



NINGBO HUAQIU INDUSTRY AND TRADE CO.,LTD

NingBo HuaQiang Mechanical Seal Factory



2024 HQ Catalogue 2-A

(Cartridge and Metal Bellow Seals)

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DESCRIPTION

Standard Mechanical Seals.....	Catalogue-1
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O.E.M Seals(A.B.S., Alfa Laval, APV, Andritz, Compressor, Fristam, Flygt, Grundfos, Hilge, Lowara, K.S.B., Sulzer, Tsurumi Seals and so on).....	Catalogue-3
Seat Series.....	Catalogue-4
Mixer and Agitator,Kettle,Desulfurization,Slurry Seals,Nozzle,Rotary Joint.....	Catalogue-5



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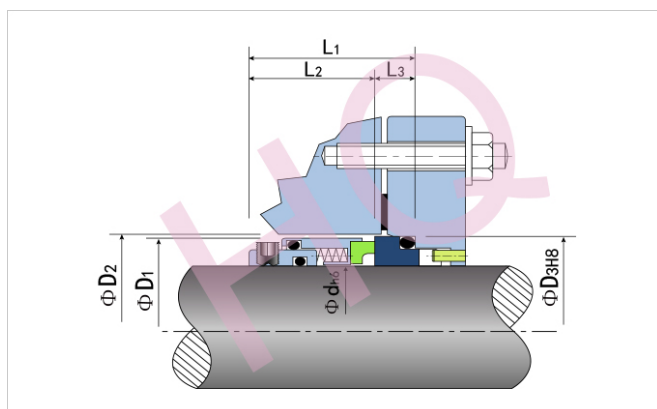
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HQCS-A50(DIN SAI)

Type: Internal Balanced
Mechanical Seal
Replacement: AES DIN SAI
Temperature: -40°C to +200
Pressure: $\leq 1.1\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,P,E,V,K,G,F,G



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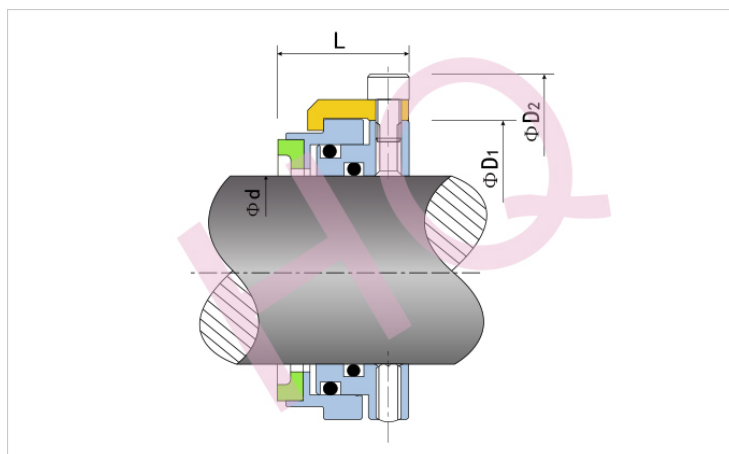


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d	D1 (Max)	D2 (Min)	D3	L1 (+/-0.5)	L2	L3
18	32	34	33	37.5	27.9	9.6
20	34	36	35	37.5	27.9	9.6
22	36	28	37	37.5	27.9	9.6
24	38	40	39	40.0	29.9	10.1
25	39	41	40	40.0	29.9	10.1
28	42	44	43	42.5	32.4	10.1
30	44	46	45	42.5	32.4	10.1
32	46	48	48	42.5	32.4	10.1
33	47	49	48	42.5	32.4	10.1
35	49	51	50	42.5	32.4	10.1
38	54	58	56	45.0	33.9	11.1
40	56	60	58	45.0	33.9	11.1
43	59	63	61	45.0	33.9	11.1
45	61	65	63	45.0	33.9	11.1
48	64	68	66	45.0	33.9	11.1
50	66	70	70	47.5	34.4	13.1
53	69	73	73	47.5	34.4	13.1
55	71	75	75	47.5	34.4	13.1
58	78	83	78	52.5	38.9	13.6
60	80	85	80	52.5	38.9	13.6
63	83	88	83	52.5	38.9	13.6
65	85	90	85	52.5	38.9	13.6
68	88	93	90	52.5	37.4	15.1
70	90	95	92	60.0	44.9	15.1
75	99	104	97	60.0	44.9	15.1
80	104	109	105	60.0	44.2	15.8
85	109	114	110	60.0	44.2	15.8
90	114	119	115	65.0	49.2	15.8
95	119	124	120	65.0	49.2	15.8
100	124	129	125	65.0	49.2	15.8

HQCS-A62(NCE)

Type: Non Chemical External seal
 Replacement: AES NCE
 Temperature: -40°C to +200°C
 Pressure: 1.2Mpa
 Speed: ≤18m/s
 Material: B,P,E,V,K,G,F,G



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d (mm)	D1	D2	L		d (inch)	D1	D2	L
24	46.6	66.5	27.8		1.000	1.834	2.618	1.096
25	47.6	67.5	27.8		1.125	1.992	2.776	1.096
28	50.6	70.5	27.8		1.250	2.070	2.854	1.096
30	50.6	70.5	27.8		1.375	2.187	2.971	1.096
32	52.6	72.5	27.8		1.500	2.510	3.294	1.125
33	55.5	75.4	27.8		1.625	2.510	3.294	1.125
35	55.5	75.4	27.8		1.750	3.636	3.420	1.125
38	63.8	83.7	28.6		1.875	2.760	3.544	1.125
40	63.8	83.7	28.6		2.000	2.886	3.670	1.087
43	67.0	86.9	28.6		2.125	3.014	3.798	1.087
45	67.0	86.9	28.6		2.250	3.139	3.922	1.087
48	73.3	93.2	27.6		2.375	3.264	4.048	1.087
50	73.3	93.2	27.6		2.500	3.388	4.172	1.087
53	76.6	96.5	27.6		2.625	3.556	4.340	1.250
55	76.6	96.5	27.6		2.750	3.681	4.465	1.250
58	82.9	102.8	27.6		2.875	3.806	4.590	1.250
60	82.9	102.8	27.6		3.000	3.931	4.715	1.250
63	86.1	106.0	27.6		3.125	4.056	4.840	1.250
65	90.3	110.2	31.7		3.250	4.181	4.965	1.250
68	93.5	113.4	31.7		3.375	4.306	5.090	1.250
70	93.5	113.4	31.7		3.500	4.431	5.215	1.250
75	99.8	119.7	31.7		3.625	4.556	5.340	1.250
80	103.0	122.9	31.7		3.750	4.681	5.465	1.250
85	109.4	129.3	31.7		3.875	4.806	5.590	1.250
90	115.7	135.6	31.7		4.000	4.931	5.715	1.250
95	118.9	138.8	31.7					
100	125.2	145.1	31.7					

HQCS-51(CS)



Type: Single Cartridge Seals, Suit for EMU Pumps and MIXERS

Replacement: AES CS

Temperature: -40°C to +204°C

Pressure: $\leq 1.1\text{Mpa}$

Speed: $\leq 15\text{m/s}$

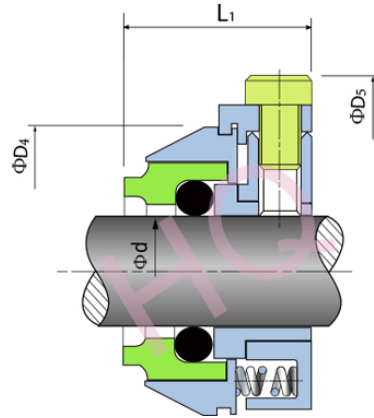
Material: B,P,E,V,K,G,F,G



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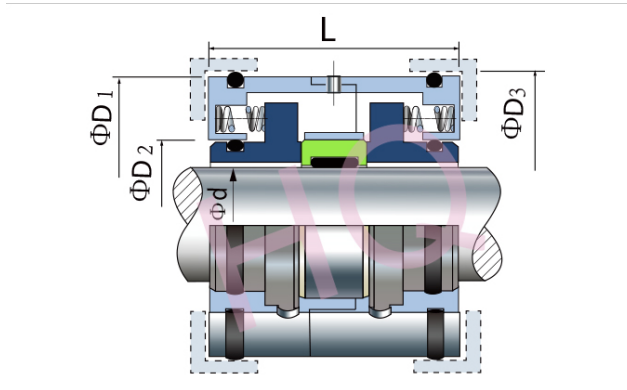
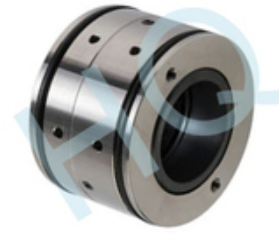


d	L1	D4	D5
20	27.91	45.3	59.8
22	27.91	47.3	61.8
24	27.9	49.3	63.8
25	27.9	50.3	64.8
28	27.91	53.3	67.8
30	27.91	55.3	69.8
32	27.91	57.3	71.8
33	27.9	58.3	72.8
35	27.91	60.3	74.8
38	27.91	63.3	77.8
40	27.91	65.3	79.8
42	27.9	67.3	81.8
43	27.9	68.3	82.8
45	27.91	70.3	84.8
48	27.91	73.3	87.8
50	27.9	75.3	89.8
53	27.91	78.3	92.8
55	27.9	80.3	94.8
60	27.9	85.3	99.7
65	30.3	96.5	111
70	30.28	101.5	116
75	30.28	106.5	121
80	30.28	111.5	126
85	30.28	116.5	131
90	30.28	121.5	136
95	30.3	126.5	141
100	30.28	131.5	146

d	L1	D4	D5
0.625	1.098	1.622	2.192
0.75	1.098	1.747	2.317
0.875	1.098	1.872	2.442
1	1.098	1.997	2.567
1.125	1.098	2.122	2.692
1.25	1.098	2.247	2.817
1.375	1.098	2.372	2.942
1.5	1.098	2.497	3.067
1.625	1.098	2.622	3.192
1.75	1.098	2.747	3.317
1.875	1.098	2.872	3.442
2	1.098	2.997	3.567
2.125	1.098	3.122	3.692
2.25	1.098	3.247	3.817
2.375	1.098	3.372	3.942
2.5	1.098	3.497	4.067
2.625	1.192	3.866	4.436
2.75	1.192	3.991	4.561
2.875	1.192	4.116	4.686
3	1.192	4.241	4.811
3.125	1.192	4.366	4.936
3.25	1.192	4.491	5.061
3.375	1.192	4.616	5.186
3.5	1.192	4.741	5.311
3.625	1.192	4.866	5.436
3.75	1.192	4.991	5.561
3.875	1.192	5.116	5.686
4	1.192	5.241	5.811

d (Inch)	L1	D4	D5
0.625	1.098	1.622	2.192
0.75	1.098	1.747	2.317
0.875	1.098	1.872	2.442
1	1.098	1.997	2.567
1.125	1.098	2.122	2.692
1.25	1.098	2.247	2.817
1.375	1.098	2.372	2.942
1.5	1.098	2.497	3.067
1.625	1.098	2.622	3.192
1.75	1.098	2.747	3.317
1.875	1.098	2.872	3.442
2	1.098	2.997	3.567
2.125	1.098	3.122	3.692
2.25	1.098	3.247	3.817
2.375	1.098	3.372	3.942
2.5	1.098	3.497	4.067
2.625	1.192	3.866	4.436
2.75	1.192	3.991	4.561
2.875	1.192	4.116	4.686
3	1.192	4.241	4.811
3.125	1.192	4.366	4.936
3.25	1.192	4.491	5.061
3.375	1.192	4.616	5.186
3.5	1.192	4.741	5.311
3.625	1.192	4.866	5.436
3.75	1.192	4.991	5.561
3.875	1.192	5.116	5.686
4	1.192	5.241	5.811

HQCS-A52(1640)



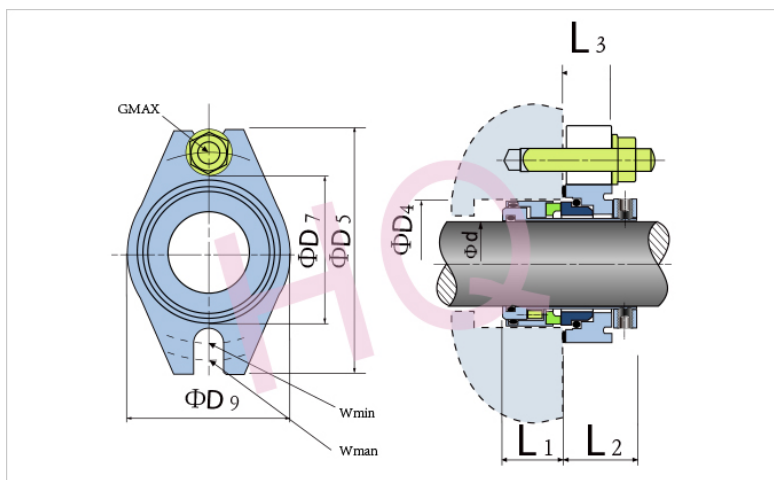
Type: Single Cartridge Seal, Suit for EMU Pumps and MIXERS
 Replacement: AES 1640
 Temperature: -40°C to +200°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: B,P,E,V,K,G,F,G

d (mm)	Code	D3	D2	D1	L
35	0.35	72	47	72	47
50	0.50	92	63	90	52
75	0.75	130	95	128	75

HQCS-A53(CONVERTOR II)



Type: Single Cartridge Seal
 Replacement: AES CONVERTOR II
 Temperature: -20°C to +210°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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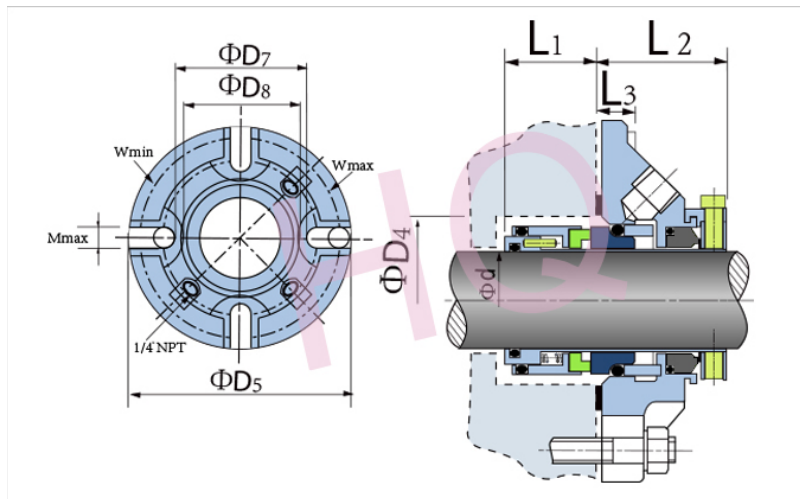
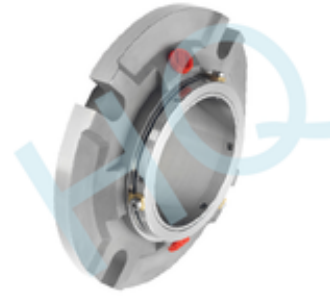
HQCS-A53(CONVERTOR II)

d (mm)	D4		D5	D7	D9	W		G	L1	L2	L3
	min	max				min	max				
24	40.0	48.0	101.6	55.6	56.1	69.9	88.9	12	28.6	31.8	20.7
25	41.0	48.0	101.6	55.6	56.1	69.9	88.9	12	28.6	31.8	20.7
28	44.0	50.0	104.8	58.8	59.3	73.1	92.1	12	28.6	31.8	20.7
30	46.0	54.0	108.0	61.9	62.4	76.2	95.3	12	28.6	31.8	20.7
32	48.0	54.0	108.0	61.9	62.4	76.2	95.3	12	28.6	31.8	20.7
33	49.0	55.0	108.0	61.9	62.4	76.2	95.3	12	28.6	31.8	20.7
35	51.0	59.0	108.0	66.7	67.2	81.0	95.3	12	28.6	31.8	20.7
38	57.2	62.0	114.3	71.5	72.0	85.8	101.6	12	28.6	33.4	22.3
40	58.0	64.0	114.3	71.5	72.0	85.8	101.6	12	28.6	33.4	22.3
43	61.0	67.0	120.7	74.6	75.1	88.9	108.0	12	28.6	33.4	22.3
45	63.5	69.0	127.0	77.8	78.3	92.1	114.3	12	30.2	35.0	23.8
48	66.7	72.0	133.4	81.0	81.5	95.3	120.7	12	30.2	35.0	23.8
50	68.0	74.0	133.4	81.0	81.5	95.3	120.7	12	30.2	35.0	23.8
53	71.0	77.0	139.7	84.2	84.7	101.6	123.9	16	30.2	36.5	25.4
55	74.0	79.0	146.1	87.3	87.8	104.8	130.2	16	30.2	36.5	25.4
58	79.4	85.7	165.1	95.3	98.9	115.9	146.0	20	30.2	36.5	25.4
60	79.4	85.7	165.1	95.3	98.9	115.9	146.0	20	30.2	36.5	25.4
63	85.8	101.6	177.8	111.2	121.2	131.8	158.7	20	28.6	41.2	25.4
65	88.9	101.6	177.8	111.2	121.2	131.8	158.7	20	28.6	41.2	25.4
68	92.1	101.6	177.8	111.2	121.2	131.8	158.7	20	28.6	41.2	25.4
70	92.1	101.6	177.8	111.2	121.2	131.8	158.7	20	28.6	41.2	25.4
75	98.5	114.3	190.5	125.4	130.7	146.1	171.4	20	30.2	50.8	31.7
80	101.6	114.3	190.5	125.4	130.7	146.1	171.4	20	30.2	50.8	31.7
85	108	123.8	203.2	135.0	140.2	155.6	184.1	20	30.2	50.8	31.7
90	114.3	133.3	215.9	144.5	149.7	165.1	196.8	20	30.2	50.8	31.7
95	117.5	133.3	215.9	144.5	149.7	165.1	196.8	20	30.2	50.8	31.7
100	123.9	139.7	228.6	154.0	156.1	174.7	209.5	20	30.2	50.8	31.7

d	D4		D5	D7	D9	W		G	L1	L2	L3
	min	max				min	max				
1.000	1.625	1.875	4.000	2.187	2.208	2.750	3.500	1/2	1.125	1.250	0.812
1.125	1.750	2.000	4.125	2.312	2.333	2.875	3.625	1/2	1.125	1.250	0.812
1.250	1.875	2.125	4.250	2.437	2.458	3.000	3.750	1/2	1.125	1.250	0.812
1.375	2.000	2.250	4.250	2.625	2.645	3.187	3.750	1/2	1.125	1.250	0.812
1.500	2.250	2.500	4.500	2.812	2.833	3.375	4.000	1/2	1.125	1.312	0.875
1.625	2.375	2.625	4.750	2.937	2.958	3.500	4.250	1/2	1.125	1.312	0.875
1.750	2.500	2.750	5.000	3.062	3.083	3.625	4.500	1/2	1.187	1.375	0.937
1.875	2.625	2.875	5.250	3.187	3.207	3.750	4.750	1/2	1.187	1.375	0.937
2.000	2.750	3.000	5.500	3.312	3.333	4.000	4.875	5/8	1.187	1.437	1.000
2.125	2.875	3.125	5.750	3.437	3.458	4.125	5.125	5/8	1.187	1.437	1.000
2.250	3.000	3.375	6.500	3.750	3.895	4.562	5.750	3/4	1.187	1.437	1.000
2.375	3.125	3.375	6.500	3.750	3.895	4.562	5.750	3/4	1.187	1.437	1.000
2.500	3.375	4.000	7.000	4.375	4.770	5.187	6.250	3/4	1.125	1.625	1.000
2.625	3.500	4.000	7.000	4.375	4.770	5.187	6.250	3/4	1.125	1.625	1.000
2.750	3.625	4.000	7.000	4.375	4.770	5.187	6.250	3/4	1.125	1.625	1.000
2.875	3.750	4.500	7.500	4.937	5.145	5.750	6.750	3/4	1.187	2.000	1.250
3.000	3.875	4.500	7.500	4.937	5.145	5.750	6.750	3/4	1.187	2.000	1.250
3.125	4.000	4.500	7.500	4.937	5.145	5.750	6.750	3/4	1.187	2.000	1.250
3.250	4.125	4.875	8.000	5.312	5.520	6.125	7.250	3/4	1.187	2.000	1.250
3.375	4.250	4.875	8.000	5.312	5.520	6.125	7.250	3/4	1.187	2.000	1.250
3.500	4.275	4.875	8.000	5.312	5.520	6.125	7.250	3/4	1.187	2.000	1.250
3.625	4.500	5.250	8.500	5.687	5.895	6.500	7.750	3/4	1.125	2.000	1.250
3.750	4.625	5.250	8.500	5.687	5.895	6.500	7.750	3/4	1.125	2.000	1.250
3.875	4.750	5.250	8.500	5.687	5.895	6.500	7.750	3/4	1.125	2.000	1.250
4.000	4.875	5.500	9.000	6.062	6.145	6.875	8.250	3/4	1.187	2.000	1.250

HQCS-A54(CURC)

Type: Single Cartridge Seal
 Replacement: AES CURC
 Temperature: -20°C to +210°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: A,Q1,V1,U2,E,V,Alfas,Karle,F,G,M



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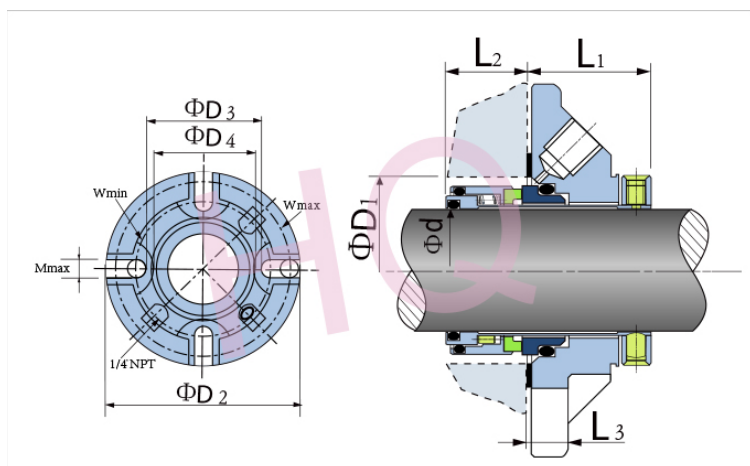
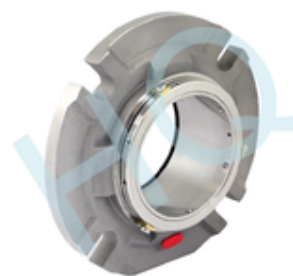


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d (mm)	D4		D5	D7	D8	W		M	L1	L2	L3
	min	max				min	max				
24	40.0	46.0	104.8	54.0	49.2	67.0	90.5	12	28.6	40.5	13.2
25	41.0	49.0	104.8	54.0	49.2	67.0	90.5	12	28.6	40.5	13.2
28	44.0	52.3	108.0	57.0	52.4	70.3	93.6	12	28.6	40.5	13.2
30	46.0	55.5	111.0	60.4	55.6	73.5	96.8	12	28.6	40.5	13.2
32	48.0	55.5	111.0	60.4	55.6	73.5	96.8	12	28.6	40.5	13.2
33	49.0	55.5	111.0	60.4	55.6	73.5	96.8	12	28.6	40.5	13.2
35	51.0	57.5	111.0	63.5	58.8	76.6	96.8	12	28.6	40.5	13.2
38	57.2	60.4	127.0	71.5	65.0	85.7	114.3	12	28.6	44.5	16.4
40	58.0	60.4	127.0	71.5	65.0	85.7	114.3	12	28.6	44.5	16.4
43	61.0	69.9	139.7	81.0	71.4	95.3	127.0	12	28.6	44.5	16.4
45	63.5	69.9	139.7	81.0	71.4	95.3	127.0	12	28.6	44.5	16.4
48	66.7	73.0	139.7	81.0	71.4	95.3	127.0	12	28.6	44.5	16.4
50	68.0	76.2	152.4	90.5	77.8	104.8	139.7	12	28.6	44.5	16.4
53	71.0	76.2	152.4	90.5	77.8	104.8	139.7	12	28.6	44.5	16.4
55	74.0	82.5	165.1	96.8	84.1	114.3	149.2	16	28.6	44.5	16.4
58	76.2	82.6	165.1	96.8	84.1	114.3	149.2	16	28.6	44.5	16.4
60	79.4	85.7	165.1	96.8	84.1	114.3	149.2	16	28.6	44.5	16.4
63	85.8	92.1	177.8	109.5	96.8	127.0	160.3	16	31.8	47.7	19.6
65	88.9	95.3	177.8	109.5	96.8	127.0	160.3	16	31.8	47.7	19.6
68	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	31.8	47.7	19.6
70	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	31.8	47.7	19.6
75	98.5	108.0	190.5	125.4	108.0	142.9	173.0	16	31.8	47.7	19.6
80	101.6	111.1	190.5	125.4	108.0	142.9	173.0	16	31.8	47.7	19.6
85	108.0	117.5	203.2	135.0	117.5	155.6	182.5	20	31.8	47.7	19.6
90	114.3	127.0	215.9	150.8	127.0	171.5	195.2	20	31.8	47.7	19.6
95	117.5	130.2	215.9	150.8	127.0	171.5	195.2	20	31.8	47.7	19.6
100	123.9	139.7	228.6	168.3	136.5	188.9	207.9	20	31.8	47.7	19.6
105	130.1	149.2	228.6	168.3	136.5	189.0	208.0	20	31.8	47.7	19.6
110	136.5	158.8	241.3	177.8	146.1	198.4	220.6	20	31.8	47.7	19.6
115	142.9	168.3	254.0	186.6	155.6	211.1	230.2	22	31.8	47.7	19.6
120	142.9	168.3	254.0	186.6	155.6	211.1	230.2	22	31.8	47.7	19.6
125	142.9	168.3	254.0	186.6	155.6	211.1	230.2	22	31.8	47.7	19.6

HQCS-A56(CSS)

Type: Single Cartridge Seal
 Replacement: AES CSS
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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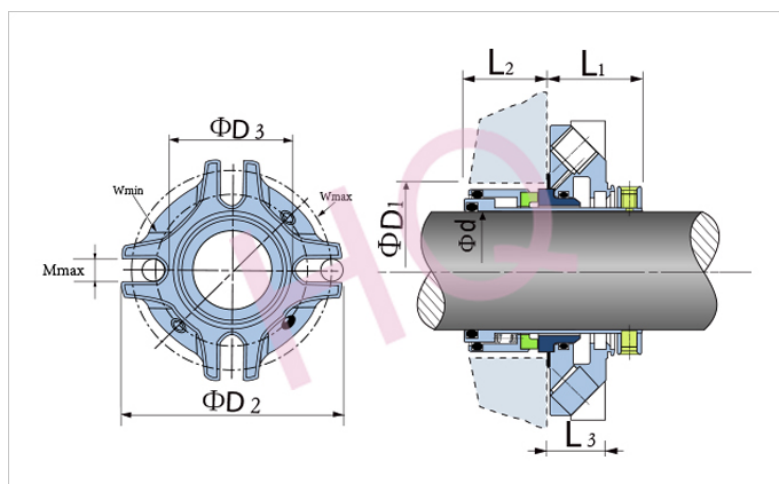
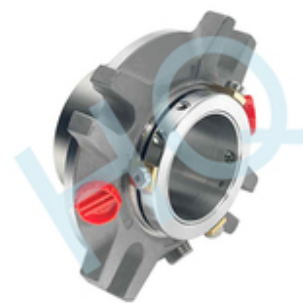
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d (mm)	D1			D2	D3	D	W		M max	L1	L2	L3
	min	mint	max				min	max				
90	114.3	115.8	127	215.9	150.8	127	171.5	195.2	20	49.2	31.8	19.6
95	117.5	119	130.2	215.9	150.8	127	171.5	195.2	20	49.2	31.8	19.6
100	123.9	125.4	139.7	228.6	168.3	136.5	188.9	207.9	20	49.2	31.8	19.6
105	130.1	131.6	149.2	228.6	168.3	136.5	159	208	20	49.2	31.8	19.6
110	136.5	138	158.8	241.3	177.8	146.1	198.4	220.6	20	49.2	31.8	19.6
115	142.9	144.4	168.3	254	186.6	155.6	211.1	230.2	22	49.2	31.8	19.6
120	142.9	144.4	168.3	254	186.6	155.6	211.1	230.2	22	49.2	31.8	19.6

d (inch)	D1			D2	D3	D4	W		M max	L1	L2	L3
	min	mint	max				min	max				
3.625	4.500	4.560	5.000	8.5	5.937	5.000	6.750	7.687	42433	1.937	1.25	0.769
3.750	4.625	4.685	5.125	8.5	5.937	5.000	6.750	7.687	42433	1.937	1.25	0.769
3.875	4.750	4.810	5.250	8.5	5.937	5.000	6.750	7.687	42433	1.937	1.25	0.769
4.000	4.875	4.935	5.500	9.0	6.625	5.375	7.437	8.187	42433	1.937	1.25	0.769
4.125	5.125	5.185	5.875	9.0	6.625	5.375	7.437	8.187	42433	1.937	1.25	0.769
4.250	5.125	5.185	5.875	9.0	6.625	5.375	7.437	8.187	42433	1.937	1.25	0.769
4.375	5.375	5.435	6.250	9.5	7.000	5.750	7.812	8.687	42433	1.937	1.25	0.769
4.500	5.375	5.435	6.250	9.5	7.000	5.750	7.812	8.687	42433	1.937	1.25	0.769
4.625	5.625	5.685	6.625	10.0	7.345	6.125	8.312	9.062	42559	1.937	1.25	0.769
4.750	5.625	5.685	6.625	10.0	7.345	6.125	8.312	9.062	42559	1.937	1.25	0.769

HQCS-A57(CSSN)

Type: Single Cartridge Seal
 Replacement: AES CSSN
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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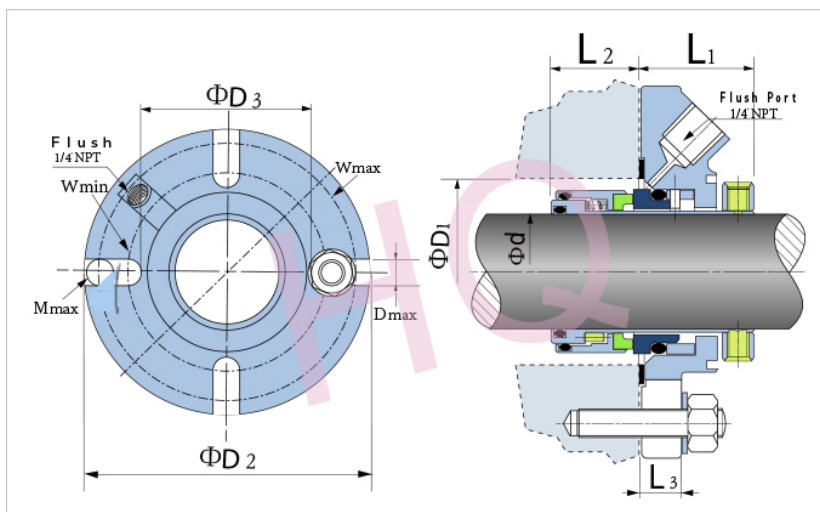


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d (mm)	D1			D2	D3	W		M	L1	L2	L3
	min	mint	max			min	max				
24	40.0	41.0	46.0	104.8	60.3	74.6	92.0	12	37.3	30.7	23.5
25	41.0	42.0	49.2	104.8	60.3	74.6	92.0	12	37.3	30.7	23.5
28	44.0	45.0	52.4	108.0	60.3	74.6	95.3	12	37.3	30.7	23.5
30	46.0	47.0	55.6	111.0	63.5	77.8	98.4	12	37.3	30.7	23.5
32	48.0	49.0	55.6	111.0	63.5	77.8	98.4	12	37.3	30.7	23.5
33	49.0	50.0	55.6	111.0	63.5	77.8	98.4	12	37.3	30.7	23.5
35	50.8	51.8	58.7	111.0	66.7	80.9	98.4	12	37.3	30.7	23.5
38	57.2	58.2	63.5	127.0	71.9	85.7	114.3	12	35.6	27.7	21.6
40	57.2	58.2	63.5	127.0	71.9	85.7	114.3	12	35.6	27.7	21.6
43	60.3	61.3	63.5	127.0	71.9	85.7	114.3	12	35.6	27.7	21.6
45	63.5	64.5	69.8	133.4	76.7	90.5	120.7	12	35.6	27.7	21.6
48	66.7	67.7	69.8	133.4	76.7	90.5	120.7	12	35.6	27.7	21.6
50	68.0	69.0	69.8	133.4	76.7	90.5	120.7	12	35.6	27.7	21.6
53	71.0	72.0	76.2	139.7	86.0	100.0	127	12	35.9	29.2	21.6
55	73.0	74.0	84.1	146.0	93.7	111.1	130.2	12	35.9	29.2	21.6
58	76.2	77.2	84.1	146.0	93.7	111.1	130.2	16	35.9	29.2	21.6
60	79.4	80.4	90.5	152.4	100	117.5	136.5	16	35.9	29.2	21.6
63	85.7	87.2	98.4	177.8	109.5	127.0	161.9	16	38.1	31.8	23.5
65	88.9	90.4	98.4	177.8	109.5	127.0	161.9	16	38.1	31.8	23.5
70	92.1	93.6	98.4	177.8	109.5	127.0	161.9	16	38.1	31.8	23.5
75	98.5	100.0	114.3	190.5	125.4	142.9	173.0	16	38.1	31.8	23.5
80	101.6	103.1	114.3	190.5	125.4	142.9	173.0	16	38.1	31.8	23.5
85	108.0	109.5	123.7	203.2	135.0	152.4	185.7	16	38.1	31.8	23.5

HQCS-A64(SCUSI)

Type: Single Cartridge Seal
 Replacement: AES SCUSI
 Temperature: -30°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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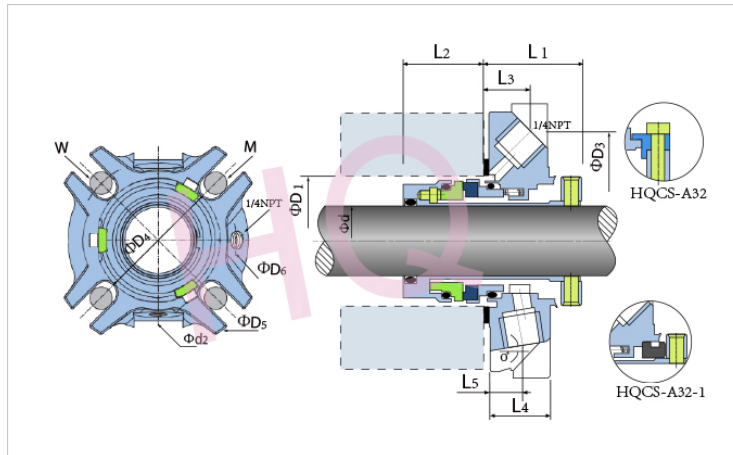


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d (mm)	D1		D2	D3	D		W max	M max	L1	L2	L3
	min	max			max	min					
24	40.0	46.0	101.6	52.4	14.3	66.7	88.9	12	34.4	26.8	12.5
25	41.0	49.2	104.8	55.6	14.3	69.9	92.0	12	34.4	26.8	12.5
28	44.0	52.4	108.0	58.7	14.3	73.0	95.3	12	34.4	26.8	12.5
30	46.0	55.6	111.0	61.9	14.3	76.2	98.4	12	34.4	26.8	12.5
32	48.0	55.6	111.0	61.9	14.3	76.2	98.4	12	34.4	26.8	12.5
33	49.0	55.6	111.0	61.9	14.3	76.2	98.4	12	34.4	26.8	12.5
35	50.8	58.7	111.0	66.7	14.3	79.4	98.4	12	34.4	26.8	12.5
38	57.2	63.5	127.0	73.0	14.3	87.3	114.3	12	34.4	27.7	16.4
40	57.2	63.5	127.0	73.0	14.3	87.3	114.3	12	34.4	27.7	16.4
43	60.3	63.5	127.0	73.0	14.3	87.3	114.3	12	34.4	27.7	16.4
45	63.5	66.7	133.4	76.2	14.3	90.5	120.7	12	34.4	27.7	16.4
48	66.7	76.2	139.7	84.1	14.3	98.4	127.0	12	34.4	27.7	16.4
50	66.7	76.2	139.7	84.1	14.3	98.4	127.0	12	34.4	27.7	16.4
53	69.9	76.2	139.7	84.1	14.3	98.4	127.0	12	35.9	29.2	16.4
55	73.0	84.1	146.0	93.7	17.5	111.1	130.2	16	35.9	29.2	16.4
58	76.2	84.1	146.0	93.7	17.5	111.1	130.2	16	35.9	29.2	16.4
60	79.4	90.5	152.4	100.0	17.5	117.5	136.5	16	35.9	29.2	16.4
63	85.7	93.7	158.8	106.4	17.5	123.8	142.9	16	35.9	30.5	16.4
65	88.9	95.3	158.8	106.4	17.5	123.8	142.9	16	35.9	30.5	16.4
70	92.1	98.4	158.8	106.4	17.5	123.8	142.9	16	35.9	30.5	16.4

HQCS-A32(SISS)

Type: Single Cartridge Seal
 Replacement: AES SISS, SISR
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B, A, Q1, Q2, U2, E, V, K, F, G, M



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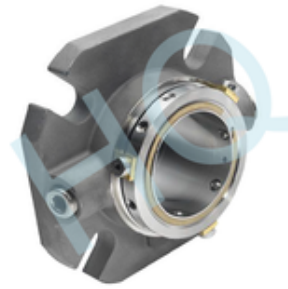


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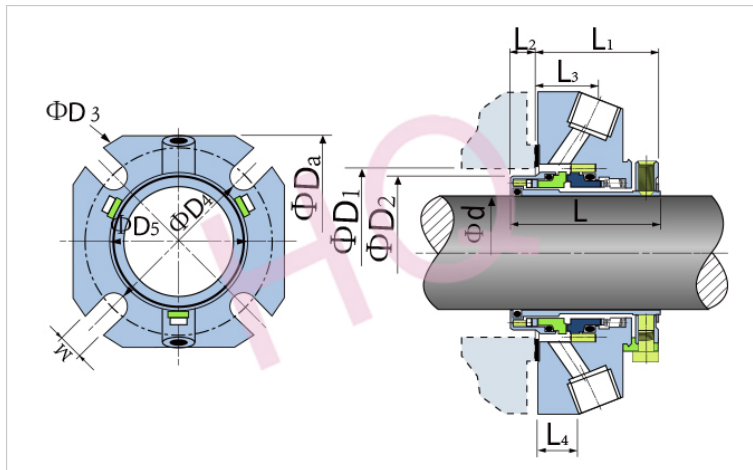
d	d2	D1		D3	D4	D5	D6	W		M	L1	L2	L3	L4	L5	O
		min	max					min	max							
24	1/4NPT	41.0	48.6	71.4	57.2	104.8	79.1	71.2	92.8	12	38.3	28.2	17.9	23.8	15.0	10
25	1/4NPT	41.0	48.6	71.4	57.2	104.8	79.1	71.2	92.8	12	38.3	28.2	17.9	23.8	15.0	10
28	1/4NPT	44.0	52.6	76.2	60.4	108.0	82.6	74.3	96.0	12	38.3	28.2	17.0	23.8	14.1	10
30	1/4NPT	46.0	54.7	78.0	63.5	111.1	84.1	77.5	99.0	12	38.3	28.2	17.8	23.8	13.0	10
32	1/4NPT	48.0	54.7	78.5	63.5	111.1	84.1	77.5	99.0	12	38.3	28.2	17.8	23.8	13.0	10
33	1/4NPT	49.0	54.7	78.5	63.5	111.1	84.1	77.5	99.0	12	38.3	28.2	17.8	23.8	13.0	10
33K	1/4NPT	49.0	54.7	82.5	63.5	98.5	97.0	77.5	86.5	12	36.8	27.7	13.7	21.7	13.7	15
35	1/4NPT	51.0	58.6	78.5	66.7	111.1	83.8	80.7	99.0	12	38.3	28.2	17.6	23.8	13	10
38	1/4NPT	58.0	63.6	85.7	72.0	127.0	92.1	85.9	115.0	12	36.8	28.0	16.2	21.7	12.7	10
40	1/4NPT	60.0	64.7	85.7	72.0	127.0	92.1	85.9	115.0	12	36.8	28.0	16.2	21.7	12.7	10
43	1/4NPT	63.0	68.6	89.7	76.8	133.4	94.9	90.8	121.3	12	36.8	28.0	16.1	21.7	13.0	10
43K	1/4NPT	63.0	71.7	93.5	81.0	119.7	101.6	95.0	107.6	12	43.8	28.0	18.9	17.1	22.9	45
45	1/4NPT	65.0	70.2	88.9	76.8	133.4	95.3	90.8	121.4	12	36.8	28.0	16.1	21.7	12.7	10
48	1/4NPT	67.0	70.2	88.9	76.8	133.4	95.3	90.8	121.4	12	36.8	28.0	16.2	21.7	12.7	10
50	1/4NPT	70.0	77.7	95.3	86.0	139.7	101.6	100.0	127.7	12	36.8	28.0	16.2	21.7	12.7	10
53	1/4NPT	73.0	84.7	101.3	93.6	146.1	108.0	111.1	130.0	16	36.8	28.0	16.2	21.7	13.4	10
55	1/4NPT	75.0	84.7	101.3	93.6	146.1	108.0	111.1	130.0	16	36.8	28.0	16.2	21.7	13.4	10
58	1/4NPT	78.0	84.7	11.3	93.6	146.1	108.0	111.1	130.0	16	36.8	28.0	16.2	21.7	13.4	10
60	1/4NPT	80.0	89.6	104.4	100	152.4	114.3	117.5	136.4	16	36.8	28.0	16.2	21.7	13.7	10
63	3/8NPT	82.6	98.6	121.2	109.5	177.8	126.8	127.0	161.8	16	39.5	27.4	18.8	23.9	13.5	10
65	3/8NPT	85.7	98.7	121.2	109.5	177.8	126.8	127.0	161.8	16	39.5	27.4	18.8	23.9	13.5	10
70	3/8NPT	90.0	98.7	121.2	109.5	177.8	126.8	127.0	161.8	16	39.5	27.4	18.8	23.9	13.5	10
75	3/8NPT	98.4	113.5	130.6	125.4	190.5	137.2	142.9	174.5	16	39.7	33.0	18.5	23.9	13.8	10
80	3/8NPT	101.6	113.5	130.6	125.4	190.5	138.1	142.9	174.5	16	39.7	33.0	18.0	23.9	13.8	10
85	3/8NPT	108.0	121.5	140.2	135.0	203.2	146.0	156.0	185.0	20	39.7	33.0	18.9	23.9	13.4	10

HQC-A65(SMSS)

Type: Single Cartridge Seal
 Replacement: AES SMSS
 Temperature: -30°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



24mm-70mm/1.000'-2.750'



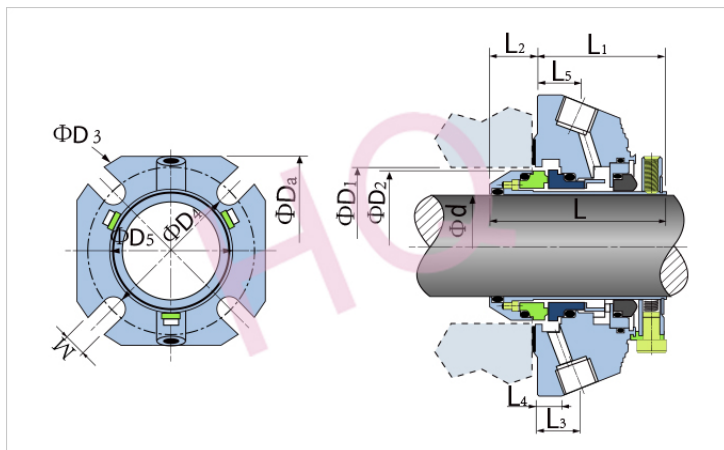
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d	D1		D2	D3	D4	D5	Da	M	L	L1	L2	L3	L4
	min	max											
24	40.0	48.0	38.0	105.0	61.0	51.0	99.0	14.0	55.7	45.7	10	20.5	11.9
25	41.0	51.0	39.0	105.0	61.0	51.0	11.6	14.0	55.7	45.7	10	20.5	11.9
28	44.0	54.0	42.6	111.0	65.0	55.5	99.0	14.0	55.7	45.7	10	20.3	11.9
30	46.0	54.0	44.1	105.0	64.6	56.4	97.8	14.0	55.7	45.7	10	20.3	11.9
32	49.0	57.0	47.1	105.0	66.5	59.5	99.0	14.0	55.7	45.7	10	21.2	14.0
33	49.0	57.0	47.1	105.0	66.5	59.5	99.0	14.0	55.7	45.7	10	21.2	14.0
35	51.0	59.0	49.0	120.0	68.5	61.5	104.1	14.0	55.7	45.7	10	21.5	13.2
38	57.0	70.0	52.9	135.0	80.7	70.7	114.3	14.0	57.6	47.6	10	24.6	16.0
40	59.0	70.5	54.8	135.0	80.7	70.7	114.3	14.0	57.6	47.6	10	24.6	16.0
43	61.0	70.5	56.1	135.0	80.7	70.7	114.3	14.0	57.6	47.6	10	20.5	15.5
45	64.0	75.0	59.3	139.0	83.7	75.7	117.5	14.0	57.6	47.6	10	24.3	16.0
48	66.6	75.0	62.4	139.0	83.7	75.7	117.5	14.0	57.6	47.6	10	24.3	16.0
50	70.0	78.0	65.3	150.0	87.6	79.0	124.5	17.5	57.6	47.6	10	24.3	16.0
53	73.0	87.0	68.8	150.0	97.0	85.0	136.5	17.5	57.6	47.6	10	22.5	15.5
55	73.0	87.0	68.8	150.0	97.0	85.0	136.5	17.5	57.6	47.6	10	22.5	15.5
58	76.2	92.0	72.0	164.5	102.4	88.7	139.7	17.5	57.6	47.6	10	24.6	16.0
60	80.0	92.0	75.2	164.5	102.4	88.7	139.7	17.5	57.6	47.6	10	24.6	16.0
63	83.0	98.5	78.3	171.0	108.7	96.1	147.4	17.5	57.6	47.6	10	23.7	16.0
65	86.0	98.5	81.5	171.0	108.7	96.1	147.4	17.5	57.6	47.6	10	23.7	16.0
70	89.0	100.0	84.7	180.5	111.9	98.3	152.4	17.5	57.6	47.6	10	24.3	16.0
1.000	1.625	2.000	1.538	4.134	2.401	2.008	3.900	0.551	2.194	1.800	0.394	0.807	0.469
1.125	1.750	2.125	1.678	4.375	2.559	2.183	4.000	0.551	2.194	1.800	0.394	0.800	0.469
1.250	1.875	2.250	1.823	4.134	2.618	2.340	3.900	0.551	2.194	1.800	0.394	0.835	0.551
1.375	2.000	2.312	1.932	4.375	2.697	2.418	4.100	0.551	2.194	1.800	0.394	0.846	0.520
1.500	2.250	2.750	2.084	5.315	3.177	2.783	4.500	0.551	2.269	1.875	0.394	0.970	0.630
1.625	2.375	2.750	2.209	5.315	3.177	2.783	4.500	0.551	2.269	1.875	0.394	0.807	0.610
1.750	2.500	2.937	2.334	5.475	3.297	2.982	4.625	0.551	2.269	1.875	0.394	0.957	0.630
1.875	2.625	2.937	2.459	5.475	3.297	2.982	4.625	0.551	2.269	1.875	0.394	0.957	0.630
2.000	2.750	3.062	2.569	5.906	3.450	3.108	4.900	0.689	2.269	1.875	0.394	0.970	0.630
2.125	2.875	3.437	2.709	5.906	3.821	3.346	5.375	0.689	2.269	1.875	0.394	0.970	0.610
2.250	3.000	3.625	2.834	6.475	4.030	3.493	5.500	0.689	2.269	1.875	0.394	0.970	0.630
2.375	3.125	3.625	2.959	6.475	4.030	3.493	5.500	0.689	2.269	1.875	0.394	0.970	0.630
2.500	3.250	3.875	3.084	6.725	4.280	3.785	5.800	0.689	2.269	1.875	0.394	0.933	0.630
2.625	3.375	3.875	3.209	6.725	4.280	3.785	5.800	0.689	2.269	1.875	0.394	0.933	0.630

