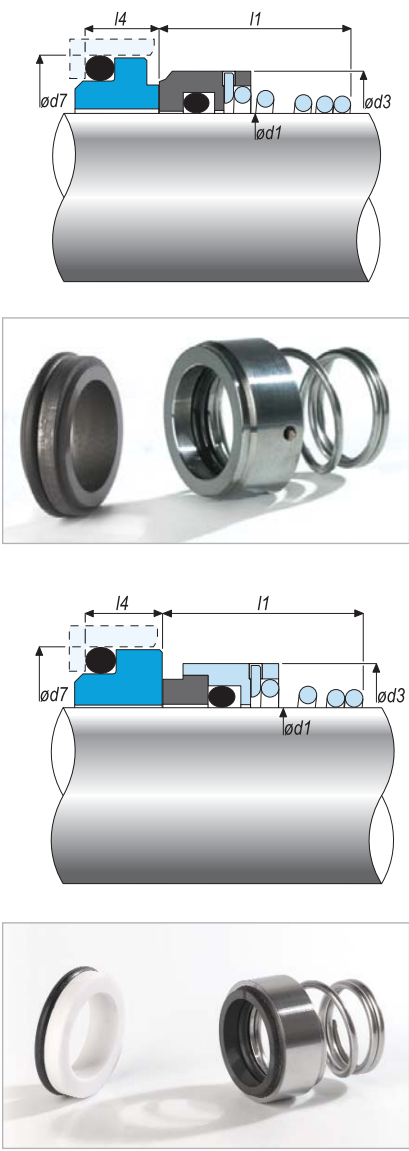
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	19.2	0.756	15.5	0.610	7.1	0.280
12.0	0.472	20.0	0.787	21.6	0.850	15.5	0.610	7.6	0.299
14.0	0.551	23.0	0.906	24.6	0.969	15.5	0.610	7.6	0.299
15.0	0.591	24.0	0.945	24.6	0.969	15.5	0.610	8.6	0.339
16.0	0.630	26.0	1.024	28.0	1.102	17.5	0.689	9.0	0.354
18.0	0.709	29.0	1.142	30.0	1.181	18.5	0.728	10.0	0.394
19.0	0.748	31.0	1.220	31.0	1.220	20.0	0.787	9.0	0.354
20.0	0.787	31.0	1.220	35.0	1.378	20.0	0.787	9.5	0.374
22.0	0.866	33.0	1.299	35.0	1.378	21.5	0.846	9.5	0.374
24.0	0.945	35.0	1.378	38.0	1.496	23.0	0.906	9.5	0.374
25.0	0.984	36.0	1.417	38.0	1.496	24.5	0.965	9.5	0.374
26.0	1.024	36.0	1.417	40.0	1.575	24.5	0.965	10.0	0.394
28.0	1.102	40.0	1.575	42.0	1.654	24.5	0.965	11.0	0.433
30.0	1.181	43.0	1.693	45.0	1.772	24.5	0.965	11.0	0.433
32.0	1.260	46.0	1.811	48.0	1.890	28.0	1.102	11.0	0.433
35.0	1.378	49.0	1.929	52.0	2.047	28.0	1.102	11.5	0.453
38.0	1.496	53.0	2.087	55.0	2.165	31.0	1.220	11.5	0.453
40.0	1.575	56.0	2.205	58.0	2.283	34.0	1.339	11.5	0.453
42.0	1.654	59.0	2.323	62.0	2.441	35.0	1.378	14.3	0.563
43.0	1.693	59.0	2.323	63.0	2.480	35.0	1.378	14.3	0.563
45.0	1.772	61.0	2.402	64.0	2.520	36.5	1.437	14.3	0.563
48.0	1.890	64.0	2.520	68.4	2.693	42.0	1.654	14.3	0.563
50.0	1.969	66.0	2.598	69.3	2.728	43.0	1.693	14.3	0.563
55.0	2.165	71.0	2.795	75.4	2.969	47.0	1.850	15.3	0.602
58.0	2.283	76.0	2.992	78.4	3.087	50.0	1.969	15.3	0.602
60.0	2.362	78.0	3.071	80.4	3.165	51.0	2.008	15.3	0.602
65.0	2.559	84.0	3.307	85.4	3.362	52.0	2.047	15.3	0.602
68.0	2.677	87.0	3.425	91.5	3.602	53.0	2.087	16.0	0.630
70.0	2.756	90.0	3.543	92.0	3.622	54.0	2.126	15.3	0.602
75.0	2.953	98.0	3.858	99.0	3.898	55.0	2.165	15.3	0.602
80.0	3.150	100.0	3.937	104.0	4.094	58.0	2.283	16.3	0.642

TCO



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	18.1	0.713	15.0	0.591	5.5	0.217
11.0	0.433	20.0	0.787	20.6	0.811	18.0	0.709	5.5	0.217
12.0	0.472	21.0	0.827	20.6	0.811	18.0	0.709	5.5	0.217
13.0	0.512	23.0	0.906	23.1	0.909	22.0	0.866	6.0	0.236
14.0	0.551	23.0	0.906	23.1	0.909	22.0	0.866	6.0	0.236
15.0	0.591	24.0	0.945	26.9	1.059	22.0	0.866	7.0	0.276
16.0	0.630	26.0	1.024	26.9	1.059	23.0	0.906	7.0	0.276
18.0	0.709	29.0	1.142	30.9	1.217	24.0	0.945	8.0	0.315
19.0	0.748	31.0	1.220	30.9	1.217	25.0	0.984	8.0	0.315
20.0	0.787	31.0	1.220	30.9	1.217	25.0	0.984	8.0	0.315
21.0	0.827	33.0	1.299	35.4	1.394	25.0	0.984	8.0	0.315
22.0	0.866	33.0	1.299	35.4	1.394	25.0	0.984	8.0	0.315
23.0	0.906	35.0	1.378	35.4	1.394	27.0	1.063	8.0	0.315
24.0	0.945	35.0	1.378	35.4	1.394	27.0	1.063	8.0	0.315
25.0	0.984	36.0	1.417	38.2	1.504	27.0	1.063	8.5	0.335
26.0	1.024	36.0	1.417	38.2	1.504	27.0	1.063	8.5	0.335
28.0	1.102	40.0	1.575	43.3	1.705	29.0	1.142	9.0	0.354
30.0	1.181	43.0	1.693	43.3	1.705	30.0	1.181	9.0	0.354
32.0	1.260	46.0	1.811	43.3	1.705	30.0	1.181	9.0	0.354
33.0	1.299	46.0	1.811	53.5	2.106	39.0	1.535	11.5	0.453
34.0	1.339	49.0	1.929	53.5	2.106	39.0	1.535	11.5	0.453
35.0	1.378	49.0	1.929	53.5	2.106	39.0	1.535	11.5	0.453
36.0	1.417	49.0	1.929	53.5	2.106	39.0	1.535	11.5	0.453
38.0	1.496	53.0	2.087	60.5	2.382	39.0	1.535	11.5	0.453
38.0(B)	1.496	53.0	2.087	53.5	2.106	39.0	1.535	10.0	0.394
40.0	1.575	56.0	2.205	60.5	2.382	39.0	1.535	11.5	0.453
42.0	1.654	59.0	2.323	60.5	2.382	39.0	1.535	11.5	0.453
43.0	1.693	59.0	2.323	60.5	2.382	39.0	1.535	11.5	0.453
44.0	1.732	61.0	2.402	65.5	2.579	41.0	1.614	11.5	0.453
45.0	1.772	61.0	2.402	65.5	2.579	41.0	1.614	11.5	0.453
48.0	1.890	64.0	2.520	65.5	2.579	41.0	1.614	11.5	0.453
50.0	1.969	66.0	2.598	72.5	2.854	45.0	1.772	11.5	0.453
55.0	2.165	71.0	2.795	72.5	2.854	47.0	1.850	11.5	0.453
60.0	2.362	78.0	3.071	79.3	3.122	49.0	1.929	11.5	0.453
65.0	2.559	84.0	3.307	84.5	3.327	51.0	2.008	11.5	0.453
70.0	2.756	89.7	3.533	89.5	3.524	51.0	2.008	11.5	0.453
75.0	2.953	98.0	3.858	94.5	3.720	57.0	2.244	11.5	0.453
80.0	3.150	100.0	3.937	99.5	3.917	59.0	2.323	11.5	0.453
85.0	3.346	107.5	4.232	105.5	4.154	59.0	2.323	13.5	0.531
90.0	3.543	111.0	4.370	111.5	4.390	62.0	2.441	13.5	0.531
95.0	3.740	119.0	4.685	116.5	4.587	62.0	2.441	13.5	0.531
100.0	3.937	124.0	4.882	119.5	4.705	75.0	2.953	13.5	0.531