75mm-125mm/2.875'-5.000'



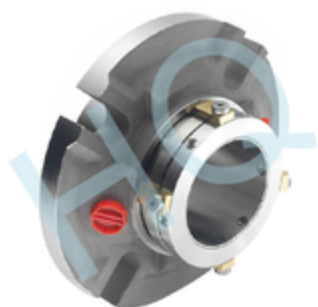
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d	D1		D2	D3	D4	D5	Da	M	L	L1	L2	L3	L4	L5
	min	max												
75	101.6	117.5	98.0	189.3	131.4	115.3	169.4	17.5	83.5	63.5	20	23	25.8	36.1
80	108.0	127.0	104.4	201.9	131.4	115.3	169.4	21.0	83.5	63.5	20	23	25.8	36.1
85	111.1	127.0	107.6	201.9	142.5	124.8	182.1	21.0	83.5	63.5	20	23	25.8	36.1
90	117.5	136.5	113.9	214.6	152.0	134.4	194.8	21.0	83.5	63.5	20	23	25.8	36.1
95	120.0	136.5	117.1	214.6	152.0	134.4	194.8	21.0	83.5	63.5	20	23	25.8	36.1
100	127.0	139.7	123.4	227.3	155.2	137.5	207.5	21.0	83.5	63.5	20	23	25.8	36.1
105	133.4	152.4	129.8	240.0	168.0	150.2	216.2	21.0	83.5	63.5	20	23	25.8	36.1
110	139.7	152.4	136.1	240.0	168.0	150.2	216.2	21.0	83.5	63.5	20	23	25.8	36.1
115	146.1	165.1	142.5	252.7	180.6	162.9	235.7	24.0	83.5	63.5	20	23	25.8	36.1
120	146.1	165.1	142.5	252.7	180.6	162.9	235.7	24.0	83.5	63.5	20	23	25.8	36.1
125	152.4	165.1	148.8	252.7	180.6	162.9	235.7	24.0	83.5	63.5	20	23	25.8	36.1
2.875	3.875	4.625	3.735	7.45	5.173	4.539	6.670	0.689	3.286	2.5	0.786	0.906	1.015	1.423
3.000	4.000	4.625	3.860	7.45	5.173	4.539	6.670	0.689	3.286	2.5	0.786	0.906	1.015	1.423
3.125	4.125	4.625	3.985	7.45	5.173	4.539	6.670	0.689	3.286	2.5	0.786	0.906	1.015	1.423
3.500	4.250	5.000	4.110	7.95	5.611	4.914	7.170	0.827	3.286	2.5	0.786	0.906	1.015	1.423
3.375	4.375	5.000	4.235	7.95	5.611	4.914	7.170	0.827	3.286	2.5	0.786	0.906	1.015	1.423
3.500	4.500	5.000	4.360	7.95	5.611	4.914	7.170	0.827	3.286	2.5	0.786	0.906	1.015	1.423
3.625	4.625	5.375	4.485	8.45	5.986	5.289	7.670	0.827	3.286	2.5	0.786	0.906	1.015	1.423
3.750	4.750	5.375	4.610	8.45	5.986	5.289	7.670	0.827	3.286	2.5	0.786	0.906	1.015	1.423
3.875	5.000	5.500	4.860	8.95	6.111	5.414	8.170	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.000	5.000	5.500	4.860	8.95	6.111	5.414	8.170	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.125	5.250	6.000	5.110	9.45	6.611	5.914	8.510	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.250	5.250	6.000	5.110	9.45	6.611	5.914	8.510	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.375	5.500	6.000	5.360	9.45	6.611	5.914	8.510	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.500	5.500	6.000	5.360	9.45	6.611	5.914	8.510	0.827	3.286	2.5	0.786	0.906	1.015	1.423
4.625	5.750	6.500	5.610	9.95	7.110	6.414	8.884	0.945	3.286	2.5	0.786	0.906	1.015	1.423
4.750	5.750	6.500	5.610	9.95	7.110	6.414	8.884	0.945	3.286	2.5	0.786	0.906	1.015	1.423
4.875	6.000	6.500	5.860	9.95	7.110	6.414	8.884	0.945	3.286	2.5	0.786	0.906	1.015	1.423
5.000	6.000	6.500	5.860	9.95	7.110	6.414	8.884	0.945	3.286	2.5	0.786	0.906	1.015	1.423

HQCS-A58(CDP)



Type: Double Cartridge Seal

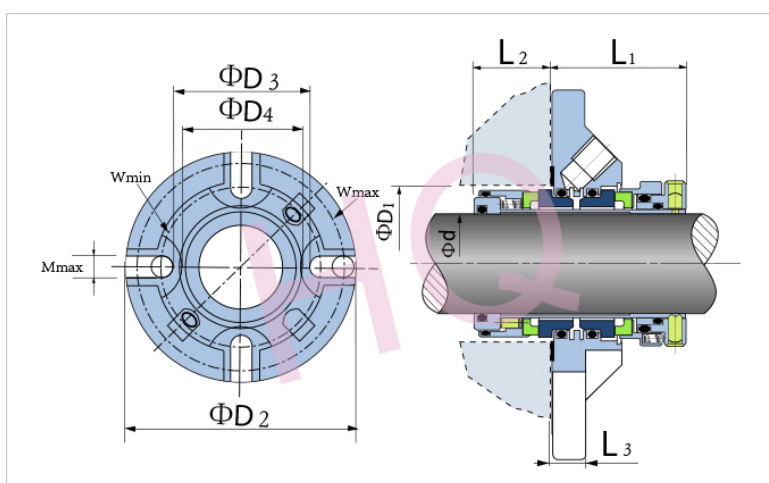
Replacement: AES CDP

Temperature: -30°C to $+205^{\circ}\text{C}$

Pressure: $\leq 2.1\text{Mpa}$

Speed: $\leq 25\text{m/s}$

Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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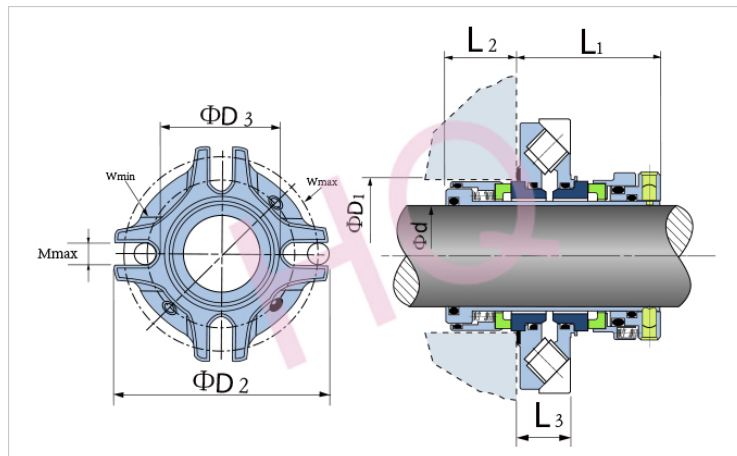
hq@hqseal.com

d (mm)	D1			D2	D3	D4	W		M	L1	L2	L3
	min	mint	max				min	max				
90	114.3	115.8	127.0	215.9	150.8	127.0	171.5	195.2	20	60.3	31.8	19.6
95	117.5	119.0	130.2	215.9	150.8	127.0	171.5	195.2	20	60.3	31.8	19.6
100	123.9	125.0	139.7	228.6	168.3	136.5	188.9	207.9	20	60.3	31.8	19.6
115	142.9	144.4	168.3	254.0	186.6	155.6	211.1	230.2	22	60.3	31.8	19.6
120	142.9	144.4	168.3	254.0	186.6	155.6	211.1	230.2	22	60.3	31.8	19.6

d (inch)	D1			D2	D3	D4	W		M	L1	L2	L3
	min	mint	max				min	max				
3.625	4.500	4.560	5.000	8.5	5.937	5.000	6.750	7.687	3/4	2.375	1.25	0.769
3.750	4.625	4.685	5.125	8.5	5.937	5.000	6.750	7.687	3/4	2.375	1.25	0.769
3.875	4.750	4.810	5.250	8.5	5.937	5.000	6.750	7.687	3/4	2.375	1.25	0.769
4.000	4.875	4.935	5.500	9.0	6.625	5.375	7.437	8.187	3/4	2.375	1.25	0.769
4.625	5.625	5.685	6.625	10.0	7.345	6.125	8.312	9.062	3/4	2.375	1.25	0.769
4.750	5.625	5.685	6.625	10.0	7.345	6.125	8.312	9.062	3/4	2.375	1.25	0.769

HQCS-A59(CDPN)

Type: Double Cartridge Seal
 Replacement: AES CDPN
 Temperature: -30°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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d	D1			D2	D3	W		M	L1	L2	L3
	min	mint	max			min	max				
24	40.0	41.0	46.0	104.8	60.3	74.6	92.0	12	51.3	30.7	23.5
25	41.0	42.0	49.2	104.8	60.3	74.6	92.0	12	51.3	30.7	23.5
28	44.0	45.0	52.4	108.0	60.3	74.6	95.3	12	51.3	30.7	23.5
30	46.0	47.0	55.6	111.0	63.5	77.8	98.4	12	51.3	30.7	23.5
32	48.0	49.0	55.6	111.0	63.5	77.8	98.4	12	51.3	30.7	23.5
33	49.0	50.0	55.6	111.0	63.5	77.8	98.4	12	51.3	30.7	23.5
35	50.8	51.8	58.7	111.0	66.7	80.9	98.4	12	51.3	30.7	23.5
38	57.2	58.2	63.5	127.0	71.9	85.7	114.3	12	56.5	27.7	21.6
40	57.2	58.2	63.5	127.0	71.9	85.7	114.3	12	56.5	27.7	21.6
43	60.3	61.3	63.5	127.0	71.9	85.7	114.3	12	56.5	27.7	21.6
45	63.5	64.5	69.8	133.4	76.7	90.5	120.7	12	56.5	27.7	21.6
48	66.7	67.7	69.8	133.4	76.7	90.5	120.7	12	56.5	27.7	21.6
50	68.0	69.0	69.8	133.4	76.7	90.5	120.7	12	56.5	27.7	21.6
53	71.0	72.0	76.2	139.7	86.0	100.0	127.0	12	57.2	29.2	21.6
55	73.0	74.0	84.1	146.0	93.7	111.1	130.2	12	57.2	29.2	21.6
58	76.2	77.2	84.1	146.0	93.7	111.1	130.2	16	57.2	29.2	21.6
60	79.4	80.4	90.5	152.4	100.0	117.5	136.5	16	57.2	29.2	21.6
63	85.7	87.2	98.4	177.8	109.5	127.0	161.9	16	63.8	31.8	23.5
65	88.9	90.4	98.4	177.8	109.5	127.0	161.9	16	63.8	31.8	23.5
70	92.1	93.6	98.4	177.8	109.5	127.0	161.9	16	63.8	31.8	23.5
75	98.5	100.0	114.3	190.5	125.4	142.9	173.0	16	63.8	31.8	23.5
80	101.6	103.1	114.3	190.5	125.4	142.9	173.0	16	63.8	31.8	23.5
85	108.0	109.5	123.7	203.2	135.0	152.4	185.7	16	63.8	31.8	23.5

HQCS-A59(CDPN)

d	D1			D2	D3	W		M	L1	L2	L3
	min	mint	max			min	max				
1.000	1.625	1.665	1.937	4.125	2.375	2.937	3.625	1/2	2.020	1.209	0.927
1.125	1.750	1.790	2.062	4.25	2.375	2.937	3.750	1/2	2.020	1.209	0.927
1.250	1.875	1.915	2.187	4.375	2.500	3.062	3.875	1/2	2.020	1.209	0.927
1.375	2.000	2.040	2.312	4.375	2.625	3.186	3.875	1/2	2.020	1.209	0.927
1.500	2.250	2.290	2.500	5.000	2.832	3.375	4.500	1/2	2.226	1.090	0.852
1.625	2.375	2.415	2.500	5.000	2.832	3.375	4.500	1/2	2.226	1.090	0.852
1.750	2.500	2.540	2.750	5.250	3.022	3.562	4.750	1/2	2.226	1.090	0.852
1.875	2.625	2.665	2.750	5.250	3.022	3.562	4.750	1/2	2.226	1.090	0.852
2.000	2.750	2.790	3.000	5.500	3.386	3.937	5.000	1/2	2.250	1.150	0.852
2.125	2.875	2.915	3.312	5.750	3.687	4.375	5.125	5/8	2.250	1.150	0.852
2.250	3.000	3.040	3.312	5.750	3.687	4.375	5.125	5/8	2.250	1.150	0.852
2.375	3.125	3.165	3.562	6.000	3.937	4.625	5.375	5/8	2.250	1.150	0.852
2.500	3.375	3.435	3.875	7.000	4.312	5.000	6.375	5/8	2.510	1.250	0.926
2.625	3.500	3.560	3.875	7.000	4.312	5.000	6.375	5/8	2.510	1.250	0.926
2.750	3.625	3.685	3.875	7.000	4.312	5.000	6.375	5/8	2.510	1.250	0.926
2.875	3.750	3.810	4.500	7.500	4.937	5.625	6.812	5/8	2.510	1.250	0.926
3.000	3.875	3.935	4.500	7.500	4.937	5.625	6.812	5/8	2.510	1.250	0.926
3.125	4.000	4.060	4.500	7.500	4.937	5.625	6.812	5/8	2.510	1.250	0.926
3.250	4.125	4.185	4.875	8.000	5.312	6.000	7.312	5/8	2.510	1.250	0.926
3.375	4.250	4.310	4.875	8.000	5.312	6.000	7.312	5/8	2.510	1.250	0.926
3.500	4.375	4.435	4.875	8.000	5.312	6.000	7.312	5/8	2.510	1.250	0.926



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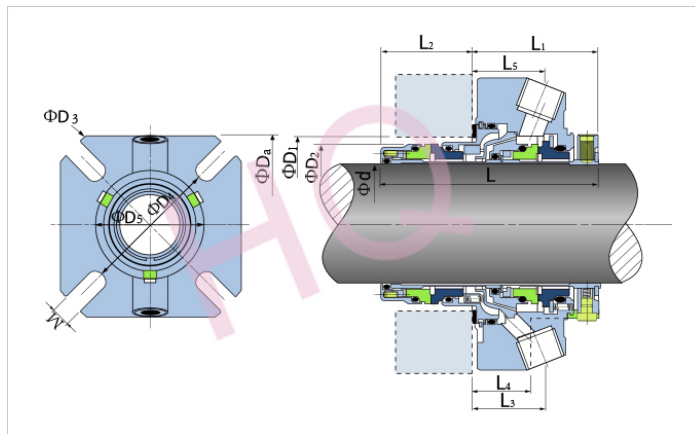
hq@hqseal.com

HQCS-A60(DMSF)

Type: Double Cartridge Seal
 Replacement: AES DMSF
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



24MM-70MM/1.000"-2.750"



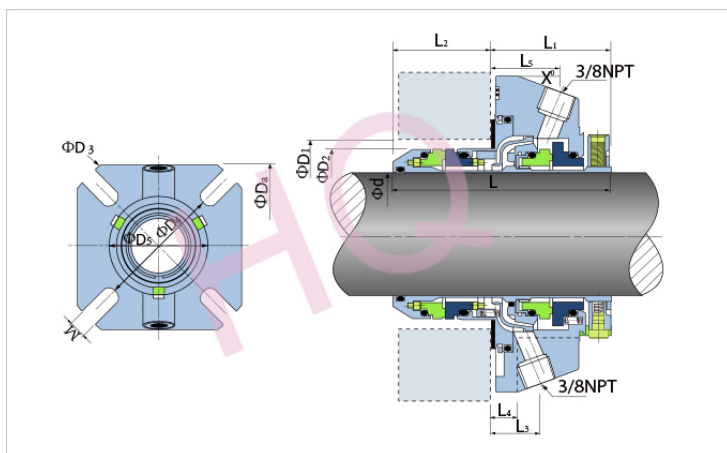
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d	D1		D2	D3	D4	D5	Da	L	L1	L2	L3	L4	L5	M	X
	min	max													
24	43.0	48.0	40.8	105.0	57.7	50.4	99.0	92.0	53.1	38.9	28.2	19.2	29.2	14	20°
25	44.0	51.0	41.8	105.0	62.0	51.0	99.0	92.0	53.1	38.9	27.8	19.2	29.2	14	20°
28	47.0	54.0	45.4	111.0	65.0	55.5	101.6	92.0	53.1	38.9	27.5	19.2	29.4	14	20°
30	49.0	54.0	46.8	105.0	64.6	56.4	97.8	92.0	53.1	38.9	27.4	19.2	29.7	14	20°
32	51.0	57.0	49.8	105.0	66.5	59.4	99.0	92.0	53.1	38.9	28.4	21.5	30.9	14	25°
33	51.0	57.0	49.8	105.0	66.5	59.4	99.0	92.0	53.1	38.9	28.4	21.5	30.9	14	25°
35	53.0	59.0	51.8	120.0	68.5	61.4	104.1	92.0	53.1	38.9	29.3	20.7	29.3	14	15°
38	57.0	69.9	55.7	135.0	80.7	70.8	114.3	92.0	53.1	38.9	30.1	21.3	30.1	14	20°
40	59.0	70.5	57.6	135.0	80.7	70.8	114.3	93.2	53.1	40.1	30.1	21.3	30.1	14	20°
43	61.0	70.5	58.6	135.0	80.7	70.8	114.3	93.2	53.1	40.1	26.7	21.3	29.8	14	15°
45	64.0	75.0	62.0	139.0	84.6	73.8	117.5	93.2	53.1	40.1	30.5	21.9	30.5	14	20°
48	66.6	74.6	65.2	139.0	83.7	75.7	117.5	93.2	53.1	40.1	29.3	21.3	29.9	14	20°
50	70.0	78.0	68.0	150.0	87.6	78.9	124.5	93.2	53.1	40.1	30.5	21.6	30.5	17.5	20°
53	73.0	87.0	71.6	150.0	97.0	85.0	136.5	93.2	53.1	40.1	25.7	21.3	29.5	17.5	15°
55	73.0	87.0	71.6	150.0	97.0	85.0	136.5	93.2	53.1	40.1	25.7	21.3	29.5	17.5	15°
58	76.2	92.0	74.7	150.0	102.4	88.0	139.7	93.2	53.1	40.1	30.1	21.3	30.1	17.5	20°
60	80.0	92.0	77.9	164.5	102.4	88.0	139.7	93.2	53.1	40.1	30.5	21.6	30.5	17.5	20°
63	83.0	98.5	81.1	171.0	108.7	94.4	147.3	93.2	53.1	40.1	29.8	21.6	29.8	17.5	15°
65	86.0	98.5	84.3	171.0	108.7	94.4	147.3	93.2	53.1	40.1	29.4	21.3	29.4	17.5	15°
70	89.0	100.0	87.4	180.5	112.0	98.3	152.4	93.2	53.1	40.1	29.7	21.3	29.7	17.5	20°
1.000	1.750	2.000	1.646	4.134	2.441	2.008	3.900	3.622	2.091	1.531	1.093	0.755	1.15	0.551	20°
1.125	1.875	2.125	1.786	4.375	2.559	2.183	4.000	3.622	2.091	1.531	1.084	0.755	1.159	0.551	20°
1.250	2.000	2.250	1.961	4.134	2.618	2.340	3.900	3.622	2.091	1.531	1.120	0.847	1.215	0.551	25°
1.375	2.125	2.312	2.040	4.725	2.697	2.418	4.100	3.622	2.091	1.531	1.154	0.815	1.154	0.551	15°
1.500	2.250	2.750	2.192	5.315	3.177	2.786	4.500	3.622	2.091	1.531	1.185	0.837	1.185	0.551	20°
1.625	2.375	2.750	2.317	5.315	3.177	2.786	4.500	3.671	2.091	1.580	1.052	0.841	1.173	0.551	15°
1.750	2.500	2.937	2.442	5.475	3.337	2.907	4.625	3.671	2.091	1.580	1.200	0.862	1.200	0.551	20°
1.875	2.625	2.937	2.567	5.475	3.297	2.982	4.625	3.671	2.091	1.580	1.152	0.837	1.175	0.551	20°
2.000	2.750	3.062	2.677	5.906	3.450	3.108	4.900	3.671	2.091	1.580	1.200	0.852	1.200	0.689	20°
2.125	2.875	3.437	2.817	5.906	3.819	3.346	5.375	3.671	2.091	1.580	1.013	0.84	1.163	0.689	15°
2.250	3.000	3.625	2.942	6.475	4.030	3.466	5.500	3.671	2.091	1.580	1.185	0.837	1.185	0.689	20°
2.375	3.125	3.625	3.067	6.475	4.030	3.466	5.500	3.671	2.091	1.580	1.200	0.852	1.200	0.689	20°
2.500	3.250	3.875	3.192	6.725	4.280	3.716	5.800	3.671	2.091	1.580	1.173	0.852	1.173	0.689	15°

75MM-125MM/2.875"-5.0 00"



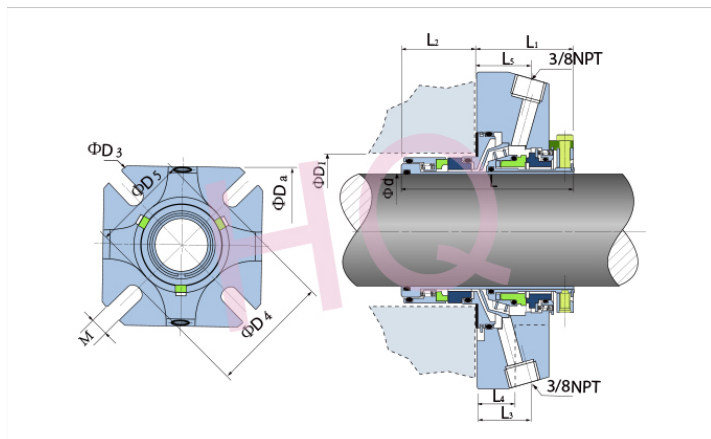
[http://
www.hqseal.com](http://www.hqseal.com)



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d	D1		D2	D3	D4	D5	Da	L	L1	L2	L3	L4	L5	M	X
	min	max													
75	101.6	117.5	98.0	189.3	131.4	116.5	169.4	115.9	63.5	52.4	25.0	25.8	36.3	17.5	20°
80	108.0	127.0	104.4	201.9	142.5	126.0	169.4	115.9	63.5	52.4	25.0	25.8	36.3	21.0	20°
85	111.1	127.0	107.6	201.9	142.5	126.0	182.1	115.9	63.5	52.4	25.0	25.8	36.3	21.0	20°
90	117.5	136.5	113.9	214.6	152.0	135.5	194.8	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
95	120.0	136.5	117.1	214.6	152.0	135.5	194.8	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
100	127.0	139.7	123.4	227.3	155.2	138.7	207.5	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
105	133.4	152.4	129.8	240.0	167.9	151.4	-	115.9	63.5	52.4	36.0	23.8	40.1	21.0	45°
110	139.7	152.4	136.1	240.0	167.9	151.4	-	115.9	63.5	52.4	36.0	23.8	40.1	21.0	45°
115	146.1	165.1	142.5	252.7	180.6	164.1	-	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°
120	146.1	165.1	142.5	252.7	180.6	164.1	-	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°
125	152.4	165.1	148.8	252.7	180.6	164.1	-	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°
2.875	3.875	4.625	3.735	7.45	5.173	4.585	6.67	4.562	2.5	2.062	0.986	1.014	1.429	0.689	20°
3.000	4.000	4.625	3.860	7.45	5.173	4.585	6.67	4.562	2.5	2.062	0.986	1.014	1.429	0.689	20°
3.125	4.125	4.625	3.985	7.45	5.173	4.585	6.67	4.562	2.5	2.062	0.986	1.014	1.429	0.689	20°
3.250	4.250	5.000	4.110	7.95	5.610	4.960	7.17	4.562	2.5	2.062	0.986	1.014	1.429	0.827	20°
3.375	4.375	5.000	4.235	7.95	5.610	4.960	7.17	4.562	2.5	2.062	0.986	1.014	1.429	0.827	20°
3.500	4.500	5.000	4.360	7.95	5.610	4.960	7.17	4.562	2.5	2.062	0.986	1.014	1.429	0.827	20°
3.625	4.625	5.375	4.485	8.45	5.985	5.335	7.67	4.562	2.5	2.062	1.033	1.014	1.429	0.827	20°
3.750	4.750	5.375	4.610	8.45	5.985	5.335	7.67	4.562	2.5	2.062	1.033	1.014	1.429	0.827	20°
3.875	5.000	5.500	4.860	8.95	6.110	5.460	8.17	4.562	2.5	2.062	1.033	1.014	1.429	0.827	20°
4.000	5.000	5.500	4.860	8.95	6.110	5.460	8.17	4.562	2.5	2.062	1.033	1.014	1.429	0.827	20°
4.125	5.250	6.000	5.110	9.45	6.610	5.960	-	4.562	2.5	2.062	1.418	0.937	1.578	0.827	45°
4.250	5.250	6.000	5.110	9.45	6.610	5.960	-	4.562	2.5	2.062	1.418	0.937	1.578	0.827	45°
4.375	5.500	6.000	5.360	9.45	6.610	5.960	-	4.562	2.5	2.062	1.418	0.937	1.578	0.827	45°
4.500	5.500	6.000	5.360	9.45	6.610	5.960	-	4.562	2.5	2.062	1.418	0.937	1.578	0.827	45°
4.625	5.750	6.500	5.610	9.95	7.110	6.460	-	4.562	2.5	2.062	1.418	0.937	1.578	0.945	45°
4.750	5.750	6.500	5.610	9.95	7.110	6.460	-	4.562	2.5	2.062	1.418	0.937	1.578	0.945	45°
4.875	6.000	6.500	5.860	9.95	7.110	6.460	-	4.562	2.5	2.062	1.418	0.937	1.578	0.945	45°
5.000	6.000	6.500	5.860	9.95	7.110	6.460	-	4.562	2.5	2.062	1.418	0.937	1.578	0.945	45°

HQCS-A61(CDFC)



Type: Double Cartridge Seal
 Replacement: AES CDFC
 Temperature: -30°C to +205°C
 Pressure: ≤ 2.1 Mpa
 Speed: ≤ 25 m/s
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M

28MM-65MM/1.125"-2.625"

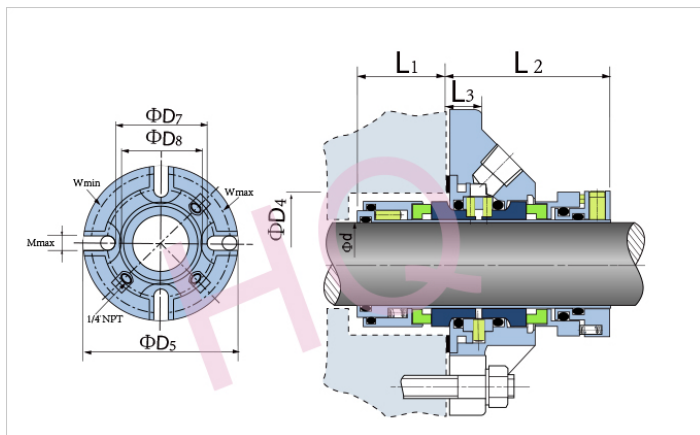
d	D1		D3	D4	D5	M	L	L1	L2	L3	L4	L5
	min	max										
28	44.0	52.0	111.1	62.2	57.2	14.0	90.0	52.4	37.6	20.6	19.1	28.6
35	51.0	60.3	104.1	71.8	67.0	14.0	90.0	52.4	37.6	20.6	19.1	28.6
45	63.5	73.0	139.1	83.8	75.7	14.0	92.8	53.1	39.7	31.5	19.1	33.0
55	74.0	90.5	150.0	100.3	86.6	17.5	94.4	53.1	41.3	25.3	22.2	29.0
60	79.4	95.0	170.8	108.7	94.4	17.5	94.4	53.1	41.3	26.5	19.1	29.7
63	85.8	95.0	170.8	108.7	94.4	17.5	95.5	53.1	42.4	31.5	19.1	33.0
65	88.9	98.0	180.3	111.9	98.3	17.5	95.5	53.1	42.4	31.5	19.1	33.0
1.125	1.750	2.062	4.375	2.449	2.25	0.551	3.546	2.062	1.484	0.812	0.75	1.125
1.375	2.000	2.375	4.100	2.827	2.638	0.551	3.546	2.062	1.484	0.812	0.75	1.125
1.750	2.500	2.875	5.475	3.297	2.982	0.551	3.653	2.091	1.562	1.240	0.75	1.299
1.875	2.625	3.000	5.906	3.450	3.108	0.689	3.653	2.091	1.562	1.240	0.75	1.299
1.875-D	2.625	2.875	4.875	3.325	3.025	0.472	3.653	2.091	1.562	1.150	0.8	1.150
2.125	2.875	3.562	5.906	3.950	3.408	0.689	3.716	2.091	1.625	0.995	0.875	1.140
2.375	3.125	3.750	6.725	4.280	3.716	0.689	3.716	2.091	1.625	1.043	0.75	1.170
2.500	3.375	3.750	6.725	4.280	3.716	0.689	3.761	2.091	1.670	1.240	0.75	1.299
2.625	3.500	3.875	7.100	4.405	3.871	0.689	3.761	2.091	1.670	1.240	0.75	1.299

75MM-100MM/2.750"-4.000"

d	D1		D3	D4	D5	M	L	L1	L2	L3	L4	L5
	min	max										
75	98.5	117.4	189.2	131.4	116.5	17.5	106	63.5	42.5	36	23.8	40.1
80	101.6	127.0	201.9	142.5	126.0	21.0	106	63.5	42.5	36	23.8	40.1
85	108.0	127.0	201.9	142.5	126.0	21.0	106	63.5	42.5	36	23.8	40.1
90	114.3	136.5	214.6	152	135.5	21.0	106	63.5	42.5	36	23.8	40.1
95	117.5	139.7	227.3	155.2	138.7	21.0	106	63.5	42.5	36	23.8	40.1
100	123.9	152.4	240.0	167.9	151.4	21.0	106	63.5	42.5	36	23.8	40.1
2.750	3.625	4.625	7.45	5.173	4.585	0.689	4.17	2.5	1.67	1.418	0.937	1.578
2.875	3.750	4.625	7.45	5.173	4.585	0.689	4.17	2.5	1.67	1.418	0.937	1.578
3.000	3.875	4.625	7.45	5.173	4.585	0.689	4.17	2.5	1.67	1.418	0.937	1.578
3.125	4.000	5.000	7.95	5.610	4.960	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.250	4.125	5.000	7.95	5.610	4.960	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.375	4.250	5.000	7.95	5.610	4.960	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.500	4.375	5.375	8.45	5.985	5.335	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.625	4.500	5.375	8.45	5.985	5.335	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.750	4.625	5.500	8.95	6.110	5.460	0.827	4.17	2.5	1.67	1.418	0.937	1.578
3.875	4.75	5.500	8.95	6.110	5.460	0.827	4.17	2.5	1.67	1.418	0.937	1.578
4.000	4.875	6.000	9.45	6.610	5.960	0.827	4.17	2.5	1.67	1.418	0.937	1.578

HQCS-A55(CDSA)

Type: Double Cartridge Seal
 Replacement: AES CDSA
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}/1.3\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,P,M1,F,G,M



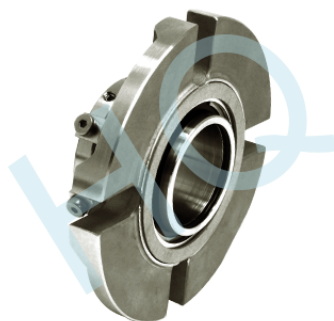
<http://www.hqseal.com>



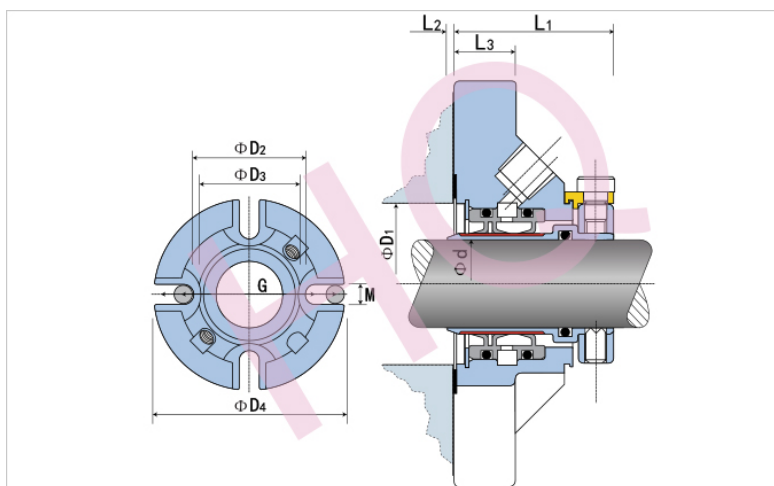
hq@hqseal.com

d (mm)	D4		D5	D7	D8	W		M	L1	L2	L3
	min	max				min	max				
24	40.0	46.0	104.8	54.0	49.2	67.0	90.5	12	32.5	52.4	13.2
25	41.0	49.0	104.8	54.0	49.2	67.0	90.5	12	32.5	52.4	13.2
28	44.0	52.3	108.0	57.2	52.4	70.3	93.6	12	32.5	52.4	13.2
30	46.0	55.5	111.0	60.4	55.6	73.5	96.8	12	32.5	52.4	13.2
32	48.0	55.5	111.0	60.4	55.6	73.5	96.8	12	32.5	52.4	13.2
33	49.0	55.5	111.0	60.4	55.6	73.5	96.8	12	32.5	52.4	13.2
35	51.0	57.5	111.0	63.5	58.8	76.6	96.8	12	32.5	52.4	13.2
38	57.2	60.3	127.0	71.5	65.0	85.7	114.3	12	33.3	54.0	16.4
40	58.0	60.4	127.0	71.5	65.0	85.7	114.3	12	33.3	54.0	16.4
43	61.0	63.5	127.0	71.5	65.0	85.7	114.3	12	33.3	54.0	16.4
45	63.5	69.9	139.7	81.0	71.4	95.3	127.0	12	33.3	54.0	16.4
48	66.7	73.0	139.7	81.0	71.4	95.3	127.0	12	33.3	54.0	16.4
50	68.0	73.0	139.7	81.0	71.4	95.3	127.0	12	33.3	54.0	16.4
53	71.0	76.2	152.4	90.5	77.8	104.8	139.7	12	35.0	54.0	16.4
55	74.0	79.4	152.4	90.5	77.8	104.8	139.7	12	35.0	54.0	16.4
58	76.2	82.5	165.1	96.8	84.1	114.3	149.2	16	35.0	54.0	16.4
60	79.4	85.7	165.1	96.8	84.1	114.3	149.2	16	35.0	54.0	16.4
63	85.8	92.1	177.8	109.5	96.8	127.0	160.3	16	38.1	60.3	19.6
65	88.9	95.3	177.8	109.5	96.8	127.0	160.3	16	38.1	60.3	19.6
68	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	38.1	60.3	19.6
70	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	38.1	60.3	19.6
75	98.5	108.0	190.5	125.4	108.0	142.9	173.0	16	38.1	60.3	19.6
80	101.6	111.1	190.5	125.4	108.0	142.9	173.0	16	38.1	60.3	19.6
85	108.0	117.5	203.2	135.0	117.5	155.6	182.5	20	38.1	60.3	19.6
90	114.3	127.0	215.9	150.8	127.0	171.5	195.2	20	38.1	60.3	19.6
95	117.5	130.2	215.9	150.8	127.0	171.5	195.2	20	38.1	60.3	19.6
100	123.9	139.7	228.6	168.3	136.5	189.0	208.0	20	38.1	60.3	19.6
105	130.1	149.2	228.6	168.3	136.5	189.0	208.0	20	38.1	60.3	19.6
110	136.5	158.8	241.3	177.8	146.2	198.4	220.6	20	38.1	60.3	19.6
115	142.9	168.3	254.0	186.6	155.8	211.1	230.2	23	38.1	60.3	19.6
120	142.9	168.3	254.0	186.6	155.8	211.1	230.2	23	38.1	60.3	19.6
125	142.9	168.3	254.0	186.6	155.8	211.1	230.2	23	38.1	60.3	19.6

HQCS-A72(CLIP)



Type: Cartridge Lip Seal
 Replacement: AES CLIP
 Temperature: -15 to +210°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d (inch)	D1 (max)	D2	D3	D4	G		L1	L2	L3	M	K
					min	max					
1.437	2.312	2.870	n/a	4.000	3.375	3.562	1.625	0.12	1.055	0.438	0.570
1.500	2.375	2.812	2.562	4.990	3.375	4.437	1.710	0.05	0.644	0.500	0.933
1.625	2.500	2.812	2.562	4.990	3.375	4.437	1.710	0.05	0.644	0.500	0.933
2.437	3.625	4.312	3.812	6.687	5.000	6.062	1.875	0.06	0.769	0.625	1.129
2.500	3.625	4.312	3.812	6.990	5.000	6.312	1.875	0.06	0.769	0.625	0.129



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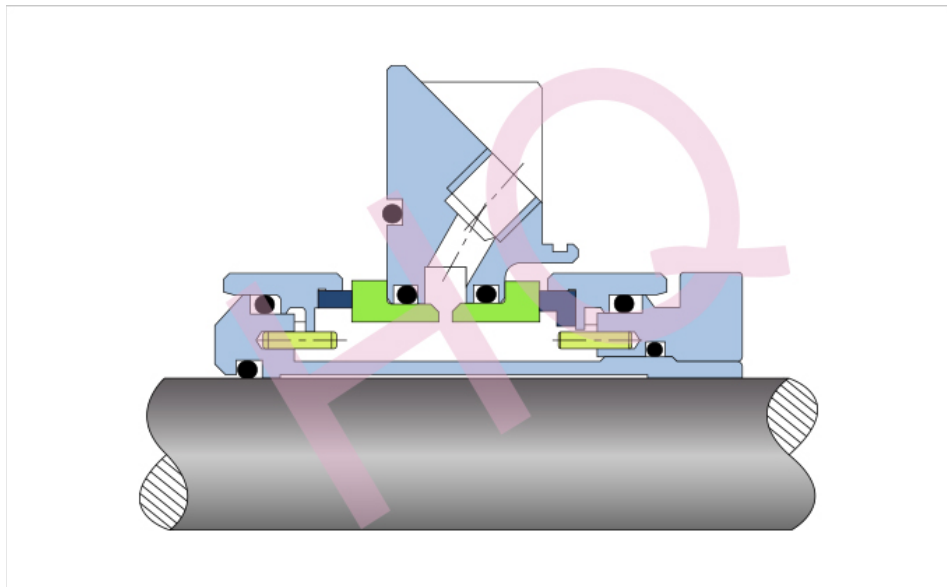


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HQS-A-CDPH



Type: Slurry Pumps Seal
 Replacement: AES CDPH
 Temperature: $\leq 180^{\circ}\text{C}$
 Pressure: $\leq 0.80\text{Mpa}$
 Speed: $\leq 10\text{r/min}$
 Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



*** Product description:**

Double seal suitable for all mining and mineral ore production applications.

Seal face technology designed to accommodate process upsets

Robust construction designed for ease of installation.

Upgrade service from OEM or non-AESSEAL seals.

Rapid delivery on engineered customized designs.