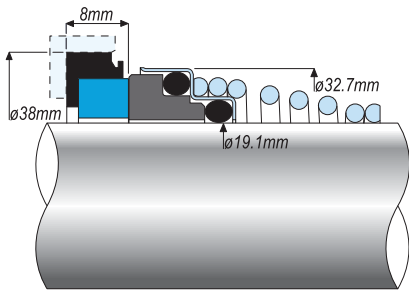
TCD



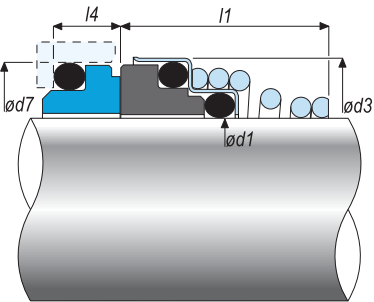
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.0	0.748	21.0	0.827	15.0	0.591	7.0	0.276
12.0	0.472	21.0	0.827	23.0	0.906	18.0	0.709	7.0	0.276
14.0	0.551	23.0	0.906	25.0	0.984	22.0	0.866	7.0	0.276
16.0	0.630	26.0	1.024	27.0	1.063	23.0	0.906	7.0	0.276
18.0	0.709	29.0	1.142	33.0	1.299	24.0	0.945	10.0	0.394
20.0	0.787	31.0	1.220	35.0	1.378	25.0	0.984	10.0	0.394
22.0	0.866	33.0	1.299	37.0	1.457	25.0	0.984	10.0	0.394
24.0	0.945	35.0	1.378	39.0	1.535	27.0	1.063	10.0	0.394
25.0	0.984	36.0	1.417	40.0	1.575	27.0	1.063	10.0	0.394
28.0	1.102	40.0	1.575	43.0	1.693	29.0	1.142	10.0	0.394
30.0	1.181	43.0	1.693	45.0	1.772	30.0	1.181	10.0	0.394
32.0	1.260	46.0	1.811	48.0	1.890	30.0	1.181	10.0	0.394
33.0	1.299	46.0	1.811	48.0	1.890	39.0	1.535	10.0	0.394
35.0	1.378	49.0	1.929	50.0	1.969	39.0	1.535	10.0	0.394
38.0	1.496	53.0	2.087	56.0	2.205	42.0	1.654	13.0	0.512
40.0	1.575	56.0	2.205	58.0	2.283	42.0	1.654	13.0	0.512
43.0	1.693	59.0	2.323	61.0	2.402	47.0	1.850	13.0	0.512
45.0	1.772	61.0	2.402	63.0	2.480	47.0	1.850	13.0	0.512
48.0	1.890	64.0	2.520	66.0	2.598	47.0	1.850	13.0	0.512
50.0	1.969	66.0	2.598	70.0	2.756	46.0	1.811	14.0	0.551
53.0	2.087	69.0	2.717	73.0	2.874	56.0	2.205	14.0	0.551
55.0	2.165	71.0	2.795	75.0	2.953	56.0	2.205	14.0	0.551
58.0	2.283	76.0	2.992	78.0	3.071	56.0	2.205	14.0	0.551
60.0	2.362	78.0	3.071	80.0	3.150	56.0	2.205	14.0	0.551
63.0	2.480	81.0	3.189	83.0	3.268	56.0	2.205	14.0	0.551
65.0	2.559	84.0	3.307	85.0	3.346	66.0	2.598	14.0	0.551
68.0	2.677	87.0	3.425	90.0	3.543	64.0	2.520	16.0	0.630
70.0	2.756	89.0	3.528	92.0	3.622	64.0	2.520	16.0	0.630
75.0	2.953	98.0	3.858	97.0	3.819	64.0	2.520	16.0	0.630
80.0	3.150	100.0	3.937	105.0	4.134	72.0	2.835	18.0	0.709
85.0	3.346	107.5	4.232	110.0	4.331	72.0	2.835	18.0	0.709
90.0	3.543	111.0	4.370	115.0	4.528	72.0	2.835	18.0	0.709
95.0	3.740	119.0	4.685	120.0	4.724	72.0	2.835	18.0	0.709
100.0	3.937	123.8	4.874	125.0	4.921	72.0	2.835	18.0	0.709

Mono Pump Seals

TDM

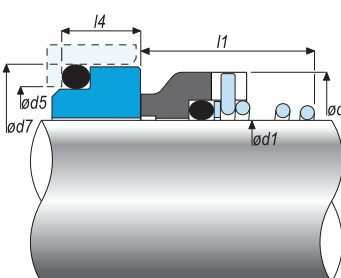


TDO



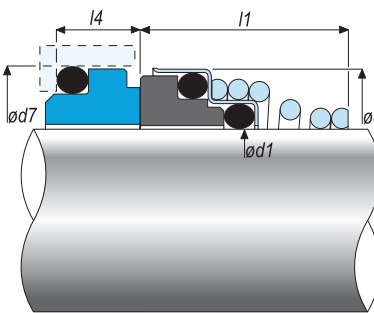
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	19.5	0.768	18.1	0.713	15.0	0.591	5.5	0.217
11.0	0.433	22.0	0.866	20.6	0.811	18.0	0.709	5.5	0.217
12.0	0.472	23.0	0.906	20.6	0.811	18.0	0.709	5.5	0.217
13.0	0.512	25.0	0.984	23.1	0.909	22.0	0.866	6.0	0.236
14.0	0.551	25.0	0.984	23.1	0.909	22.0	0.866	6.0	0.236
15.0	0.591	28.7	1.132	26.9	1.059	22.0	0.866	7.0	0.276
16.0	0.630	28.7	1.132	26.9	1.059	23.0	0.906	7.0	0.276
17.0	0.669	28.7	1.132	26.9	1.059	23.0	0.906	7.0	0.276
18.0	0.709	32.7	1.289	30.9	1.217	24.0	0.945	8.0	0.315
19.0	0.748	32.7	1.289	30.9	1.217	25.0	0.984	8.0	0.315
20.0	0.787	32.7	1.289	30.9	1.217	25.0	0.984	8.0	0.315
21.0	0.827	37.5	1.476	35.4	1.394	25.0	0.984	8.0	0.315
22.0	0.866	37.5	1.476	35.4	1.394	25.0	0.984	8.0	0.315
23.0	0.906	37.5	1.476	35.4	1.394	27.0	1.063	8.0	0.315
24.0	0.945	37.5	1.476	35.4	1.394	27.0	1.063	8.0	0.315
25.0	0.984	40.0	1.575	38.2	1.504	27.0	1.063	8.5	0.335
28.0	1.102	45.5	1.791	43.3	1.705	29.0	1.142	9.0	0.354
29.0	1.142	45.5	1.791	43.3	1.705	30.0	1.181	9.0	0.354
30.0	1.181	45.5	1.791	43.3	1.705	30.0	1.181	9.0	0.354
32.0	1.260	45.5	1.791	43.3	1.705	30.0	1.181	9.0	0.354
33.0	1.299	48.0	1.890	53.5	2.106	39.0	1.535	11.5	0.453
35.0	1.378	50.0	1.969	53.5	2.106	39.0	1.535	11.5	0.453
38.0	1.496	56.0	2.205	60.5	2.382	39.0	1.535	11.5	0.453
40.0	1.575	58.0	2.283	60.5	2.382	39.0	1.535	11.5	0.453

TGO



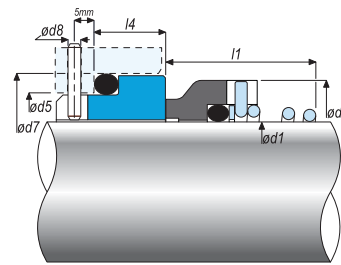
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	20.0	0.787	19.2	0.756	15.9	0.626	6.6	0.260
12.0	0.472	22.0	0.866	21.6	0.850	16.0	0.630	5.6	0.220
14.0	0.551	25.0	0.984	24.6	0.969	16.0	0.630	5.6	0.220
15.0	0.591	27.0	1.063	24.6	0.969	17.4	0.685	6.6	0.260
16.0	0.630	27.0	1.063	28.0	1.102	19.0	0.748	7.5	0.295
18.0	0.709	30.0	1.181	30.0	1.181	20.5	0.807	8.0	0.315
20.0	0.787	32.0	1.260	35.0	1.378	22.0	0.866	7.5	0.295
22.0	0.866	35.0	1.378	35.0	1.378	23.5	0.925	7.5	0.295
24.0	0.945	38.0	1.496	38.0	1.496	25.0	0.984	7.5	0.295
25.0	0.984	40.0	1.575	38.0	1.496	26.5	1.043	7.5	0.295
28.0	1.102	43.0	1.693	42.0	1.654	26.5	1.043	9.0	0.354
30.0	1.181	45.0	1.772	45.0	1.772	25.0	0.984	10.5	0.413
32.0	1.260	47.0	1.850	48.0	1.890	28.5	1.122	10.5	0.413
35.0	1.378	50.0	1.969	52.0	2.047	28.5	1.122	11.0	0.433
38.0	1.496	56.0	2.205	55.0	2.165	32.0	1.260	10.3	0.406

TDD



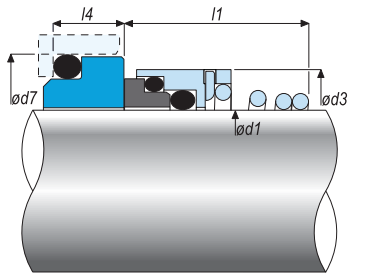
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	20.0	0.787	21.0	0.827	15.0	0.591	7.0	0.276
12.0	0.472	22.0	0.866	23.0	0.906	18.0	0.709	7.0	0.276
14.0	0.551	24.0	0.945	25.0	0.984	22.0	0.866	7.0	0.276
16.0	0.630	26.0	1.024	27.0	1.063	23.0	0.906	7.0	0.276
18.0	0.709	32.0	1.260	33.0	1.260	24.0	0.945	10.0	0.394
20.0	0.787	33.0	1.299	35.0	1.378	25.0	0.984	10.0	0.394
22.0	0.866	36.0	1.417	37.0	1.457	25.0	0.984	10.0	0.394
24.0	0.945	37.4	1.472	39.0	1.535	27.0	1.063	10.0	0.394
25.0	0.984	38.0	1.496	40.0	1.575	27.0	1.063	10.0	0.394
28.0	1.102	42.0	1.654	43.0	1.693	29.0	1.142	10.0	0.394
30.0	1.181	44.0	1.732	45.0	1.772	30.0	1.181	10.0	0.394
32.0	1.260	45.5	1.791	48.0	1.890	30.0	1.181	10.0	0.394
33.0	1.299	46.5	1.831	48.0	1.890	39.0	1.535	10.0	0.394
35.0	1.378	49.0	1.929	50.0	1.969	39.0	1.535	10.0	0.394
38.0	1.496	56.0	2.205	56.0	2.205	42.0	1.654	13.0	0.512
40.0	1.575	58.0	2.283	58.0	2.283	42.0	1.654	13.0	0.512

TGD



d1		d3		d7		d8		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
10.0	0.394	20.0	0.787	21.0	0.827	3.0	0.118	17.5	0.689	10.0	0.394
12.0	0.472	22.0	0.866	23.0	0.906	3.0	0.118	17.5	0.689	10.0	0.394
14.0	0.551	25.0	0.984	25.0	0.984	3.0	0.118	17.5	0.689	10.0	0.394
16.0	0.630	27.0	1.063	27.0	1.063	3.0	0.118	19.5	0.768	10.0	0.394
18.0	0.709	30.0	1.181	33.0	1.299	3.0	0.118	20.5	0.807	11.5	0.453
20.0	0.787	32.0	1.260	35.0	1.378	3.0	0.118	22.0	0.866	11.5	0.453
22.0	0.866	35.0	1.378	37.0	1.457	3.0	0.118	23.5	0.925	11.5	0.453
24.0	0.945	38.0	1.496	39.0	1.535	3.0	0.118	25.0	0.984	11.5	0.453
25.0	0.984	40.0	1.575	40.0	1.575	3.0	0.118	26.5	1.043	11.5	0.453
28.0	1.102	43.0	1.693	43.0	1.693	3.0	0.118	26.5	1.043	11.5	0.453
30.0	1.181	45.0	1.772	45.0	1.772	3.0	0.118	25.0	0.984	11.5	0.453
32.0	1.260	47.0	1.850	48.0	1.890	3.0	0.118	28.5	1.122	11.5	0.453
35.0	1.378	50.0	1.969	50.0	1.969	3.0	0.118	28.5	1.122	11.5	0.453
38.0	1.496	56.0	2.205	56.0	2.205	4.0	0.157	32.0	1.260	14.0	0.551