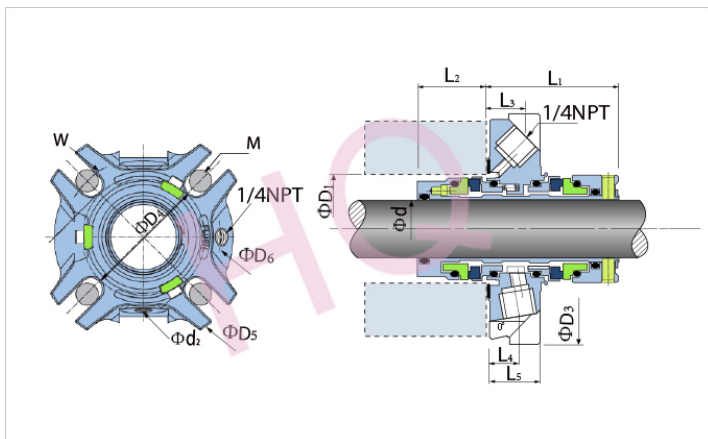
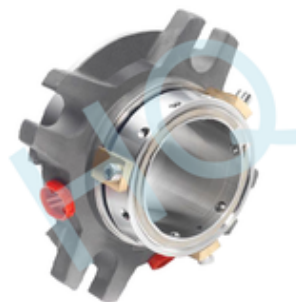
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HQCS-A63(DISP)

Type: Double Cartridge Seal
 Replacement: AES DISP
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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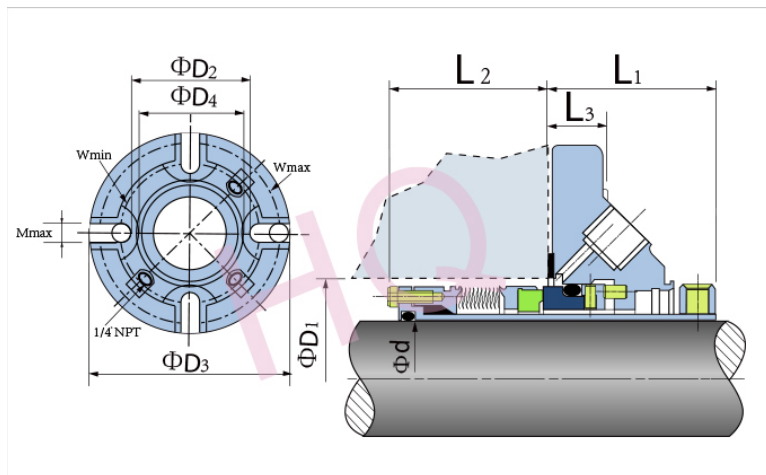
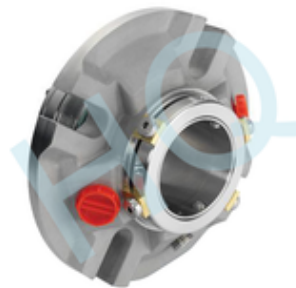


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d	d2 (NPT)	D1		D3	D4	D5	D6	W		M	L1	L2	L3	L4	L5	O
		min	max					min	max							
24	1/4	41.0	48.6	71.4	57.2	104.8	79.1	71.2	92.8	12	52.6	28.2	17.9	15.0	23.8	10
25	1/4	41.0	48.6	71.4	57.2	104.8	79.1	71.2	92.8	12	52.6	28.2	17.9	15.0	23.8	10
28	1/4	44.0	52.6	76.2	60.4	108.0	82.6	74.3	96.0	12	52.6	28.2	17.0	14.1	23.8	10
30	1/4	46.0	54.7	78.0	63.5	111.1	84.1	77.5	99.0	12	52.6	28.2	17.8	13.0	23.8	10
32	1/4	48.0	54.7	78.5	63.5	111.1	84.1	77.5	99.0	12	52.6	28.2	17.8	13.0	23.8	10
33	1/4	49.0	54.7	78.5	63.5	111.1	84.1	77.5	99.0	12	52.6	28.2	17.8	13.0	23.8	10
33K	1/4	49.0	54.7	82.5	63.5	98.5	97.0	77.5	86.5	12	53.3	27.7	13.7	13.7	21.7	15
35	1/4	51.0	58.6	78.5	66.7	111.1	83.8	80.7	99.0	12	52.6	28.2	17.6	13.0	23.8	10
38	1/4	58.0	63.6	85.7	72.0	127.0	92.1	85.9	115.0	12	53.3	28.0	16.2	12.7	21.7	10
40	1/4	60.0	64.7	85.7	72.0	127.0	92.1	85.9	115.0	12	53.3	28.0	16.2	12.7	21.7	10
43	1/4	63.0	68.6	89.7	76.8	133.4	94.9	90.8	121.3	12	53.3	28.0	16.1	13.0	21.7	10
43K	1/4	63.0	71.7	93.5	81.0	119.7	101.6	95.0	107.6	12	53.3	28.0	18.9	22.9	17.1	45
45	1/4	65.0	70.2	88.9	76.8	133.4	95.3	90.8	121.4	12	53.3	28.0	16.1	12.7	21.7	10
48	1/4	67.0	70.2	88.9	76.8	133.4	95.3	90.8	121.4	12	53.3	28.0	16.2	12.7	21.7	10
50	1/4	70.0	77.7	95.3	86.0	139.7	101.6	100.0	127.7	12	53.3	28.0	16.2	12.7	21.7	10
53	1/4	73.0	84.7	101.3	93.6	146.1	108.0	111.1	130.0	16	53.3	28.0	16.2	13.4	21.7	10
55	1/4	75.0	84.7	101.3	93.6	146.1	108.0	111.1	130.0	16	53.3	28.0	16.2	13.4	21.7	10
58	1/4	78.0	84.7	11.3	93.6	146.1	108.0	111.1	130.0	16	53.3	28.0	16.2	13.4	21.7	10
60	1/4	80.0	89.6	104.4	100.0	152.4	114.3	117.5	136.4	16	53.3	28.0	16.2	13.7	21.7	10
63	3/8	82.6	98.6	121.2	109.5	177.8	126.8	127.0	161.8	16	53.9	27.4	18.8	13.5	23.9	10
65	3/8	85.7	98.7	121.2	109.5	177.8	126.8	127.0	161.8	16	53.9	27.4	18.8	13.5	23.9	10
70	3/8	90.0	98.7	121.2	109.5	177.8	126.8	127.0	161.8	16	53.9	27.4	18.8	13.5	23.9	10
75	3/8	98.4	113.5	130.6	125.4	190.5	137.2	142.9	14.5	16	60.2	33.0	18.5	13.8	23.9	10
80	3/8	101.6	113.5	130.6	125.4	190.5	138.1	142.9	174.5	16	60.2	33.0	18.0	13.8	23.9	10
85	3/8	108.0	121.5	140.2	135.0	203.2	146.0	156.0	185.0	20	60.2	33.0	18.9	13.4	23.9	10

HQMB-A50(BQFD)

Type: Metal Bellow Seal
 Replacement: AES BQFD
 Temperature: -40°C to $+204^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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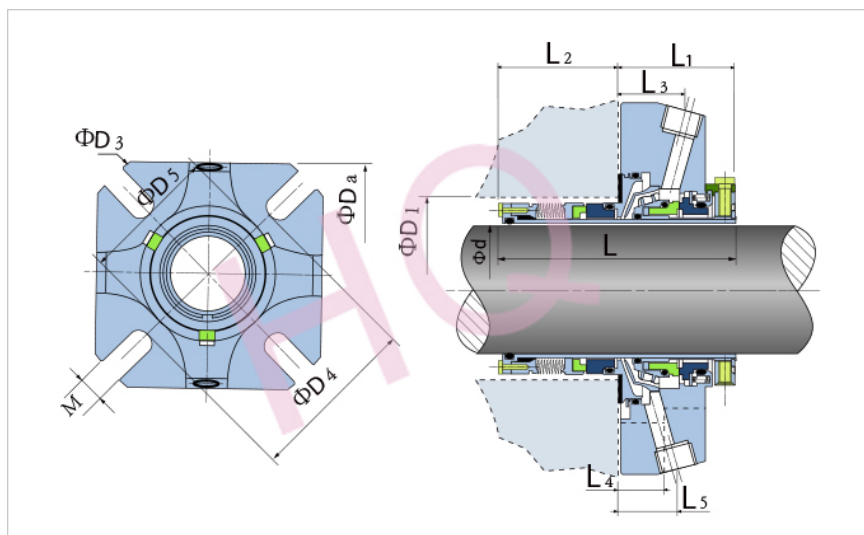


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d (mm)	D3	D2	D4	L3	D1(min)	D1(max)	W(min)	W(max)	M(max)	L2	L1
24	104.8	54.0	49.2	13.2	41.0	49.0	67.0	90.5	12	38.9	40.5
25	104.8	54.0	49.2	13.2	41.0	49.0	67.0	90.5	12	38.9	40.5
28	108.0	57.2	52.4	13.2	44.0	52.3	70.3	93.6	12	38.9	40.5
30	111.0	60.4	55.6	13.2	46.0	55.5	73.5	96.8	12	38.9	40.5
32	111.0	60.4	55.6	13.2	48.0	55.5	73.5	96.8	12	38.9	40.5
33	111.0	60.4	55.6	13.2	49.0	55.5	73.5	96.8	12	38.9	40.5
35	111.0	63.5	58.8	13.2	51.0	57.5	76.6	96.8	12	38.9	40.5
38	127.0	71.5	65.0	16.4	57.2	60.4	85.7	114.3	12	42.9	44.5
40	127.0	71.5	65.0	16.4	58.0	60.4	85.7	114.3	12	42.9	44.5
43	139.7	81.0	71.4	16.4	61.0	69.9	95.3	127.0	12	42.9	44.5
45	139.7	81.0	71.4	16.4	63.5	69.9	95.3	127.0	12	42.9	44.5
48	139.7	81.0	71.4	16.4	66.7	73.0	95.3	127.0	12	42.9	44.5
50	152.4	90.5	77.8	16.4	68.0	76.2	104.8	139.7	12	44.5	44.5
53	152.4	90.5	77.8	16.4	71.0	76.2	104.8	139.7	12	44.5	44.5
55	165.1	96.8	84.1	16.4	74.0	82.5	114.3	149.2	16	44.5	44.5
58	165.1	96.8	84.1	16.4	76.2	82.6	114.3	149.2	16	44.5	44.5
60	165.1	96.8	84.1	16.4	79.4	85.7	114.3	149.2	16	44.5	44.5
63	177.8	109.5	96.8	19.6	85.8	92.1	127.0	160.3	16	51.6	47.7
65	177.8	109.5	96.8	19.6	88.9	95.3	127.0	160.3	16	51.6	47.7
68	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	51.6	47.7
70	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	54.6	47.7
75	190.5	125.4	108.0	19.6	98.5	108.0	142.9	173.0	16	54.6	47.7
80	190.5	125.4	108.0	19.6	101.6	111.1	142.9	173.0	16	54.6	47.7
85	203.2	135.0	117.5	19.6	108.0	117.5	155.6	182.5	20	54.6	47.7
90	215.9	150.8	127.0	19.6	114.3	127.0	171.5	195.2	20	54.6	47.7
95	215.9	150.8	127.0	19.6	117.5	130.2	171.5	195.2	20	54.6	47.7
100	228.6	168.3	136.0	19.6	123.9	139.7	188.9	207.9	20	54.6	47.7

HQMB-A51(BDFC)

Type: Metal Bellow Seal
 Replacement: AES BDFC
 Temperature: -30°C to $+204^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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d	D1		D3	D4	D5	M	L	L1	L2	L3	L4	L5
	min	max										
28	44.0	52	111.1	62.2	57.2	14.0	100.8	52.4	48.4	28.6	19.1	20.6
35	51.0	60.3	104.1	71.8	67.0	11.0	100.8	52.4	48.4	28.6	19.1	20.6
45	63.5	73.0	139.1	83.8	75.7	14.0	106.7	53.1	53.6	33.0	19.1	31.5
55	74.0	90.5	150.0	100.3	86.6	17.5	108.7	53.1	55.6	29.0	22.2	25.3
60	79.4	95.0	170.8	108.7	94.4	17.5	108.7	53.1	55.6	29.7	19.1	26.5
63	85.8	95.0	170.8	108.7	94.4	17.5	114.9	53.1	61.8	33.0	19.1	31.5
65	88.9	98.0	180.3	111.9	98.3	17.5	114.9	53.1	61.8	33.0	19.1	31.5
1.125	1.750	2.062	4.375	2.449	2.250	0.551	3.970	2.062	1.908	1.125	0.750	0.812
1.375	2.000	2.375	4.100	2.827	2.638	0.433	3.970	2.062	1.908	1.125	0.750	0.812
1.750	2.500	2.875	5.475	3.297	2.982	0.551	4.20	2.091	2.109	1.299	0.750	1.240
1.875	2.625	3.000	5.906	3.450	3.108	0.689	4.20	2.091	2.109	1.299	0.750	1.240
1.875-D	2.625	2.875	4.875	3.325	3.025	0.472	4.20	2.091	2.109	1.150	0.800	1.150
2.125	2.875	3.562	5.906	3.950	3.408	0.689	4.280	2.091	2.189	1.140	0.875	0.995
2.375	3.125	3.750	6.725	4.280	3.716	0.689	4.280	2.091	2.189	1.170	0.750	1.043
2.500	3.375	3.750	6.725	4.280	3.716	0.689	4.525	2.091	2.434	1.299	0.750	1.240
2.625	3.500	3.875	7.100	4.405	3.871	0.689	4.525	2.091	2.434	1.299	0.750	1.240

HQMB-A51(BDFC)

d	D1		D3	D4	D5	M	L	L1	L2	L3	L4	L5
	min	max										
75	98.5	117.4	189.2	131.4	116.5	17.5	115.9	63.5	69.9	40.1	23.8	36
80	101.6	127.0	201.9	142.5	126.0	21.0	115.9	63.5	69.9	40.1	23.8	36
85	108.0	127.0	201.9	142.5	126.0	21.0	115.9	63.5	69.9	40.1	23.8	36
90	114.3	136.5	214.6	152.0	135.5	21.0	115.9	63.5	69.9	40.1	23.8	36
95	117.5	139.7	227.3	155.2	138.7	21.0	115.9	63.5	69.9	40.1	23.8	36
100	123.9	152.4	240.0	167.9	151.4	21.0	115.9	63.5	69.9	40.1	23.8	36
2.750	3.625	4.625	7.45	5.173	4.585	0.689	4.937	2.5	2.437	1.578	0.937	1.418
2.875	3.750	4.625	7.45	5.173	4.585	0.689	5.000	2.5	2.500	1.578	0.937	1.418
3.000	3.875	4.625	7.45	5.173	4.585	0.689	5.000	2.5	2.500	1.578	0.937	1.418
3.125	4.000	5.000	7.95	5.610	4.960	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.250	4.125	5.000	7.95	5.610	4.960	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.375	4.250	5.000	7.95	5.610	4.960	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.500	4.375	5.375	8.45	5.985	5.335	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.625	4.500	5.375	8.45	5.985	5.335	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.750	4.625	5.500	8.95	6.110	5.460	0.827	5.000	2.5	2.500	1.578	0.937	1.418
3.875	4.750	5.500	8.95	6.110	5.460	0.827	5.000	2.5	2.500	1.578	0.937	1.418
4.000	4.875	6.000	9.45	6.610	5.960	0.827	5.000	2.5	2.500	1.578	0.937	1.418

d	D1		D3	D4	D5	Da	M	L	L1	L2	L3	L4	L5
	min	max											
1.125	1.750	2.750	5	3.199	2.323	3.990	0.551	3.970	2.062	1.908	1.125	0.750	1.125
1.375	2.000	3.062	5.375	3.449	2.638	4.250	0.551	3.970	2.062	1.908	1.125	0.750	1.125
1.750	3.500	4.000	6.750	4.449	3.100	5.480	0.551	4.200	2.000	2.200	1.087	0.790	1.087
1.875	3.500	4.000	6.750	4.449	3.500	5.480	0.551	4.200	2.000	2.200	1.087	0.619	1.087
2.125	3.875	4.187	7.600	4.661	3.715	6.205	0.689	4.200	2.000	2.280	1.125	0.619	1.125
2.500	4.500	4.812	8.225	5.411	4.525	6.705	0.689	4.525	2.091	2.434	1.231	0.760	1.231
2.625	4.500	4.812	8.225	5.411	4.525	6.705	0.689	4.525	2.091	2.434	1.093	0.760	1.093



HQMB-A52(BDTP)

Type: Metal Bellow Seal

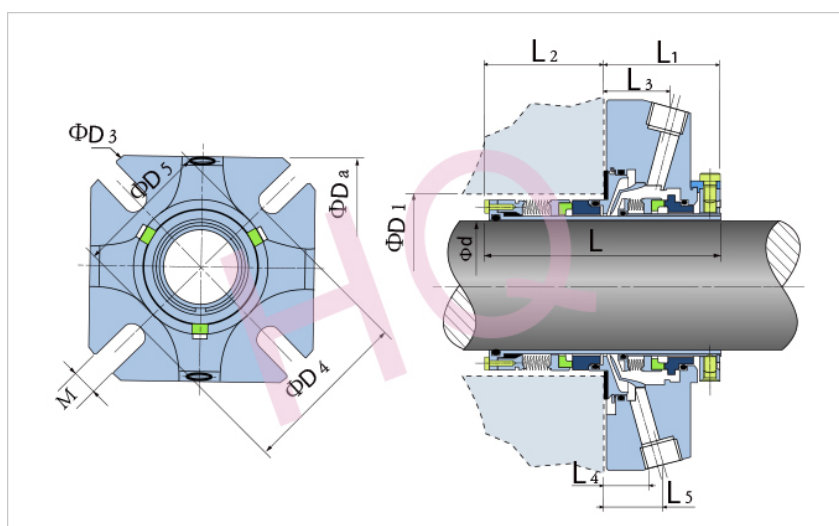
Replacement: AES BDTP

Temperature: -30°C to +204°C

Pressure: $\leq 2.0\text{Mpa}$ Speed:

Material: $\leq 20\text{m/s}$

A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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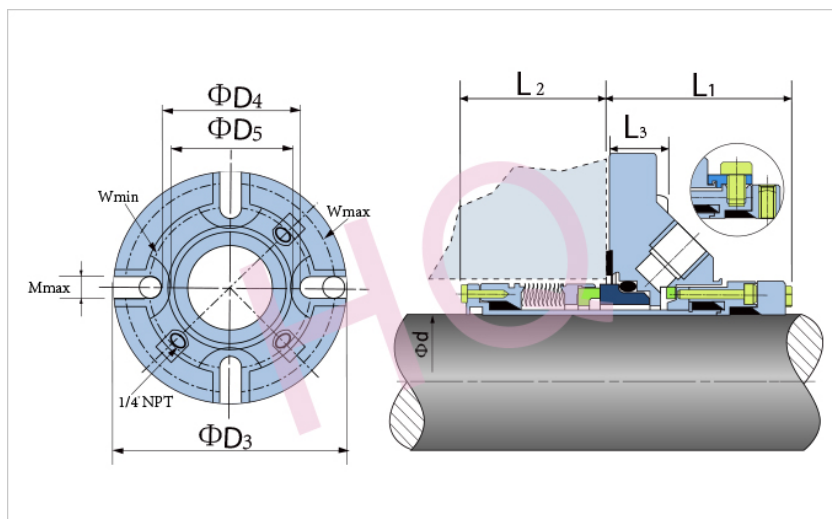
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d\mm	D1 (min)	D1 (max)	D3	D4	D5	L	L1	L2	L3	L4	L5	M
28	44.0	52.0	111.1	62.2	57.2	100.8	52.4	48.4	28.6	19.1	20.6	14.0
35	51.0	60.3	104.1	71.8	67.0	100.8	52.4	48.4	28.6	19.1	20.6	11.0
45	63.5	73.0	139.1	83.8	75.7	106.7	53.1	53.6	33.0	19.1	31.5	14.0
55	74.0	90.5	150.0	100.3	86.6	108.7	53.1	55.6	29.0	22.2	25.3	17.5
60	79.4	95.0	170.8	108.7	94.4	108.7	53.1	55.6	29.7	19.1	26.5	17.5
63	85.8	95.0	170.8	108.7	94.4	114.9	53.1	61.8	33.0	19.1	31.5	17.5
65	88.9	98.0	180.3	111.9	98.3	114.9	53.1	61.8	33.0	19.1	31.5	17.5

d (inch)	D1(min)	D1(max)	D3	D4	D5	L	L1	L2	L3	L4	L5	M
1.125	1.750	2.062	4.375	2.449	2.250	3.970	2.062	1.908	1.125	0.750	0.812	0.551
1.375	2.000	2.375	4.100	2.827	2.638	3.970	2.062	1.908	1.125	0.750	0.812	0.433
1.750	2.500	2.875	5.475	3.297	2.982	4.200	2.091	2.109	1.299	0.750	1.240	0.551
1.875	2.625	3.000	5.906	3.450	3.108	4.200	2.091	2.109	1.299	0.750	1.240	0.689
1.875-D	2.625	2.875	4.875	3.325	3.025	4.200	2.091	2.109	1.150	0.800	1.15	0.472
2.125	2.875	3.562	5.906	3.950	3.408	4.280	2.091	2.109	1.140	0.875	0.995	0.689
2.375	3.125	3.750	6.725	4.280	3.718	4.280	2.091	2.109	1.170	0.750	1.043	0.689
2.500	3.375	3.750	6.725	4.280	3.718	4.525	2.091	2.437	1.299	0.750	1.240	0.689
2.625	3.500	3.875	7.100	4.405	3.871	4.525	2.091	2.437	1.299	0.750	1.240	0.689

HQMB-A53(BSFG)

Type: Metal Bellow Seal
 Replacement: AES BSFG
 Temperature: -30°C to $+204^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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d (mm)	D1 (min)	D1 (max)	D3	D4	D5	W (min)	W (max)	M	L1	L2	L3
24	41.0	49.0	104.8	54.0	49.2	67.0	90.5	12	52.3	38.1	13.2
25	41.0	49.0	104.8	54.0	49.2	67.0	90.5	12	52.3	38.1	13.2
28	44.0	52.3	108.0	57.2	52.4	70.3	93.6	12	52.3	38.1	13.2
30	46.0	55.5	111.0	60.4	55.6	73.5	96.8	12	52.3	38.1	13.2
32	49.0	55.5	111.0	60.4	55.6	73.5	96.8	12	52.3	38.1	13.2
33	49.0	55.5	111.0	60.4	55.6	73.5	96.8	12	52.3	38.1	13.2
35	51.0	57.5	111.0	63.5	58.8	76.6	96.8	12	52.3	38.1	13.2
38	57.2	60.3	127.0	71.5	65.0	85.7	114.3	12	52.3	41.3	16.4
40	58.0	60.4	127.0	71.5	65.0	85.7	114.3	12	52.3	41.3	16.4
43	61.0	63.5	127.0	71.5	65.0	85.7	114.3	12	52.3	41.3	16.4
45	63.5	69.9	139.7	81.0	71.4	95.3	127.0	12	52.3	41.3	16.4
48	66.7	73.0	139.7	81.0	71.4	95.3	127.0	12	52.3	41.3	16.4
50	68.0	73.0	139.7	81.0	71.4	95.3	127.0	12	52.3	41.3	16.4
53	71.0	76.2	152.4	90.5	77.8	104.8	139.7	12	52.3	44.5	16.4
55	74.0	79.4	152.4	90.5	77.8	104.8	139.7	12	52.3	44.5	16.4
58	76.2	82.5	165.1	96.8	84.1	114.3	149.2	16	52.3	44.5	16.4
60	79.4	85.7	165.1	96.8	84.1	114.3	149.2	16	52.3	44.5	16.4
63	85.8	92.1	177.8	109.5	96.8	127.0	160.3	16	62.0	49.2	19.6
65	88.9	95.3	177.8	109.5	96.8	127.0	160.3	16	62.0	49.2	19.6
68	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	62.0	49.2	19.6
70	92.1	98.4	177.8	109.5	96.8	127.0	160.3	16	62.0	50.8	19.6
75	98.5	108.0	190.5	125.4	108.0	142.9	173.0	16	62.0	50.8	19.6
80	101.6	111.1	190.5	125.4	108.0	142.9	173.0	16	62.0	50.8	19.6
85	108.0	117.5	203.2	135.0	117.0	155.6	182.5	20	62.0	50.8	19.6
90	114.3	127.0	215.9	150.8	127.0	171.5	195.2	20	62.0	50.8	19.6
95	117.5	130.2	215.9	150.8	127.0	171.5	195.2	20	62.0	50.8	19.6
100	123.9	139.7	228.6	168.3	136.5	188.9	207.9	20	62.0	50.8	19.6

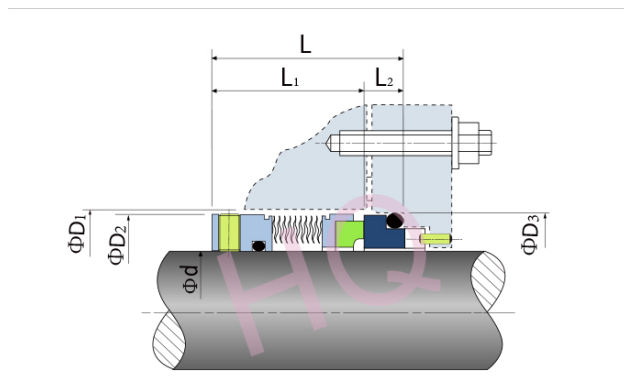
HQMB-A53(BSFG)

d (inch)	D1 (min)	D1 (max)	D3	D4	D5	W (min)	W (max)	M	L1	L2	L3
1.000	1.625	1.937	4.125	2.125	1.937	2.687	3.562	1/2	2.062	1.500	0.519
1.125	1.750	2.062	4.250	2.250	2.063	2.812	3.687	1/2	2.062	1.500	0.519
1.250	1.875	2.187	4.375	2.375	2.187	3.937	3.812	1/2	2.062	1.500	0.519
1.375	2.000	2.250	4.375	2.500	2.312	3.062	3.812	1/2	2.062	1.500	0.519
1.500	2.250	2.375	5.000	2.812	2.562	3.375	4.437	1/2	2.062	1.625	0.644
1.625	2.375	2.500	5.000	2.812	2.562	3.375	4.437	1/2	2.062	1.625	0.644
1.750	2.500	2.750	5.500	3.187	2.812	3.75	4.937	1/2	2.062	1.625	0.644
1.875	2.625	2.875	5.500	3.187	2.812	3.75	4.937	1/2	2.062	1.625	0.644
2.000	2.750	3.000	6.000	3.562	3.063	4.125	5.437	1/2	2.062	1.750	0.644
2.0-AC	2.750	3.000	5.250	3.450	3.035	4.000	4.750	1/2	2.062	1.750	0.644
2.125	2.875	3.125	6.000	3.562	3.063	4.125	5.437	1/2	2.062	1.750	0.644
2.250	3.000	3.250	6.500	3.812	3.312	4.500	5.812	5/8	2.062	1.750	0.644
2.375	3.125	3.375	6.500	3.812	3.312	4.500	5.812	5/8	2.062	1.750	0.644
2.500	3.375	3.625	7.000	4.312	3.812	5.000	6.312	5/8	2.437	1.937	0.769
2.625	3.500	3.750	7.000	4.312	3.812	5.000	6.312	5/8	2.437	1.937	0.769
2.750	3.625	3.875	7.000	4.312	3.812	5.000	6.312	5/8	2.437	1.937	0.769
2.875	3.750	4.125	7.500	4.937	4.250	5.625	6.812	5/8	2.437	1.937	0.769
3.000	3.875	4.250	7.500	4.937	4.250	5.625	6.812	5/8	2.437	2.000	0.769
3.125	4.000	4.375	7.500	4.937	4.250	5.625	6.812	3/4	2.437	2.000	0.769
3.250	4.125	4.500	8.000	5.312	4.625	6.125	7.187	3/4	2.437	2.000	0.769
3.375	4.250	4.625	8.000	5.312	4.625	6.125	7.187	3/4	2.437	2.000	0.769
3.500	4.375	4.750	8.000	5.132	4.625	6.125	7.187	3/4	2.437	2.000	0.769
3.625	4.500	5.000	8.500	5.937	5.000	6.750	7.687	3/4	2.437	2.000	0.769
3.750	4.625	5.125	8.500	5.937	5.000	6.750	7.687	3/4	2.437	2.000	0.769
3.875	4.875	5.500	9.000	6.625	5.375	7.437	8.187	3/4	2.437	2.000	0.769
4.000	4.875	5.500	9.000	6.625	5.375	7.437	8.187	3/4	2.437	2.000	0.769



HQMB-A54(BSAI)

Type: Metal Bellow Seal
 Replacement: AES BSAI
 Temperature: -30°C to +204°C
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A,B,Q1,Q2,U1,U2,T,T6,V,G,F,M,M1



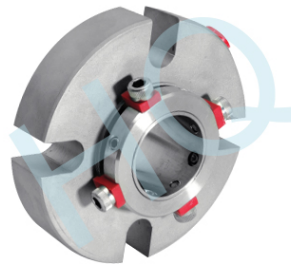
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d (mm)	L	L1	L2	D1	D2	D3
24	40.0	29.9	10.1	40	38	39
25	40.0	29.9	10.1	41	39	40
28	42.5	32.4	10.1	44	42	43
30	42.5	32.4	10.1	46	44	45
32	42.5	32.4	10.1	48	46	48
33	42.5	32.4	10.1	49	47	48
35	42.5	32.4	10.1	51	49	50
38	45.0	33.9	11.1	58	54	56
40	45.0	33.9	11.1	60	56	58
43	45.0	33.9	11.1	63	59	61
45	45.0	33.9	11.1	65	61	63
48	45.0	33.9	11.1	68	64	66
50	47.5	34.4	13.1	70	66	70
53	47.5	34.4	13.1	73	69	73
55	47.5	34.4	13.1	75	71	75
58	52.5	38.9	13.6	83	78	78
60	52.5	38.9	13.6	85	80	80
63	52.5	38.9	13.6	88	83	83
65	52.5	38.9	13.6	90	85	85
68	52.5	38.9	15.1	93	88	90
70	60.0	44.9	15.1	95	90	92
75	60.0	44.9	15.1	104	99	97
80	60.0	44.2	15.8	109	104	105
85	60.0	44.2	15.8	114	109	110
90	65.0	49.2	15.8	119	114	115
95	65.0	49.2	15.8	124	119	120
100	65.0	49.2	15.8	129	124	125

HQCS-AP01(S1)



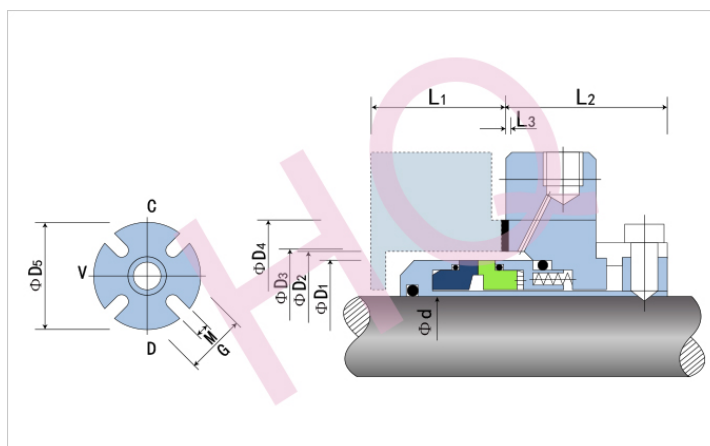
Type: Single Cartridge Seal
 Replacement: APEX S1
 Temperature: -40 to +240°C
 Pressure: ≤15Mpa
 Speed: ≤10m/s
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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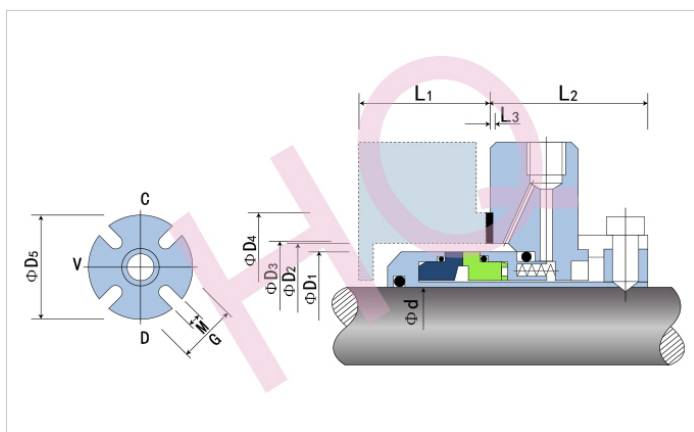
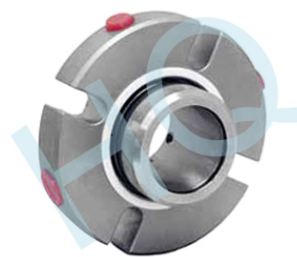
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d (inch)	D1	D2 (min)	D3	D4	D5	G	L1	L2	L3	M
1.000	1.595	1.625	1.771	2.106	4.000	2.224	0.952	1.460	0.063	0.551
1.125	1.708	1.750	1.909	2.283	4.125	2.421	0.952	1.460	0.063	0.551
1.250	1.865	2.000	2.037	2.362	4.250	2.500	0.952	1.460	0.063	0.551
1.375	1.950	2.000	2.145	2.539	4.250	2.696	0.952	1.460	0.063	0.551
1.500	2.172	2.250	2.368	2.736	5.000	2.815	0.952	1.460	0.063	0.551
1.625	2.283	2.375	2.460	2.854	4.500	2.972	0.952	1.460	0.063	0.551
1.750	2.401	2.500	2.578	2.992	5.000	3.062	0.952	1.460	0.063	0.551
1.875	2.537	2.625	2.755	3.110	5.250	3.188	0.952	1.460	0.063	0.551
2.000	2.670	2.750	2.834	3.267	5.500	3.307	0.952	1.460	0.063	0.551
2.125	2.796	2.875	2.952	3.386	5.750	3.503	0.952	1.460	0.063	0.709
2.250	2.913	3.000	3.110	3.504	6.500	3.622	0.952	1.460	0.063	0.709
2.375	3.037	3.125	3.228	3.700	6.500	3.818	0.952	1.460	0.063	0.709
2.500	3.288	3.375	3.464	3.858	6.500	3.976	1.311	1.622	0.063	0.709
2.625	3.410	3.500	3.543	3.937	7.000	4.055	1.311	1.622	0.063	0.709
2.750	3.562	3.625	3.780	4.252	7.000	4.370	1.311	1.622	0.063	0.709
2.875	3.685	3.750	3.905	4.377	7.500	4.614	1.311	1.772	0.063	0.709
3.000	3.795	4.000	4.188	4.944	7.480	5.079	1.311	1.772	0.063	0.709
3.125	3.937	4.125	4.307	5.062	7.677	5.197	1.311	1.772	0.063	0.709
3.250	4.045	4.250	4.425	5.181	7.677	5.315	1.311	1.772	0.063	0.709
3.375	4.170	4.375	4.543	5.299	7.795	5.472	1.311	1.772	0.063	0.866
3.500	4.350	4.500	4.681	5.437	7.795	5.591	1.354	1.772	0.063	0.866
3.625	4.438	4.625	4.799	5.555	8.071	5.709	1.354	1.772	0.063	0.866
3.750	4.547	4.750	4.937	5.692	8.189	5.827	1.354	1.897	0.063	0.866
3.875	4.670	4.875	5.059	5.826	8.189	5.945	1.354	1.897	0.063	0.866
4.000	4.795	5.000	5.157	5.944	8.583	6.063	1.354	1.897	0.063	0.866
4.250	5.045	5.250	5.413	6.181	9.000	6.625	1.394	2.094	0.063	0.866
4.500	5.295	5.500	5.669	6.456	9.500	7.000	1.394	2.094	0.063	0.866
4.750	5.545	5.750	5.905	6.692	10.000	7.322	1.394	2.094	0.063	0.944
5.000	5.881	6.000	6.122	6.751	10.000	7.322	1.394	2.094	0.063	0.944

HQCS-AP02(S1CVD)

Type: Single Cartridge Seal
 Replacement: APEX S1CVD
 Temperature: -40 to +270°C
 Pressure: $\leq 150\text{Bar}$
 Speed: $\leq 16\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



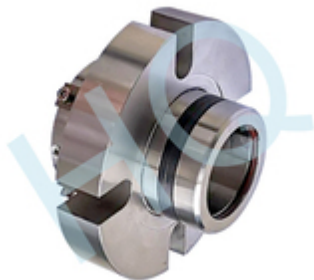
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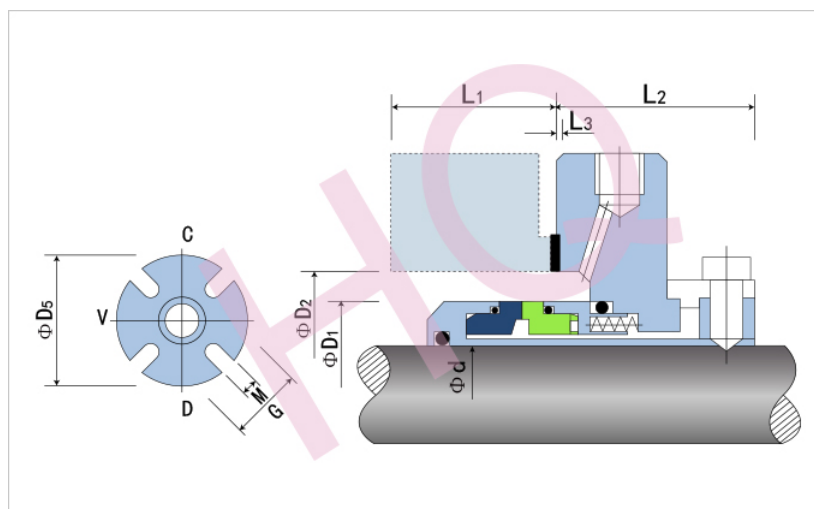
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d (inch)	D1	D2 (min)	D3	D4	D5	G	L1	L2	L3	M
1.000	1.595	1.625	1.771	2.106	4.000	2.224	0.952	1.460	0.063	0.551
1.125	1.708	1.750	1.909	2.283	4.125	2.421	0.952	1.460	0.063	0.551
1.250	1.865	2.000	2.037	2.362	4.250	2.500	0.952	1.460	0.063	0.551
1.375	1.950	2.000	2.145	2.539	4.250	2.696	0.952	1.460	0.063	0.551
1.500	2.172	2.250	2.368	2.736	5.000	2.815	0.952	1.460	0.063	0.551
1.625	2.283	2.375	2.460	2.854	4.500	2.972	0.952	1.460	0.063	0.551
1.750	2.401	2.500	2.578	2.992	5.000	3.062	0.952	1.460	0.063	0.551
1.875	2.537	2.625	2.755	3.110	5.250	3.188	0.952	1.460	0.063	0.551
2.000	2.670	2.750	2.834	3.267	5.500	3.307	0.952	1.460	0.063	0.551
2.125	2.796	2.875	2.952	3.386	5.750	3.503	0.952	1.460	0.063	0.709
2.250	2.913	3.000	3.110	3.504	6.500	3.622	0.952	1.460	0.063	0.709
2.375	3.037	3.125	3.228	3.700	6.500	3.818	0.952	1.460	0.063	0.709
2.500	3.288	3.375	3.464	3.858	6.500	3.976	1.311	1.622	0.063	0.709
2.625	3.410	3.500	3.543	3.937	7.000	4.055	1.311	1.622	0.063	0.709
2.750	3.562	3.625	3.780	4.252	7.000	4.370	1.311	1.622	0.063	0.709
2.875	3.685	3.75	3.905	4.377	7.500	4.614	1.311	1.772	0.063	0.709
3.000	3.795	4.000	4.188	4.944	7.480	5.079	1.311	1.772	0.063	0.709
3.125	3.937	4.125	4.307	5.062	7.677	5.197	1.311	1.772	0.063	0.709
3.250	4.045	4.250	4.425	5.181	7.677	5.315	1.311	1.772	0.063	0.709
3.375	4.170	4.375	4.543	5.299	7.795	5.472	1.311	1.772	0.063	0.866
3.500	4.350	4.500	4.681	5.437	7.795	5.591	1.354	1.772	0.063	0.866
3.625	4.438	4.625	4.799	5.555	8.071	5.709	1.354	1.772	0.063	0.866
3.750	4.547	4.750	4.937	5.692	8.189	5.827	1.354	1.897	0.063	0.866
3.875	4.670	4.875	5.059	5.826	8.189	5.945	1.354	1.897	0.063	0.866
4.000	4.795	5.000	5.157	5.944	8.583	6.063	1.354	1.897	0.063	0.866
4.250	5.045	5.250	5.413	6.181	9.000	6.625	1.394	2.094	0.063	0.866
4.500	5.295	5.500	5.669	6.456	9.500	7.000	1.394	2.094	0.063	0.866
4.750	5.545	5.750	5.905	6.692	10.00	7.322	1.394	2.094	0.063	0.944
5.000	5.881	6.000	6.122	6.751	10.00	7.322	1.394	2.094	0.063	0.944

HQCS-AP03(S1BB)



Type: Single Cartridge Seal
 Replacement: APEX S1BB
 Temperature: -40°C to +300°C
 Pressure: $\leq 15.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d (inch)	D1	D2 (min)	D2 (max)	D5	G	L1	L2	L3	M
1.125	1.708	2.625	2.750	4.900	3.108	0.952	1.460	0.063	0.551
1.375	1.950	2.725	3.000	5.250	3.548	0.952	1.460	0.063	0.551
1.750	2.401	3.500	3.750	6.500	4.369	0.952	1.460	0.063	0.551
1.875	2.537	3.625	3.875	6.500	4.154	0.952	1.460	0.063	0.551
2.125	2.795	3.880	4.000	7.250	4.622	0.952	1.460	0.063	0.709
2.250	2.913	4.000	4.250	7.250	4.741	0.952	1.460	0.063	0.709
2.500	3.288	4.500	5.000	8.250	5.497	1.311	1.622	0.063	0.709
2.625	3.410	4.625	4.750	8.000	5.122	1.311	1.622	0.063	0.709
3.000	3.795	4.875	5.125	8.250	5.622	1.311	1.772	0.063	0.709



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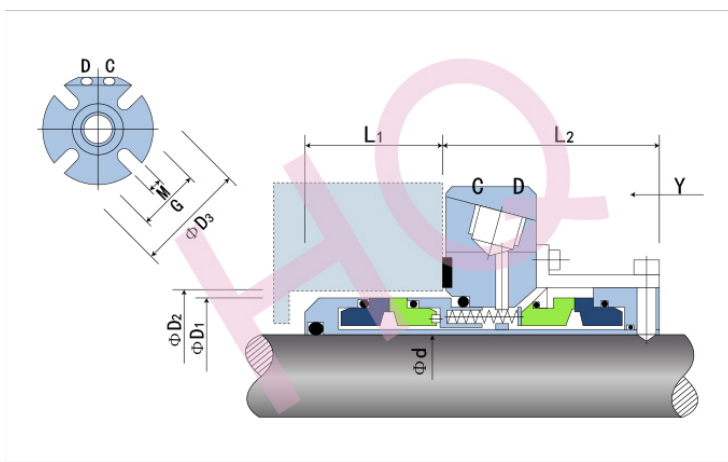


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HQCS-AP04(D2PR)



Type: Double Cartridge Seal
 Replacement: APEX D2PR
 Temperature: -40 to +260°C
 Pressure: ≤ 25 Bar
 Speed: ≤ 10 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



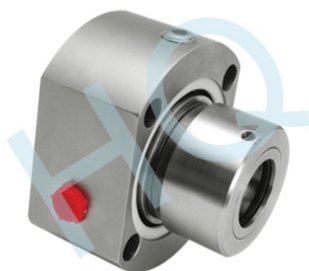
<http://www.hqseal.com>



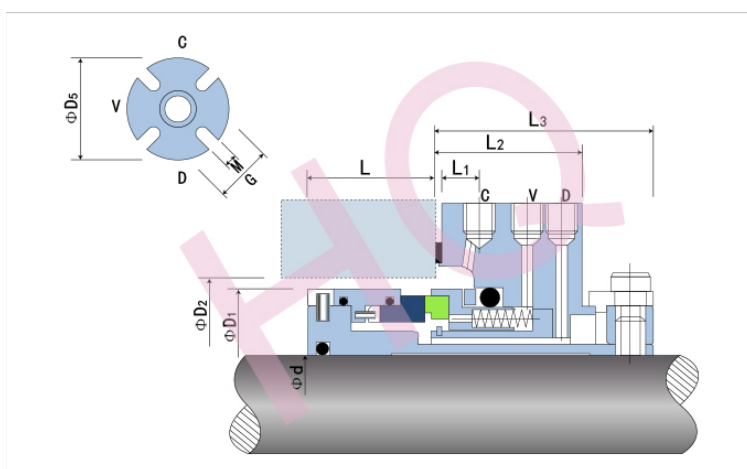
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d (inch)	D1	D2	D3	G	L1	L2	M
1.000	1.594	1.625	4.000	2.224	1.129	2.047	0.551
1.125	1.708	1.750	4.125	2.421	1.129	2.047	0.551
1.250	1.865	2.000	4.250	2.500	1.129	2.047	0.551
1.375	1.950	2.000	4.250	2.696	1.129	2.047	0.551
1.500	2.172	2.250	5.000	2.815	1.129	2.047	0.551
1.625	2.283	2.375	4.500	2.972	1.129	2.047	0.551
1.750	2.401	2.500	5.000	3.062	1.129	2.047	0.551
1.875	2.537	2.625	5.250	3.189	1.129	2.047	0.551
2.000	2.670	2.750	5.500	3.307	1.129	2.188	0.551
2.125	2.795	2.875	5.750	3.503	1.129	2.188	0.709
2.250	2.913	3.000	6.500	3.622	1.129	2.188	0.709
2.375	3.037	3.125	6.500	3.818	1.129	2.188	0.709
2.500	3.288	3.375	7.000	3.976	1.488	2.720	0.709
2.625	3.410	3.500	7.000	4.055	1.488	2.720	0.709
2.750	3.617	3.625	7.000	4.370	1.488	2.720	0.709
3.000	3.795	4.000	7.480	5.079	1.488	2.720	0.709

HQCS-AP05(HDS)



Type: Heavy Duty Single Cartridge Seal
 Replacement: APEX HDS
 Temperature: -40 to +260°C
 Pressure: ≤ 25 Bar
 Speed: ≤ 12 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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d (inch)	D1	D2 (min)	D2 (max)	D5	G	L	L1	L2	L3	M
0.500	1.811	1.929	2.244	4.133	2.637	1.338	0.59	1.519	2.047	0.452
0.750	2.062	2.181	2.372	4.330	2.755	1.338	0.59	1.519	2.047	0.452
0.875	2.185	2.303	2.498	4.527	2.875	1.338	0.59	1.519	2.047	0.452
1.000	2.311	2.429	2.625	4.645	2.992	1.338	0.59	1.519	2.047	0.452
1.125	2.437	2.555	2.750	4.901	3.107	1.338	0.59	1.519	2.047	0.452
1.250	2.562	2.692	2.818	4.039	3.228	1.338	0.59	1.519	2.047	0.452
1.375	2.688	2.807	3.000	5.250	3.548	1.338	0.59	1.519	2.047	0.452
1.500	2.811	2.929	3.055	5.433	3.622	1.338	0.59	1.519	2.047	0.531
1.625	2.937	3.055	3.181	5.629	3.779	1.338	0.59	1.519	2.047	0.531
1.750	3.062	3.181	3.750	6.500	4.368	1.397	0.59	1.519	2.047	0.531
1.875	3.188	3.307	3.875	6.500	4.153	1.397	0.59	1.519	2.047	0.531
2.000	3.311	3.429	3.779	6.692	4.251	1.397	0.59	1.519	2.047	0.531
2.125	3.437	3.555	4.000	7.250	4.622	1.456	0.59	1.519	2.149	0.688
2.250	3.562	3.681	4.212	7.519	4.763	1.456	0.59	1.519	2.149	0.688
2.375	3.688	3.807	4.448	7.716	4.921	1.456	0.59	1.519	2.149	0.688
2.500	3.818	3.944	5.000	8.250	5.496	1.456	0.59	1.519	2.149	0.688
2.625	4.153	4.279	4.750	8.000	5.121	1.456	0.59	1.519	2.149	0.688
3.000	4.685	4.811	5.125	8.250	5.621	1.456	0.59	1.519	2.149	0.688

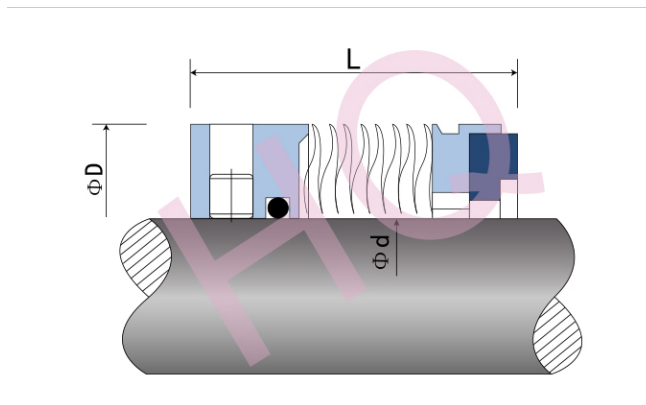


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HQMB-AP01(WB400/450/500)



Type: Welded Bellow Component
 Replacement: APEX WB400/450/500
 Temperature: -50°C to +400°C
 Pressure: ≤ 25 Bar
 Speed: ≤ 10 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M

WB400: Retainer: SS316, Core: Hastelloy C, Hub: SS316.