TFD

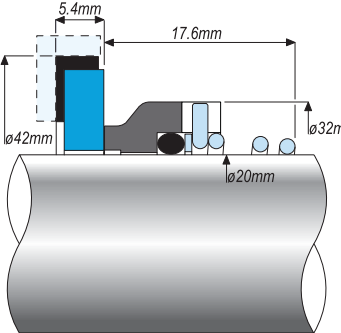


d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
12.0	0.472	21.0	0.827	23.0	0.906	25.5	1.004	7.0	0.276
16.0	0.630	26.0	1.024	27.0	1.063	28.0	1.102	7.0	0.276

Westfalia Separator Seal

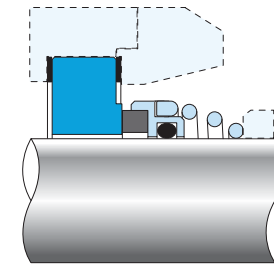
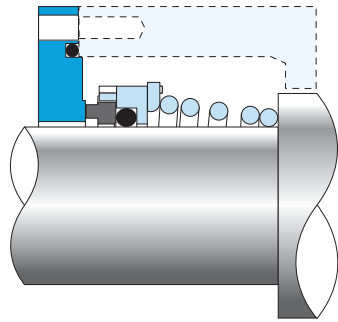


TGX



TCZ

Copeland 4cc, 6cc and 8cc Compressor Seal



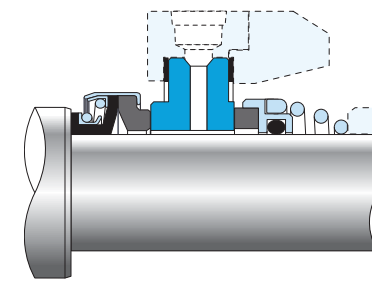
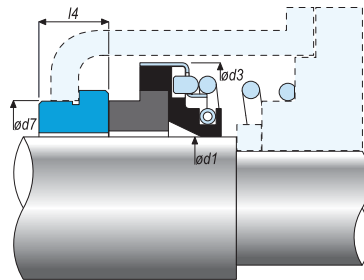
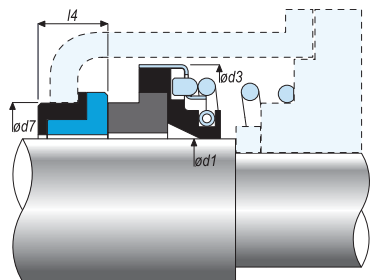
APV W Pump Single Seals

TWO



TRO

APV ZMA, ZMB, ZMD, ZMH, ZMK & ZMS Pump Seals



APV W Pump Double Seals

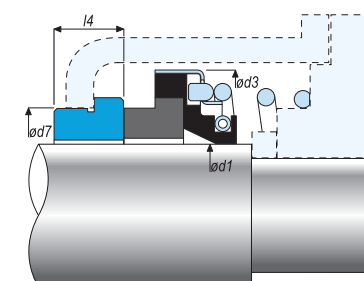
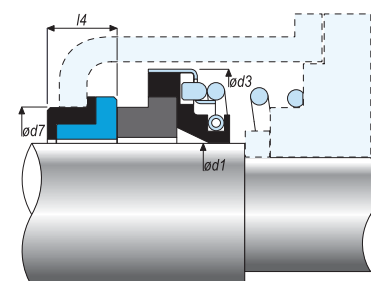
TWD



d1		d3		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	40.6	1.598	30.0	1.181	9.8	0.386
25.0	0.984	45.5	1.791	35.0	1.380	9.8	0.386
30.0	1.181	57.0	2.244	42.0	1.654	13.0	0.512
35.0	1.378	63.0	2.480	46.0	1.811	12.0	0.472

TRV

APV ZMA, ZMB, ZMD, ZMH, ZMK & ZMS Pump Seals



d1		d3		d7		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
20.0	0.787	40.6	1.598	30.0	1.181	9.8	0.386
25.0	0.984	45.5	1.791	35.0	1.380	9.8	0.386
30.0	1.181	57.0	2.244	42.0	1.654	13.0	0.512
35.0	1.378	63.0	2.480	46.0	1.811	12.0	0.472

Wave Spring Seals

Wave Spring seals are bi-directional and commonly used in lobe pumps working with high viscosity liquids. Typical industry usage is dairy, brewery and pharmaceutical applications. Compact in design these seals can be utilized in smaller stuffing boxes.

The standard design features positive drive via the grub screws, which are also used to set the seals working length.

The uniform force that a wave spring provides gives consistent axial movement and dynamics.

Design WGD features a crest-to-crest wave spring and reduces the risk of corrosion and fracture as can be experienced with welded wave springs.

Maximum Operating Limits	
Pressure	14 bar
Speed	20 m/s
Temperature	-40°C to +200°C

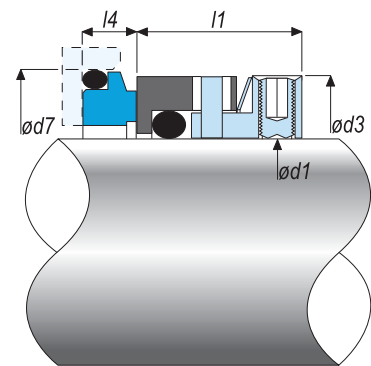
Elastomer Selections		
Material	Temperature	Recommendations
Ethylene Propylene	-40°C to +140°C	General applications, especially hot water. Must not come into contact with Oils.
Nitrile	-30°C to +120°C	Standard Material. Suitable for medium duty applications. Not recommended for hot water.
PTFE	-60°C to +250°C	Suitable for aggressive chemical applications.
Viton	-30°C to +230°C	Suitable for general chemical applications. Not recommended for hot water.
Other materials available on request.		

		Face Combinations			
		Rotary			
		Carbon	Silicon Carbide	Stainless Steel	Tungsten Carbide
Stationary	Carbon	Not Available	Increased Performance	Standard	Not Available
	Alumina Ceramic	Increased Performance	Recommended For Aggressive Media	Not Available	Not Available
	Silicon Carbide	Not Available	Recommended For Aggressive Media	Not Available	Recommended For Aggressive Media (WB0 Only)
Other combinations available on request.					

Wave Spring Seals Index

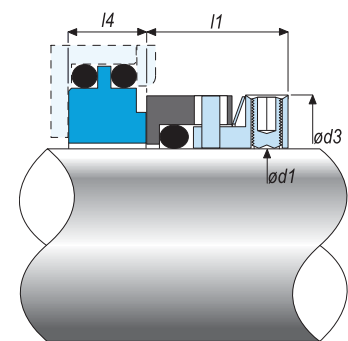
	WA0 Page 76		WJ0 Page 80
	WAT Page 76		WK0 Page 80
	WB0 Page 76		WM0 Page 80
	WC0 Page 77		WN0 Page 81
	WCS Page 77		W00 Page 81
	WD0 Page 77		WFA Page 81
	WF0 Page 78		WFB Page 82
	WGD Page 78		WFBC Page 82
	WH0 Page 78		WFC Page 82
	WI0 Page 79		

WAO



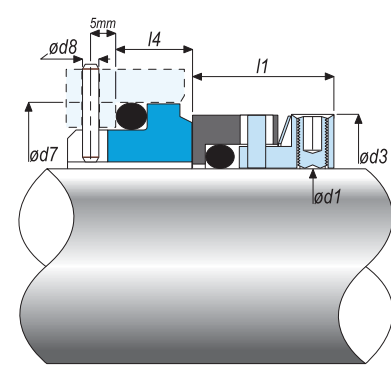
d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
15.8	0.625	27.0	1.063	28.5	1.125	19.1	0.750	6.3	0.250
16.0	0.630	27.0	1.063	28.5	1.125	19.1	0.750	6.3	0.250
19.1	0.750	30.0	1.181	31.7	1.250	19.1	0.750	6.3	0.250
24.0	0.945	34.1	1.343	35.4	1.396	19.1	0.750	7.6	0.300
28.0	1.102	40.0	1.575	42.0	1.654	19.1	0.750	7.6	0.300
28.6	1.125	39.5	1.555	41.2	1.625	19.1	0.750	7.6	0.300
30.0	1.181	41.0	1.614	42.7	1.681	19.1	0.750	7.6	0.300
31.7	1.250	42.4	1.669	44.2	1.742	19.1	0.750	7.6	0.300
32.0	1.260	42.4	1.669	44.4	1.750	19.1	0.750	7.6	0.300
35.0	1.375	45.5	1.791	47.6	1.875	19.1	0.750	7.6	0.300
38.0	1.500	51.8	2.039	53.9	2.125	21.1	0.831	8.1	0.319
44.4	1.750	58.2	2.291	60.3	2.375	21.1	0.831	8.1	0.319
47.6	1.875	61.4	2.417	63.5	2.500	21.1	0.831	8.1	0.319
50.0	1.969	61.9	2.437	63.9	2.518	21.1	0.831	8.1	0.319
50.8	2.000	64.6	2.543	66.6	2.625	22.1	0.870	9.6	0.378
53.9	2.125	71.0	2.795	73.0	2.875	22.1	0.870	9.6	0.378
54.0	2.125	71.0	2.795	73.9	2.911	22.1	0.870	9.6	0.378
54.6	2.150	72.0	2.835	75.0	2.953	22.1	0.870	9.6	0.378
55.0	2.165	72.0	2.835	75.0	2.953	22.1	0.870	9.6	0.378
63.0	2.480	79.3	3.122	83.0	3.268	25.8	1.016	9.1	0.358
63.5	2.500	79.3	3.122	88.9	3.500	25.8	1.016	9.1	0.358
69.8	2.750	88.9	3.500	95.2	3.750	25.8	1.016	9.1	0.358
73.0	2.875	94.0	3.701	98.4	3.875	25.8	1.016	9.1	0.358
75.0	2.953	96.0	3.780	100.4	3.954	25.8	1.016	9.1	0.358

WAT Johnson Toplobe Pump Seals



d1		d3		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
30.0	1.181	41.0	1.614	19.1	0.752	10.3	0.406
35.0	1.378	45.5	1.791	19.1	0.752	12.0	0.472
50.0	1.969	61.9	2.437	21.1	0.831	12.0	0.472

WBO



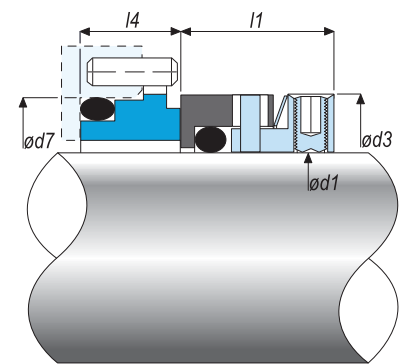
d1		d3		d7		d8		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
16.0	0.630	27.0	1.063	27.0	1.063	4.0	0.157	19.1	0.750	8.6	0.339
20.0	0.787	31.0	1.220	35.0	1.378	5.0	0.197	19.1	0.750	10.0	0.394
22.0	0.866	33.0	1.299	37.0	1.457	5.0	0.197	19.1	0.750	10.0	0.394
24.0	0.945	34.1	1.343	39.0	1.535	5.0	0.197	19.1	0.750	10.0	0.394
25.0	0.984	35.2	1.386	40.0	1.575	5.0	0.197	19.1	0.750	10.0	0.394
28.0	1.102	40.0	1.575	43.0	1.693	5.0	0.197	19.1	0.750	10.0	0.394
30.0	1.181	41.0	1.614	45.0	1.772	5.0	0.197	19.1	0.750	10.0	0.394
32.0	1.260	42.4	1.669	48.0	1.890	5.0	0.197	19.1	0.750	10.0	0.394
33.0	1.299	44.0	1.732	48.0	1.890	5.0	0.197	19.1	0.750	10.0	0.394
35.0	1.378	45.5	1.791	50.0	1.969	5.0	0.197	19.1	0.750	10.0	0.394
38.0	1.496	51.8	2.039	56.0	2.205	5.0	0.197	21.1	0.831	11.0	0.433
40.0	1.575	53.8	2.118	58.0	2.283	5.0	0.197	21.1	0.831	11.0	0.433
43.0	1.693	56.0	2.205	61.0	2.402	5.0	0.197	21.1	0.831	11.0	0.433
45.0	1.772	58.2	2.291	63.0	2.480	5.0	0.197	21.1	0.831	11.0	0.433
48.0	1.890	61.4	2.417	66.0	2.598	5.0	0.197	21.1	0.831	11.0	0.433
50.0	1.969	61.9	2.437	70.0	2.756	5.0	0.197	21.1	0.831	13.0	0.512
55.0	2.165	72.0	2.835	75.0	2.953	5.0	0.197	22.1	0.870	13.0	0.512
60.0	2.362	76.0	2.992	80.0	3.150	5.0	0.197	25.8	1.016	13.0	0.512
63.0	2.480	79.3	3.122	83.0	3.268	5.0	0.197	25.8	1.016	13.0	0.512
65.0	2.559	82.3	3.240	85.0	3.346	5.0	0.197	25.8	1.016	13.0	0.512
70.0	2.756	88.9	3.500	92.0	3.622	5.0	0.197	25.8	1.016	15.3	0.602
75.0	2.953	96.0	3.780	97.0	3.819	5.0	0.197	25.8	1.016	15.3	0.602

Alfa Laval SSP SR Range Seals

PUMP REF:	d1		d3		d7		l1		l4	
	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
SR1	20.0	0.787	31.0	1.220	30.0	1.181	19.1	0.750	10.7	0.421
SR2	30.0	1.181	41.0	1.614	41.3	1.626	19.1	0.750	10.9	0.429
SR3	35.0	1.378	45.5	1.791	47.0	1.850	19.1	0.750	12.2	0.480
SR4	45.0	1.772	58.2	2.291	58.3	2.295	21.1	0.831	11.6	0.457
SR5	55.0	2.165	72.0	2.835	69.6	2.740	22.1	0.870	13.0	0.512
SR6	75.0	2.953	96.0	3.780	92.2	3.630	25.8	1.016	14.5	0.570

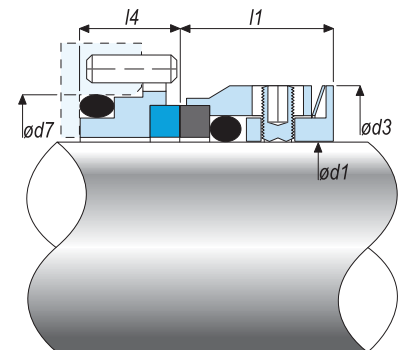


WCO



Alfa Laval SSP SR Range Seals

PUMP REF:	d1		d3		d7		l1		l4	
	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
SR1	20.0	0.787	32.4	1.276	30.0	1.181	20.0	0.787	10.7	0.421
SR2	30.0	1.181	44.0	1.732	41.3	1.626	21.4	0.843	10.9	0.429
SR3	35.0	1.378	50.8	2.000	47.0	1.850	22.0	0.866	12.2	0.480
SR4	45.0	1.772	62.4	2.457	58.3	2.295	22.9	0.902	11.6	0.457
SR5	55.0	2.165	76.0	2.992	69.6	2.740	29.3	1.154	13.0	0.512
SR6	75.0	2.953	99.2	3.906	92.2	3.630	31.1	1.224	14.5	0.570