WB450: Retainer: SS316, Core: AM350, Hub: SS316.

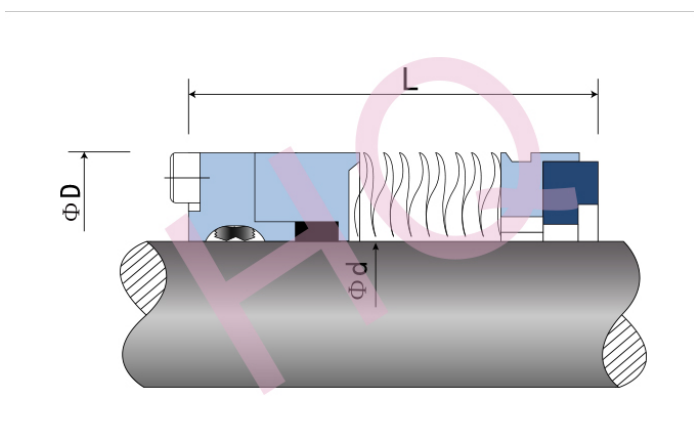
WB500: Retainer: Hastelloy C, Core: Hastelloy C, Hub: Hastelloy C

d (inch)	D	L
0.750	1.312	1.250
0.875	1.437	1.250
0.937	1.500	1.250
1.000	1.457	1.250
1.125	1.687	1.250
1.250	1.812	1.312
1.250X	1.694	1.312
1.375	1.937	1.437
1.500	2.062	1.437
1.500X	1.944	1.437
1.625	2.187	1.437
1.750	2.312	1.437
1.875	2.437	1.500
2.000	2.562	1.500
2.125	2.687	1.500
2.250	2.812	1.562
2.375	2.937	1.562
2.500	3.187	1.562
2.625	3.312	1.625
2.750	3.437	1.625
2.875	3.625	1.687
3.000	3.750	1.687
3.125	3.875	1.750
3.250	4.000	1.750
3.375	4.125	1.750
3.500	4.250	1.875
3.625	4.375	1.875
3.750	4.500	1.875
3.875	4.625	1.875
4.000	4.750	1.875

HQMB-AP02(WB800)



Type: High Temperature Bellow Component
 Replacement: APEX WB800
 Temperature: $\leq 300^{\circ}\text{C}$
 Pressure: ≤ 25 Bar
 Speed: $\leq 15\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



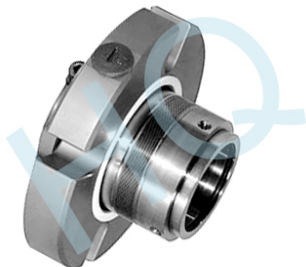
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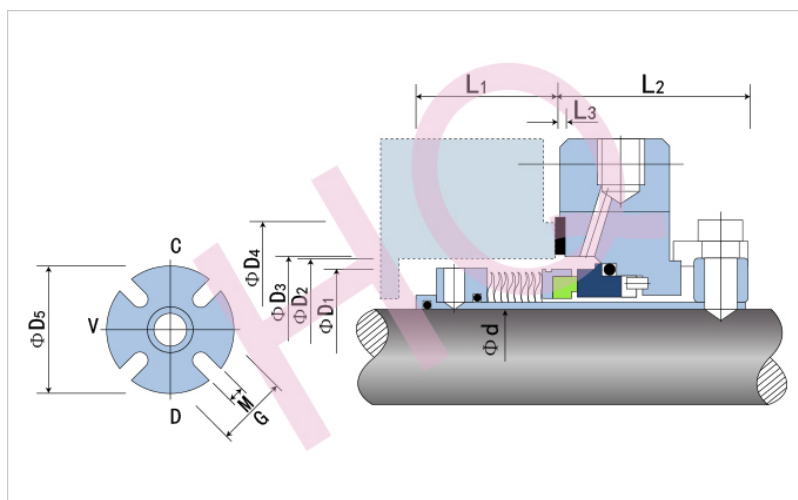
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d (inch)	D	L
1.000	1.625	1. 531
1.125	1.750	1. 562
1.250	1.875	1. 593
1.375	2.000	1. 593
1.500	2.125	1. 593
1.625	2.250	1. 593
1.750	2.375	1. 625
1.875	2.500	1. 625
2.000	2.625	1. 656
2.125	2.750	1. 656
2.250	2.875	1. 719
2.375	3.000	1. 719
2.500	3.250	1. 750
2.625	3.375	1. 781
2.750	3.500	1. 781
2.875	3.687	1. 875
3.000	3.812	1. 875

HQMB-AP03(S1WBC)



Type: Single Welded Bellow Cartridge Seal
 Replacement: APEX S1WBC
 Temperature: $\leq 300^{\circ}\text{C}$
 Pressure: ≤ 20.7 Bar
 Speed: $\leq 12\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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d (inch)	D1	D2 (min)	D3	D4	D5	G	L1	L2	L3	M
1.000	1.687	1.750	1.771	2.106	4.000	2.224	1.383	1.460	0.063	0.551
1.125	1.694	1.750	1.909	2.283	4.125	2.421	1.445	1.460	0.063	0.551
1.250	1.937	2.000	2.037	2.362	4.250	2.500	1.570	1.460	0.063	0.551
1.375	1.944	2.000	2.145	2.539	4.250	2.696	1.570	1.460	0.063	0.551
1.500	2.187	2.250	2.368	2.736	5.000	2.815	1.570	1.460	0.063	0.551
1.625	2.311	2.375	2.46	2.854	4.500	2.972	1.570	1.460	0.063	0.551
1.750	2.437	2.500	2.578	2.992	5.000	3.062	1.633	1.460	0.063	0.551
1.875	2.561	2.625	2.755	3.11	5.250	3.188	1.633	1.460	0.063	0.551
2.000	2.687	2.750	2.834	3.267	5.500	3.307	1.633	1.460	0.063	0.551
2.125	2.811	2.875	2.952	3.386	5.750	3.503	1.696	1.460	0.063	0.709
2.250	2.937	3.000	3.110	3.504	6.500	3.622	1.696	1.460	0.063	0.709
2.375	3.187	3.125	3.228	3.700	6.500	3.818	1.696	1.460	0.063	0.709
2.500	3.311	3.375	3.464	3.858	6.500	3.976	1.838	1.622	0.063	0.709
2.625	3.437	3.500	3.543	3.937	7.000	4.055	1.838	1.622	0.063	0.709
2.750	3.562	3.625	3.78	4.252	7.000	4.370	1.838	1.622	0.063	0.709



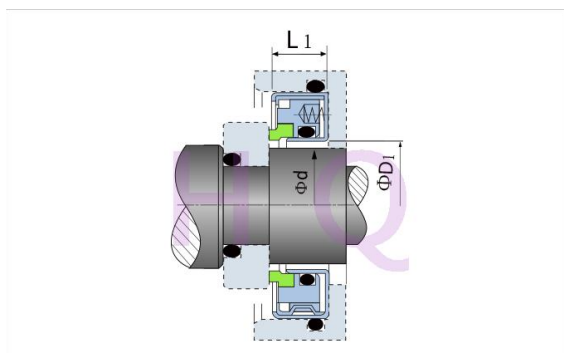
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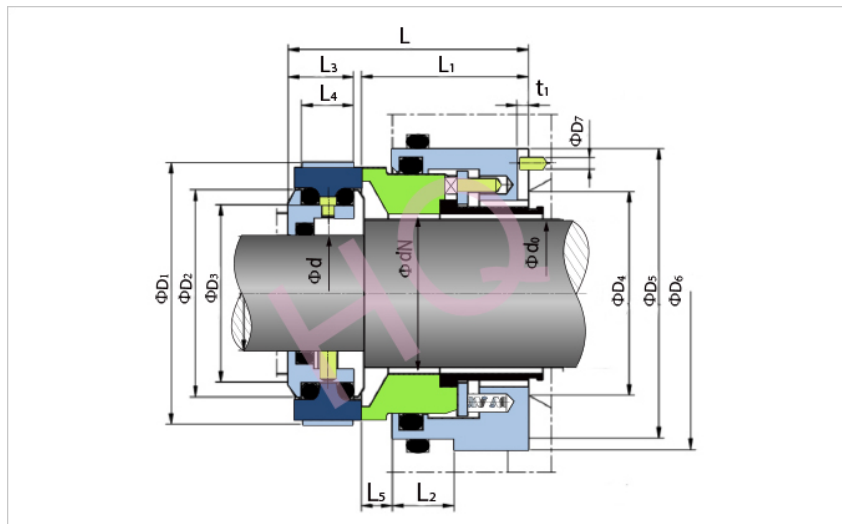
H8



Technical drawing of a shaft-hub assembly showing dimensions for fit and geometry. The drawing includes the following dimensions and labels:

- $\phi D_1 \pm 0.3$: Dimension for the shaft diameter.
- ϕD_{sum} : Dimension for the sum of the shaft and hub diameters.
- $\phi D_{\text{H}(\pm 0.1)}$: Dimension for the hub diameter with a tolerance of ± 0.1 .
- ϕD_{2H} : Dimension for the outer diameter of the hub.
- L_1 : Dimension for the length of the shaft.
- 3 : Dimension for the thickness of the hub flange.
- ϕd : Dimension for the inner diameter of the hub.
- 8 : Dimension for the width of the hub flange.
- 2 : Dimension for the width of the hub flange.

d (mm)	D1	D2	D4	D5	D6	L +/-0.5	L1
15	16	42	22.6	21	34	17	15.0
18	19	45	25.6	24	37	17	15.0
20	21	48	27.6	26	40	17	15.0
22	23	50	29.6	28	42	17	15.0
25	26	52	32.8	31	44	17	15.0
28	29	55	35.8	34	47	17	15.0
30	31	58	37.8	36	50	17	15.0
32	33	60	39.8	38	52	17	15.0
35	36	62	42.8	41	54	17	15.0
38	39	65	45.9	44	57	17	15.0
40	41	68	47.9	46	60	17	15.0
42	43	72	49.9	48	64	17	15.0
45	46	75	52.9	51	67	17	15.0
48	49	80	55.9	54	72	17	15.0
50	51	80	58.2	56	72	17	15.0
52	53	82	60.2	58	74	17	15.0
55	56	85	63.2	61	77	17	15.0
58	59	9	66.7	64	82	17	15.0
60	61	90	68.7	66	82	17	15.0
65	66	95	73.7	71	87	19	16.5
68	69	100	76.7	74	92	19	16.5
70	71	100	78.7	76	92	19	16.5
75	76	108	83.7	81	100	19	16.5
80	81	112	88.7	86	104	19	16.5
85	86	118	93.7	91	110	19	16.5
90	91	122	99.5	96	114	19	16.5
95	96	128	104.5	101	120	19	16.5
100	101	132	109.5	106	124	19	16.5

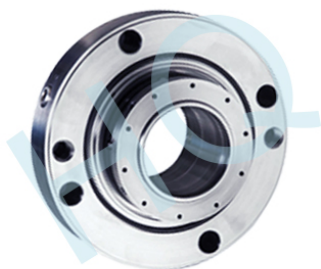


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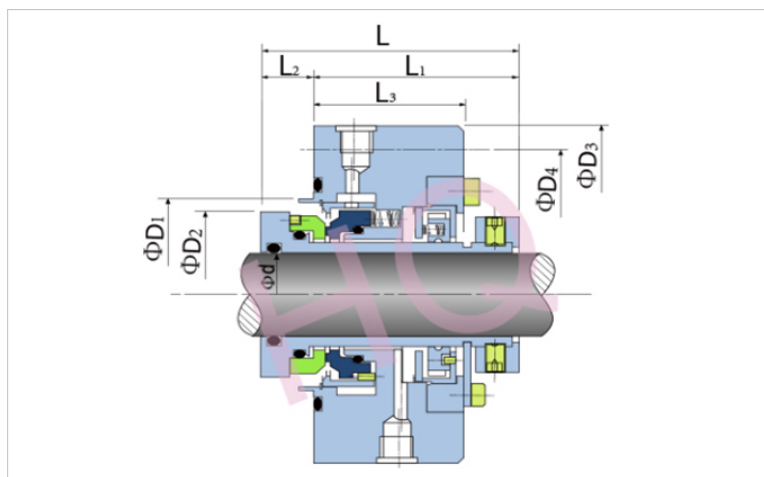


d (mm)	d0	dN	D1	D2	D3	D4	D5	D6 +0.2	D7	L	L1	L2	L3	L4	L5	t1
20	28	36	64	47.1	38	70	75	40	4	75	53	20	19.5	17	10.5	3
25	33	41	69	52.1	43	75	80	45	4	75	53	20	19.5	17	10.5	3
28	38	46	74	57.1	48	80	85	50	4	75	53	20	19.5	17	10.5	3
33	43	51	79	62.1	53	85	90	55	4	75	53	20	19.5	17	10.5	3
38	48	56	84	67.1	58	90	95	60	4	75	53	20	19.5	17	10.5	3
43	53	61	89	72.1	63	95	100	65	4	75	53	20	19.5	17	10.5	3
48	58	66	94	77.1	68	100	105	70	4	75	53	20	19.5	17	10.5	3
53	63	71	100	82.1	73	105	110	75	4	75	53	20	19.5	17	10.5	3
55	65	75	105	87.1	78	110	115	79	4	75	53	20	19.5	17	10.5	3
60	70	80	110	92.1	83	115	120	84	4	75	53	20	19.5	17	10.5	3
65	75	85	115	97.1	88	120	125	89	4	75	53	20	19.5	17	10.5	3
70	80	90	120	102.1	93	125	130	94	4	75	53	20	19.5	17	10.5	3
75	85	95	125	107.1	98	130	135	99	5	75	53	20	19.5	17	10.5	3
80	90	100	130	112.1	103	135	140	104	5	75	53	20	19.5	17	10.5	3
90	100	110	146	126.1	117	155	163	116	5	98	73	30	22.0	19	16.0	4
100	110	120	156	136.1	127	165	173	126	5	98	73	30	22.0	19	16.0	4
110	120	130	166	145.1	136	175	183	136	5	98	73	30	22.0	19	16.0	4
120	130	140	176	154.1	145	185	193	146	5	98	73	30	22.0	19	16.0	4
130	140	150	187	163.9	155	195	203	156	5	98	73	30	22.0	19	16.0	4
140	150	160	188	174.9	166	205	213	166	5	98	73	30	22.0	19	16.0	4
160	170	180	219	193.9	185	230	238	186	5	98	73	30	22.0	19	16.0	4
180	190	200	239	213.9	205	255	265	206	5	98	73	30	22.0	19	16.0	4

HQCS-B03(LEK777)



Type: Single Cartridge Seal
 Replacement: Burgmann LEK777
 Temperature: -20 to +180°C
 Pressure: $\leq 1.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



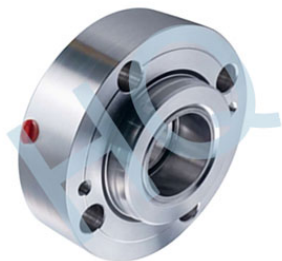
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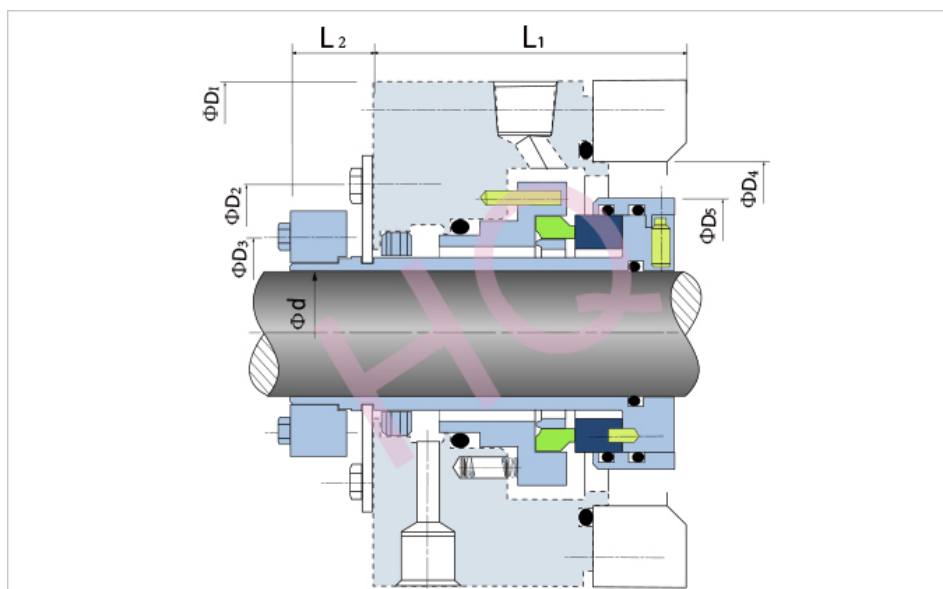
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API/d (mm)	API/D1	API/D4	D2	D3	L	L1	L2	L3
20	70	105	51	128	100	70	30	50
30	80	115	63	138	102	70	32	50
40	90	125	74	148	105	70	35	50
50	100	140	84	168	105	70	35	50
60	120	160	99	188	107	72	35	52
70	130	170	108	198	107	72	35	52
80	140	180	120	208	107	72	35	52
90	160	205	138	238	114	79	35	59
100	170	215	148	248	115	80	35	60
110	180	225	157	258	120	80	40	60

HQCS-B04(SH)



Type: Single Cartridge Seal
 Replacement: Burgmann SH
 Temperature: -20°C to $+250^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 35\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



Equal to Burgmann SH.

d=40mm - 250mm, 1.570" to 9.800"



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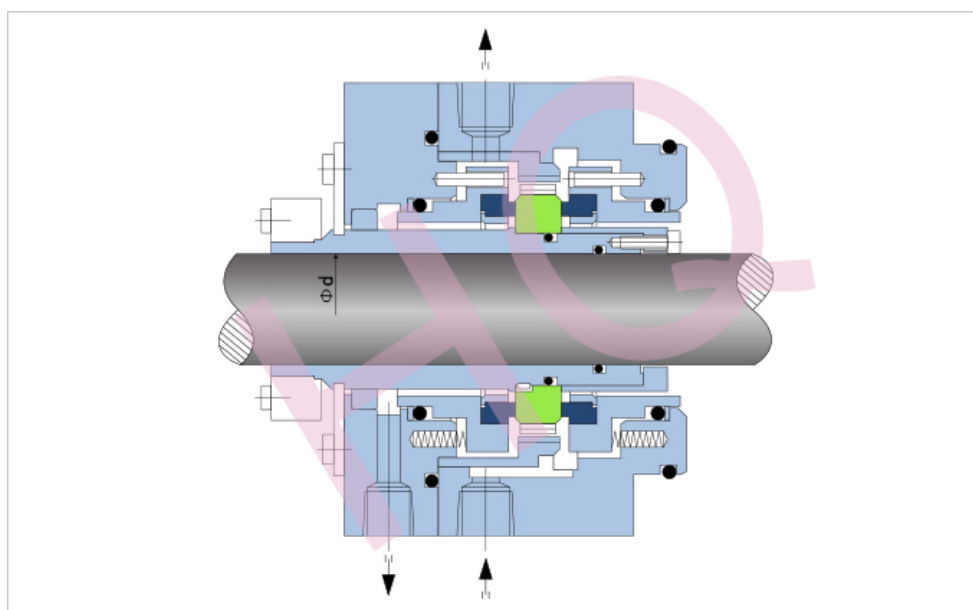


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HQCS-B18(SHF(V)-D/SHP(V)-D)



Type: Cartridge Seal
 Replacement: Burgmann SHF(V)-D/SHP(V)-D
 Temperature: $+200^{\circ}\text{C}$
 Pressure: $\leq 150\text{Bar}$
 Speed: $\leq 60\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



$d=40\text{mm}$ to 250mm , $1.57''$ to $9.84''$.



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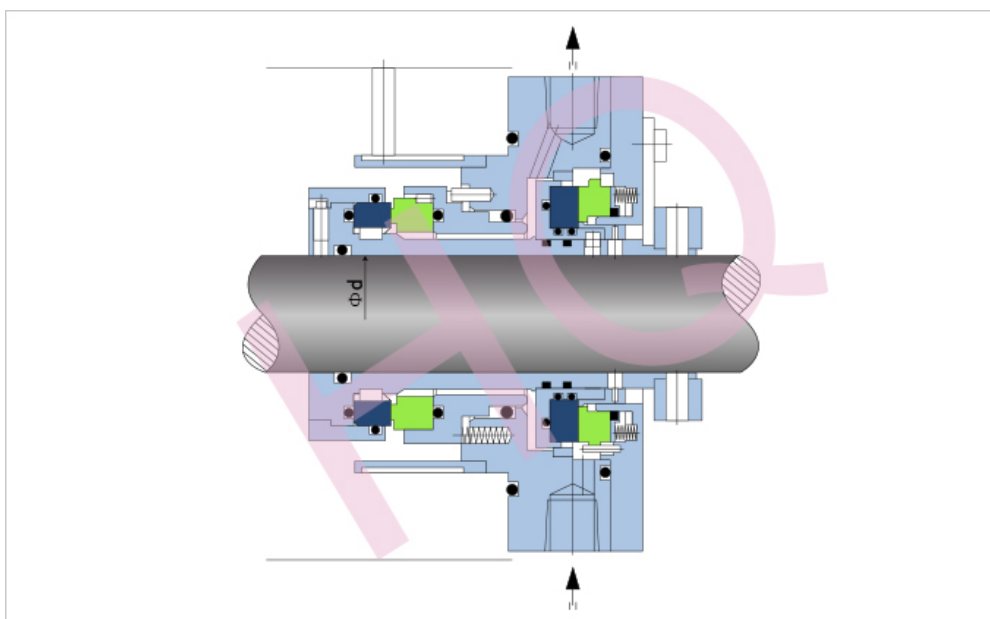


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HQCS-B19(SHI300)



Type: Cartridge Seal
 Replacement: Burgmann SHI300
 Temperature: -20 to +100°C
 Pressure: $\leq 100\text{Bar}$
 Speed: $\leq 50\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d=50mm to 150mm, 1.97" to 5.91".

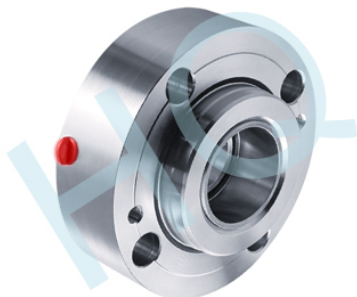


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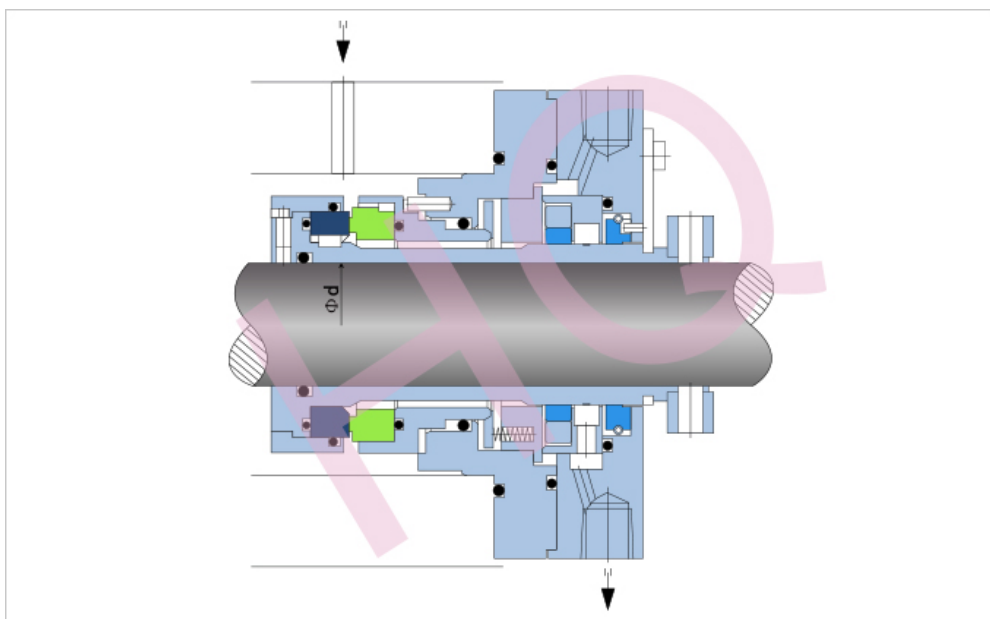


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HQCS-B20(SHI366)



Type: Cartridge Seal
 Replacement: Burgmann SHI366
 Temperature: -20 to +100°C
 Pressure: $\leq 100\text{Bar}$
 Speed: $\leq 50\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d=50mm to 150mm, 1.97" to 5.91".

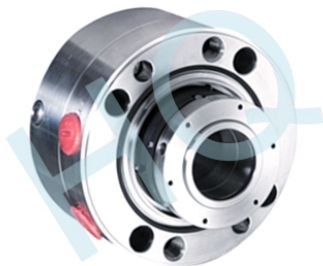


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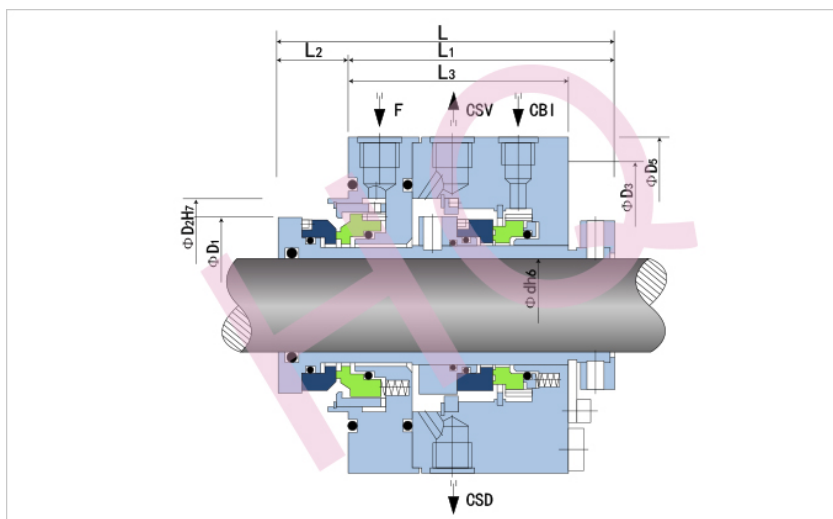


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HQCS-B21(LL9DJUE)



Type: Double Cartridge Seal
 Replacement: Burgmann LL9DJUE
 Temperature: -40 to +176°C
 Pressure: ≤ 60 Bar
 Speed: ≤ 25 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



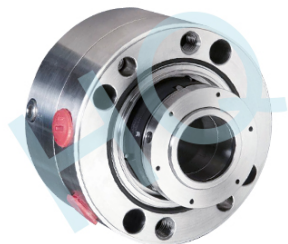
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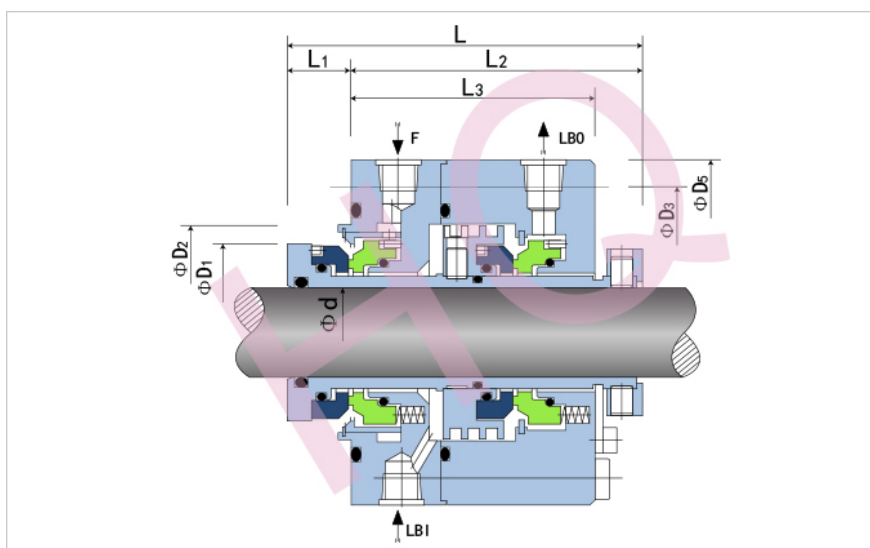
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API/d (mm)	API/D2	API/D3	D1	D5	L	L1	L2	L3
20	70	105	51	128	128	98	30	80
30	80	115	63	138	130	98	32	80
40	90	125	74	148	133	98	35	80
50	100	140	84	168	142	107	35	87
60	120	160	99	188	142	107	35	87
70	130	170	108	198	142	107	35	87
80	140	180	120	208	142	107	35	87
90	160	205	138	238	150	115	35	93
100	170	215	148	248	150	115	35	93
110	180	225	157	258	155	115	40	93

HQCS-B22(LL9DJUU)



Type: Double Cartridge Seal
 Replacement: Burgmann LL9DJUU
 Temperature: -40 to +176°C
 Pressure: ≤ 60 Bar
 Speed: ≤ 50 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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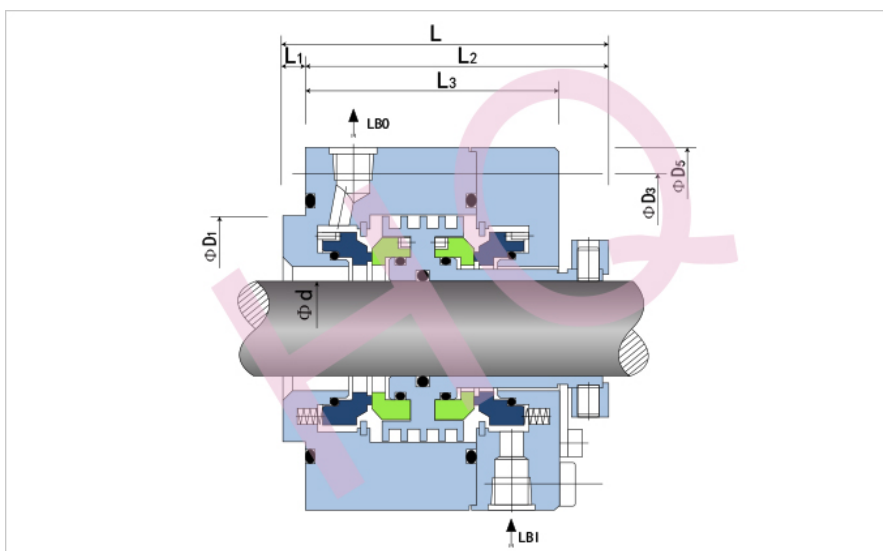
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API /d(mm)	API /D2	API /D3	D1	D5	L	L1	L2	L3
20	70	105	51	128	128	98	30	80
30	80	115	63	138	130	98	32	80
40	90	125	74	148	133	98	35	80
50	100	140	84	168	142	107	35	87
60	120	160	99	188	142	107	35	87
70	130	170	108	198	142	107	35	87
80	140	180	120	208	142	107	35	87
90	160	205	138	248	150	115	35	93
100	170	215	148	258	150	115	35	93
110	180	225	157	268	155	115	40	93

HQCS-B23(LL9DSUU)



Type: Double Cartridge Seal
 Replacement: Burgmann LL9DSUU
 Temperature: -40 to +176°C
 Pressure: ≤ 60 Bar
 Speed: ≤ 50 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



<http://www.hqseal.com>



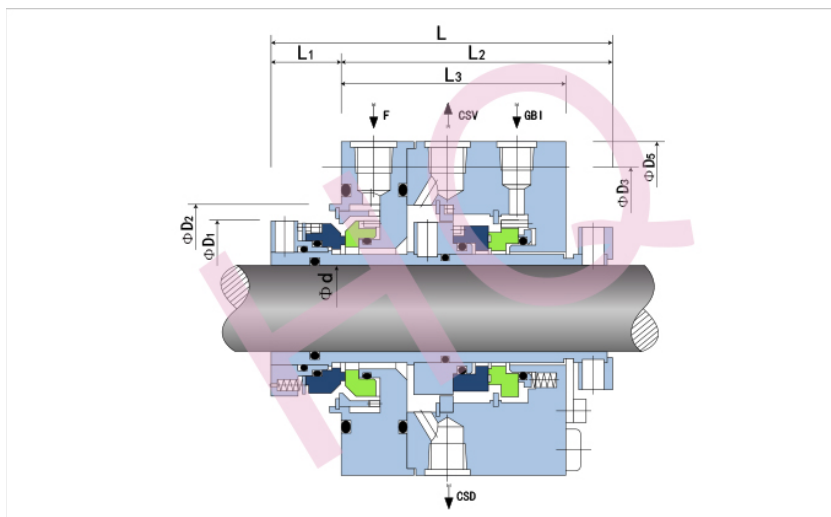
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API /d(mm)	API /D1	API /D3	D5	L	L1	L2	L3
20	70	105	128	108	10	98	80
30	80	115	138	110	12	98	80
40	90	125	148	113	15	98	80
50	100	140	168	122	15	107	87
60	120	160	188	122	15	107	87
70	130	170	198	122	15	107	87
80	140	180	208	122	15	107	87
90	160	205	248	130	15	115	93
100	170	215	258	130	15	115	93
110	180	225	268	135	20	115	93

HQCS-B24(LL9DTUE)



Type: Double Cartridge Seal
 Replacement: Burgmann LL9DTUE
 Temperature: -40 to +176°C
 Pressure: ≤ 42 Bar
 Speed: ≤ 23 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



<http://www.hqseal.com>

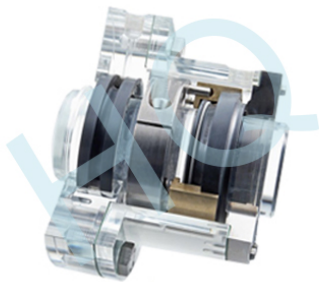


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API /d(mm)	API /D2	API /D3	D1	D5	L	L1	L2	L3
20	70	105	-	-	-	-	-	-
30	80	115	69	138	130	32	98	80
40	90	125	79	148	133	35	98	80
50	100	140	89	168	142	35	107	87
60	120	160	105	188	142	35	107	87
70	130	170	115	198	142	35	107	87
80	140	180	125	208	142	35	107	87
90	160	205	137	248	150	35	115	93
100	170	215	150	258	150	35	115	93
110	180	225	163	268	155	40	115	93

HQCS-B17(4600)

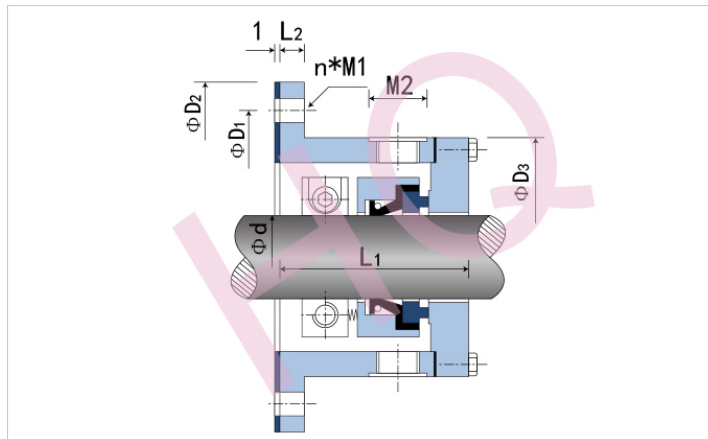
Type: Single Cartridge Seal
 Replacement: Burgmann 4600
 Temperature: -20 to +180°C
 Pressure: $\leq 1.8\text{Mpa}$
 Speed: $\leq 2\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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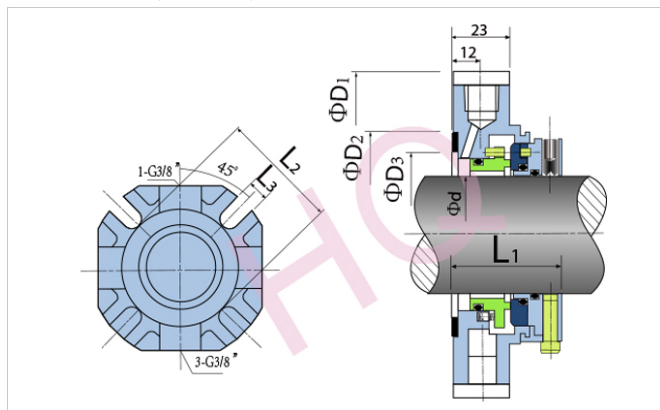
d (mm)	D1	D2	D3	L1	L2	M1	M2	n
50	142	165	125	110	15	M10	G1/2"	4
60	152	175	135	110	15	M10	G1/2"	4
70	185	215	145	110	15	M16	G1/2"	4
80	195	225	155	115	15	M16	G1/2"	4
90	205	235	165	115	15	M16	G1/2"	4
100	215	245	175	115	15	M16	G1/2"	4
110	230	260	192	120	15	M16	G1/2"	6
120	240	270	202	120	15	M16	G1/2"	6
130	250	280	212	120	15	M16	G1/2"	6
140	260	290	222	120	15	M16	G1/2"	6
150	270	300	232	120	15	M16	G1/2"	6
160	280	310	242	120	15	M16	G1/2"	6
170	290	320	252	120	15	M16	G1/2"	6
180	300	330	262	130	15	M16	G1/2"	6
190	310	340	272	130	15	M16	G1/2"	8
200	320	350	282	130	15	M16	G1/2"	8
210	330	360	292	130	15	M16	G1/2"	8
220	340	370	302	130	15	M16	G1/2"	8
230	350	380	312	130	15	M16	G1/2"	8
240	365	405	340	140	20	M20	G1/2"	8
250	375	415	350	140	20	M20	G1/2"	8
260	385	425	360	140	20	M20	G3/4"	8
270	395	435	370	140	20	M20	G3/4"	8
280	405	445	380	140	20	M20	G3/4"	8
290	415	455	390	140	20	M20	G3/4"	8
300	425	465	400	140	20	M20	G3/4"	8
310	445	485	420	140	20	M20	G3/4"	8
320	455	495	430	140	20	M20	G3/4"	8

HQCS-B06(MA290/390)

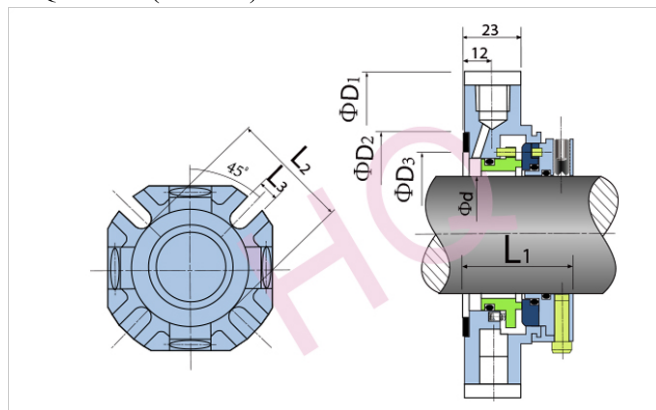
Type: Single Cartridge Seal
 Replacement: Burgmann MA290/390
 Temperature: -20°C to +160°C
 Pressure: $\leq 1.6\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,Graphite,V,G



HQCS-B06(MA290)



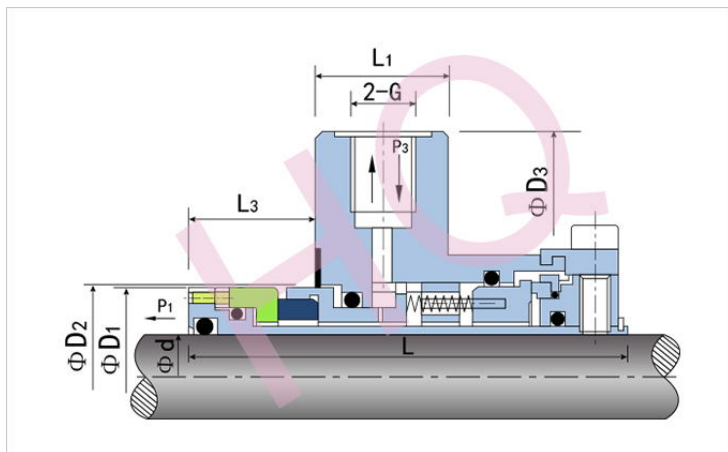
HQCS-B06(MA390)



d (mm)	D1	D2	D3		L1	L2	L3
			min	max			
20	104	58	30	51	42	60	12
24	104	58	34	51	42	60	12
25	104	58	35	51	42	60	12
28	108	63	38	54	42	65	12
30	108	63	40	56	42	65	12
32	108	63	42	56	42	65	12
33	118	73	43	66	42	75	14
35	118	73	45	66	42	75	14
38	118	73	48	66	42	75	14
40	118	73	50	66	42	75	14
43	128	78	53	71	42	80	14
45	128	78	55	71	42	80	14
48	138	88	58	81	44	90	14
50	138	88	60	81	44	90	14
53	138	88	63	81	44	90	14
55	138	88	65	81	44	90	14
58	164	103	68	96	46	105	18
60	164	103	70	96	46	105	18
63	164	103	73	96	46	105	18
65	164	103	75	96	46	105	18
70	178	109	80	102	46	111	18
75	193	121	85	114	49	123	18
80	193	121	90	114	49	123	18
85	208	131	95	124	49	133	20
90	208	131	100	124	49	133	20
95	218	141	105	134	49	143	20
100	218	141	110	134	49	143	20

HQCS-B14(TSK1D)

Type: Double Cartridge Seal
 Replacement: Burgmann TSK1D
 Temperature: -30°C to +200°C
 Pressure: $p_1=1.0\text{Mpa}, p_3=1.3\text{Mpa}$
 Speed: $\leq 16\text{m/s}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



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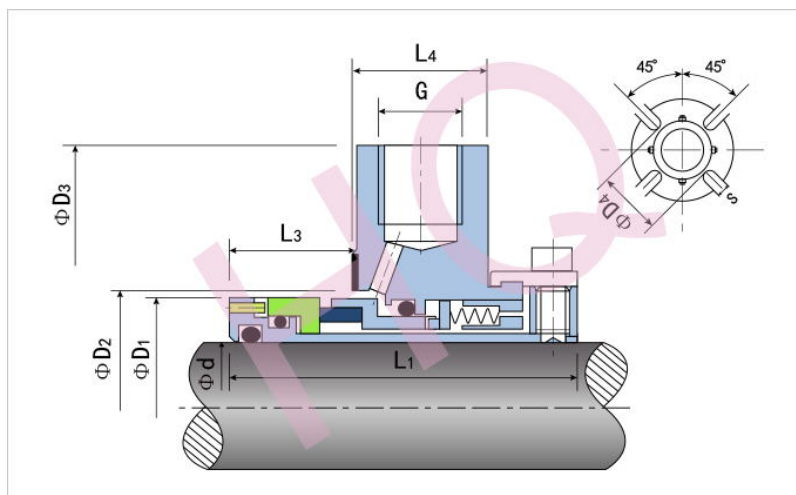


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d (mm)	D1	D2		D3	D5	L	L1	L3	S	G (Inch)
		min	max							
25	43.0	51.0	44.0	105	62	86.5	25.4	24	14	1/4"
28	46.0	52.0	47.0	105	62	86.5	25.4	24	14	1/4"
30	48.0	56.0	49.0	105	65	86.5	25.4	24	14	1/4"
33	50.0	57.0	51.0	110	67	86.5	25.4	24	14	1/4"
35	53.0	61.0	54.0	113	70	86.5	25.4	24	14	1/4"
38	56.0	66.0	57.0	123	75	86.5	25.4	24	14	3/8"
40	58.0	68.0	59.0	123	78	86.5	25.4	24	16	3/8"
43	60.0	70.5	61.5	133	80	86.5	25.4	24	16	3/8"
45	62.5	73.0	64.0	138	81	86.5	25.4	24	16	3/8"
48	65.5	75.0	67.0	138	84	86.5	25.4	24	16	3/8"
50	68.0	78.0	69.0	148	87	86.5	25.4	24	16	3/8"
55	73.0	83.0	74.0	148	90	86.5	25.4	24	18	3/8"
60	78.0	91.0	79.0	157	102	86.5	25.4	24	18	3/8"
65	83.0	98.5	84.5	163	109	86.5	25.4	24	18	3/8"
70	93.0	108.0	95.0	178	118	86.5	25.4	24	18	3/8"
75	100.0	118.0	101.6	190	129	108.0	28.0	30	18	3/8"
80	106.4	124.0	108.0	195	135	108.0	28.0	30	18	3/8"
85	109.5	128.0	111.1	198	139	108.0	28.0	30	22	3/8"
90	115.9	135.0	117.5	205	145	108.0	28.0	30	22	3/8"
95	119.1	138.0	120.7	208	148	108.0	28.0	30	22	3/8"
100	125.4	144.0	127.0	218	154	108.0	28.0	30	22	3/8"

HQCS-B13(TSK1)

Type: Single Cartridge Seal
 Replacement: Burgmann TSK1
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 16\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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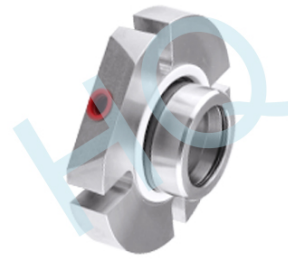