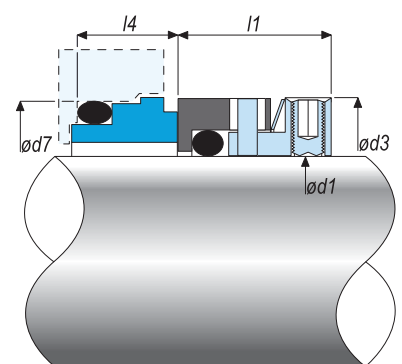
WCS

Johnson Classic IC Pump Seals

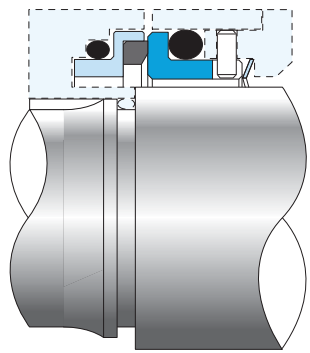
PUMP REF:	d1		d3		d7		l1		l4	
	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
Size 10	30.0	1.181	41.0	1.614	40.0	1.575	19.1	0.750	9.3	0.366
Size 20	35.0	1.378	45.5	1.791	44.5	1.752	19.1	0.750	9.2	0.362
Size 30	50.0	1.968	61.9	2.437	62.0	2.441	21.1	0.831	10.4	0.409
Size 40	70.0	2.756	88.9	3.500	85.0	3.346	25.8	1.016	14.1	0.555
Size 50	80.0	3.149	101.0	3.976	95.0	3.740	25.8	1.016	16.2	0.638



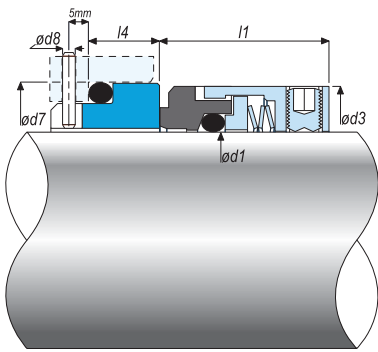
WDO



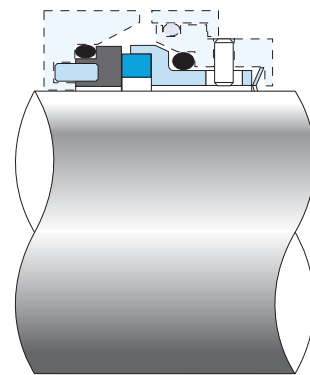
WFO



WGD



WHO



Johnson Classic IC Pump Seals



PUMP MODEL	AESSEAL*
OnLine (OL) 1	N-W06-xxxx-0240
OnLine (OL) 2	N-W06-xxxx-0420
OnLine (OL) 3	N-W06-xxxx-0530
OnLine (OL) 4	N-W06-xxxx-0750

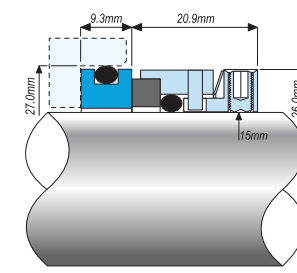
d1		d3		d7		d8		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
16.0	0.630	26.5	1.043	27.0	1.063	3.0	0.118	25.0	0.984	10.0	0.394
18.0	0.709	32.0	1.260	33.0	1.299	3.0	0.118	26.0	1.024	11.5	0.453
20.0	0.787	34.0	1.339	35.0	1.378	3.0	0.118	26.0	1.024	11.5	0.453
22.0	0.866	36.0	1.417	37.0	1.457	3.0	0.118	26.0	1.024	11.5	0.453
24.0	0.945	38.0	1.496	39.0	1.535	3.0	0.118	28.5	1.122	11.5	0.453
25.0	0.984	39.0	1.535	40.0	1.575	3.0	0.118	28.5	1.122	11.5	0.453
28.0	1.102	42.0	1.654	43.0	1.693	3.0	0.118	31.0	1.220	11.5	0.453
30.0	1.181	44.0	1.732	45.0	1.772	3.0	0.118	31.0	1.220	11.5	0.453
32.0	1.260	46.0	1.811	48.0	1.890	3.0	0.118	31.0	1.220	11.5	0.453
33.0	1.299	47.0	1.850	48.0	1.890	3.0	0.118	31.0	1.220	11.5	0.453
35.0	1.378	49.0	1.929	50.0	1.969	3.0	0.118	31.0	1.220	11.5	0.453
38.0	1.496	54.0	2.126	56.0	2.205	4.0	0.157	31.0	1.220	14.0	0.551
40.0	1.575	56.0	2.205	58.0	2.283	4.0	0.157	31.0	1.220	14.0	0.551
43.0	1.693	59.0	2.323	61.0	2.402	4.0	0.157	31.0	1.220	14.0	0.551
45.0	1.772	61.0	2.402	63.0	2.480	4.0	0.157	31.0	1.220	14.0	0.551
48.0	1.890	64.0	2.520	66.0	2.598	4.0	0.157	31.0	1.220	14.0	0.551
50.0	1.969	66.0	2.598	70.0	2.756	4.0	0.157	32.5	1.280	15.0	0.591
53.0	2.087	69.0	2.717	73.0	2.874	4.0	0.157	32.5	1.280	15.0	0.591
55.0	2.165	71.0	2.795	75.0	2.953	4.0	0.157	32.5	1.280	15.0	0.591
58.0	2.283	78.0	3.071	78.0	3.071	4.0	0.157	37.5	1.476	15.0	0.591
60.0	2.362	80.0	3.150	80.0	3.150	4.0	0.157	37.5	1.476	15.0	0.591
63.0	2.480	83.0	3.268	83.0	3.268	4.0	0.157	37.5	1.476	15.0	0.591
65.0	2.559	85.0	3.346	85.0	3.346	4.0	0.157	37.5	1.476	15.0	0.591
68.0	2.677	88.0	3.465	90.0	3.543	4.0	0.157	34.5	1.358	18.0	0.709
70.0	2.756	90.0	3.543	92.0	3.622	4.0	0.157	42.0	1.654	18.0	0.709
75.0	2.953	99.0	3.898	97.0	3.819	4.0	0.157	42.0	1.654	18.0	0.709
80.0	3.150	104.0	4.094	105.0	4.134	4.0	0.157	41.8	1.646	18.2	0.717
85.0	3.346	109.0	4.291	110.0	4.331	4.0	0.157	41.8	1.646	18.2	0.717
90.0	3.543	114.0	4.488	115.0	4.528	4.0	0.157	46.8	1.843	18.2	0.717
95.0	3.740	119.0	4.685	120.0	4.724	4.0	0.157	47.8	1.882	17.2	0.677
100.0	3.937	124.0	4.882	125.0	4.921	4.0	0.157	47.8	1.882	17.2	0.677

APV ZMS-5 and ZMS-6 Pump Seals

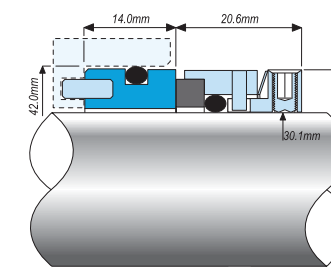


Ibex M0G and ALP Pump Seals

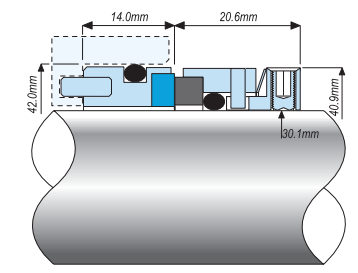
WIO



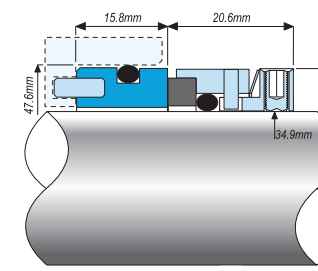
KA-0150-WI00-CX-



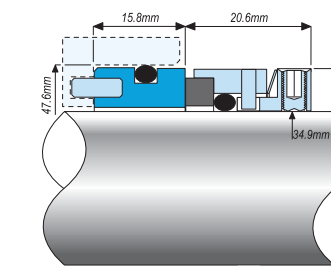
KA-0301-WI00-CX-



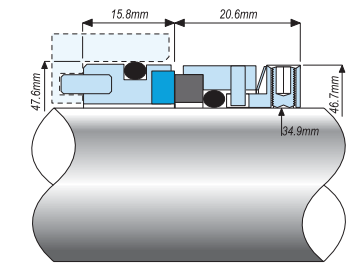
KA-0301-WI00-SS-



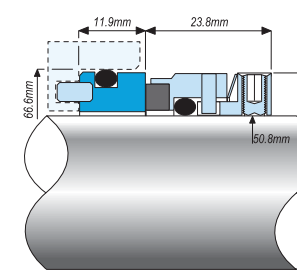
KA-0349-WI00-CX-



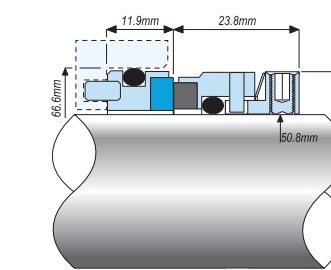
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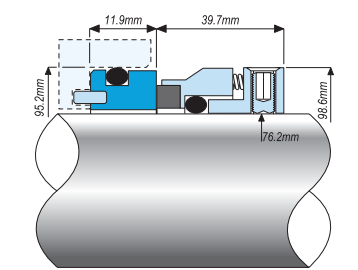
KA-0349-WI00-SS-



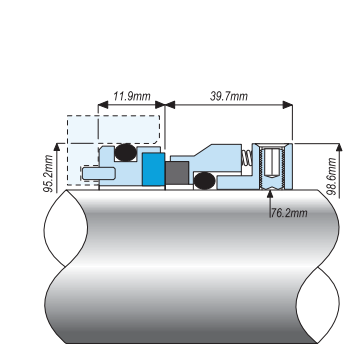
KA-0508-WI00-CX-



KA-0508-WI00-SS-

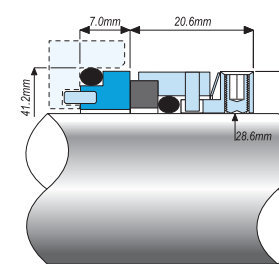


KA-0762-WI00-CX-

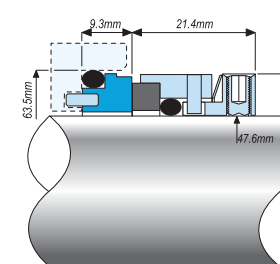


KA-0762-WI00-SS-

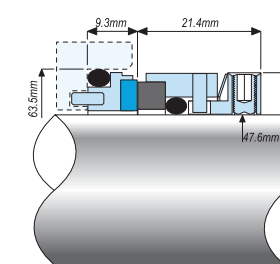
APV Howard Clean Line Pumps (old style seals)



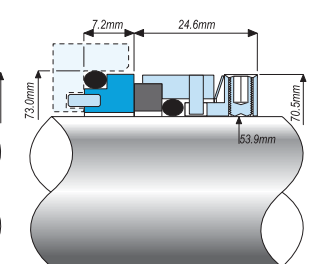
KA-0286-WI00-CX--CL
KA-0286-WI00-TT--CL



KA-0476-WI00-CX--CL

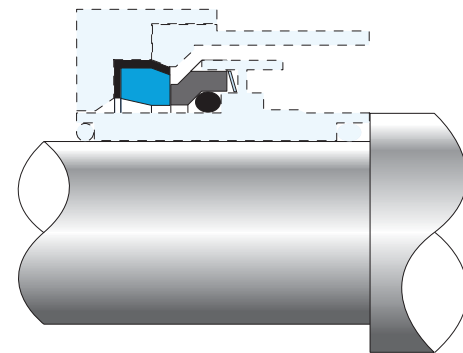
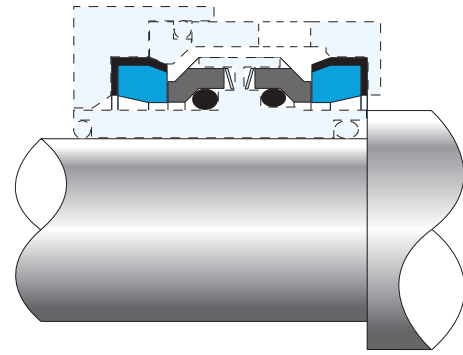


KA-0476-WI00----CL



KA-0539-WI00-CX--CL

WJO

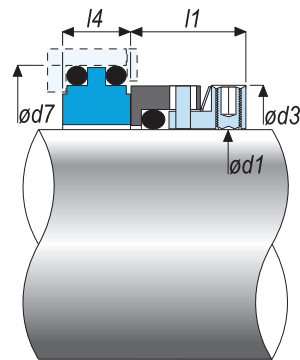


APV Howard Clean Line Pumps (new style seals)



d1		d3		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
28.0	1.102	40.2	1.583	46.0	1.811	21.0	0.827	10.1	0.398
35.0	1.378	45.5	1.791	53.0	2.087	19.1	0.752	12.0	0.472
50.0	1.969	63.5	2.500	70.0	2.756	23.0	0.906	12.0	0.472

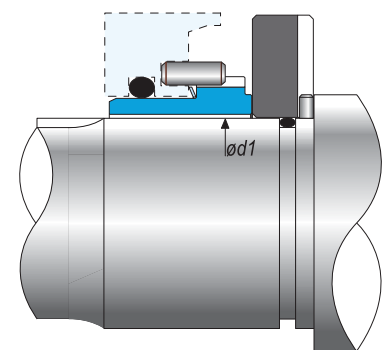
WKO



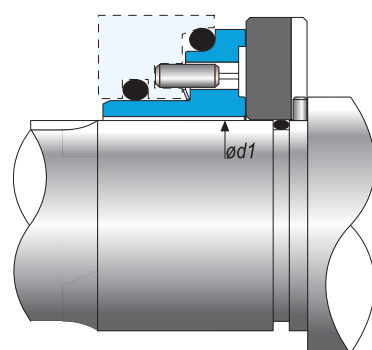
External Seal Arrangements INOXPA PROLAC and SLR Pump Seals