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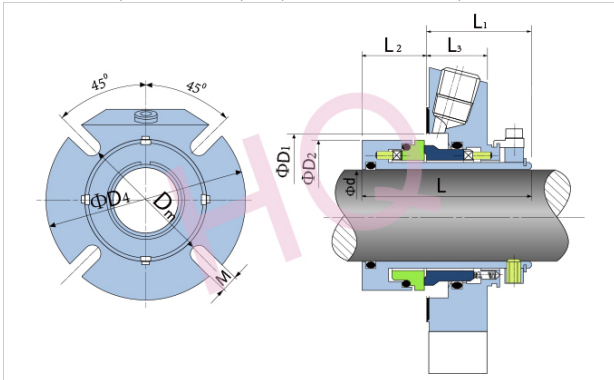
d (mm)	D1	D2		D3	L1	L3	L4	D4	S	G (Inche)
		min	max							
25	43.0	44.0	51.0	105	67	24.6	25.4	62	14	1/4"
28	46.0	47.0	52.0	105	67	24.6	25.4	62	14	1/4"
30	48.0	49.0	56.0	105	67	24.6	25.4	65	14	1/4"
33	50.0	51.0	57.0	110	67	24.6	25.4	67	14	1/4"
35	53.0	54.0	61.0	113	67	24.6	25.4	70	14	1/4"
38	56.0	57.0	66.0	123	67	24.6	25.4	75	14	3/8n
40	58.0	59.0	68.0	123	67	24.6	25.4	75	16	3/8"
43	60.0	61.5	70.5	133	67	24.6	25.4	80	16	3/8"
45	62.5	64.0	73.0	138	67	24.6	25.4	81	16	3/8"
48	65.5	67.0	75.0	138	67	24.6	25.4	84	16	3/8"
50	68.0	69.0	78.0	148	67	24.6	25.4	87	16	3/8"
55	73.0	74.0	83.0	148	67	24.6	25.4	90	18	3/8"
60	78.0	79.0	91.0	157	67	24.6	25.4	102	18	3/8n
65	83.0	84.5	98.5	163	67	24.6	25.4	109	18	3/8"
70	93.0	95.0	108.0	178	67	24.6	25.4	118	18	3/8"
75	100.0	101.6	118.0	190	84	26.6	28.0	129	18	3/8"
80	106.4	108.0	124.0	195	84	26.6	28.0	135	18	3/8"
85	109.5	111.1	128.0	198	84	26.6	28.0	139	22	3/8n
90	115.9	117.5	135.0	205	84	26.6	28.0	145	22	3/8n
95	119.1	120.7	138.0	208	84	26.6	28.0	148	22	3/8n
100	125.4	127.0	144.0	218	84	26.6	28.0	154	22	3/8"

HQCS-B08(CARTEX-SN)

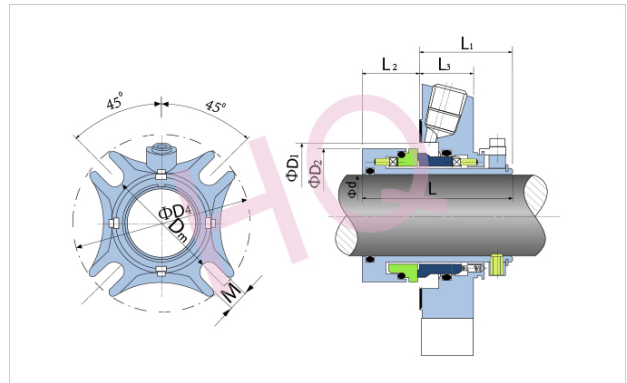
Type: Single Cartridge Seal
 Replacement: Burgmann CARTEX-SN
 Temperature: -20°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-B08(CARTEX-SN)-A (use Mechined cover)



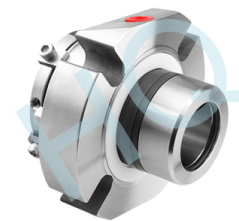
HQCS-B08(CARTEX-SN)-B (use cast cover)



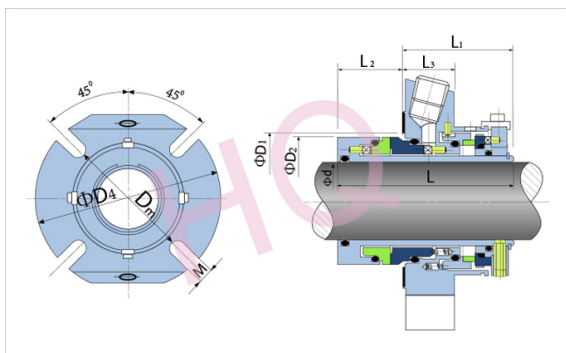
d (mm)	D1		D2	D4	Dm	L	L1	L2	L3	M
	Min	Max								
25	44.0	51.5	43.0	105	62	67	42.4	24.6	25.4	13.2
28	47.0	52.0	46.0	105	62	67	42.4	24.6	25.4	13.2
30	49.0	56.0	48.0	106	65	67	42.4	24.6	25.4	13.2
32	51.0	57.0	49.8	108	67	67	42.4	24.6	25.4	13.2
33	51.0	57.0	49.8	108	67	67	42.4	24.6	25.4	13.2
35	54.0	61.5	53.0	113	70	67	42.4	24.6	25.4	13.2
38	57.0	66.0	56.0	123	75	67	42.4	24.6	25.4	13.2
40	59.0	68.0	58.0	123	75	67	42.4	24.6	25.4	14.2
42	61.5	69.0	60.5	133	80	67	42.4	24.6	25.4	14.2
43	61.5	70.5	60.5	133	80	67	42.4	24.6	25.4	14.2
45	64.0	73.0	62.5	138	81	67	42.4	24.6	25.4	14.2
48	67.0	75.0	65.6	138	84	67	42.4	24.6	25.4	14.2
50	69.0	78.0	68.0	148	87	67	42.4	24.6	25.4	14.2
53	73.0	87.0	72.0	148	97	67	42.4	24.6	25.4	18.0
55	74.0	83.0	73.0	148	90	67	42.4	24.6	25.4	18.0
60	79.0	91.0	78.0	157	102	67	42.4	24.6	25.4	18.0
65	85.7	98.5	84.8	163	109	67	42.4	24.6	25.4	18.0
70	95.0	108.0	93.0	178	118	67	42.4	24.6	25.4	18.0
75	101.6	118.0	100.0	190	129	84	57.4	26.6	28.0	18.0
80	108.0	124.0	106.4	196	135	84	57.4	26.6	28.0	18.0
85	111.	128.0	109.5	198	139	84	57.4	26.6	28.0	22.0
90	117.5	135.0	115.9	205	145	84	57.4	26.6	28.0	22.0
95	120.7	138.0	119.1	208	148	84	57.4	26.6	28.0	22.0
100	127.0	144.0	125.4	218	154	84	57.4	26.6	28.0	22.0

HQCS-B09(CARTEX-DN)

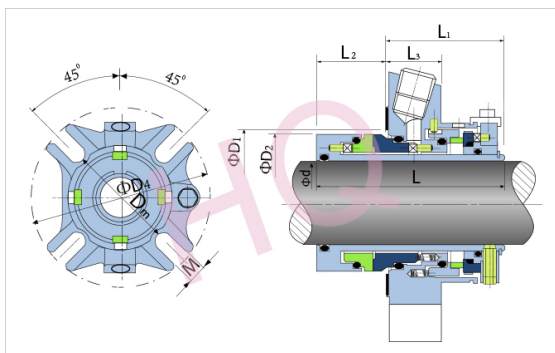
Type: Double Cartridge Seal
 Replacement: Burgmann CARTEX-DN
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 4.0\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-B09(CARTEX-DN)-A(use mechined cover)



HQCS-B09(CARTEX-DN)-B (use cast cover)

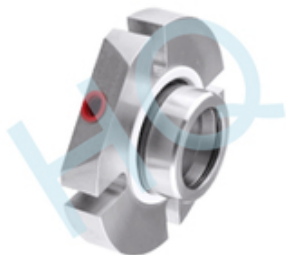


d (mm)	D1		D2	D4	Dm	L	L1	L2	L3	M
	min	max								
25	44.0	51.5	43.0	105	62	86.5	53.4	33.1	25.4	13.2
28	47.0	52.0	46.0	105	62	86.5	53.4	33.1	25.4	13.2
30	49.0	56.0	48.0	106	65	86.5	53.4	33.1	25.4	13.2
32	51.0	57.0	49.8	108	67	86.5	53.4	33.1	25.4	13.2
33	51.0	57.0	49.8	108	67	86.5	53.4	33.1	25.4	13.2
35	54.0	61.5	53.0	113	70	86.5	53.4	33.1	25.4	13.2
38	57.0	66.0	56.0	123	75	86.5	53.4	33.1	25.4	13.2
40	59.0	68.0	58.0	123	75	86.5	53.4	33.1	25.4	14.2
42	61.5	69.0	60.5	133	80	86.5	53.4	33.1	25.4	14.2
43	61.5	70.5	60.5	133	80	86.5	53.4	33.1	25.4	14.2
45	64.0	73.0	62.5	138	81	86.5	53.4	33.1	25.4	14.2
48	67.0	75.0	65.6	138	84	86.5	53.4	33.1	25.4	14.2
50	69.0	78.0	68.0	148	87	86.5	53.4	33.1	25.4	14.2
53	73.0	87.0	72.0	148	97	86.5	53.4	33.1	25.4	18.0
55	74.0	83.0	73.0	148	90	86.5	53.4	33.1	25.4	18.0
60	79.0	91.0	78.0	157	102	86.5	53.4	33.1	25.4	18.0
65	85.7	98.5	84.8	163	109	86.5	53.4	33.1	25.4	18.0
70	95.0	108.0	93.0	178	118	86.5	53.4	33.1	25.4	18.0
75	101.6	118.0	100.0	190	129	108.0	63.9	44.1	28.0	18.0
80	108.0	124.0	106.4	196	135	108.0	63.9	44.1	28.0	18.0
85	111.1	128.0	109.5	198	139	108.0	63.9	44.1	28.0	22.0
90	117.5	135.0	115.9	205	145	108.0	63.9	44.1	28.0	22.0
95	120.7	138.0	119.1	208	148	108.0	63.9	44.1	28.0	22.0
100	127.0	144.0	125.4	218	154	108.0	63.9	44.1	28.0	22.0

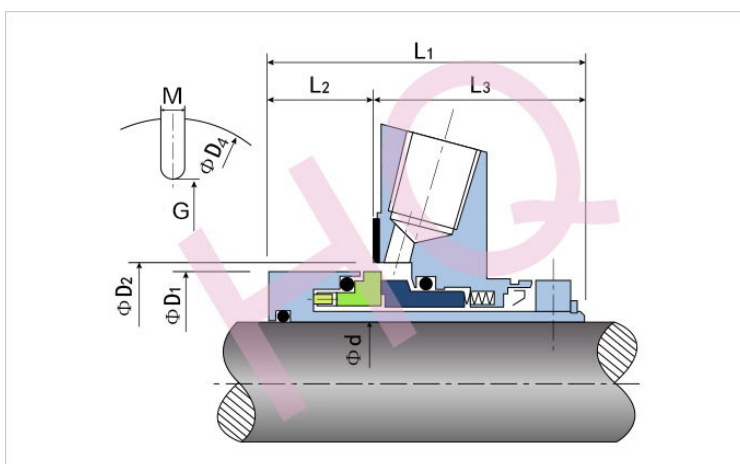
d (inch)	D1		D2	D4	Dm	L1	L1	L2	L3	M
	min	max								
1.000	1.732	2.008	1.693	4.134	2.440	3.40	2.102	1.303	1.000	0.520
1.125	1.875	2.050	1.811	4.134	2.402	3.40	2.102	1.303	1.000	0.520
1.250	2.008	2.244	1.960	4.330	2.760	3.40	2.102	1.303	1.000	0.520
1.375	2.126	2.421	2.086	4.449	2.840	3.40	2.102	1.303	1.000	0.520
1.500	2.244	2.598	2.200	4.842	2.950	3.40	2.102	1.303	1.000	0.520
1.625	2.375	2.700	2.340	4.842	3.090	3.40	2.102	1.303	1.000	0.599
1.750	2.520	2.874	2.460	5.433	3.230	3.40	2.102	1.303	1.000	0.599
1.875	2.638	2.953	2.582	5.433	3.350	3.40	2.102	1.303	1.000	0.599
2.000	2.717	3.071	2.677	5.827	3.430	3.40	2.102	1.303	1.000	0.599
2.125	2.874	3.425	2.834	5.827	3.819	3.40	2.102	1.303	1.000	0.709
2.250	3.000	3.560	2.960	6.181	3.940	3.40	2.102	1.303	1.000	0.709
2.375	3.125	3.583	3.070	6.181	4.020	3.40	2.102	1.303	1.000	0.709
2.500	3.300	3.800	3.212	6.417	4.180	3.40	2.102	1.303	1.000	0.709
2.625	3.374	3.937	3.338	6.417	4.303	3.40	2.102	1.303	1.000	0.709
2.750	3.740	4.252	3.660	7.008	4.660	3.40	2.102	1.303	1.000	0.709
2.875	4.000	4.646	3.937	7.480	5.079	4.25	2.516	1.736	1.000	0.709
3.000	4.000	4.646	3.937	7.480	5.079	4.25	2.516	1.736	1.102	0.709
3.125	4.252	4.882	4.190	7.677	5.315	4.25	2.516	1.736	1.102	0.709
3.250	4.252	4.882	4.189	7.677	5.315	4.25	2.516	1.736	1.102	0.709
3.375	4.375	5.039	4.311	7.795	5.472	4.25	2.516	1.736	1.102	0.866
3.500	4.500	5.157	4.437	7.795	5.591	4.25	2.516	1.736	1.102	0.866
3.825	4.625	5.315	4.563	8.071	5.709	4.25	2.516	1.736	1.102	0.866
3.750	4.752	5.433	4.689	8.189	5.827	4.25	2.516	1.736	1.102	0.866
4.000	5.000	5.669	4.937	8.583	6.063	4.25	2.516	1.736	1.102	0.866



HQCS-B12(CARTEX-QN)



Type: Single Cartridge Seal
 Replacement: Burgmann CARTEX-QN
 Temperature: -40°C to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 16\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



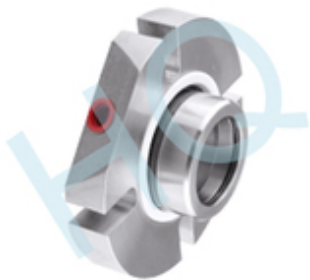
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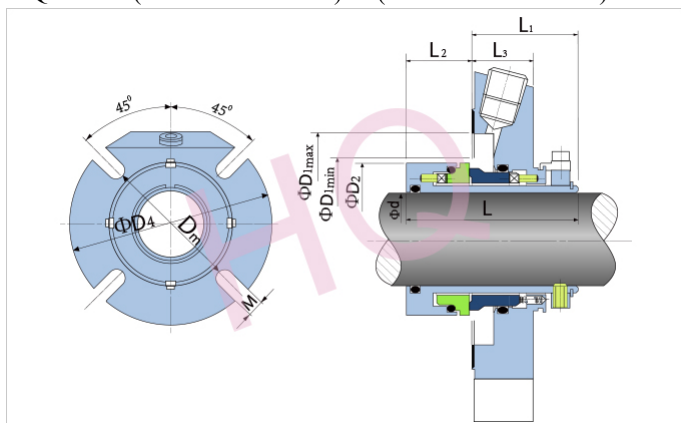
d (mm)	D1	D2		D4	G	L1	L2	L3	M
		min	max						
25	43.0	44.0	51.5	105	62	79.5	26.1	53.4	13.2
28	46.0	47.0	52.0	105	62	79.5	26.1	53.4	13.2
30	48.0	49.0	56.0	105	65	79.5	26.1	53.4	13.2
32	49.8	51.0	57.0	108	67	79.5	26.1	53.4	13.2
33	49.8	51.0	57.0	108	67	79.5	26.1	53.4	13.2
35	53.0	54.0	61.5	113	70	79.5	26.1	53.4	13.2
38	56.0	57.0	66.0	123	75	79.5	26.1	53.4	13.2
40	58.0	59.0	68.0	123	75	79.5	26.1	53.4	14.2
42	60.5	61.5	69.5	133	80	79.5	26.1	53.4	14.2
43	60.5	61.5	70.5	133	80	79.5	26.1	53.4	14.2
45	62.5	64.0	73.0	138	81	79.5	26.1	53.4	14.2
48	65.6	67.0	75.0	138	84	79.5	26.1	53.4	14.2
50	68.0	69.0	78.0	148	87	79.5	26.1	53.4	14.2
53	72.0	73.0	87.0	148	97	79.5	26.1	53.4	18.0
55	73.0	74.0	83.0	148	90	79.5	26.1	53.4	18.0
60	78.0	79.0	91.0	157	102	79.5	26.1	53.4	18.0
65	84.8	85.7	98.5	163	109	79.5	26.1	53.4	18.0
70	93.0	95.0	108.0	178	118	79.5	26.1	53.4	18.0

HQCS-B10(CARTEX-ANSI-S)

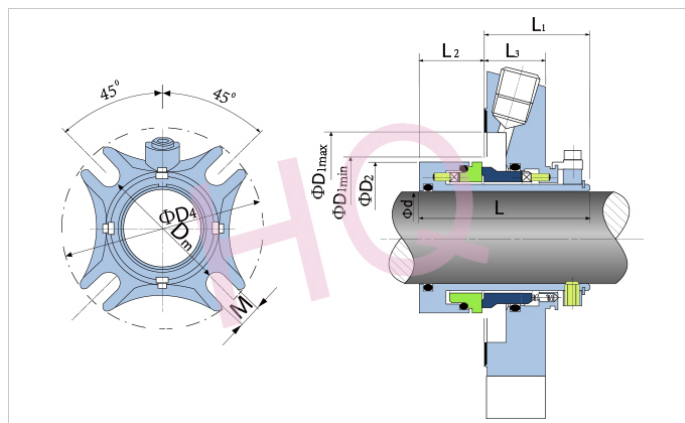


Type: Single Cartridge Seal
 Replacement: Burgmann CARTEX ANSI-S
 Temperature: -20°C to $+250^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 35\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

HQCS-B10(CARTEX ANSI-S)-A (Use mechined cover)



HQCS-B10(CARTEX ANSI-S)-B (use cast cover)



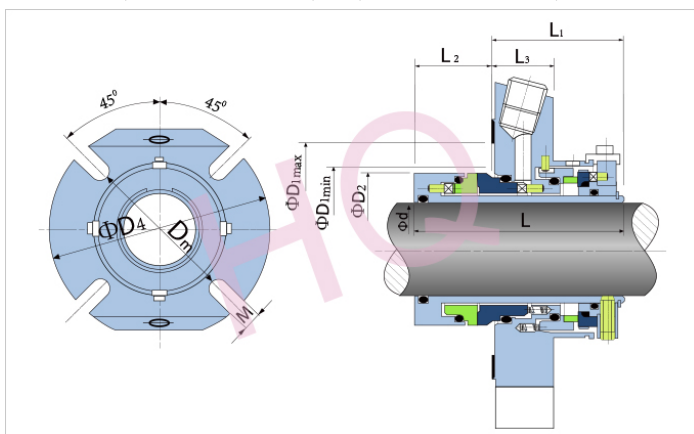
d (inch)	D1 min	D1 max	D2	D4	Dm	L	L1	L2	L3	M	Connection
1.000	1.732	2.205	1.693	3.937	2.756	2.638	1.669	0.969	1.000	0.433	1/4 NPT
1.125	1.752	2.205	1.713	4.134	2.440	2.638	1.669	0.969	1.000	0.437	1/4 NPT
1.250	2.008	2.402	1.969	4.252	2.638	2.638	1.669	0.969	1.000	0.433	1/4 NPT
1.375	2.000	2.402	1.961	4.213	2.760	2.638	1.669	0.969	1.000	0.437	1/4 NPT
1.500	2.244	2.717	2.200	4.488	2.950	2.638	1.669	0.969	1.000	0.551	3/8 NPT
1.625	2.421	2.795	2.340	4.921	3.030	2.638	1.669	0.969	1.000	0.551	3/8 NPT
1.750	2.500	2.953	2.461	5.118	3.228	2.638	1.669	0.969	1.000	0.559	3/8 NPT
1.875	2.661	3.070	2.583	5.118	3.190	2.638	1.669	0.969	1.000	0.551	3/8 NPT
2.000	2.756	3.189	2.677	5.472	3.430	2.638	1.669	0.969	1.000	0.63	3/8 NPT
2.125	2.913	3.583	2.834	5.512	3.820	2.638	1.669	0.969	1.000	0.65	3/8 NPT
2.250	3.039	3.583	2.960	5.866	3.858	2.638	1.669	0.969	1.000	0.65	3/8 NPT
2.375	3.125	3.590	3.070	6.181	4.020	2.638	1.669	0.969	1.000	0.709	3/8 NPT
2.500	3.291	3.937	3.212	6.693	4.528	2.638	1.669	0.969	1.122	0.709	3/8 NPT
2.625	3.471	4.016	3.338	6.378	4.528	2.638	1.669	0.969	1.250	0.63	3/8 NPT
2.750	3.740	4.370	3.660	7.441	4.646	2.638	1.929	0.709	1.260	0.709	3/8 NPT
3.000	4.016	4.724	3.937	7.835	5.000	3.307	2.260	1.047	1.260	0.709	3/8 NPT
3.250	4.268	4.921	4.189	7.830	5.315	3.307	2.260	1.047	1.260	0.709	3/8 NPT
3.750	4.750	5.433	4.689	8.189	5.827	3.307	2.260	1.047	1.000	0.866	3/8 NPT

HQCS-B11(XARTEX-ANSI-D)

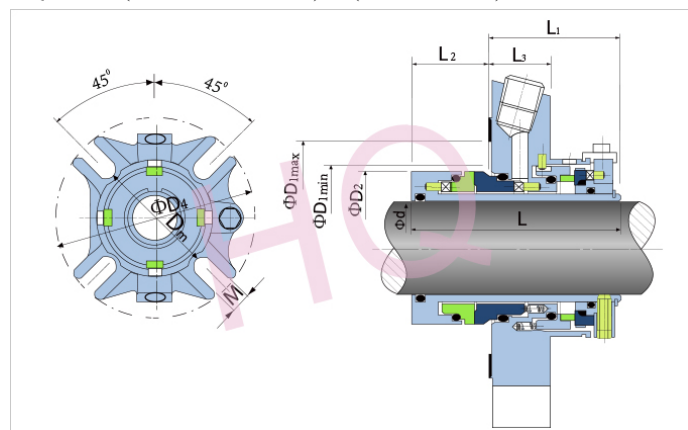


Type: Double Cartridge Seal
 Replacement: Burgmann CARTEX ANSI-D
 Temperature: -20°C to $+250^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 35\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

HQCS-B11(CARTEX ANSI-D)-A (use mechined cover)



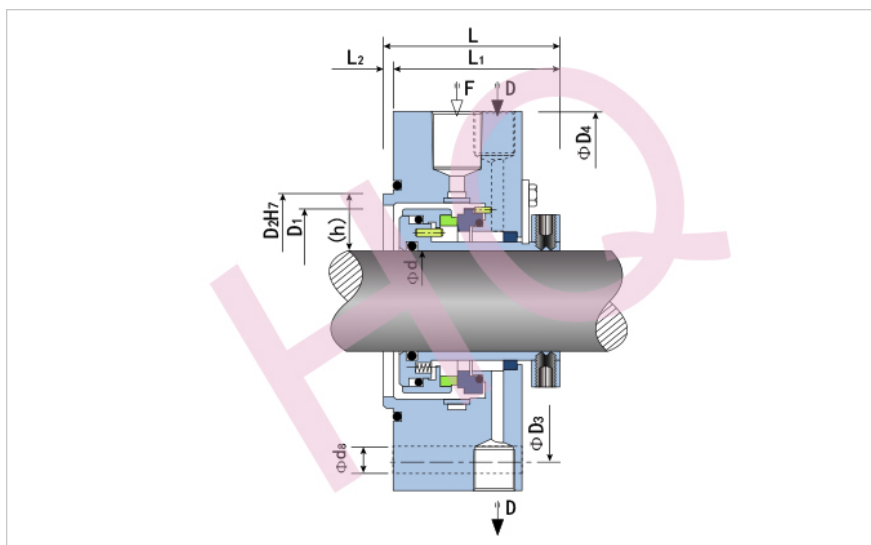
HQCS-B11(CARTEX ANSI-D)-B (use cast cover)



d (inch)	D2	D1min	D1max	L	L1	L2	L3	Dm	D4	M	Connection
1.000	1.693	1.732	2.205	3.406	2.102	1.303	1.000	2.441	3.937	0.0433	1/4NPT
1.125	1.713	1.752	2.205	3.228	3.228	1.343	1.000	2.441	4.134	0.437	1/4NPT
1.250	1.969	2.008	2.402	3.406	2.102	1.303	1.000	2.756	4.252	0.433	1/4NPT
1.375	1.961	2.000	2.402	3.406	2.083	1.303	1.000	2.756	4.213	0.437	1/4NPT
1.500	2.200	2.244	2.717	3.406	2.102	1.303	1.000	2.953	4.488	0.551	3/8NPT
1.625	2.340	2.421	2.795	3.406	2.102	1.303	1.000	3.091	4.921	0.551	3/8NPT
1.750	2.461	2.500	2.953	3.406	2.102	1.303	1.000	3.228	5.118	0.559	3/8NPT
1.875	2.583	2.661	3.070	3.406	2.102	1.303	1.000	3.307	5.118	0.551	3/8NPT
2.000	2.677	2.756	3.189	3.406	2.102	1.303	1.000	3.425	5.472	0.630	3/8NPT
2.125	2.834	2.913	3.583	3.406	2.102	1.303	1.000	3.819	5.512	0.650	3/8NPT
2.250	2.960	3.039	3.583	3.406	2.102	1.303	1.000	3.858	5.866	0.650	3/8NPT
2.375	3.070	3.125	3.590	*	*	*	1.000	*	6.181	0.709	3/8NPT
2.500	3.212	3.291	3.937	3.406	2.102	1.303	1.122	4.528	6.693	0.709	3/8NPT
2.625	3.338	3.417	4.016	3.406	2.102	1.303	1.250	4.528	6.378	0.630	3/8NPT
2.750	3.660	3.740	4.370	3.406	2.102	1.303	1.260	4.646	7.441	0.709	3/8NPT
3.000	3.937	4.016	4.724	4.252	2.516	1.736	1.260	5.000	7.835	0.709	3/8NPT
3.250	4.189	4.288	4.921	4.252	2.516	1.736	1.260	5.315	7.830	0.709	3/8NPT
3.750	4.689	4.750	5.433	*	*	*	1.000	*	8.189	0.866	3/8NPT

HQCS-B15(APItex-S)

Type: Single Cartridge Seal
 Replacement: Burgmann Apitex-S
 Temperature: -40 to +220°C
 Pressure: $\leq 4\text{Mpa}$
 Speed: $\leq 22\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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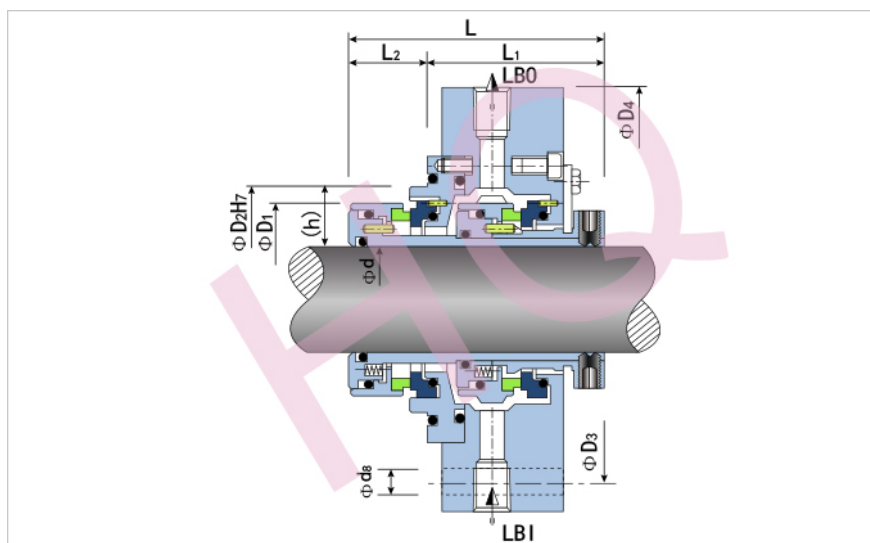
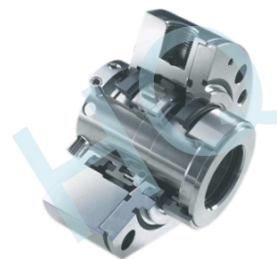


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d (mm)	D1	D2	D3	D4	d8	L	L1	L2	Anz.	h (mm)
20	50.4	58	105	127	13.5	70.5	66.5	4	4	19.05
25	55.4	63	110	132	13.5	70.5	66.5	4	4	19.05
30	60.4	68	115	137	13.5	70.5	66.5	4	4	19.05
35	65.4	73	120	142	13.5	70.5	66.5	4	4	19.05
40	70.4	78	125	147	13.5	70.5	66.5	4	4	19.05
45	75.4	83	135	162	17.5	70.5	66.5	4	4	19.05
50	80.4	88	140	167	17.5	72.5	68.5	4	4	19.05
55	85.4	93	145	172	17.5	72.5	68.5	4	4	19.05
60	96.0	105	160	187	17.5	87.0	83.0	4	4	22.22
65	101.0	110	165	192	17.5	87.0	83.0	4	4	22.22
70	106.0	115	170	197	17.5	87.0	83.0	4	4	22.22
75	111.0	120	175	202	17.5	87.0	83.0	4	4	22.22
80	116.0	125	185	218	22.0	87.0	83.0	4	4	22.22
85	123.5	136	190	223	22.0	86.0	71.5	14.5*	4	25.40
90	128.5	141	195	228	22.0	86.0	71.5	14.5*	4	25.40
95	133.5	146	200	233	22.0	86.0	71.5	14.5*	4	25.40
100	138.5	151	205	238	22.0	86.0	71.5	14.5*	4	25.40
105	143.5	156	210	243	22.0	86.0	71.5	14.5*	4	25.40
110	152.5	161	215	248	22.0	86.0	71.5	14.5*	4	25.40

HQCS-B16(APItex-T)

Type: Double Cartridge Seal
 Replacement: Burgmann Apitex-T
 Temperature: -40 to +220°C
 Pressure: $\leq 4\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



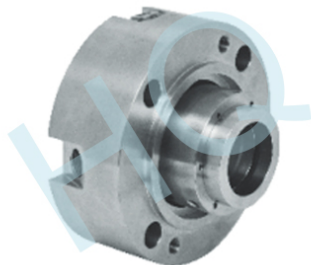
<http://www.hqseal.com>



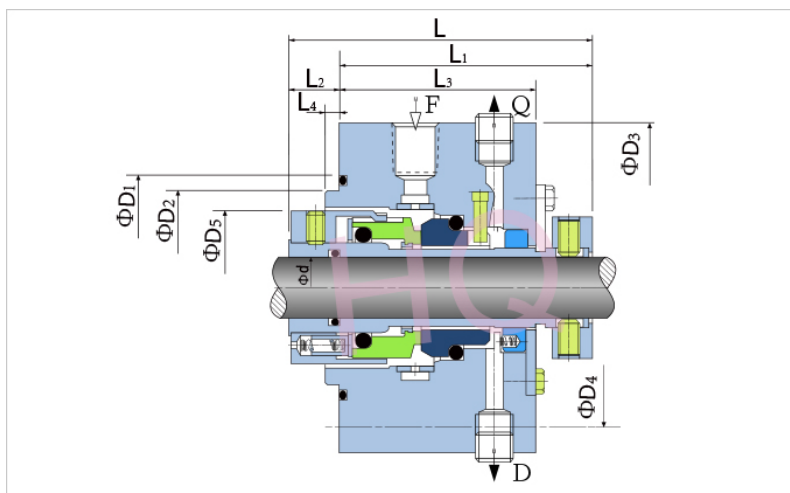
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d (mm)	D1	D2	D3	D4	L	L1	L2	d8	Anz.	h (min.)
20	50.4	58	105	127	96.5	68.5	28.0	13.5	4	19.05
25	55.4	63	110	132	96.5	68.5	28.0	13.5	4	19.05
30	60.4	68	115	137	96.5	68.5	28.0	13.5	4	19.05
35	65.4	73	120	142	96.5	68.5	28.0	13.5	4	19.05
40	70.4	78	125	147	96.5	68.5	28.0	13.5	4	19.05
45	75.4	83	135	162	96.5	68.5	28.0	17.5	4	19.05
50	80.4	88	140	167	100.0	72.0	28.0	17.5	4	19.05
55	85.4	93	145	172	100.0	72.0	28.0	17.5	4	19.05
60	96.0	105	160	187	127.5	88.0	39.5	17.5	4	22.22
65	101.0	110	165	192	127.5	88.0	39.5	17.5	4	22.22
70	106.0	115	170	197	127.5	88.0	39.5	17.5	4	22.22
75	111.0	120	175	202	127.5	88.0	39.5	17.5	4	22.22
80	116.0	125	185	213	127.5	88.0	39.5	22.0	4	22.22
85	123.5	136	190	223	131.5	92.0	39.5	22.0	4	25.40
90	128.5	141	195	228	131.5	92.0	39.5	22.0	4	25.40
95	133.5	146	200	233	131.5	92.0	39.5	22.0	4	25.40
100	138.5	151	205	238	131.5	92.0	39.5	22.0	4	25.40
105	143.5	156	210	243	131.5	92.0	39.5	22.0	4	25.40
110	152.5	161	215	248	131.5	92.0	39.5	22.0	4	25.40

HQCS-B05N(H75VN)



Type: Single Cartridge Seal
 Replacement: Burgmann H75VN
 Temperature: -40 to +220°C
 Pressure: $\leq 4.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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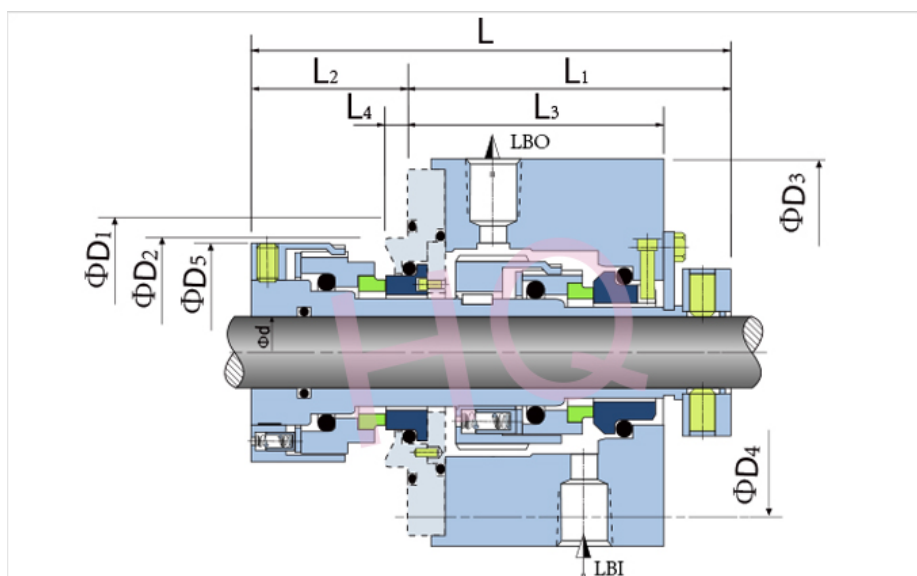
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d (mm)	D1	D2	D3	D4	D5	L	L1	L2	L3	L4
20	85	70	138	105	50	95.0	94.0	1.0	76.0	6
30	95	80	148	115	62	100.5	98.0	2.5	77.0	6
40	105	90	158	125	72	105.5	98.5	7.0	77.5	6
50	115	100	168	140	86	111.5	99.5	12.0	78.5	6
60	135	120	188	160	99	120.5	102.0	18.5	81.0	6
70	145	130	198	170	109	124.5	106.0	18.0	81.0	6
80	155	140	208	180	119	129.0	106.0	23.0	81.0	6
90	175	160	238	205	129	129.0	106.0	23.0	81.0	6
100	185	170	248	215	153	133.0	109.0	24.0	81.0	6
110	195	180	258	225	168	133.0	109.0	24.0	81.0	6

HQCS-B05K(H75VK)



Type: Double Cartridge Seal
 Replacement: Burgmann H75VK
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 4.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (mm)	D1	D2	D3	D4	D5	L	L1	L2	L3	L4
20	85	70	129	105	60	144.0	97.0	47.0	81.0	6.0
30	95	80	139	115	70	145.5	96.0	49.5	77.5	8.0
40	105	90	149	125	82	146.5	96.5	50.0	78.0	8.0
50	115	100	168	140	94	158.0	106.5	51.5	88.0	10.5
60	135	120	188	160	114	165.0	107.5	57.5	90.2	4.5
70	145	130	198	170	124	170.0	107.5	62.5	85.0	10.0
80	155	140	208	180	134	175.0	107.5	67.5	85.0	12.5
90	175	160	238	205	146	178.8	116.9	61.9	94.4	6.9
100	185	170	248	215	163	185.0	117.5	67.5	92.0	11.5
110	195	180	258	225	173	188.0	116.5	71.5	91.0	15.5

HQ-N13C(LP-S)



Type: Cartridge Seal

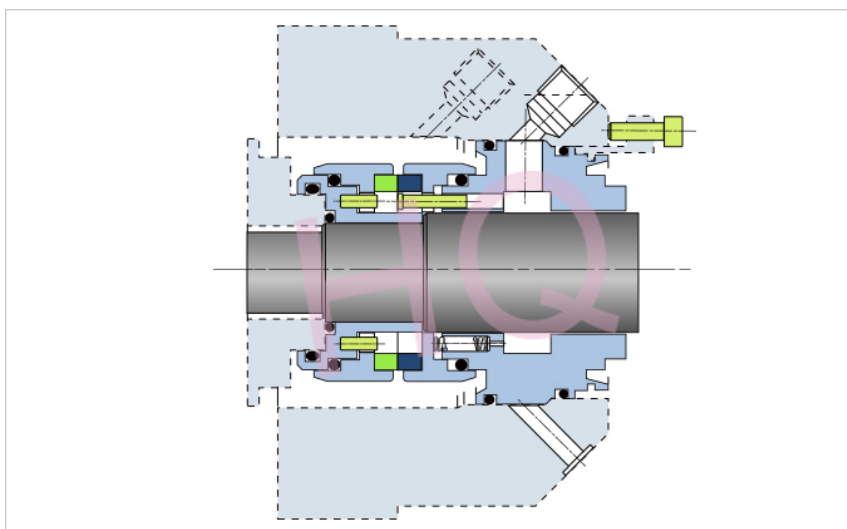
Replacement: Bergmann LP-S

Temperature: -20°C to $+140^{\circ}\text{C}$

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



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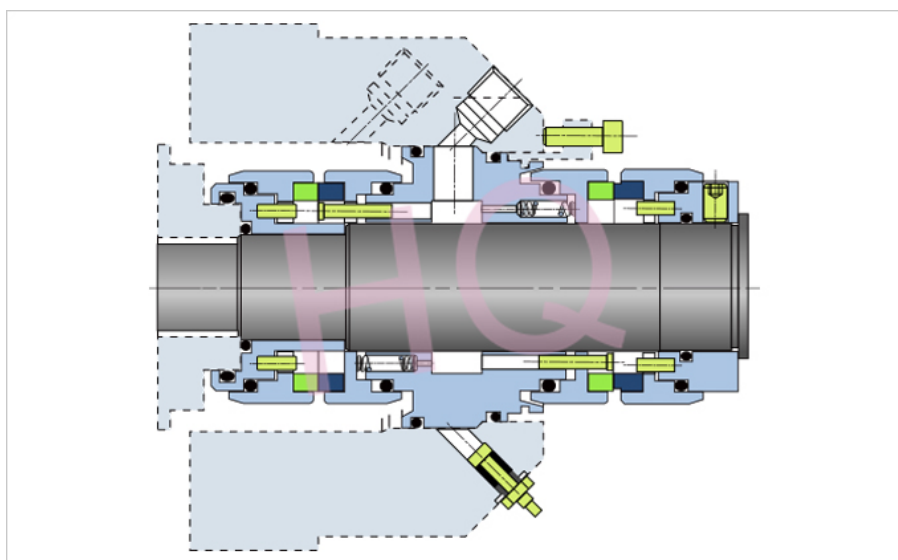


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HQ-N14C(LP-D)



Type: Cartridge Seal
Replacement: Bergmann LP-D
Temperature: -20°C to +140°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 20\text{m/s}$
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



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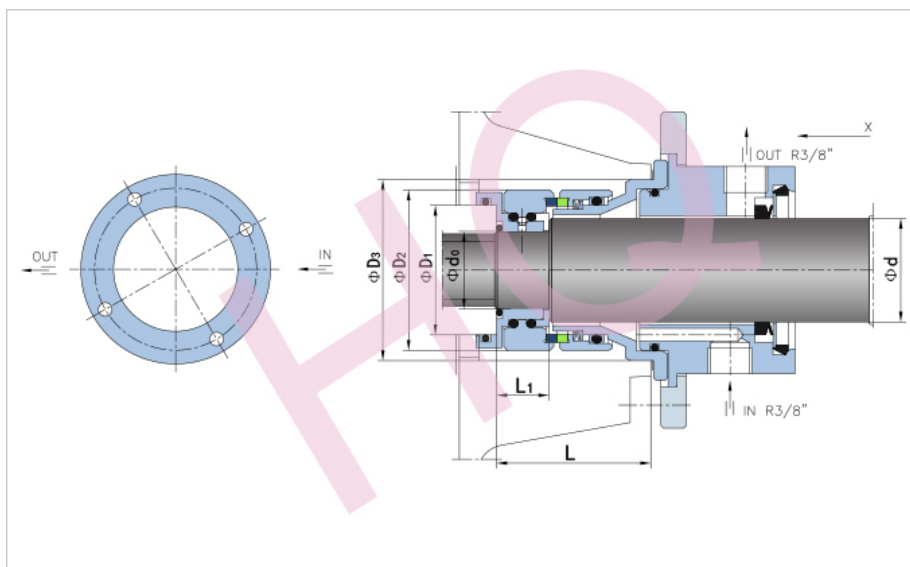


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HQ-N15C(LP-Q)



Type: Cartridge Seal
 Replacement: Burgmann LP-Q
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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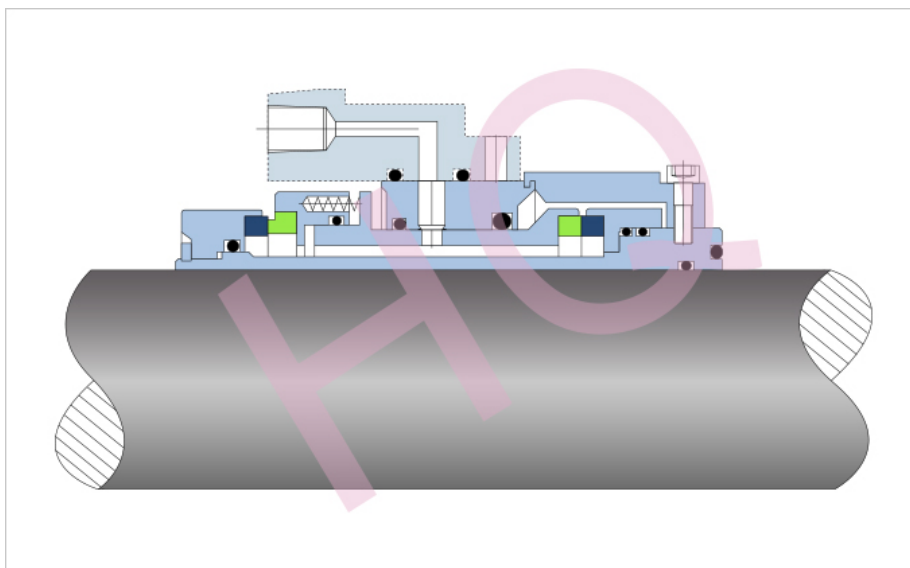


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HQ-N16C(SALOMIX)



Type: Double Cartridge Seal
Replacement: Burgmann SALOMIX
Temperature: -20 to +150°C
Pressure: $\leq 6.0\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,V,F



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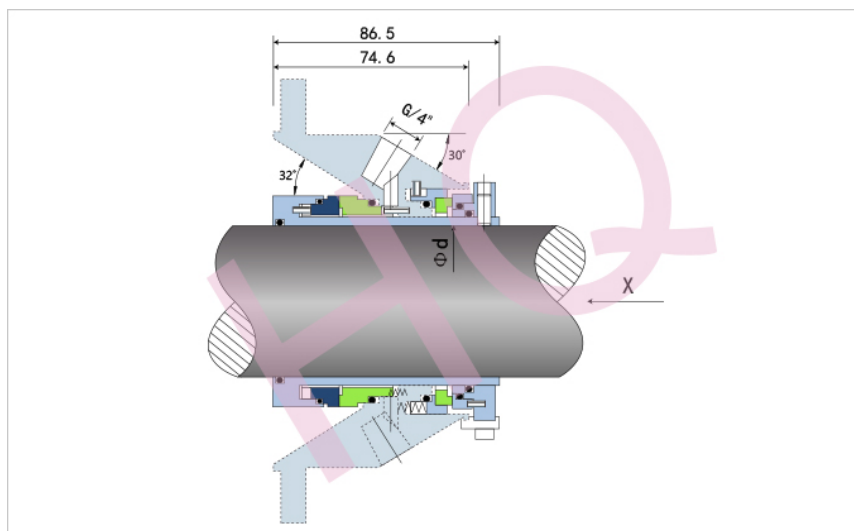


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HQ-N17C(Cartex-Vario)



Type: Cartridge Seal
 Replacement: Burgmann Cartex-Vario
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 16\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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HQ-N18C(DF-SA DiamondFace)



Type: Cartridge Seal

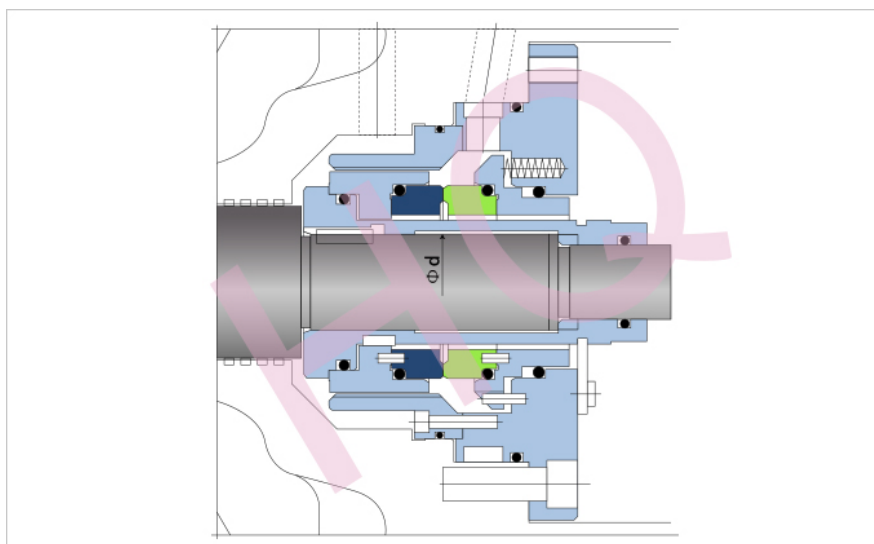
Replacement: Burgmann DF-SA DiamonFace

Temperature: $\leq 300^{\circ}\text{C}$

Pressure: $\leq 70\text{Bar}$

Speed: $\leq 70\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



d=120mm to 250mm, 4.72" to 9.84".



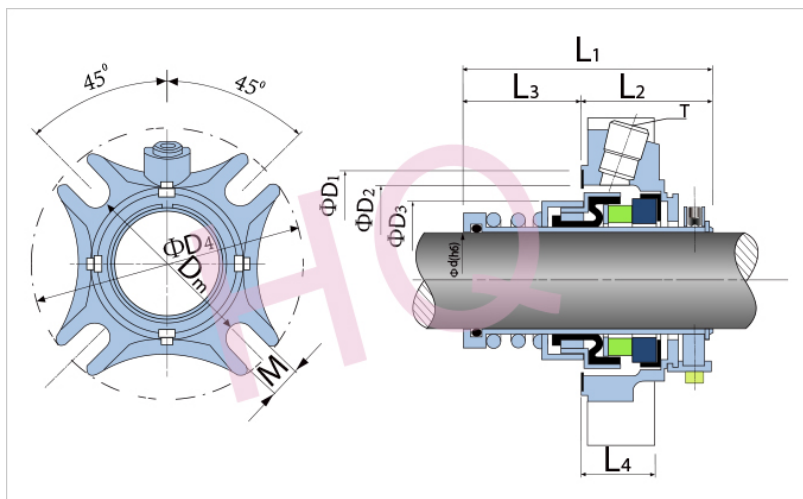
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HQCS-B07(UNITEX)

Type: Single Cartridge Seal
 Replacement: Burgmann Unitex
 Temperature: -20°C to $+90^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (mm)	D1	D2		D3	D4	L1	L2	L3	L4	T	Dm	M
		min	max									
25	60	41.5	51.0	38.4	105	65.5	41.0	24.5	23	1/4 NPT	62	13.2
28	60	44.5	52.0	42.4	105	68.0	41.5	26.5	23	1/4 NPT	62	13.2
30	63	45.5	56.0	42.4	105	68.0	41.5	26.5	23	1/4 NPT	67	13.2
33	65	48.0	57.0	45.0	110	69.5	42.0	27.5	23	1/4 NPT	67	13.2
35	68	50.8	61.5	49.1	107	72.5	44.0	28.5	26	1/4 NPT	70	13.2
38	73	54.5	66.0	51.3	123	72.5	44.0	28.5	26	1/4 NPT	75	14.7
40	75	57.5	68.0	54.3	123	75.5	44.5	31.0	26	1/4 NPT	77	14.7
43	78	59.5	70.5	56.3	133	76.5	44.5	32.0	26	1/4 NPT	80	14.7
45	79	63.0	73.0	59.8	130	76.5	44.5	32.0	26	1/4 NPT	82	14.2
48	82	65.0	75.0	61.8	130	78.0	45.0	33.0	26	1/4 NPT	84	14.2
50	85	68.0	78.0	64.8	148	80.5	47.0	33.5	28	3/8 NPT	87	14.7
53	95	70.0	87.0	66.8	148	81.5	47.0	34.5	28	3/8 NPT	97	17.5
55	90	73.0	83.0	71.0	148	83.5	47.0	36.5	28	3/8 NPT	92	17.5
60	100	79.0	91.0	76.5	157	85.5	47.0	38.5	28	3/8 NPT	102	17.5
65	108	85.7	98.5	83.0	162	88.0	48.5	39.5	28	3/8 NPT	110	17.5
70	116	94.0	108.0	88.0	178	92.0	48.5	43.5	28	3/8 NPT	118	17.5
75	125	98.4	118.0	93.4	190	93.5	49.0	44.5	28	3/8 NPT	127	17.5

HQCS-B07(UNITEX)

d	D1	D2		D3	D4	L1	L2	L3	L4	T	Dm	M
		min	max									
1.000	2.362	1.634	2.000	1.512	4.134	2.579	1.614	0.965	0.906	1/4 NPT	2.440	0.520
1.125	2.362	1.750	2.050	1.669	4.134	2.677	1.634	1.043	0.906	1/4 NPT	2.441	0.520
1.250	2.559	1.890	2.250	1.772	4.331	2.736	1.654	1.083	0.906	1/4 NPT	2.638	0.520
1.375	2.667	2.000	2.420	1.933	4.213	2.854	1.732	1.122	1.024	1/4 NPT	2.756	0.520
1.500	2.874	2.146	2.625	2.02	4.843	2.854	1.732	1.122	1.024	1/4 NPT	2.950	0.579
1.750	3.110	2.480	2.812	2.354	5.118	3.012	1.752	1.260	1.024	1/4 NPT	3.230	0.559
1.875	3.228	2.559	2.940	2.433	5.118	3.071	1.772	1.299	1.024	1/4 NPT	3.307	0.559
2.000	3.346	2.677	3.190	2.551	5.827	3.169	1.850	1.319	1.102	3/8 NPT	3.430	0.579
2.125	3.740	2.875	3.437	2.795	5.512	3.287	1.850	1.437	1.102	3/8 NPT	3.820	0.689
2.250	3.780	2.992	3.560	2.874	6.181	3.287	1.850	1.437	1.102	3/8 NPT	3.858	0.689
2.375	3.937	3.110	3.590	3.012	6.181	3.366	1.850	1.516	1.102	3/8 NPT	4.020	0.689
2.500	4.173	3.287	3.800	3.209	6.693	3.465	1.909	1.555	1.102	3/8 NPT	4.252	0.689
2.625	4.252	3.374	3.937	3.268	6.378	3.465	1.909	1.555	1.102	3/8 NPT	4.331	0.689



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HQMB-B01(MFL65)



Type: Metal Bellow Seal

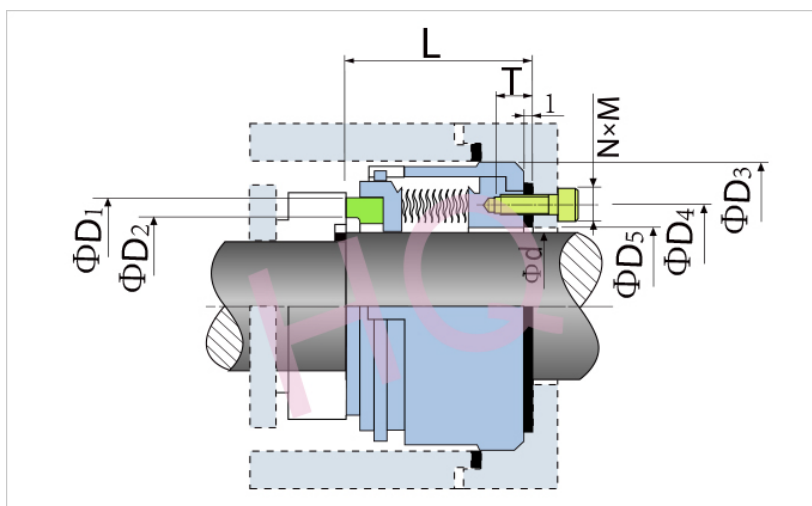
Replacement: Burgmann MFL65

Temperature: -20°C to $+400^{\circ}\text{C}$

Pressure: $\leq 2.1\text{Mpa}$

Speed: $\leq 50\text{m/s}$

Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



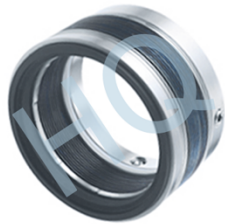
<http://www.hqseal.com>



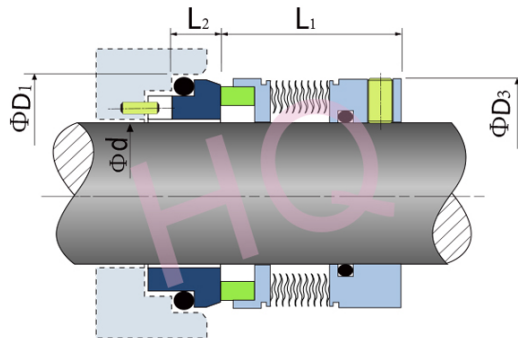
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Nom.	d	D1	D2	D 3	D4	D5	L	N x M	T
19	16-19	30.3	25.3	45.0	29	20.5	33.5	4xM4	6
24	20-24	38.8	33.8	49.0	35	25.5	33.5	4xM4	6
30	25-30	43.6	38.6	55.0	40	31.5	34.5	6xM4	6
35	31-35	45.8	40.8	59.0	45	36.0	33.0	6xM4	6
40	36-40	51.5	46.5	65.0	50	41.0	30.5	6xM4	6
45	41-45	55.2	50.2	69.0	55	46.0	35.5	6xM4	6
51	46-51	64.7	59.7	76.5	63	52.0	40.5	6xM5	7
60	52-60	70.6	65.6	84.0	70	61.0	32.0	6xM5	7
70	61-70	82.8	76.8	95.0	80	71.0	38.0	6xM5	7
82	71-82	98.0	92.0	112.0	95	83.5	41.0	6xM6	7
88	83-88	107.7	101.7	120.0	100	89.5	47.0	6xM6	7
100	89-100	112.7	106.7	130.0	112	101.0	47.0	6xM6	7

HQMB-B02(MBS100)



Type: Metal Bellow Seal
 Replacement: Burgmann MBS100
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: A,Q1,Q2,V,G1,F,G



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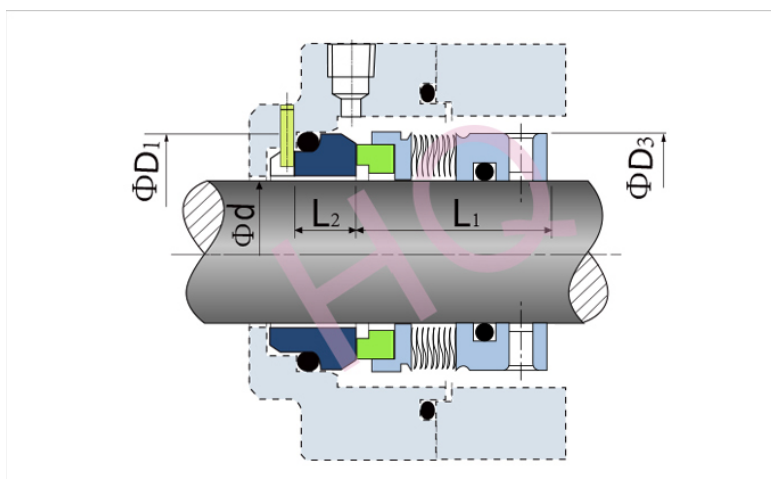
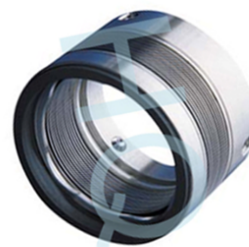


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d (mm)	D3	D1	L1	L2
20	33.3	35	30.5	7.0
22	36.5	37	30.5	7.0
24	39.0	39	28.5	11.5
25	39.0	40	28.5	11.5
28	42.0	43	31.0	11.5
30	44.0	45	31.0	11.5
32	46.0	48	31.0	11.5
33	47.0	48	31.0	11.5
35	49.2	50	31.0	11.5
38	52.4	56	31.0	14.0
40	55.6	58	31.0	14.0
43	58.7	61	31.0	14.0
45	58.7	63	31.0	14.0
48	61.9	66	31.0	14.0
50	65.1	70	32.5	15.0
53	68.3	73	32.5	15.0
55	69.7	75	32.5	15.0
58	74.6	78	37.5	15.0
60	74.6	80	37.5	15.0
65	84.1	85	37.5	15.0
70	87.3	92	42.0	18.0
75	95.3	97	42.0	18.0
80	98.4	105	41.8	18.2
85	104.8	110	41.8	18.2
90	108.0	115	46.8	18.2
95	114.3	120	47.8	17.2
100	120.7	125	47.8	17.2

HQMB-B03(MFL85N)

Type: Metal Bellow Seal
 Replacement: Burgmann MFL85N
 Temperature: -75°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: A,B,Q1,Q2,V,E,P,F,G,M,T6



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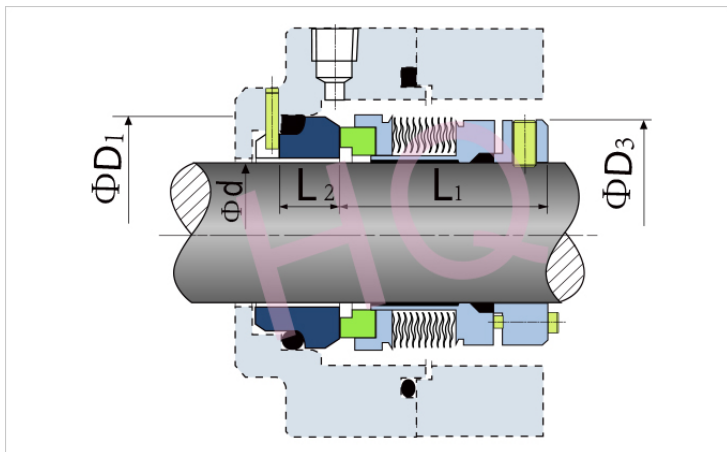


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d (mm)	D3	D1	L1	L2
16	30.0	27	32.5	10.0
18	32.0	33	30.5	11.5
20	33.5	35	30.5	11.5
22	36.5	37	30.5	11.5
24	39.0	39	28.5	11.5
25	39.6	40	28.5	11.5
28	42.8	43	31.0	11.5
30	45.0	45	31.0	11.5
32	46.0	48	31.0	11.5
33	48.0	48	31.0	11.5
35	49.2	50	31.0	11.5
38	52.3	56	31.0	14.0
40	55.5	58	31.0	14.0
43	57.5	61	31.0	14.0
45	58.7	63	31.0	14.0
48	61.9	66	31.0	14.0
50	65.0	70	32.5	15.0
53	68.2	73	32.5	15.0
55	70.0	75	32.5	15.0
58	71.7	78	37.5	15.0
60	74.6	80	37.5	15.0
63	79.0	83	37.5	15.0
65	84.1	85	37.5	15.0
68	97.3	90	34.5	18.0
70	87.3	92	42.0	18.0
75	95.0	97	42.0	18.0
80	98.4	105	41.8	18.2
85	104.7	110	41.8	18.2
90	111.0	115	46.8	18.2
95	114.0	120	47.8	17.2
100	117.4	125	47.8	17.2

HQMB-B04(MFLWT80)

Type: Metal Bellow Seal
 Replacement: Burgmann MFLWT80
 Temperature: -20°C to +370°C
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,Q2,Graphite,T6,F,G,M



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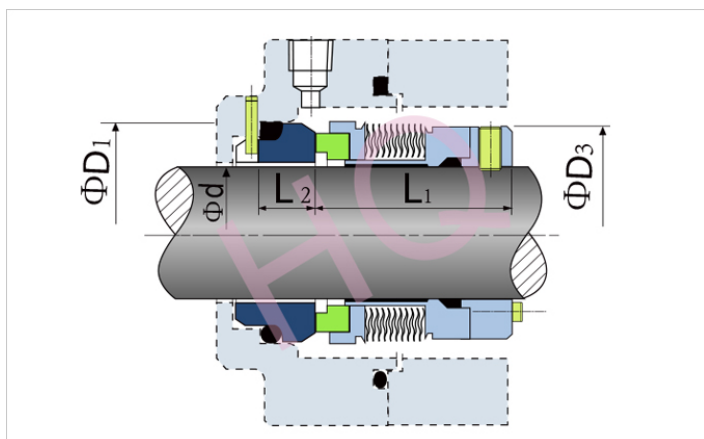


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d (mm)	D3	D1	L1	L2
16	38	35.0	46.5	11.5
18	40	37.0	46.5	11.5
20	42	40.0	46.5	11.5
22	44	43.0	46.5	11.5
24	46	43.0	46.5	11.5
25	47	45.0	46.5	11.5
28	50	48.0	46.5	11.5
30	52	50.0	46.5	11.5
32	54	56.0	46.5	14.0
33	55	56.0	46.5	14.0
35	57	58.0	46.5	14.0
38	60	61.0	46.5	14.0
40	66	63.0	47.5	14.0
43	69	66.0	47.5	14.0
45	71	70.0	47.5	15.0
48	74	73.0	47.5	15.0
50	76	75.0	47.5	15.0
53	79	78.0	47.5	15.0
55	81	80.0	47.5	15.0
58	85	83.0	53.0	15.0
60	87	85.0	53.0	15.0
63	90	90.0	53.0	18.0
65	92	92.0	53.0	18.0
68	95	97.0	53.0	18.0
70	97	97.0	53.0	18.0
75	102	105.0	52.8	18.2
80	107	110.0	52.8	18.2
85	112	115.0	52.8	18.2
90	117	120.0	53.8	17.2
95	122	125.0	53.8	17.2
100	127	134.3	54.0	20.0

HQMB-B05(MFLCT80)

Type: Metal Bellow Seal
 Replacement: Burgmann MFLCT80
 Temperature: -100°C to +100°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: A,Q2,Graphite,M5,M6,F,G,M



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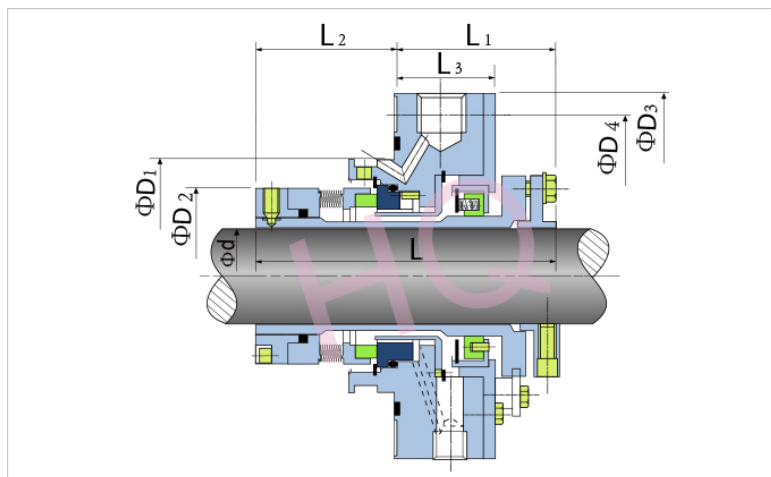
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d	D3	D1	L1	L2
16	38	35	46.5	11.5
18	40	37	46.5	11.5
20	42	40	46.5	11.5
22	44	43	46.5	11.5
24	46	43	46.5	11.5
25	47	45	46.5	11.5
28	50	48	46.5	11.5
30	52	50	46.5	11.5
32	54	56	46.5	14
33	55	56	46.5	14
35	57	58	46.5	14
38	60	61	46.5	14
40	66	63	47.5	14
43	69	66	47.5	14
45	71	70	47.5	15
48	74	73	47.5	15
50	76	75	47.5	15
53	79	78	47.5	15
55	81	80	47.5	15
58	85	83	53	15
60	87	85	53	15
63	90	90	53	18
65	92	92	53	18
68	95	97	53	18
70	97	97	53	18
75	102	105	52.8	18.2
80	107	110	52.8	18.2
85	112	115	52.8	18.2
90	117	120	53.8	17.2
95	122	125	53.8	17.2
100	127	134.3	54	20

HQMB-B07(MBS682)



Type: Metal Bellow Seal
 Replacement: Burgmann MBS682
 Temperature: -75°C to $+400^{\circ}\text{C}$
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 23\text{-}35\text{m/s}$
 Material: Q1,Q2,,G,M6,T4



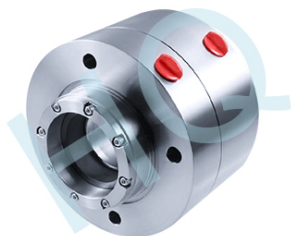
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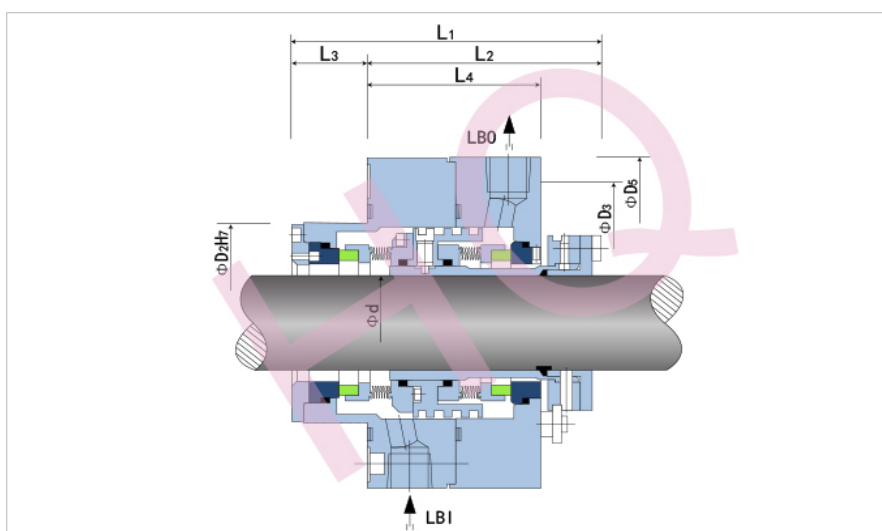
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d	D1	D4	D2	D3	L	L1	L2	L3
20	70	105	47.63	132	111	64	47	39
30	80	115	57.15	138	119	64	55	39
40	90	125	66.68	150	121	64	57	39
50	100	140	76.2	175	117	65	52	40
60	120	160	88.9	188	122	65	57	40
70	130	170	101.6	201	127	65	62	40
80	140	180	114.3	213	131	65	66	40
90	160	205	123.94	239	133	72	61	45
100	170	215	136.53	252	134	72	62	45

HQMB-B13(MBS682P-D)



Type: Metal Bellow Seal
 Replacement: Burgmann MBS682P-D
 Temperature: -75 to +400°C
 Pressure: ≤ 35 Bar
 Speed: ≤ 23 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



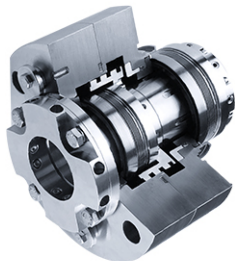
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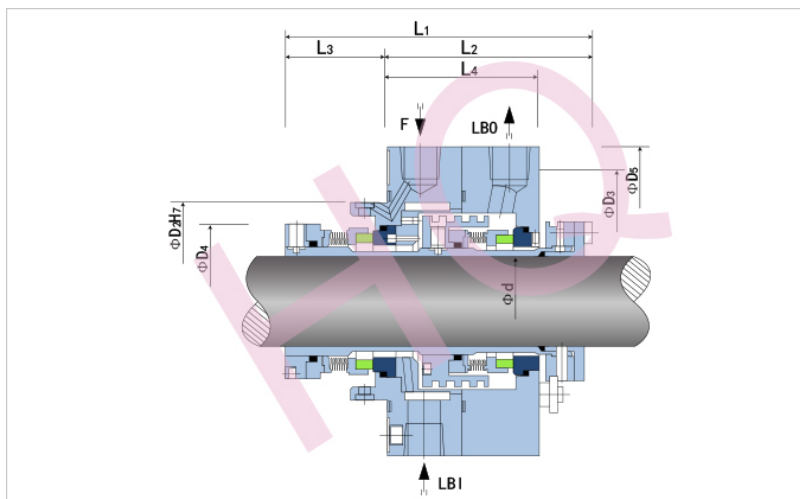
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API/d (mm)	API/D2	API/D3	D4	D5	L1	L2	L3	L4
20	70	105	-	132	136.0	98.0	38	73.0
30	80	115	-	138	138.5	97.5	41	72.5
40	90	125	-	150	142.0	98.0	44	73.0
50	100	140	-	175	145.0	105.0	40	80.0
60	120	160	-	188	152.0	107.0	45	82.0
70	130	170	-	201	159.0	107.0	52	82.0
80	140	180	-	213	161.0	107.0	54	82.0
90	160	205	-	239	163.0	115.0	48	88.0
100	170	215	-	252	165.0	115.0	50	88.0

HQMB-B14(MBS682-PTA)



Type: Metal Bellow Seal
 Replacement: Burgmann MBS682-PTA
 Temperature: -75 to +400°C
 Pressure: ≤ 25 Bar
 Speed: ≤ 23 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



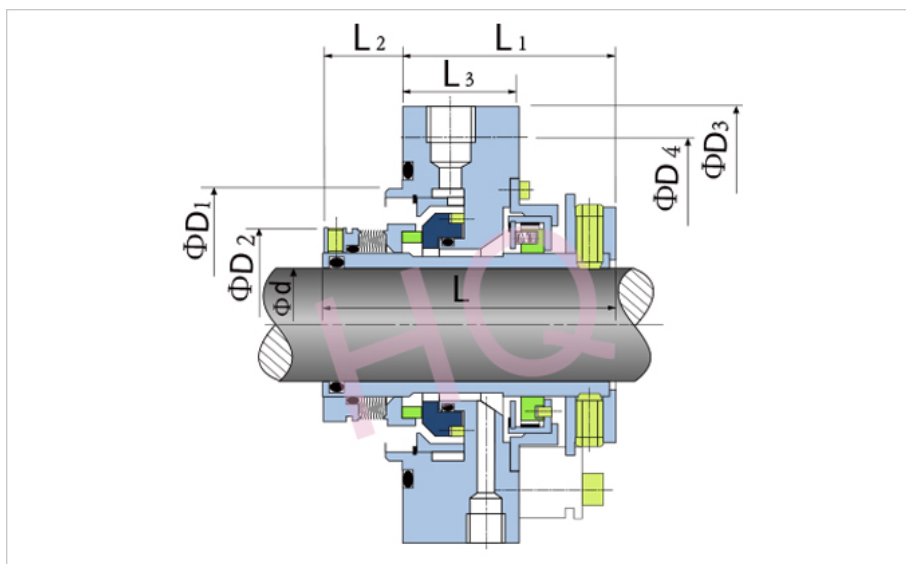
API/d (mm)	API/D2	API/D3	D4	D5	L1	L2	L3	L4
20	70	105	50.8	132	145.0	98.0	47	73.0
30	80	115	60.3	138	152.5	97.5	55	72.5
40	90	125	69.9	150	155.0	98.0	57	73.0
50	100	140	82.6	175	157.0	105.0	52	80.0
60	120	160	93.7	188	164.0	107.0	57	82.0
70	130	170	104.8	201	169.0	107.0	62	82.0
80	140	180	117.5	213	173.0	107.0	66	82.0
90	160	205	130.2	239	176.0	115.0	61	88.0
100	170	215	136.5	252	177.0	115.0	62	88.0



HQMB-B06(LY9SA)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9SA
 Temperature: -40°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: A,Q1,Q2,V,E,K,P,G,M5



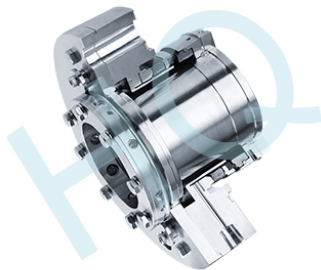
<http://www.hqseal.com>



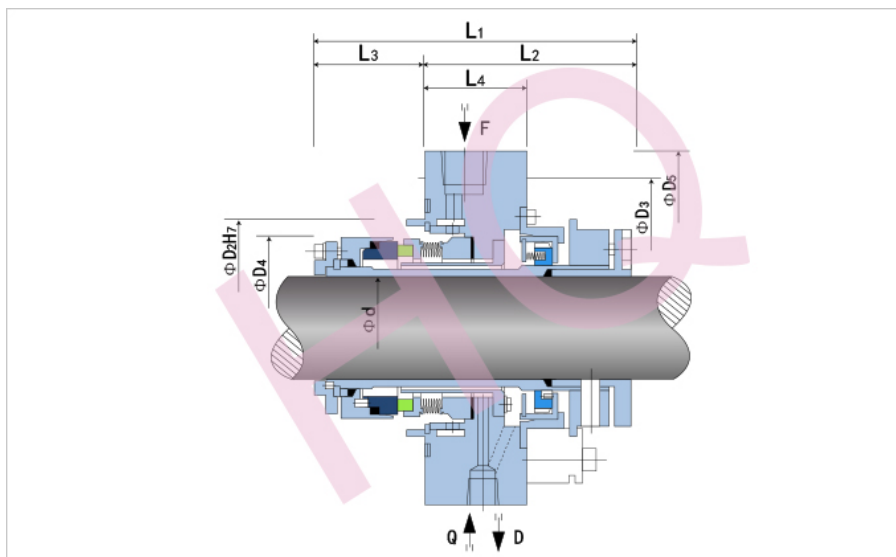
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d (mm)	D1	D4	D2	D3	L	L1	L2	L3
30	80	115	55.6	138	102	77	25.0	45
40	90	125	65.1	148	102.5	77	25.5	45
50	100	140	74.6	168	108.5	77	31.5	45
60	120	160	87.3	188	120.5	79	41.5	45
70	130	170	98.4	198	121.0	79	45.0	45
80	140	180	108.0	208	125.0	79	46.0	45
90	160	205	120.7	248	132.0	86	46.0	50
100	170	215	130.2	258	136.0	89	47.0	50
110	180	225	138.9	268	141.0	89	52.0	50

HQMB-B15(LY9TC)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9TC
 Temperature: -130 to +400°C
 Pressure: ≤ 35 Bar
 Speed: ≤ 50 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



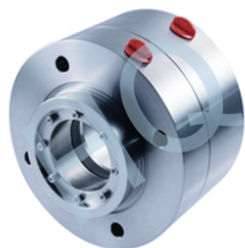
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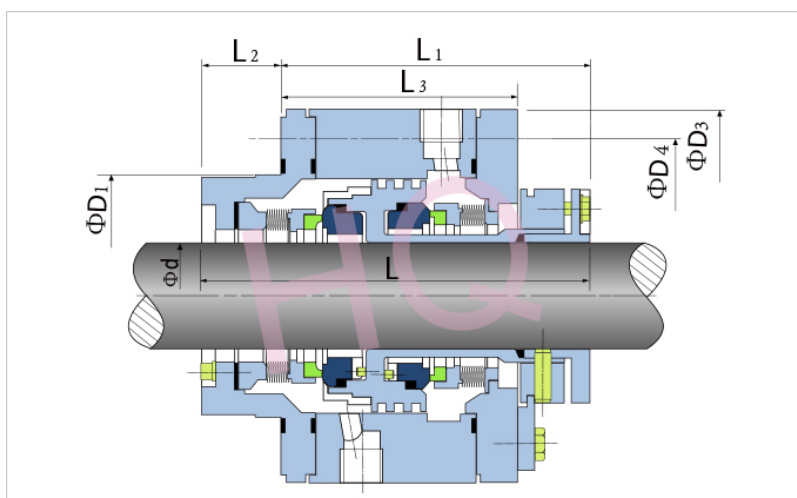
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API/d (mm)	API/D2	API/D3	D4	D5	L1	L2	L3	L4
20	70	105	-	-	-	-	-	-
30	80	115	71	138	142.5	90.3	52.2	47
40	90	125	81	148	143.3	87.3	56.0	43
50	100	140	91	168	146.3	94.3	52.0	51
60	120	160	104	188	150.3	94.3	56.0	47
70	130	170	115	198	151.5	95.0	56.5	48
80	140	180	129	208	150.6	90.7	59.9	48
90	160	205	143	248	167.3	104.3	63.0	56
100	170	215	154	258	176.9	119.9	65.0	63
110	180	225	170	268	182.8	111.3	71.5	60

HQMB-B09(LY9DSTT)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9DSTT
 Temperature: -200°C to +200°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 50\text{m/s}$
 Material: Q1, Q2, V, K, E, P, G, M5, M6, T4



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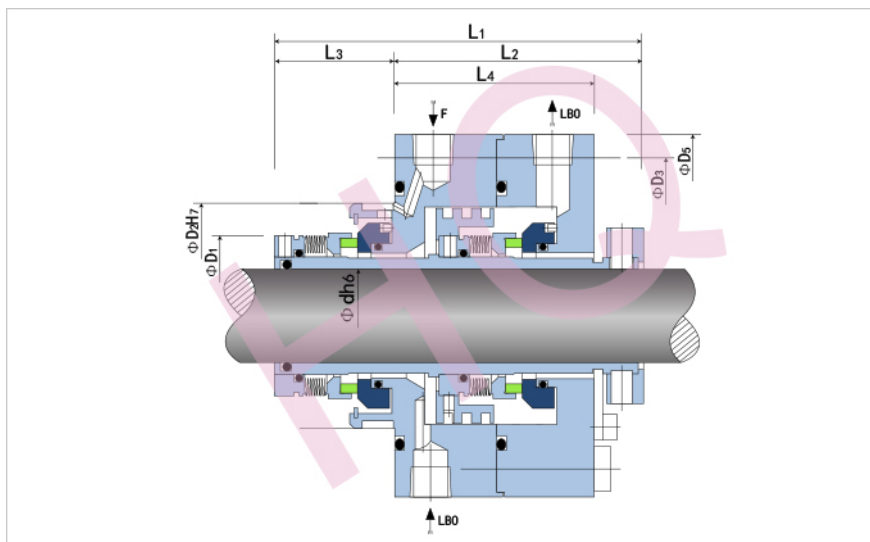
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d (mm)	D1	D4	D3	L	L1	L2	L3
20	70	105	-	-	-	-	-
30	80	115	138	145	98	47	73.0
40	90	125	148	151	97	54	73.5
50	100	140	168	149	107	42	84.0
60	120	160	188	162	107	55	80.0
70	130	170	198	169	107	62	81.5
80	140	180	208	162	107	55	79.0
90	160	205	238	180	117	63	88.5
100	170	215	248	184	117	67	85.0
110	180	225	258	189	117	72	83.5

HQMB-B17(LY9DTSS)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9DTSS
 Temperature: -40 to +200°C
 Pressure: ≤ 20 Bar
 Speed: ≤ 23 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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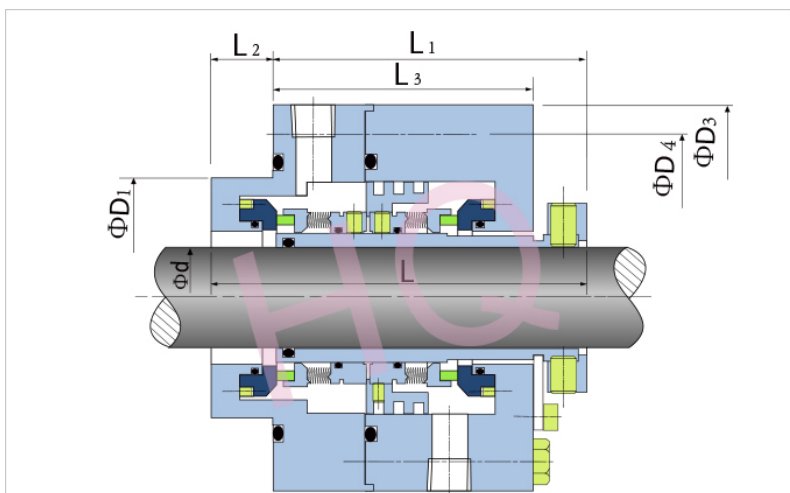
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API /d(mm)	API /D2	API /D3	D1	D5	L1	L2	L3	L4
20	70	105	-	-	-	-	-	-
30	80	115	55.6	138	141.5	98	43.5	82
40	90	125	65.1	148	142.0	98	44.0	82
50	100	140	74.6	168	157.0	107	50.0	87
60	120	160	87.3	188	167.0	107	60.0	87
70	130	170	98.4	198	167.5	107	60.5	87
80	140	180	108.0	208	171.5	107	64.5	87
90	160	205	120.7	248	179.5	115	64.5	95
100	170	215	130.2	258	180.5	115	65.5	95
110	180	225	138.9	268	185.5	115	70.5	95

HQMB-B08(LY9DZSS)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9DZSS
 Temperature: -40°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: Q1, Q2, V, K, E, P, G, M5, M6, T4



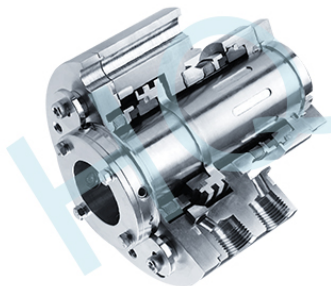
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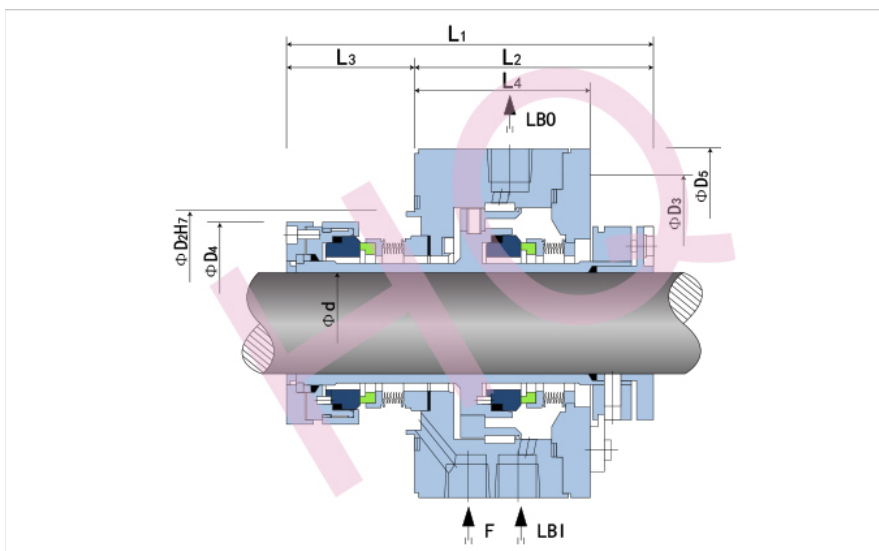
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AP /d(mm)	AP /D1	AP /D4	D3	L	L1	L2	L3
20	70	105	*	*	*	*	*
30	80	115	138	125	98	27	82
40	90	125	148	128	98	30	82
50	100	140	168	137	107	30	87
60	120	160	188	137	107	30	87
70	130	170	198	137	107	30	87
80	140	180	208	137	107	30	87
90	160	205	248	145	115	30	95
100	170	215	258	150	115	35	95
110	180	225	268	150	115	35	95

HQMB-B16(LY9DZTT)



Type: Metal Bellow Seal
 Replacement: Burgmann LY9DZTT
 Temperature: -130 to +400°C
 Pressure: ≤ 35 Bar
 Speed: ≤ 50 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M



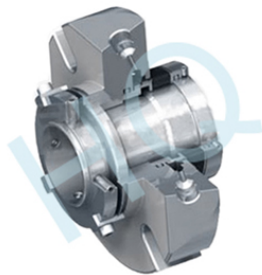
<http://www.hqseal.com>



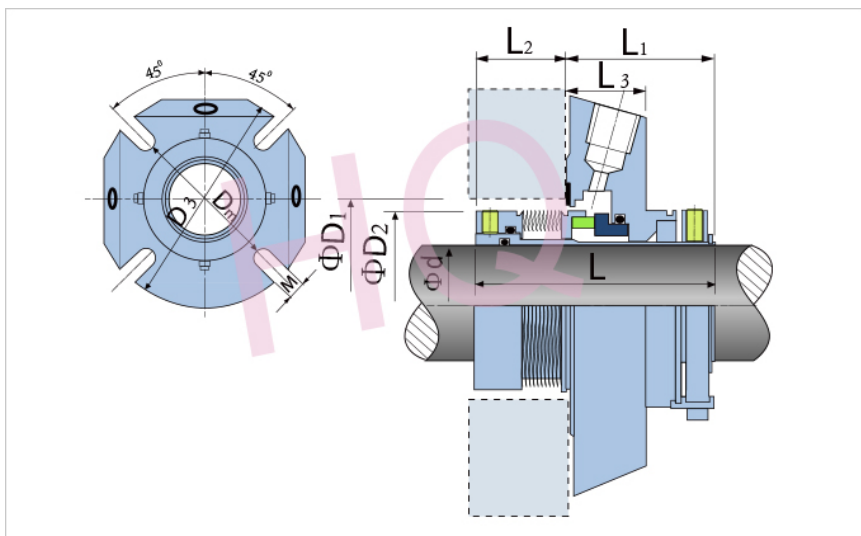
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API/d (mm)	API/D2	API/D3	D4	D5	L1	L2	L3	L4
20	70	105	-	-	-	-	-	-
30	80	115	74	138	151.0	98.0	53	75.0
40	90	125	84	148	157.5	98.5	59	76.0
50	100	140	94	168	161.0	108.0	53	85.5
60	120	160	114	188	164.0	107.0	57	86.0
70	130	170	124	198	168.0	106.0	62	79.5
80	140	180	131	208	174.0	107.0	67	82.5
90	160	205	153	248	182.0	119.0	63	93.5
100	170	215	158	258	200.0	132.0	68	98.6
110	180	225	174	268	203.0	130.0	73	98.0

HQMB-B10(Mtex-S)



Type: Metal Bellow Seal
 Replacement: Burgmann Mtex-S
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: A,B,Q1,Q2,T,V,M1,F,G,T6,M



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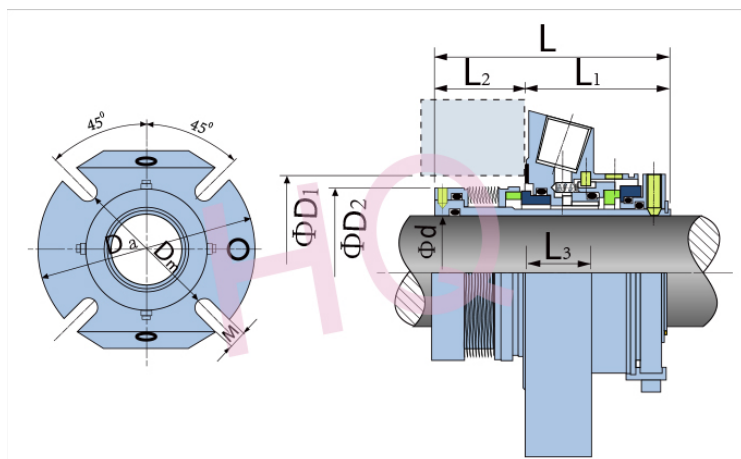
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d (mm)	D2	D1 (min)	D1 (max)	L	L2	L1	L3	D3	Dm	M
25	45.0	47.0	51.0	79.5	26.1	53.4	25.4	105	62.0	13.2
30	49.4	52.0	56.0	78.4	25.0	53.4	25.4	105	67.0	13.2
32	52.3	54.5	57.0	78.4	25.0	53.4	25.4	108	70.0	13.2
33	52.3	54.5	57.0	78.4	25.0	53.4	25.4	108	70.0	13.2
35	54.8	58.0	61.5	78.4	25.0	53.4	25.4	113	72.0	13.2
38	57.5	60.0	66.0	78.4	25.0	53.4	25.4	123	75.0	13.2
40	58.8	62.0	68.0	78.4	24.8	53.4	25.4	123	77.0	14.2
43	61.9	64.5	70.5	78.4	25.0	53.4	25.4	133	80.0	14.2
45	65.0	68.5	73.0	78.4	25.0	53.4	25.4	138	82.0	14.2
48	68.4	71.0	75.0	78.7	25.3	53.4	25.4	138	85.0	14.2
50	70.0	73.0	78.0	79.1	25.7	53.4	25.4	148	87.0	14.2
53	71.9	75.0	87.0	77.8	24.4	53.4	25.4	148	97.0	18.0
55	74.6	77.0	83.0	78.9	25.5	53.4	25.4	148	92.0	18.0
60	83.9	87.0	91.0	80.1	26.7	53.4	25.4	157	102.0	18.0
65	87.5	90.0	98.5	80.0	26.6	53.4	25.4	163	109.3	18.0
70	93.0	98.0	108.0	91.5	28.1	53.4	25.4	178	118.3	18.0
75	96.8	101.6	118.0	94.4	30.5	63.9	28.0	190	129.0	18.0
80	104.7	108.0	124.0	94.4	30.4	64.0	28.0	195	1350	18.0

HQMB-B11(Mtex-D)



Type: Metal Bellow Seal
 Replacement: Burgmann Mtex-D
 Temperature: -40°C to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A, Q1, U2, V, E, K, G, M6, M