WMO

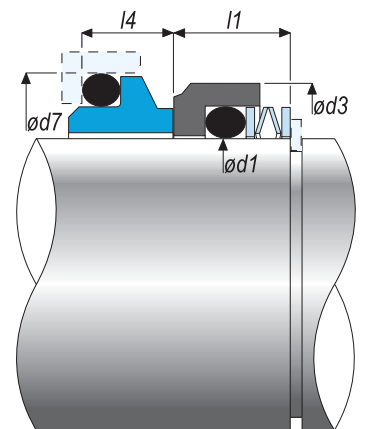


Waukesha Universal I Pump Seals



d1	
Metric	Inches
30.1	1.185
38.1	1.500
47.6	1.875
69.8	2.750

WNO

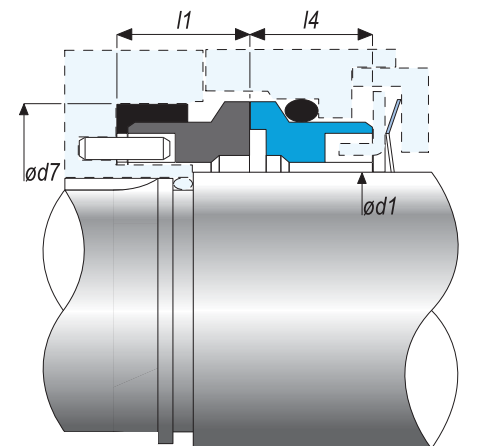


Jabsco Hy-Line LH520 and LH540 Pump Seals

d1		d7		l1		l4	
Metric	Inches	Metric	Inches	Metric	Inches	Metric	Inches
34.9	1.375	48.0	1.890	12.5	0.492	11.5	0.453
47.6	1.875	60.3	2.375	13.7	0.539	12.7	0.500



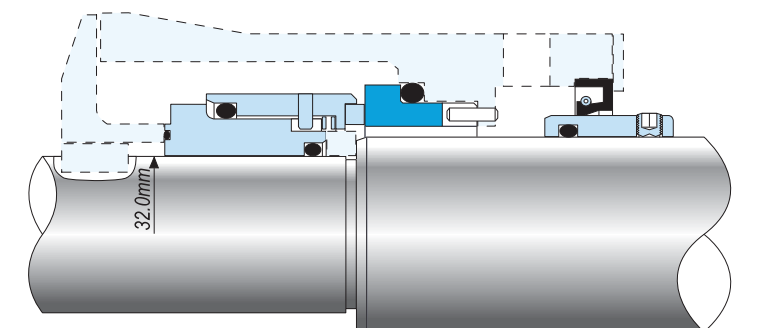
WOO



Fristam Pump Seal

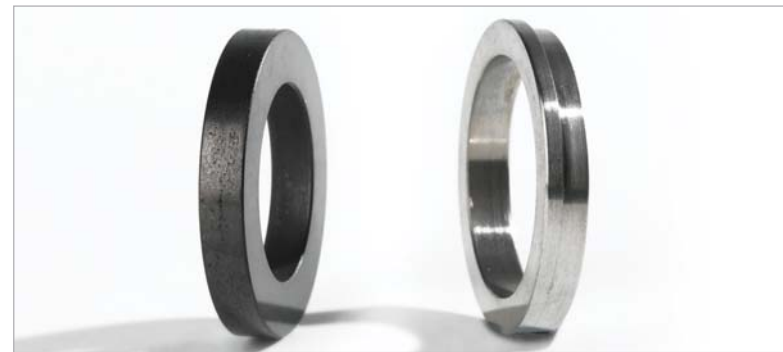
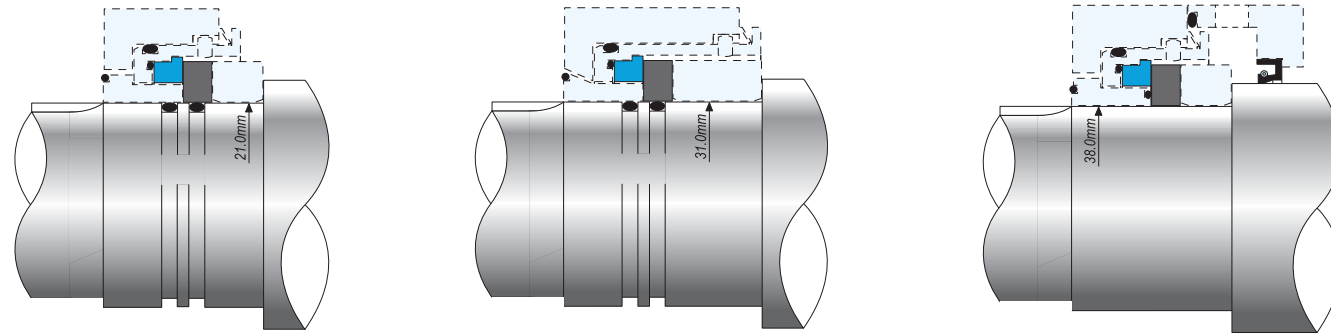


WFA



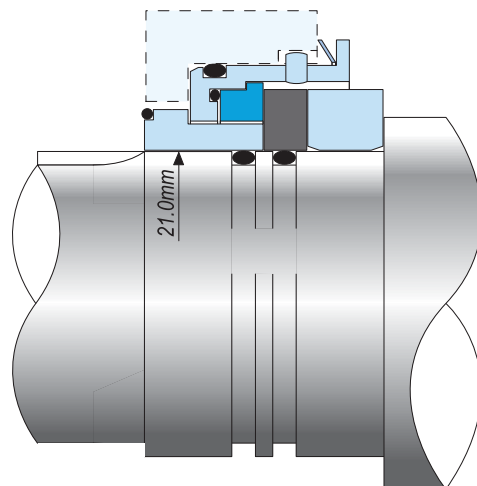
WFB

Fristam FLF and FLFN Pump Seal Kits



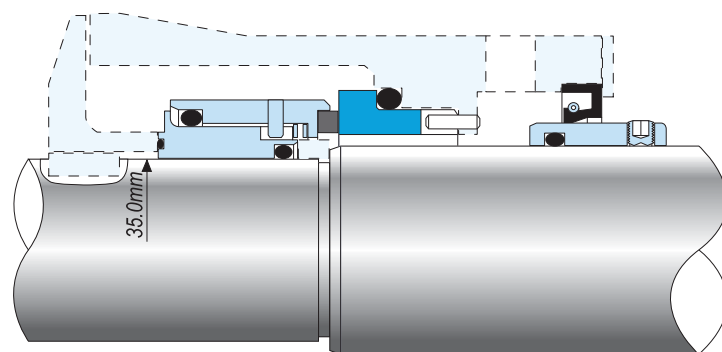
WFBC

Fristam FL 55 and FLFN 55 Pump Seal



WFC

Fristam Pump Seal



Equivalents & Interchange Table