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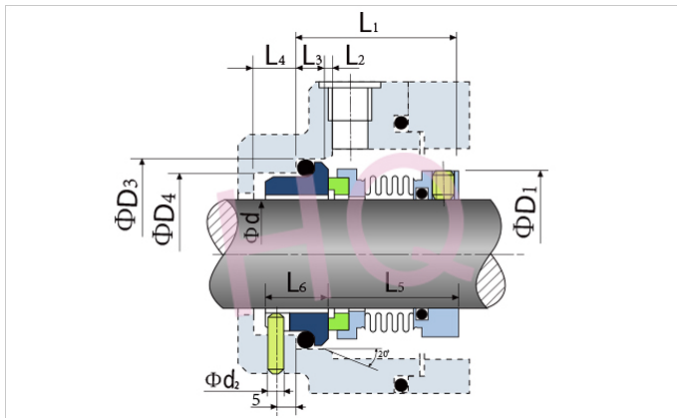
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d (mm)	D1 (min)	D1 (max)	D2	Da	Dm	L	L1	L2	L3	M
25	47.0	51.0	45.0	105	62.0	87.0	53.4	33.6	25.4	13.2
30	52.0	56.0	49.4	105	67.0	86.5	53.4	33.1	25.4	13.2
32	54.5	57.0	52.3	108	70.0	86.5	53.4	33.1	25.4	13.2
33	54.5	57.0	52.3	108	70.0	86.5	53.4	33.1	25.4	13.2
35	58.0	61.5	54.8	113	72.0	86.5	53.4	33.1	25.4	13.2
38	60.0	66.0	57.5	123	75.0	86.5	53.4	33.1	25.4	14
40	62.0	68.0	58.8	123	77.0	86.3	53.4	32.9	25.4	14.2
43	64.5	70.5	61.9	133	80.0	86.5	53.4	33.1	25.4	14.2
45	68.5	73.0	65.0	138	82.0	86.5	53.4	33.1	25.4	14.2
48	71.0	75.0	68.4	138	85.0	86.8	53.4	33.4	25.4	14.2
50	73.0	78.0	70.0	148	87.0	87.2	53.4	33.8	25.4	14.2
53	75.0	87.0	71.9	148	97.0	87.4	53.4	34.0	25.4	18.0
55	77.0	83.0	74.6	148	92.0	87.0	53.4	33.6	25.4	18.0
60	87.0	91.0	83.9	157	102.0	88.2	53.4	34.8	25.4	18.0
65	90.0	98.5	87.5	163	109.3	88.1	53.4	34.7	25.4	18.0
70	98.0	108.0	93.0	178	118.3	89.6	53.4	36.2	25.4	18.0
75	101.6	118.0	96.8	190	129.0	107.4	63.9	43.5	28.0	18.0
80	108.0	124.0	104.7	195	135.0	106.8	63.9	42.9	28.0	18.0

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HQ-N11B(MF95N)

Type: Metal Bellow Seal
 Replacement: Bergmann MF95N
 Temperature: -40°C to $+220^{\circ}\text{C}$
 Pressure: $\leq 1.6\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



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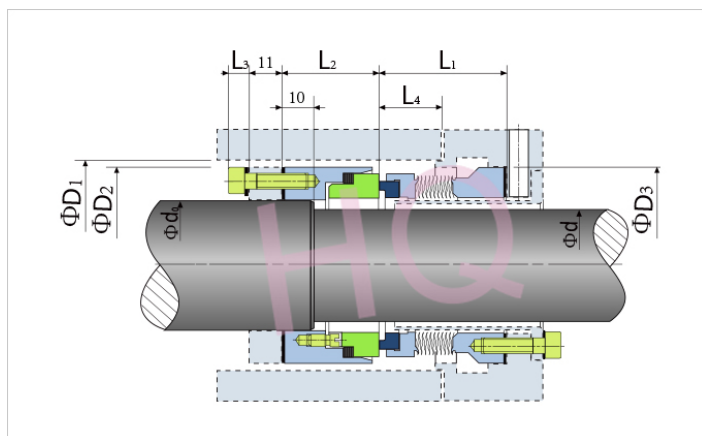
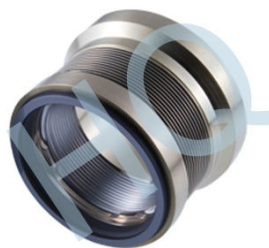


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d (mm)	D1	D3	D4	d 2	L1	L2	L3	L4	L5	L6
14	24	25	21	3	35.0	1.5	4	8.5	30.5	15.0
16	26	27	23	3	35.0	1.5	4	8.5	29.5	15.0
18	32	33	27	3	37.5	2.0	5	9.0	30.5	15.0
20	34	35	29	3	37.5	2.0	5	9.0	30.5	15.0
22	36	37	31	3	37.5	2.0	5	9.0	30.5	15.0
24	39	39	33	3	40.0	2.0	5	9.0	33.0	15.0
25	39	40	34	3	40.0	2.0	5	9.0	33.0	15.0
28	42	43	37	3	42.5	2.0	5	9.0	35.5	15.0
30	44	45	39	3	42.5	2.0	5	9.0	35.5	15.0
32	46	48	42	3	42.5	2.0	5	9.0	35.5	15.0
33	47	48	42	3	42.5	2.0	5	9.0	35.5	15.0
35	49	50	44	3	42.5	2.0	5	9.0	35.5	15.0
38	54	56	49	3	45.0	2.0	6	9.0	37.0	16.0
40	56	58	51	4	45.0	2.0	6	9.0	37.0	16.0
43	59	61	54	4	45.0	2.0	6	9.0	37.0	16.0
45	61	63	56	4	45.0	2.0	6	9.0	37.0	16.0
48	64	66	59	4	45.0	2.0	6	9.0	37.0	16.0
50	66	70	62	4	47.5	2.5	6	9.0	38.0	17.0
53	69	73	65	4	47.5	2.5	6	9.0	38.0	17.0
55	71	75	67	4	47.5	2.5	6	9.0	38.0	17.0
58	78	78	70	4	52.5	2.5	6	9.0	42.0	18.0
60	80	80	72	4	52.5	2.5	6	9.0	42.0	18.0
63	83	83	75	4	52.5	2.5	6	9.0	42.0	18.0
65	85	85	77	4	52.5	2.5	6	9.0	42.0	18.0
68	87	90	81	4	52.5	2.5	7	9.0	41.5	18.5
70	90	92	83	4	60.0	2.5	7	9.0	48.5	19.0
75	99	97	88	4	60.0	2.5	7	9.0	48.5	19.0
80	104	105	95	4	60.0	3.0	7	9.0	48.5	19.0
85	109	110	100	4	60.0	3.0	7	9.0	48.5	19.0
90	114	115	105	4	65.0	3.0	7	9.0	52.0	20.5
95	119	120	110	4	65.0	3.0	7	9.0	52.0	20.5
100	124	125	115	4	65.0	3.0	7	9.0	52.0	20.5

HQ-N12B(YE400)

Type: Metal Bellow Seal
 Replacement: Bergmann YE400
 Temperature: +240°C to +450°C
 Pressure: $\leq 20\text{Mpa}$
 Speed: $\leq 35\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



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Size code	d (mm)	D1	D2	d0	D3	L1	L2	L3	L4
X14	18.0	47	42	21	44	36	31	6.3	15
X16	21.0	50	47	26	47	38	31	6.3	17
X18	24.0	53	50	29	50	38	31	6.3	17
X20	27.5	56	53	32	53	38	31	6.3	17
X22	31.0	60	57	36	57	38	31	6.3	17
X24	33.0	64	60	39	60	41	31	6.3	20
X26	36.0	67	63	42	63	41	31	6.3	20
X28	39.0	70	66	45	66	41	31	6.3	20
X30	42.0	73	69	48	69	41	31	6.3	20
X32	45.0	76	72	51	72	41	31	6.3	20
X34	45.0	80	75	54	76	43	31	6.3	22
X36	50.0	83	79	58	79	43	31	6.3	22
X38	53.0	86	82	61	82	43	31	6.3	22
X40	55.0	89	85	64	85	51	31	6.3	30
X42	58.5	92	89	67	88	51	31	6.3	30
X44	62.5	96	92	71	92	51	31	6.3	30
X46	64.0	99	96	74	95	55	31	6.3	34
X48	67.0	102	99	77	98	55	31	6.3	34
X50	70.0	105	102	81	101	55	31	6.3	34
X52	73.0	108	105	84	104	55	31	6.3	34
X54	75.5	111	109	87	107	55	31	6.3	34
X56	78.5	116	113	90	111	58	31	6.3	37
X58	82.0	120	116	93	114	58	31	6.3	37
X60	85.0	122	119	96	117	58	31	6.3	37
X62	88.0	125	122	99	120	58	31	6.3	37
X64	91.0	128	125	103	123	58	31	6.3	37
X70	100.0	142	138	111	134	60	31	6.3	39
X78	110.0	152	147	116	145	60	41	7.5	39
X90	129.0	173	168	137	166	63	41	7.5	42



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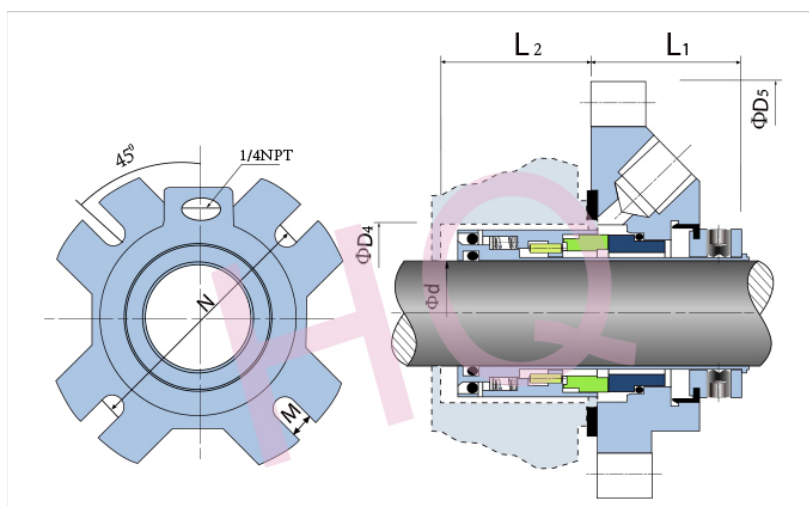
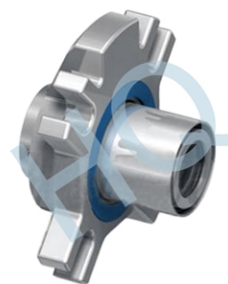
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HQCS-J21(4610)

Type: Single Cartridge Seal
 Replacement: Crane 4610
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.8\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



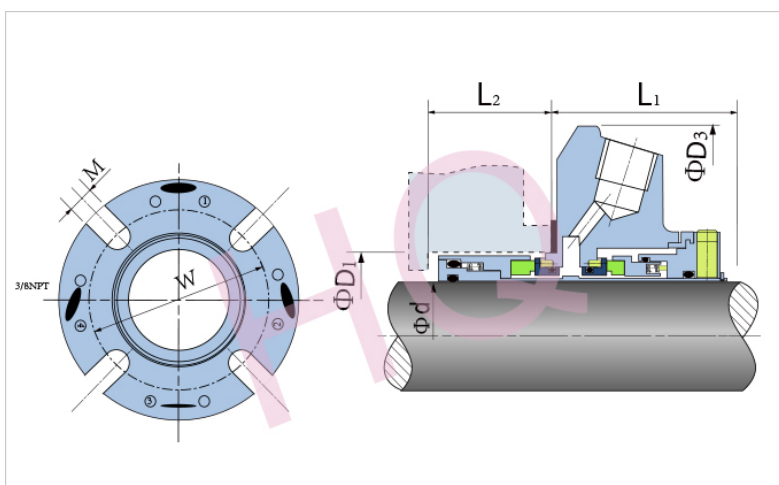
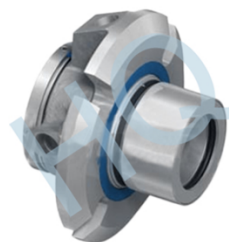
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d (mm)	D4		D5	L2 Min	L1	N		M
	Min	Max				Min	Max	
24	40.00	49.2	104.8	30	34.5	66.7	95.3	11.1
25	41.00	49.2	104.8	30	34.5	66.7	95.3	11.1
28	44.00	52.4	108.0	30	34.5	69.9	98.4	11.1
30	46.00	55.6	111.0	30	34.5	73.0	101.6	11.1
32	47.60	55.6	111.0	30	34.5	73.0	101.6	11.1
33	49.00	58.7	114.3	30	34.5	73.0	101.6	11.1
35	50.80	58.7	114.3	30	34.5	77.8	104.8	11.1
38	57.15	63.5	127.0	31	35.5	87.3	114.3	14.3
40	60.00	63.5	127.0	31	35.5	87.3	114.3	14.3
43	63.00	66.7	133.4	31	35.5	90.5	120.7	14.3
45	63.50	66.7	133.4	31	35.5	90.5	120.7	14.3
48	66.70	76.2	139.7	31	35.5	98.4	127.0	14.3
50	69.80	76.2	139.7	31	35.5	98.4	127.0	14.3
53	73.00	84.1	146.0	31	35.5	111.1	130.2	17.5
55	73.00	84.1	146.0	31	35.5	111.1	130.2	17.5
58	79.40	90.5	152.4	31	35.5	117.5	136.5	17.5
60	79.40	90.5	152.4	31	35.5	117.5	136.5	17.5
63	82.60	98.4	158.8	34	35.5	123.8	142.9	17.5
65	88.90	98.4	158.8	34	36.0	123.8	142.9	17.5
70	95.00	98.4	158.8	34	36.0	123.8	142.9	17.5

Type: Double Cartridge Seal
 Replacement: Crane 4620P
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



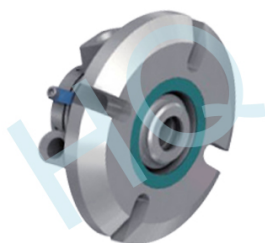
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d (mm)	D1		D3	L1	L2	(min)	W		M
	Min	Max					Min	Max	
24	41.0	48.0	101.6	50.8	41.5		71	83	13.3
25	41.0	48.0	101.6	50.8	41.5		71	83	13.3
28	44.0	51.2	104.8	54.0	40.7		74	86	13.3
30	46.0	58.3	108.0	54.0	40.7		82	89	13.3
32	47.6	58.3	108.0	54.0	40.7		82	89	13.3
33	50.8	61.5	111.1	54.0	40.7		85	92	13.3
35	50.8	61.5	111.1	54.0	40.7		85	92	13.3
38	57.2	68.1	123.8	55.5	42.7		91	105	13.3
40	60.0	71.4	127.0	55.5	42.7		96	108	14.3
43	63.5	74.1	133.4	55.5	42.7		98	114	14.3
45	63.5	74.1	133.4	55.5	42.7		98	114	14.3
48	66.7	74.1	133.4	55.5	42.7		98	114	14.3
50	69.9	76.6	139.7	60.3	43.5		102	121	14.3
53	73.0	85.3	148.8	60.3	43.5		114	125	17.5
55	73.0	85.3	148.8	60.3	43.5		114	125	17.5
58	79.4	91.7	165.1	64.2	43.5		120	141	17.5
60	79.4	91.7	165.1	64.2	43.5		120	141	17.5
63	85.7	98.8	171.5	66.7	43.3		127	147	17.5
65	85.7	98.8	171.5	66.7	43.3		127	147	17.5
70	93.6	103.2	171.5	65.1	43.9		131	147	17.5

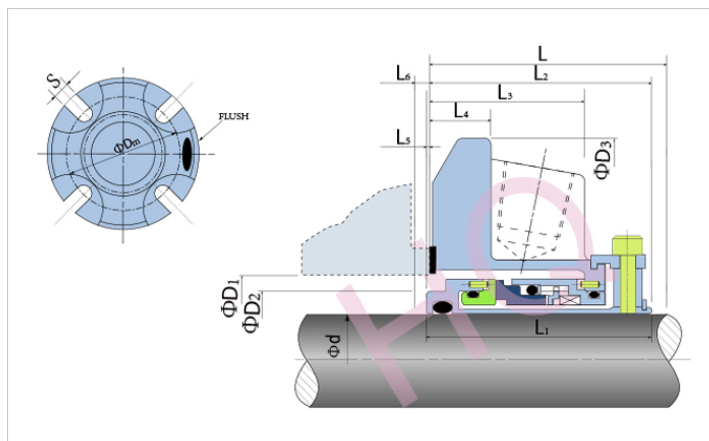
Type: Single Cartridge Seal
 Replacement: Crane 5610
 Temperature: -50°C to +204°C
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,A,Q1,Q2,T,V,K,F,G,M



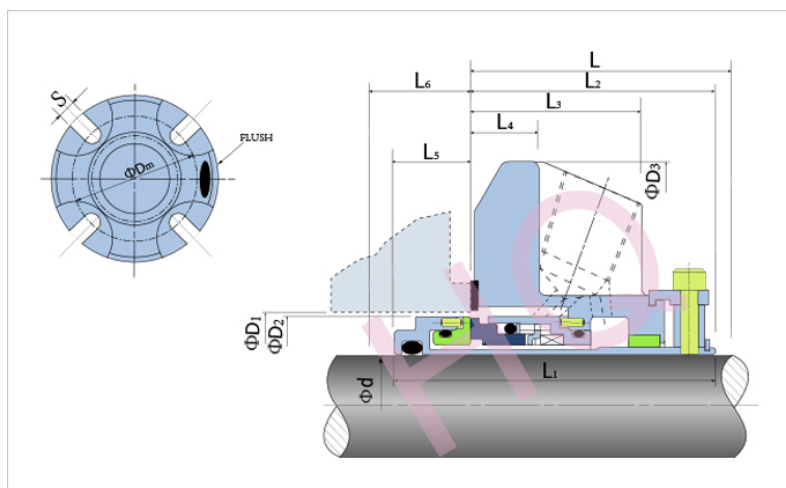
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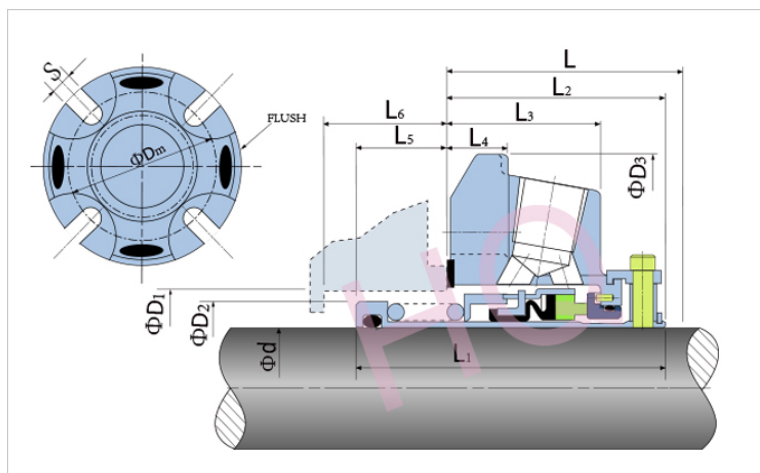
d (mm)	D1		D2	D3	L	L1	L2	L3	L4	L5	L6	Dm	S
	Min	max											
24	36.7	48.0	34.9	101.6	50.8	50.5	49.6	34.4	13.5	0.9	4.0	71.2	13.3
25	36.7	48.0	34.9	101.6	50.8	50.5	49.6	34.4	13.5	0.9	4.0	71.2	13.3
28	*	51.2	38.1	104.8	54.0	52.4	52.4	36.7	13.5	*	3.2	74.6	13.3
30	*	56.5	40.0	108.0	54.0	52.4	52.4	36.7	13.5	*	3.2	79.9	13.3
32	*	58.3	41.3	108.0	54.0	52.4	52.4	36.7	13.5	*	3.2	81.6	13.3
33	*	61.5	44.5	111.1	54.0	52.4	52.4	36.7	13.5	*	3.2	84.8	13.3
35	*	61.5	44.5	111.1	54.0	52.4	52.4	36.7	13.5	*	3.2	84.8	13.3
38	51.0	68.1	49.2	123.8	55.5	54.8	54.0	37.8	15.1	0.8	4.0	91.4	13.3
40	54.2	71.4	52.4	127.0	55.5	54.8	54.0	37.8	15.1	0.8	4.0	96.7	14.3
43	56.9	74.1	55.1	133.4	55.5	54.8	54.0	37.8	15.1	0.8	4.0	98.4	14.3
45	56.9	74.1	55.1	133.4	55.5	54.8	54.0	37.8	15.1	0.8	4.0	98.4	14.3
48	60.5	74.1	58.7	133.4	55.5	54.8	54.0	37.8	15.1	0.8	4.0	98.4	14.3
50	63.7	76.6	61.9	139.7	60.3	60.3	58.7	40.7	27.0	1.6	4.7	101.6	14.3
53	66.9	85.3	65.1	148.8	60.3	60.3	58.7	40.7	15.1	1.6	4.7	113.5	17.4
55	75.0	85.3	66.7	148.8	60.3	60.3	58.7	40.7	15.1	1.6	4.7	113.5	17.4
58	70.0	88.5	68.2	165.1	60.3	60.3	58.7	40.7	15.1	1.6	4.7	116.0	17.4
60	73.2	91.7	71.4	165.1	64.2	63.1	62.6	43.6	15.9	0.5	3.6	119.9	17.4
63	*	98.8	77.8	171.5	66.7	63.1	65.1	43.6	15.9	*	3.2	127.0	17.4
65	*	98.8	77.8	171.5	66.7	63.1	65.1	43.6	15.9	*	3.2	127.0	17.4
68	*	103.2	84.1	171.5	65.1	63.1	63.5	41.3	15.9	*	3.2	131.3	17.4
70	*	103.2	84.1	171.5	65.1	63.1	63.5	41.3	15.9	*	3.2	131.3	17.4
75	*	113.5	92.1	196.9	66.7	63.1	65.1	45.4	17.4	1.3	3.2	145.3	20.6
80	97.9	116.8	95.3	188.9	66.9	65.1	63.8	40.5	*	*	4.5	148.4	20.6
85	104.8	123.2	101.6	206.4	68.3	65.1	65.1	40.5	*	*	3.2	154.5	20.6
90	110.3	129.5	107.1	212.7	68.3	65.1	65.1	40.5	*	*	3.2	158.8	17.4
95	113.5	132.1	110.3	222.3	68.3	65.1	65.1	40.5	*	*	3.2	172.0	17.4
100	119.8	139.7	116.7	228.6	68.3	65.1	65.1	40.5	*	*	3.2	171.7	20.6
105	123.0	142.9	119.8	228.6	68.3	65.1	65.1	40.5	*	*	3.2	174.9	20.6
110	132.5	152.4	129.4	241.3	68.3	65.1	65.1	40.5	*	*	3.2	184.4	20.6
115	132.5	152.4	129.4	241.3	68.3	65.1	65.1	40.5	*	*	3.2	184.4	20.6
120	138.9	160.4	135.7	263.5	68.3	65.1	65.1	40.5	*	*	3.2	192.4	20.6
125	151.6	184.4	148.4	304.8	80.5	75.0	77.3	44.4	*	*	3.2	254.0	20.6
130	157.9	190.8	154.8	311.2	80.5	75.0	77.3	44.4	*	*	3.2	260.0	20.6
135	164.3	203.2	161.1	322.3	80.5	75.0	77.3	44.4	*	*	3.2	265.7	23.8
140	164.3	203.2	161.1	322.3	80.5	75	77.3	44.4	*	*	3.2	265.7	23.8



Type: Single Cartridge Seal
 Replacement: Crane 5610Q
 Temperature: -50°C to $+204^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,A,Q1,Q2,T,V,K,F,G,M

d (mm)	D1		D2	D3	L	L1	L2	L3	L4	L5	L6	Dm	S
	min	max											
24	41.3	48.0	39.7	101.6	50.8	65.4	49.6	34.4	13.5	15.8	18.9	71.2	13.3
25	41.3	48.0	39.7	101.6	50.8	65.4	49.6	34.4	13.5	15.8	18.9	71.2	13.3
28	44.5	51.2	42.9	104.8	54.0	67.3	52.4	36.7	13.5	15.0	18.1	74.5	13.3
30	46.1	56.5	44.5	108.0	54.0	65.1	52.4	36.7	13.5	12.7	15.9	79.9	13.3
32	47.6	58.3	46.0	108.0	54.0	69.3	52.4	36.7	13.5	16.9	20.1	81.6	13.3
33	50.8	61.5	49.3	111.1	54.0	69.3	52.4	36.7	13.5	16.9	20.1	84.8	13.3
35	50.8	61.5	49.3	111.1	54.0	69.3	52.4	36.7	13.5	16.9	20.1	84.8	13.3
38	57.2	68.1	55.5	123.8	55.5	69.7	54.0	37.8	15.1	15.7	18.9	91.4	13.3
40	60.3	71.4	58.7	127.0	55.5	69.7	54.0	37.8	15.1	15.7	18.9	95.7	14.3
43	63.0	74.1	61.1	133.4	55.5	69.7	54.0	37.8	15.1	15.7	18.9	98.4	14.3
45	63.0	74.1	61.1	133.4	55.5	69.7	54.0	37.8	15.1	15.7	18.9	98.4	14.3
48	66.7	74.1	64.7	133.4	55.5	69.7	54.0	37.8	15.1	15.7	18.9	98.4	14.3
50	70.0	76.6	67.9	139.7	60.3	75.3	58.7	40.7	27	16.5	19.7	101.6	14.3
53	73.0	85.3	71.1	148.8	60.3	75.3	58.7	40.7	15.1	16.5	19.7	113.5	17.4
55	75.0	85.3	72.9	148.8	60.3	75.3	58.7	40.7	15.1	16.5	19.7	113.5	17.4
58	76.2	88.5	74.2	165.1	60.3	75.3	58.7	40.7	15.1	16.5	19.7	116	17.4
60	79.4	91.7	77.4	165.1	64.2	77.8	62.6	43.6	15.9	15.2	18.3	119.9	17.4
63	85.7	98.8	83.8	171.5	66.7	75.7	65.1	43.6	15.9	10.6	13.8	127	17.4
65	85.7	98.8	83.8	171.5	66.7	75.7	65.1	43.6	15.9	10.6	13.8	127.0	17.4
68	92.1	103.2	90.2	171.5	65.1	78.4	63.5	41.3	15.9	14.9	18.1	131.3	17.4
70	92.1	103.2	90.2	171.5	65.1	78.4	63.5	41.3	15.9	14.9	18.1	131.3	17.4
75	99.9	113.5	98.1	196.9	66.7	78.4	65.1	45.4	17.4	13.4	16.5	145.3	20.6
80	104.8	116.8	102.2	188.9	66.9	80.2	63.8	40.5	*	14.8	18	148.5	20.6
85	111.1	123.2	107.9	206.4	68.3	80.2	65.1	40.5	*	15.1	18.3	154.8	20.6
90	117.5	129.5	114.3	212.7	68.3	80.2	65.1	40.5	*	15.1	18.3	158.8	17.4
95	120.0	132.1	117.5	222.3	68.3	80.2	65.1	40.5	*	15.1	18.3	172.0	17.4
100	127.0	139.7	123.8	228.6	68.3	80.2	65.1	40.5	*	15.1	18.3	171.7	20.6
105	130.2	142.9	127	228.6	68.3	80.2	65.1	40.5	*	15.1	18.3	174.9	20.6
110	139.7	152.4	136.5	241.3	68.3	80.2	65.1	40.5	*	15.1	18.3	184.4	20.6
115	139.7	152.4	136.5	241.3	68.3	80.2	65.1	40.5	*	15.1	18.3	184.4	20.6
120	146.1	160.4	142.9	263.5	68.3	80.2	65.1	40.5	*	15.1	18.3	192.4	20.6
125	158.8	184.4	155.6	304.8	80.5	91.7	77.3	91.4	*	14.4	17.6	254	20.6
130	165.1	190.8	161.9	311.2	80.5	91.7	77.3	91.4	*	14.4	17.6	260.0	20.6
135	171.5	203.2	168.3	322.3	80.5	91.7	77.3	91.4	*	14.4	17.6	266.7	23.8
140	171.5	203.2	168.3	322.3	80.5	91.7	77.3	91.4	*	14.4	17.6	266.7	23.8

Type: Single Cartridge Seal
 Replacement: Crane 5611
 Temperature: -30°C to +205°C
 Pressure: $\leq 2.8\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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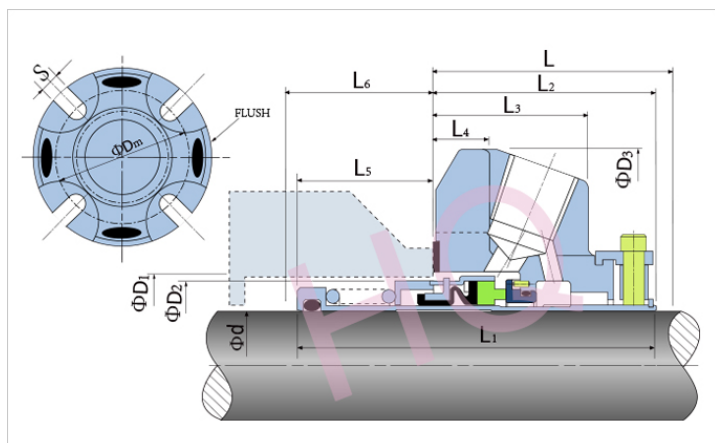


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d (mm)	D1		D2	D3	L	L1	L2	L3	L4	L5	L6	S	Dm
	min	max											
25	38.1	48.0	34.9	101.6	50.8	69.6	49.6	34.4	13.5	20.0	23.1	13.3	71.2
28	41.3	51.2	38.1	104.8	54.0	65.9	52.4	36.7	13.5	13.5	16.7	13.3	74.5
30	46.0	56.5	42.8	108.0	54.0	69.0	52.4	36.7	13.5	16.7	19.8	13.3	81.6
32	46.0	58.3	42.8	108.0	54.0	69.0	52.4	36.7	13.5	16.7	19.8	13.3	81.6
33	49.2	61.5	46.0	111.1	54.0	66.7	52.4	36.7	13.5	14.3	17.5	13.3	84.8
35	49.2	61.5	46.0	111.8	54.0	66.7	52.4	36.7	13.5	14.3	17.5	13.3	84.8
38	54.0	68.1	50.8	123.8	55.6	75.2	54.0	37.8	15.1	21.2	24.4	13.3	91.4
40	57.2	71.4	54.0	127	55.6	76.8	54.0	37.8	15.1	22.8	26	14.3	95.7
43	60.3	74.1	57.2	133.4	55.6	77.2	54.0	37.8	15.1	23.2	26.4	14.3	98.4
45	60.3	74.1	57.2	133.4	55.6	77.2	54.0	37.8	15.1	23.2	26.4	14.3	98.4
48	63.5	74.1	60.3	133.4	55.6	77.2	54.0	37.8	15.1	23.2	26.4	14.3	98.4
50	69.9	76.6	68.2	139.7	60.3	87.7	58.7	40.7	15.1	29.0	32.2	14.3	101.6
53	73.0	85.3	71.4	148.8	60.3	87.7	58.7	40.7	15.1	29.0	32.2	17.4	113.5
55	73.0	85.3	69.9	148.8	60.3	90.9	58.7	40.7	15.1	32.2	35.4	17.4	113.5
58	75.0	88.5	69.7	165.1	60.3	90.9	58.7	40.7	15.1	32.2	35.4	17.4	116
60	79.4	91.7	77.8	165.1	64.2	88.1	62.6	43.6	15.9	25.5	35.4	17.4	119.9
63	85.7	98.8	82.6	171.5	66.7	97.3	65.1	43.6	15.9	32.2	35.4	17.4	127.0
65	85.7	98.8	82.6	171.5	66.7	97.3	65.1	43.6	15.9	32.2	35.4	17.4	127.0
68	92.1	103.2	88.9	171.5	65.1	101	63.5	41.2	15.9	37.5	40.7	17.4	131.3
70	92.1	103.2	88.9	171.5	65.1	101	63.5	41.2	15.9	37.5	40.7	17.4	131.3
75	101.6	113.5	100	196.9	66.7	106	65.1	45.4	17.4	40.9	44.1	20.6	145.3
80	104.8	116.8	103.2	188.9	66.9	106.4	63.8	40.5	*	42.6	45.8	20.6	148.5
85	111.8	123.2	109.5	206.4	68.3	111.1	65.1	40.5	*	46.1	49.2	20.6	154.8
90	117.5	129.5	115.9	212.7	68.3	117.5	65.1	40.5	*	52.4	55.6	17.4	158.8
95	120.0	132.1	117.7	222.3	68.3	112.7	65.1	40.5	*	47.6	50.8	17.4	172.0
100	127.8	139.7	125.4	228.6	68.3	122.2	65.1	40.5	*	57.2	60.3	20.6	171.7
125	167.5	184.4	165.1	304.8	80.5	164.0	77.2	44.4	*	68.8	71.9	20.6	154

HQCS-J26(5611Q)

Type: Single Cartridge Seal
 Replacement: Crane 5611Q
 Temperature: -30°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.8\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (mm)	D1		D2	D3	L	L1	L2	L3	L4	L5	L6	Dm	S
	min	max											
25	41.3	48.0	39.7	101.6	50.8	84.5	49.6	34.4	13.5	34.9	38.0	13.3	71.2
28	44.5	51.2	42.9	104.8	54.0	80.8	52.4	36.7	13.5	28.5	31.6	13.3	74.5
30	46.1	56.5	44.5	108.0	54.0	81.7	52.4	36.7	13.5	29.4	32.5	13.3	81.6
32	47.6	58.3	45.0	108.0	54.0	86.1	52.4	36.7	13.5	33.7	36.9	13.3	81.6
33	50.8	61.5	49.2	111.1	54.0	83.6	52.4	36.7	13.5	31.2	34.4	13.3	84.8
35	50.8	61.5	49.2	111.8	54.0	83.6	52.4	36.7	13.5	31.2	34.4	13.3	84.8
38	56.3	68.1	54.8	123.8	55.6	90.1	54.0	37.8	15.1	36.1	39.3	13.3	91.4
40	59.5	71.4	57.9	127	55.6	91.7	54.0	37.8	15.1	37.7	40.9	14.3	95.7
43	63.0	74.1	61.1	133.4	55.6	92.1	54.0	37.8	15.1	38.1	41.3	14.3	98.4
45	63.0	74.1	61.1	133.4	55.6	92.1	54.0	37.8	15.1	38.1	41.3	14.3	98.4
48	66.7	74.1	64.3	133.4	55.6	92.1	54.0	37.8	15.1	38.1	41.3	14.3	98.4
50	70.0	76.6	68.2	139.7	60.3	102.7	58.7	40.7	15.1	43.9	47.1	14.3	101.6
53	73.0	85.3	71.4	148.8	60.3	102.7	58.7	40.7	15.1	43.9	47.1	17.4	113.5
55	76.7	85.3	74.6	148.8	60.3	105.8	58.7	40.7	15.1	47.1	50.3	17.4	113.5
58	76.2	88.5	74.6	165.1	60.3	105.8	58.7	40.7	15.1	47.1	50.3	17.4	116.0
60	79.4	91.7	77.8	165.1	64.2	103.2	62.6	43.6	15.9	40.5	43.7	17.4	119.9
63	85.7	98.8	82.6	171.5	66.7	109.9	65.1	43.6	15.9	44.8	48.0	17.4	127.0
65	85.7	98.8	82.6	171.5	66.7	109.9	65.1	43.6	15.9	44.8	48.0	17.4	127.0
68	92.1	103.2	88.9	171.5	65.1	116	63.5	41.2	15.9	52.5	55.7	17.4	131.3
70	92.1	103.2	88.9	171.5	65.1	116	63.5	41.2	15.9	52.5	55.7	17.4	131.3
75	101.6	113.5	100	196.9	66.7	120.7	65.1	45.4	17.4	55.6	58.8	20.6	145.3
80	104.8	116.8	103.2	188.9	66.9	119.8	63.8	40.5	*	56.1	59.3	20.6	148.5
85	111.1	123.2	109.5	206.4	68.3	126.2	65.1	40.5	*	61.1	64.3	20.6	154.8
90	117.5	129.5	115.9	212.7	68.3	132.5	65.1	40.5	*	67.5	70.6	17.4	158.8
95	121.4	132.1	119.1	222.3	68.3	127.8	65.1	40.5	*	62.7	65.9	17.4	172.0
100	129.9	139.7	127.5	228.6	68.3	137.3	65.1	40.5	*	72.2	75.4	20.6	171.7
125	167.5	184.4	165.1	304.8	80.5	162.7	77.2	44.4	*	88.4	88.5	20.6	154.0

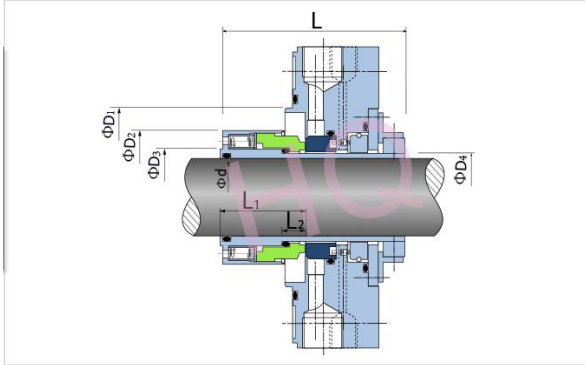
HQCS-J27(48LP/48HP/48MP)

Type: Single Cartridge Seal Crane
 Replacemnent: 48LP/48HP/48MP
 Temperature: -40 to +200 °C

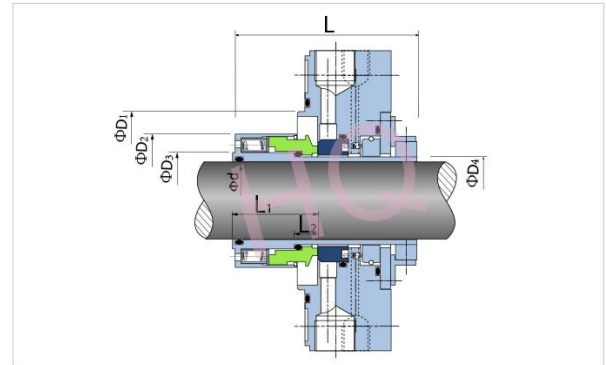
Pressure: $\leq 15\text{m/s}$
 Speed: $\leq 20\text{Mpa}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



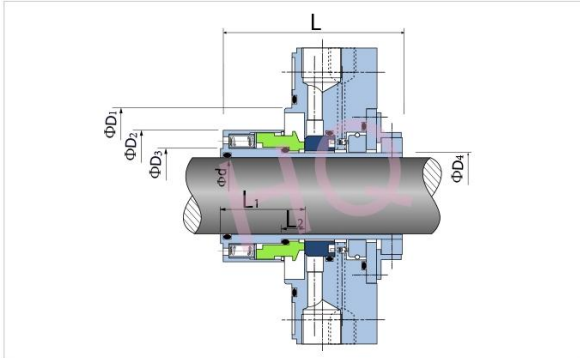
48LP



48HP



48MP



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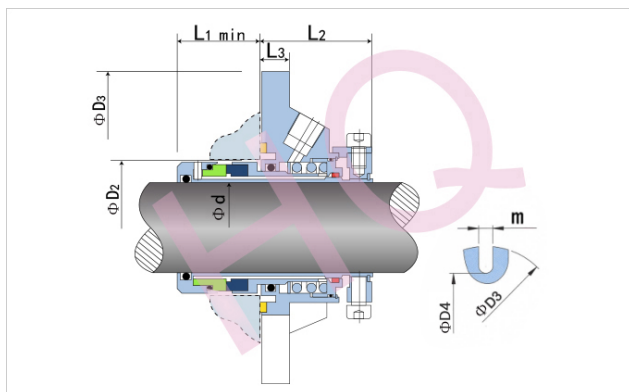


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d (inch)	D1 (min)	D2	D3	D4	L	L1	L2
1.000	2.500	2.125	1.500	1.250	3.687	1.437	0.343
1.125	2.750	2.375	1.625	1.375	4.000	1.750	0.437
1.250	2.875	2.500	1.750	1.500	4.000	1.750	0.437
1.375	3.000	2.625	1.875	1.625	4.062	1.750	0.437
1.500	3.125	2.750	2.00	1.750	4.062	1.750	0.437
1.625	3.375	3.000	2.125	1.875	4.375	2.062	0.500
1.750	3.500	3.125	2.250	2.000	4.375	2.062	0.500
1.875	3.625	3.250	2.375	2.125	4.437	2.062	0.500
2.000	3.750	3.375	2.500	2.250	4.437	2.062	0.500
2.125	3.875	3.500	2.625	2.375	4.437	2.062	0.500
2.250	4.000	3.625	2.750	2.500	4.437	2.062	0.500
2.375	4.125	3.750	2.875	2.625	4.500	2.062	0.500
2.500	4.187	3.812	3.000	2.750	4.500	2.062	0.500
2.625	4.312	3.937	3.125	2.875	4.500	2.062	0.562
2.750	4.500	4.125	3.250	3.000	4.500	2.062	0.562
2.875	4.625	4.250	3.375	3.125	4.656	2.062	0.562
3.000	4.750	4.375	3.500	3.250	4.656	2.062	0.562
3.125	4.875	4.500	3.625	3.375	4.656	2.062	0.562
3.250	5.000	4.625	3.750	3.500	4.656	2.062	0.562
3.375	5.125	4.750	3.875	3.625	4.656	2.062	0.562
3.500	5.250	4.875	4.000	3.750	4.656	2.062	0.562
3.625	5.500	5.125	4.125	3.875	4.656	2.062	0.562
3.750	5.625	5.250	4.250	4.000	4.656	2.062	0.562
3.875	5.750	5.375	4.375	4.125	4.656	2.062	0.562
4.000	5.875	5.500	4.500	4.250	4.656	2.062	0.562

HQCS-J37(FFET)

Type: Single Cartridge O-Ring Seal
 Replacement: Crane FFET
 Temperature: -40 to +205°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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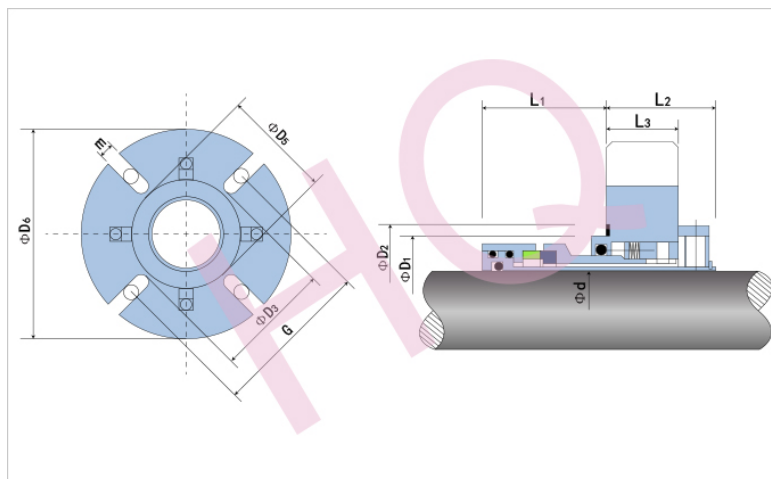
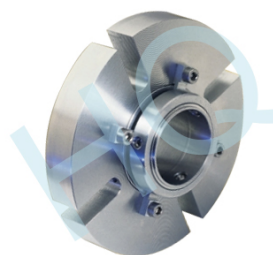


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d (mm)	D2		D3	D4	L1	L2	L3	m
	min	max						
25	41.0	47.5	112	58.0	38	48.0	12	9.53
28	44.0	50.5	116	58.0	38	48.0	12	9.53
30	46.0	52.5	117	58.0	38	48.0	12	9.53
32	48.0	54.5	119	58.0	38	48.0	12	9.53
33	51.0	57.5	122	58.0	38	48.0	12	9.53
35	51.0	57.5	122	58.0	38	48.0	12	9.53
38	57.0	63.5	128	74.0	40	48.0	12	9.53
40	60.0	66.5	136	76.5	40	48.0	12	12.70
43	63.5	70.0	140	81.0	40	48.0	12	12.70
45	63.5	70.0	140	81.0	40	48.0	12	12.70
48	66.8	73.0	145	74.0	40	50.0	13	12.70
50	70.0	76.5	150	87.0	40	50.0	13	12.70
53	73.0	79.5	155	91.0	40	50.0	13	12.70
55	73.0	79.5	155	91.0	40	50.0	13	12.70
60	79.4	85.5	165	98.5	40	50.0	13	12.70
65	90.0	96.5	190	111.0	46	57.0	13	15.87
70	95.0	101.4	200	118.5	46	57.0	13	15.87
75	101.6	108.0	205	125.0	46	57.0	13	15.87
80	108.0	114.5	210	131.5	46	57.0	13	15.87
85	111.0	124.0	240	138.0	48	60.5	13	15.87
90	117.5	131.0	275	146.0	48	62.5	13	19.05
95	120.5	131.0	275	146.0	48	62.5	16	19.05
100	127.0	136.0	280	152.0	48	62.5	16	19.05

HQCS-J33(SB1)

Type: Single Cartridge Seal
 Replacement: Crane SB1
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (mm)	D1	D2	D3	D5	D6	G (mm)	L1	L2	L3	m
35	51	67	67	55	130	91	42	44	25	13
38	58	75	75	65	130	98	42	44	25	13
40	60	76	76	66	130	98	42	44	25	13
43	65	78	78	70	140	101	42	44	25	13
45	65	81	81	68	140	105	42	44	25	13
48	68	84	84	73	140	105	42	44	25	13
50	70	86	86	73	160	111	42	44	25	13
53	75	91	91	80	160	111	42	44	25	13
55	75	91	91	80	160	111	42	44	25	13
58	83	97	97	85	160	111	42	44	25	13
60	85	97	97	87	160	123	42	44	25	13
63	90	100	100	92	160	127	47	51	30	17
65	90	105	105	92	160	127	47	51	30	17
68	95	112	112	95	210	127	47	51	30	17
70	95	112	112	99	210	155	47	51	30	17
75	104	115	115	106	210	155	54	51	30	17
80	109	122	122	111	210	155	54	51	30	17
85	114	127	127	116	210	165	54	51	30	17
90	124	132	132	117	210	165	54	51	30	17
95	124	138	138	126	210	165	54	51	30	17
100	129	148	148	131	220	175	54	51	30	17
105	135	160	160	134	220	175	54	51	30	17

HQCS-J35(SB1A)

Type: Single Cartridge Seal

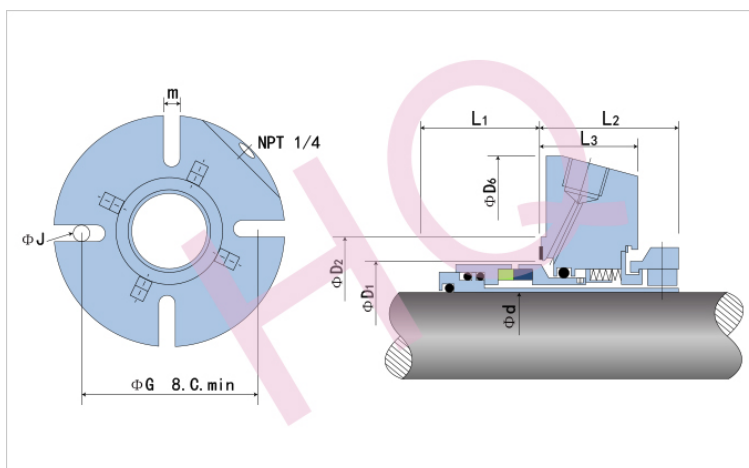
Replacement: Crane SB1A

Temperature: -40 to +220°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



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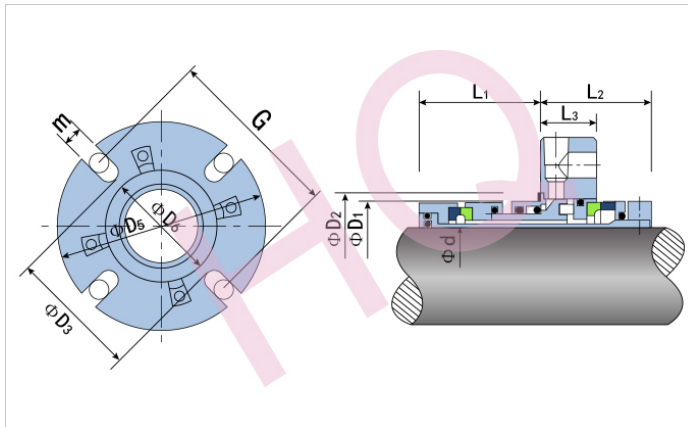
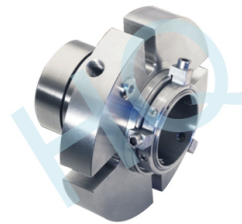


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d (mm)	D1		D2	D6	G		L1	L2	L3	m
	min	max			J3/8	J1/2				
1.000	1.625	2.00	2.39	3.78	2.77	2.90	1.25	1.84	1.27	0.55
1.125	1.750	2.09	2.52	3.94	2.91	3.03	1.25	1.84	1.27	0.55
1.250	1.875	2.24	2.63	4.13	3.01	3.13	1.28	1.84	1.27	0.55
1.375	2.000	2.32	2.76	4.33	3.15	3.27	1.28	1.84	1.27	0.55
1.500	2.125	2.45	2.88	4.49	3.26	3.38	1.28	1.84	1.27	0.55
1.625	2.375	2.68	3.11	4.96	3.49	3.61	1.33	1.84	1.27	0.55
1.750	2.500	2.87	3.23	5.47	3.6	3.73	1.33	1.84	1.31	0.55
1.875	2.625	2.91	3.35	5.47	3.73	3.85	1.33	1.84	1.31	0.55
2.000	2.750	3.19	3.46	5.51	3.86	3.98	1.33	1.84	1.31	0.55
2.125	2.875	3.27	3.58	5.98	3.96	4.09	1.33	1.84	1.31	0.71
2.250	3.000	3.40	3.71	6.10	4.09	4.21	1.33	1.84	1.31	0.71
2.375	3.125	3.50	3.9	6.30	4.28	4.40	1.33	1.84	1.31	0.71
2.500	3.250	3.69	4.01	6.38	4.41	4.52	1.33	1.84	1.31	0.71
2.625	3.375	3.75	4.13	6.38	4.51	4.65	1.33	1.84	1.31	0.71
2.750	3.750	4.14	4.84	7.95	5.30	5.42	1.33	1.84	1.31	0.71
2.875	3.875	4.25	4.61	7.95	4.99	5.11	1.33	1.84	1.31	0.71
3.000	4.000	4.41	4.73	7.95	5.11	5.23	1.33	1.84	1.31	0.71
3.125	4.125	4.50	4.84	8.25	5.22	5.34	1.33	1.84	1.31	0.71
3.250	4.250	4.68	4.98	8.27	5.36	5.48	1.33	1.84	1.31	0.71
3.375	4.375	4.76	5.08	8.46	5.46	5.58	1.33	1.84	1.31	0.71
3.500	4.500	4.85	5.24	8.47	5.62	5.74	1.33	1.84	1.31	0.71
3.625	4.625	4.96	5.35	8.61	5.73	5.85	1.33	1.84	1.31	0.9
3.750	4.750	5.14	5.46	8.74	5.84	5.96	1.33	1.84	1.31	0.9
3.875	4.875	5.21	5.60	8.87	5.98	6.10	1.33	1.84	1.31	0.9
4.000	5.000	5.58	5.98	9.00	6.36	6.48	1.23	2.17	1.53	0.9
4.125	5.125	5.71	6.10	9.00	6.48	6.60	1.23	2.17	1.53	0.9
4.250	5.250	5.83	6.22	9.10	6.60	6.72	1.23	2.17	1.53	0.9
4.375	5.375	5.97	6.36	9.23	6.74	6.86	1.23	2.17	1.53	0.9
4.500	5.500	6.09	6.48	9.50	6.86	6.98	1.23	2.17	1.53	0.9
4.625	5.625	6.22	6.61	9.50	6.99	7.11	1.23	2.17	1.53	0.9
4.750	5.750	6.30	6.73	9.61	7.11	7.23	1.23	2.17	1.53	0.9
4.875	5.872	6.47	6.86	9.74	7.24	7.36	1.23	2.17	1.53	0.9
5.000	6.000	6.59	6.98	10.00	7.36	7.48	1.23	2.17	1.53	0.9

HQCS-J31(SB2)

Type: Double Cartridge Seal
 Replacement: Crane SB2
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,,V,K,E,P,G,M5,M6,T4



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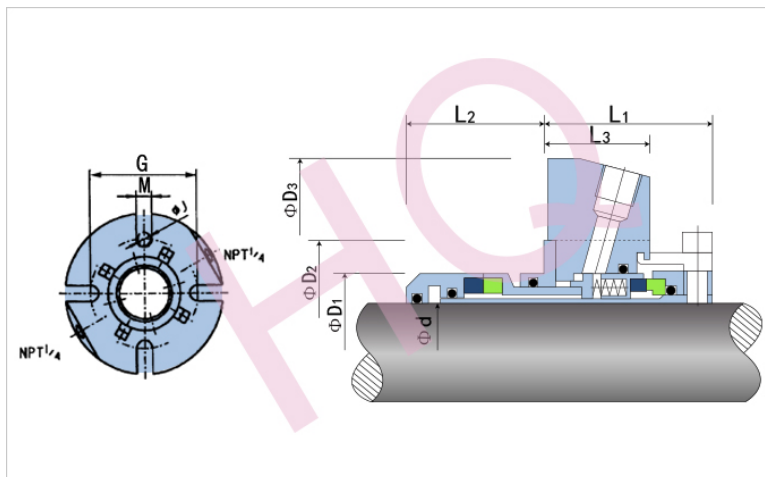


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d (mm)	D1	D2	D3	D5	D6	G	L2	L1	L3	m
35	58	79	68	130	62	91	49	57	20	13
38	62	86	72	130	66	98	52	59	23	13
40	62	86	72	130	66	98	52	59	23	13
43	67	89	77	130-150	70	101	52	59	23	13
45	69	93	79	130-150	75	105	52	59	23	13
48	72	93	82	140-150	75	105	53	60	23	13
50	74	99	84	140-170	77	111/115	53	60	23	13/17
53	76	99	86	140-170	80	111	53	60	24	13
55	79	99	89	150-170	82	111/115	53	64	24	13/17
58	83	99	93	150	84	111	53	64	24	13
60	85	111	95	150	87	123/127	53	64	24	13/17
63	90	111	99	160	90	127	60	72	25	17
65	93	111	102	160-170	92	127	60	72	25	17
68	95	111	104	170	95	127	60	72	25	17
70	95	139	105	170-220	98	155	60	72	25	17
80	109	139	118	200-220	111	155	65	74	29	17
85	114	149	123	200-220	111	165	70	78	30	17
90	119	149	128	200-220	120	165	70	78	30	17
95	125	149	134	200	125	165	70	76	30	17
100	129	159	138	220	130	175	76	76	34	17
105	135	169	144	220	134	175	76	76	34	17
110	140	169	149	230	139	175	76	76	34	17
115	150	179	160	230	150	185	76	76	34	17
120	157	188	170	145	158	194	76	76	34	17
125	160	189	175	270	170	194	76	76	34	17
130	166	194	180	280	174	210	86	84	36	17
135	172	199	185	280	179	215	86	84	36	17
140	178	206	192	280	187	222	86	84	36	17

HQCS-J36(SB2A)

Type: Double Cartridge Seal
 Replacement: Crane SB2A
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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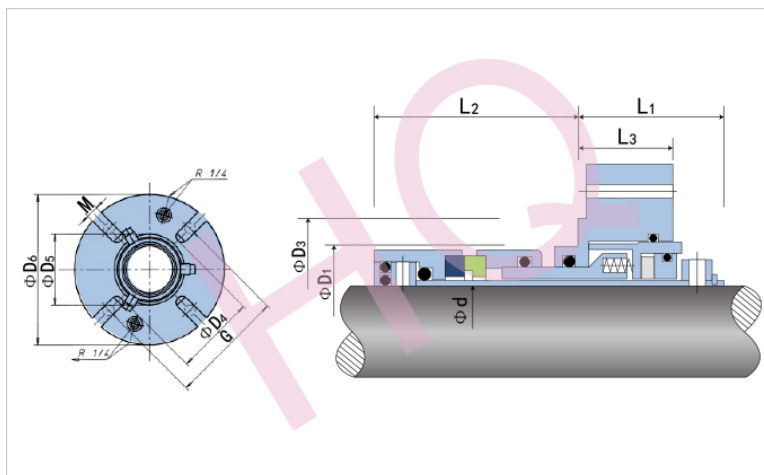


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d (mm)	D1 (min)	D1 (max)	D2	D3	G (J=3/8)	G (J=1/2)	L1	L2	L3	M
1.000	1.625	1.940	2.394	3.811	2.769	2.894	2.087	1.772	1.339	0.55
1.125	1.750	2.087	2.520	3.937	2.895	3.020	2.087	1.772	1.339	0.55
1.250	1.875	2.244	2.657	4.134	3.032	3.157	2.087	1.772	1.339	0.55
1.375	2.000	2.362	2.795	4.331	3.170	3.295	2.087	1.772	1.339	0.55
1.500	2.125	2.500	2.933	4.488	3.308	3.433	2.126	1.772	1.339	0.55
1.625	2.375	2.625	3.071	4.961	3.446	3.571	2.126	1.772	1.339	0.55
1.750	2.500	2.875	3.228	5.472	3.603	3.728	2.126	1.772	1.339	0.55
1.875	2.625	2.953	3.327	5.472	3.702	3.827	2.126	1.772	1.339	0.55
2.000	2.750	3.189	3.465	5.500	3.860	3.980	2.126	1.772	1.339	0.55
2.125	2.875	3.425	3.900	5.984	4.275	4.400	2.126	1.772	1.339	0.70
2.250	3.000	3.560	4.016	5.984	4.391	4.660	2.126	1.772	1.339	0.70
2.375	3.125	3.681	4.134	6.299	4.528	4.646	2.126	1.772	1.339	0.70
2.500	3.250	3.819	4.291	6.378	4.667	4.791	2.126	1.890	1.339	0.70
2.625	3.375	3.937	4.409	6.378	4.785	4.909	2.126	1.890	1.339	0.70
2.750	3.750	4.449	4.921	7.953	5.300	5.421	2.362	2.008	1.421	0.70
2.875	3.875	4.567	5.039	7.953	5.414	5.539	2.362	2.008	1.421	0.70
3.000	4.000	4.685	5.197	7.953	5.572	5.697	2.362	2.008	1.421	0.70
3.125	4.125	4.822	5.322	8.25	5.697	5.822	2.362	2.008	1.421	0.70
3.250	4.250	4.937	5.394	8.25	5.769	5.894	2.362	2.008	1.421	0.70
3.375	4.375	5.062	5.512	8.374	5.887	6.012	2.362	2.008	1.421	0.70
3.500	4.500	5.181	5.630	8.465	6.005	6.130	2.362	2.008	1.421	0.70
3.625	4.625	5.306	5.752	8.583	6.127	6.252	2.362	2.008	1.421	0.90
3.750	4.750	5.433	5.984	8.740	6.359	6.484	2.362	2.008	1.421	0.90
3.875	4.875	5.556	6.102	8.858	6.477	6.602	2.362	2.008	1.421	0.90
4.000	5.000	5.687	6.181	9.000	6.572	6.697	2.362	2.126	1.421	0.90
4.125	5.125	5.716	6.311	9.016	6.686	6.811	2.362	2.126	1.421	0.90
4.250	5.250	5.921	6.433	9.228	6.808	6.933	2.362	2.126	1.421	0.90
4.375	5.375	6.056	6.559	9.331	6.934	7.059	2.362	2.126	1.421	0.90
4.500	5.500	6.170	6.700	9.500	7.075	7.200	2.362	2.126	1.421	0.90
4.625	5.625	6.300	6.811	9.606	7.186	7.311	2.362	2.126	1.421	0.90
4.750	5.750	6.417	6.969	9.606	7.344	7.469	2.362	2.126	1.421	0.90
4.875	5.875	6.550	7.087	9.843	7.462	7.587	2.362	2.126	1.421	0.90
5.000	6.000	6.687	7.182	10.000	7.560	7.685	2.362	2.126	1.421	0.90

HQCS-J34(SBW)

Type: Single Cartridge Seal
 Replacement: Crane SBW
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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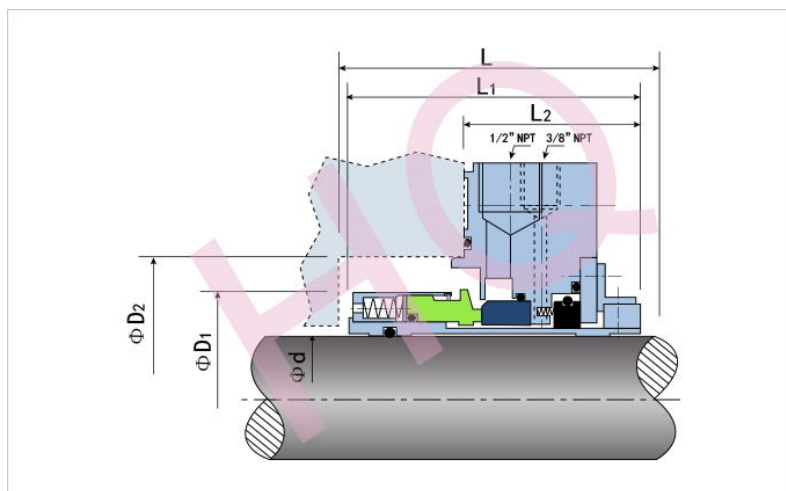
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d (mm)	D1	D3	D4	G	D5	D6	L1	L2	L3	M
35	55	79	70	91	61	130	49	52	30	13
38	58	84	73	98	65	130	52	52	30	13
40	60	86	75	98	66	130	52	52	30	13
43	65	93	80	101	70	140	52	52	30	13
45	65	93	80	105	70	140	52	52	30	13
48	68	93	83	105	73	140	53	52	30	13
50	70	99	86	111	75	160	53	52	31	13
53	75	99	90	111	80	160	53	52	31	13
55	75	99	90	111	80	160	53	52	31	13
58	83	99	94	111	85	160	53	52	31	13
60	85	111	98	123	87	160	53	52	31	13
63	90	116	102	127	92	160	60	54	35	17
65	90	116	102	127	92	160	60	54	35	17
68	95	139	112	127	95	210	60	54	35	17
70	95	139	112	155	99	210	60	54	35	17
75	104	139	117	155	106	210	65	62	35	17
80	109	139	123	155	111	210	65	62	35	17
85	114	149	134	165	116	210	65	62	35	17
90	119	149	136	165	121	210	65	62	35	17
95	124	149	140	165	126	210	65	62	35	17
100	129	159	145	175	131	210	65	62	35	17
105	135	169	150	175	136	220	65	62	35	17



HQCS-J30(1648)

Type: Single Cartridge Seal
 Replacement: Crane 1648
 Temperature: -40°C to +260°C
 Pressure: ≤6.9Mpa
 Speed: ≤25m/s
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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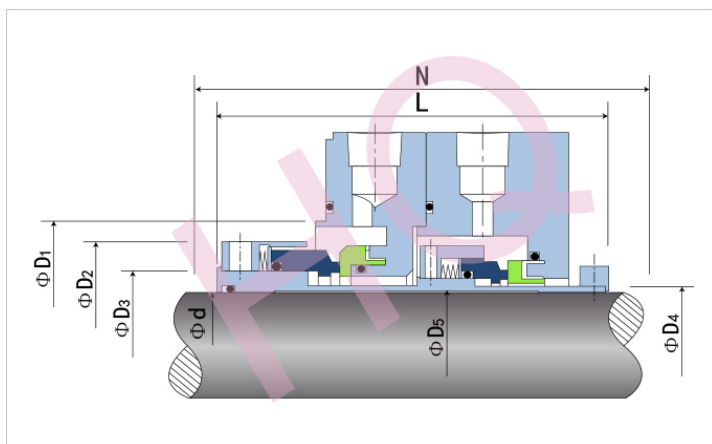
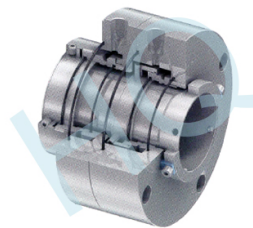


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d (inch)	D1	D2	L	L1	L2
1.000	2.125	2.500	5.75	3.812	2.562
1.125	2.375	2.750	5.75	4.125	2.562
1.250	2.500	2.875	5.75	4.125	2.562
1.375	2.625	3.000	5.75	4.125	2.562
1.500	2.750	3.125	5.75	4.125	2.562
1.625	3.000	3.375	5.75	4.437	2.562
1.750	3.125	3.500	5.75	4.437	2.562
1.875	3.250	3.625	5.75	4.437	2.562
2.000	3.375	3.750	6.50	4.437	2.562
2.125	3.500	3.875	6.50	4.437	2.562
2.250	3.625	4.000	6.50	4.437	2.625
2.375	3.750	4.125	6.50	4.500	2.625
2.500	3.812	4.187	6.50	4.500	2.625
2.625	3.937	4.312	6.50	4.500	2.625
2.750	4.125	4.500	6.50	4.500	2.781
2.875	4.250	4.625	6.50	4.656	2.781
3.000	4.375	4.750	6.50	4.656	2.781
3.125	4.500	4.875	7.00	4.656	2.781
3.250	4.625	5.000	7.00	4.656	2.781
3.375	4.750	5.125	7.00	4.656	2.781
3.500	4.875	5.250	7.00	4.656	2.781
3.625	5.125	5.500	7.00	4.656	2.781
3.750	5.250	5.625	7.00	4.656	2.781
3.875	5.375	5.750	7.00	4.656	2.781
4.000	5.500	5.875	7.00	4.656	2.781
4.125	5.625	6.000	7.00	4.656	2.781
4.250	5.750	6.125	7.00	4.656	2.781

HQCS-J39(2648)

Type: Double Mechanical Seal
 Replacement: Crane 2648
 Temperature: -40 to +230°C
 Pressure: $\leq 6\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1, Q2, Graphite, V, M5, M6, G



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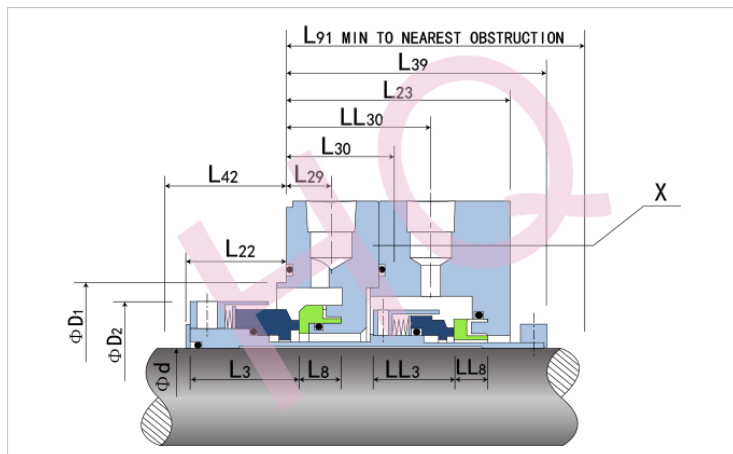
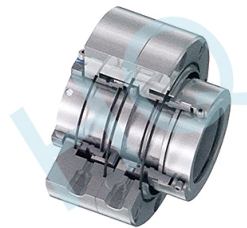


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d (inch)	D1	D2	D3	D4	D5	L	N
1.000	2.875	2.500	1.750	1.250	1.500	5.312	5.75
1.125	3.000	2.625	1.875	1.375	1.625	5.312	5.75
1.250	3.125	2.750	2.000	1.500	1.750	5.312	5.75
1.375	3.375	3.000	2.125	1.625	1.875	5.625	5.75
1.500	3.500	3.125	2.250	1.750	2.000	5.625	5.75
1.625	3.625	3.250	2.375	1.875	2.125	5.750	5.75
1.750	3.750	3.375	2.500	2.000	2.250	5.750	5.75
1.875	3.875	3.500	2.625	2.125	2.375	5.750	5.75
2.000	4.000	3.625	2.750	2.250	2.500	5.937	6.50
2.125	4.125	3.750	2.875	2.375	2.625	5.937	6.50
2.250	4.187	3.812	3.000	2.500	2.750	5.937	6.50
2.375	4.312	3.937	3.125	2.625	2.875	6.218	6.50
2.500	4.500	4.125	3.250	2.750	3.000	6.218	6.50
2.625	4.625	4.250	3.375	2.875	3.125	6.343	6.50
2.750	4.750	4.375	3.500	3.000	3.250	6.343	6.50
2.875	4.875	4.500	3.625	3.125	3.375	6.343	6.50
3.000	5.000	4.625	3.750	3.250	3.500	6.343	6.50
3.125	5.125	4.750	3.875	3.375	3.625	6.343	7.00
3.250	5.250	4.875	4.000	3.500	3.750	6.343	7.00
3.375	5.500	5.125	4.125	3.625	3.875	6.343	7.00
3.500	5.625	5.250	4.250	3.750	4.000	6.343	7.00
3.625	5.750	5.375	4.375	3.875	4.125	6.593	7.00
3.750	5.875	5.500	4.500	4.000	4.250	6.593	7.00
3.875	6.000	5.625	4.625	4.125	4.375	6.593	7.00
4.000	6.125	5.750	4.750	4.250	4.500	6.593	7.00
4.125	6.250	5.875	4.875	4.375	4.625	6.593	7.00
4.250	6.375	6.000	5.000	4.500	4.750	6.593	7.00

HQCS-J40(3648)

Type: Double Cartridge Seal
 Replacement: Crane 3648
 Temperature: -40 to +220°C
 Pressure: $\leq 6.0\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,U1,V,E,T,T2,G,M5



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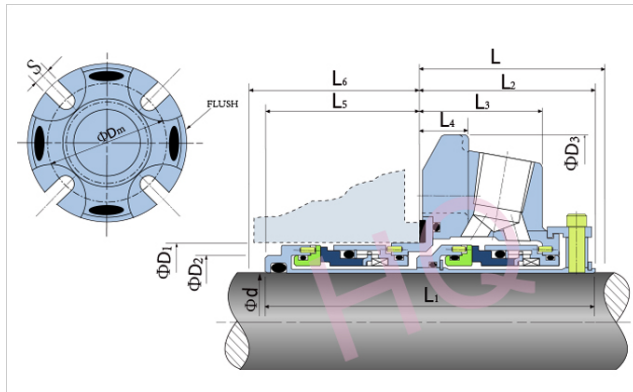
d (mm)	D1	D2	L22	L23	L29	L30	LL30	L39	L42	L91	L3	L8	LL3	LL8	X
22.6	70.0	63.6	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
25.8	77.4	66.7	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
28.9	80.0	69.9	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
32.1	80.0	72.2	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
35.3	87.0	76.2	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
38.5	90.0	79.4	47.0	79.9	16	50.0	61	98	50.0	100	52.4	14.3	30.1	11.1	M10
41.6	90.0	82.6	50.2	79.9	16	47.0	60	98	53.2	100	52.4	14.3	33.3	11.1	M10
44.8	96.5	85.7	50.2	79.9	16	47.0	60	98	53.2	100	52.4	14.3	33.3	11.1	M10
48.0	99.7	88.9	50.2	79.9	16	47.0	60	98	53.2	100	52.4	14.3	33.3	11.1	M10
51.2	102.8	96.8	47.6	88.9	16	52.5	68	107	50.6	110	52.4	15.9	33.3	14.3	M12
54.3	106.0	100.0	47.6	88.9	16	52.5	68	107	50.6	110	52.4	15.9	33.3	14.3	M12
57.5	110.8	104.8	47.6	88.9	16	52.5	68	107	50.6	110	52.4	15.9	33.3	14.3	M12
60.7	114.0	108.0	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
63.9	117.1	111.1	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
67.0	120.3	114.3	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
70.2	123.5	117.5	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
73.4	126.7	120.7	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
76.6	129.8	123.8	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
79.7	136.2	130.2	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
82.9	139.4	133.4	53.1	88.9	16	51.0	68	107	56.1	110	52.4	19.8	33.3	15.9	M12
86.1	142.5	136.5	53.1	88.9	16	51.0	68	110	56.1	113	52.4	19.8	33.3	15.9	M12
89.3	145.7	139.7	53.1	88.9	16	51.0	68	110	56.1	113	52.4	19.8	33.3	15.9	M12
92.4	148.9	142.9	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
95.6	152.1	146.1	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
98.8	155.2	149.2	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
102.0	158.4	152.4	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
105.1	161.6	155.6	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
108.3	167.9	161.9	49.3	95.9	16	57.0	75	117	52.3	120	52.4	19.8	36.5	15.9	M12
111.5	171.1	165.1	53.2	95.9	16	55.0	75	117	56.2	120	52.4	19.8	36.5	19.8	M12
121.0	180.8	174.8	53.2	95.9	16	55.0	75	117	56.2	120	52.4	19.8	36.5	19.8	M12

HQCS-J28(5620/5629PR)

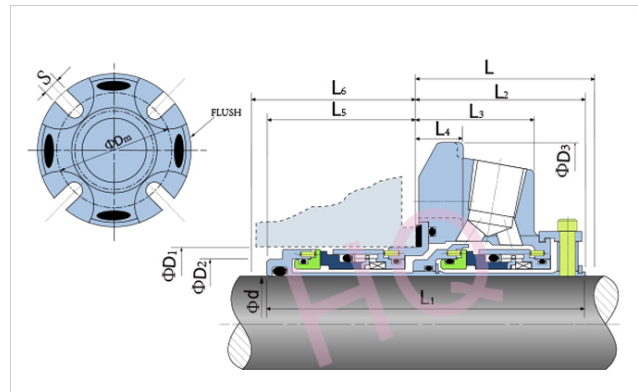
Type: Double Cartridge Seal
 Replacement: Crane 5620/5620PR
 Temperature: -40°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-J28(5620)



HQCS-J28(5620PR)



d (mm)	D1		D2	D3	L	L1	L2	L3	L4	L5	L6	S	Dm
	min	max											
24	41.3	48.0	39.7	101.6	50.8	94.1	49.6	34.4	13.5	44.5	47.7	13.3	71.2
25	41.3	48.0	39.7	101.6	50.8	94.1	49.6	34.4	13.5	44.5	47.7	13.3	71.2
28	44.5	51.2	42.9	104.8	54.0	97.8	52.4	36.7	13.5	45.4	48.6	13.3	74.5
30	46.1	56.5	44.5	108	54.0	97.8	52.4	36.7	13.5	45.4	48.6	13.3	81.6
32	47.6	58.3	46.0	108.0	54.0	97.8	52.4	36.7	13.5	45.4	48.6	13.3	81.6
33	50.8	61.5	49.3	111.1	54.0	97.8	52.4	36.7	13.5	45.4	48.6	13.3	84.8
35	50.8	61.5	49.3	111.1	54.0	97.8	52.4	36.7	13.5	45.4	48.6	13.3	84.8
38	57.2	68.1	55.5	123.8	55.6	101.5	54.0	37.8	15.1	47.5	50.7	13.3	91.4
40	60.3	71.4	58.7	127.0	55.6	101.5	54.0	37.8	15.1	47.5	50.7	14.3	95.7
43	63.0	74.1	61.1	133.4	55.6	101.5	54.0	37.8	15.1	47.5	50.7	14.3	98.4
45	63.0	74.1	61.1	133.4	55.6	101.5	54.0	37.8	15.1	47.5	50.7	14.3	98.4
48	66.7	74.1	64.7	133.4	55.6	101.5	54.0	37.8	15.1	47.5	50.7	14.3	98.4
50	70.0	76.6	67.9	139.7	60.3	110.6	58.7	40.7	15.1	51.9	55.0	14.3	101.6
53	73.0	85.3	71.1	148.8	60.3	110.6	58.7	40.7	15.1	51.9	55.0	17.4	113.5
55	75.0	85.3	72.9	148.8	60.3	110.6	58.7	40.7	15.1	51.9	55.0	17.4	113.5
58	76.2	88.5	74.2	165.1	60.3	110.6	58.7	40.7	15.1	51.9	55.0	17.4	116.0
60	79.4	91.7	77.4	165.1	64.2	115.4	62.6	43.6	15.9	52.8	56.0	17.4	119.9
63	85.7	98.8	83.8	171.5	66.7	115.4	65.1	43.6	15.9	50.3	53.5	17.4	127.0
65	85.7	98.8	83.8	171.5	66.7	115.4	65.1	43.6	15.9	50.3	53.5	17.4	127.0
68	92.1	103.2	90.2	171.5	65.1	116.7	63.5	41.2	15.9	53.2	56.4	17.4	131.3
70	92.1	103.2	90.2	171.5	65.1	116.7	63.5	41.2	15.9	53.2	56.4	17.4	131.3
75	101.6	113.5	98.1	196.9	66.7	116.7	65.1	45.4	17.4	51.6	54.8	20.6	145.3
80	105	116.8	102.2	188.9	66.9	119.0	63.8	40.5	*	55.3	58.5	20.6	148.5
85	111.1	123.2	107.9	206.4	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	154.8
90	117.5	129.5	114.3	212.7	68.3	119.0	65.1	40.5	*	54.0	57.2	17.4	158.8
95	120.0	132.1	117.5	222.3	68.3	119.0	65.1	40.5	*	54.0	57.2	17.4	172.0
100	127.0	139.7	123.8	228.6	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	171.7
105	130.2	142.9	127.0	228.6	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	174.9
110	139.7	152.4	136.5	241.3	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	184.4
115	139.7	152.4	136.5	241.3	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	184.4
120	146.1	160.4	142.9	263.5	68.3	119.0	65.1	40.5	*	54.0	57.2	20.6	192.4
125	171.7	184.4	155.6	304.8	68.5	140.1	77.3	44.4	*	62.8	66.0	20.6	254.0
130	178.1	190.8	161.9	311.2	80.5	140.1	77.3	44.4	*	62.8	66.0	20.6	260.4
135	190.5	203.2	168.3	322.3	80.5	140.1	77.3	44.4	*	62.8	66.0	20.8	266.7
140	190.5	203.2	168.3	322.3	80.5	140.1	77.3	44.4	*	62.8	66.0	20.8	266.7

HQCS-J41(SE)



Type: Single Cartridge Seal,Suit Sulzer AP Pumps
Replacement: Crane SE
Temperature: -40 to +180°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 20\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

Equivalent with John Crane SE seal ,
for Sulzer AP series pumps

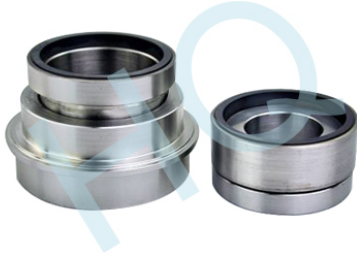


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HQCS-J42(SE1)



Type: Single Cartridge Seal, Suit for Sulzer Process Pumps
 Replacement: Crane SE1
 Temperature: -40 to +180°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 35\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description:

Type SE1 is the excellent replacement of John Crane type SE1 seal, with more economical price.

The Safe seal Type SE1 is a customer-fitted (OEM standard) single, balanced component or cartridge seal designed for clean and lubricating fluids such as water, different types of oils, solvents and paper stock. The Type SE1 seal is designed especially for the Sulzer APP and APT pump series and Scan pump.

The SE1 seal is easy to install and maintain. In spite of its simple design, SE1 is very advanced in its technical capabilities, including, for example, a patented thermal method for seal face holding and an elastic thrust ring. Several variants of the design are available for different services:

Type SE1C — single, balanced, cartridge seal, used in Sulzer Scan pump

Type SE1F — single, balanced cartridge seal with flush Features:

1. Balanced design — undisturbed operation even with sudden pressure shocks.
2. Spring located in the stationary body of the seal — axial misalignment does not pump up the spring or wear out the O-ring.
3. Installation against the shaft shoulder — easy installation reduces risk of human error. No measurements required for installation.
4. No drive pins at seals — seal face does not crack at start-up.
5. Available in different materials — selection covers all possible single seal applications.



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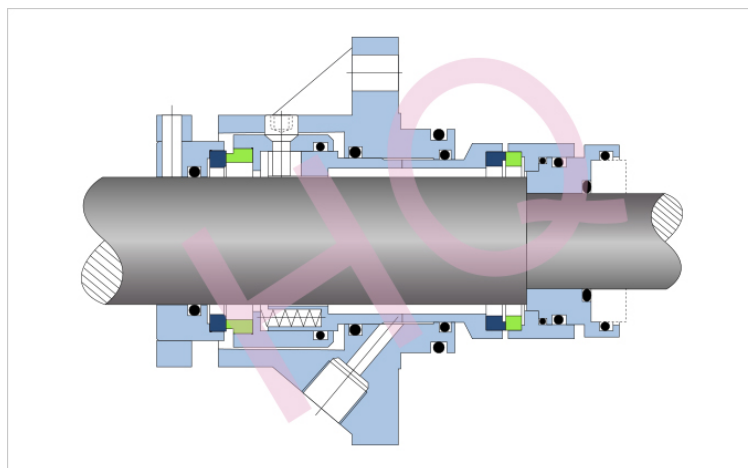


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HQCS-J43(SE2)



Type: Double Cartridge Seal, Suit Sulzer
Process Pumps
Replacement: Crane SE2 Series
Temperature: -40 to +180°C
Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 30\text{m/s}$
Material: Q1, Q2, U2, T, V, M1, F, G, M



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HQCS-J44(SE2C)



Type: Cartridge Seal
Replacement: Crane SE2C
Temperature: -40 to +180°C
Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 20\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

SE2C is a customer-fitted (OEM standard) dual, balanced cartridge seal designed for the severe applications found in the pulp and paper industry and slurry applications.

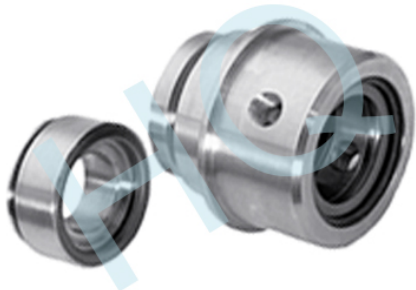


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HQCS-J45(SEW)



Type: Single Cartridge Seal,Suit Sulzer Process Pumps

Replacement: Crane SEW,Suit for Sulzer,ABS Pumps

Temperature: -40 to +180°C

Pressure: $\leq 1.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



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HQCS-J46(JCS1)



Type: Single Cartridge Seal
Replacement: Crane JCS1
Temperature: -40 to +180°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

The JCS1 is originally designed for Sulzer AHLSTARUP pumps and later expanded to cover Andritz process pumps and other equipment.



<http://www.hqseal.com>

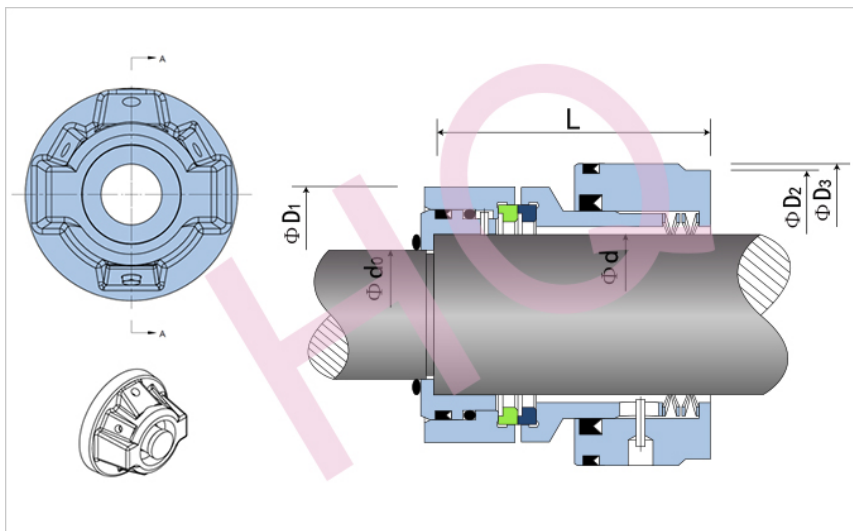


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HQCS-J47(JCS1A)



Type: Single Cartridge Seal
 Replacement: Crane JCS1A
 Temperature: -40 to +180°C
 Pressure: $\leq 5.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



JCS1A - Single application specific seal for Sulzer liquid ring pumps
 and Andritz ACP pumps



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HQCS-J48(JCS1F)



Type: Single Cartridge Seal
Replacement: Crane JCS1F
Temperature: -40 to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

CS1F - Single application-specific seal
with flush into the medium

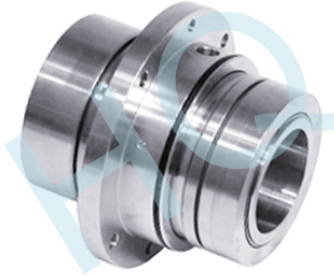


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HQCS-J49(JCS2)



Type: Double Cartridge Seal,
SuitSulzer Process Pumps

Replacement: Crane JCS2

Temperature: -40 to +180°C

Pressure: ≤ 15 Mpa

Speed: ≤ 15 m/s

Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

Type JCS2 is the excellent replacement of John crane type JCS2 seal, with more economical price.

Type JCS2 seals are designed to be used in pumps for environmentally hazardous and abrasive liquids when operating limits for single-acting seals are exceeded. The double-balanced design of the seal allows the use of both pressurized and non-pressurized sealant fluid. This design ensures reliable and long-lasting operation under the most demanding conditions, reducing seal fluid consumption, and prevents environmental emissions.

Several variant of the design available for different services:

JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary spring O-ring mounted seal

JCS2A — Double application-specific seal for Sulzer liquid ring pumps and Andritz ACP pumps

JCS2M — Double application-specific seal for Sulzer multistage pumps

JCS2-MC — Double application-specific seal for Andritz MC-pumps

JCS E — Double application-specific seal for Sulzer hot liquid



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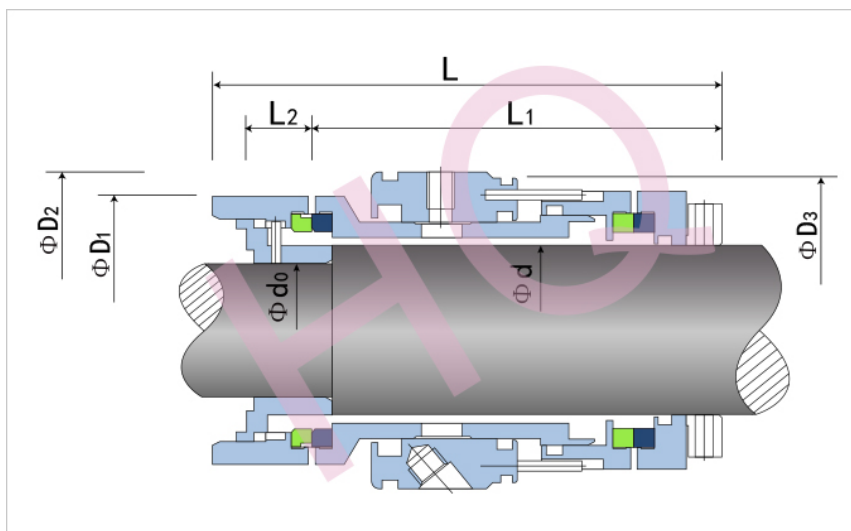


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HQCS-J50(JCS2P)



Type: Double Cartridge Seal, Suit Sulzer Process Pumps
 Replacement: Crane JCS2P
 Temperature: -40 to $+180^{\circ}\text{C}$
 Pressure: $\leq 8.0\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary
 spring O-ring mounted seal



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HQCS-J51(SAF)



Type: Double Cartridge Seal, Suit Sulzer, Andritz Process Pumps

Replacement: Crane SAF

Temperature: -40 to +180°C

Pressure: ≤ 2.5 Mpa

Speed: ≤ 10 m/s

Material: Q1, Q2, U2, T, V, M1, F, G, M

* **Product description:** this series mechanical seal is my company in the late 1990 s for mud pump design of a container type mechanical seal, mechanical seal for module focuses on medium containing solid particles, change of the mechanical seal material can also be used for metallurgy, mining, chemical and other industries of high solid content condition.

* **Apply to the host:**

Andritz pressure screden mechanical seal.



* **Product features**

Dual face structure, no leakage.

The particle medium has little effect on spring performance.

High temperature resistance, corrosion resistance and wear resistance.

d=40mm, 50mm, 60mm, 70mm, 90mm.

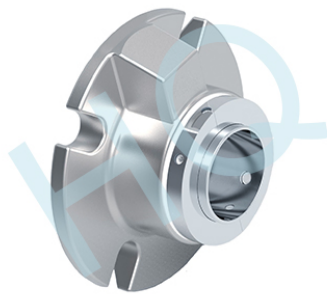


<http://www.hqseal.com>

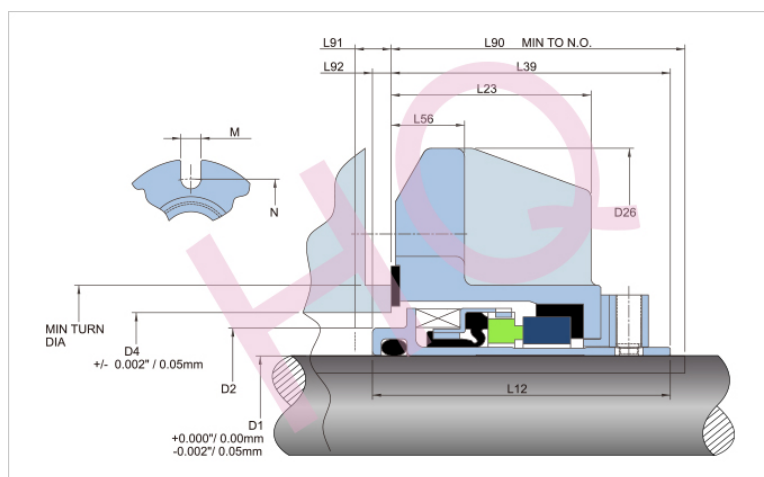


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HQCS-J52(4111)



Type: Single Cartridge Seal
 Replacement: Crane 4111
 Temperature: -40 to +180°C
 Pressure: $\leq 20\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (mm)	D2	D4	min turn	D26	L12	L23	L39
35	45.14	50.80	59.51	111.13	54.74	36.73	51.28
45	55.27	62.99	72.21	133.35	56.62	37.77	53.64
48	58.42	66.68	75.39	133.35	56.62	37.77	53.64
d (mm)	L56	L90	L91	L92	M	N	
35	13.49	53.98	6.6	3.43	13.34	84.79	
45	15.06	55.55	6.15	2.97	14.3	98.43	
48	15.06	55.55	6.15	2.97	14.3	98.43	
d (inch)	D2	D4	min turn	D26	L12	L23	L39
1.375	1.777	2.000	2.343	4.375	2.155	1.446	2.019
1.750	2.176	2.480	2.843	5.250	2.229	1.487	2.112
1.875	2.300	2.625	2.968	5.250	2.229	1.487	2.112
d (inch)	L56	L90	L91	L92	M	N	
1.375	0.531	2.125	0.260	0.135	0.525	3.338	
1.750	0.593	2.187	0.242	0.117	0.563	3.875	
1.875	0.593	2.187	0.242	0.117	0.563	3.875	

HQCS-J53(8B)

Type: Cartridge Seal

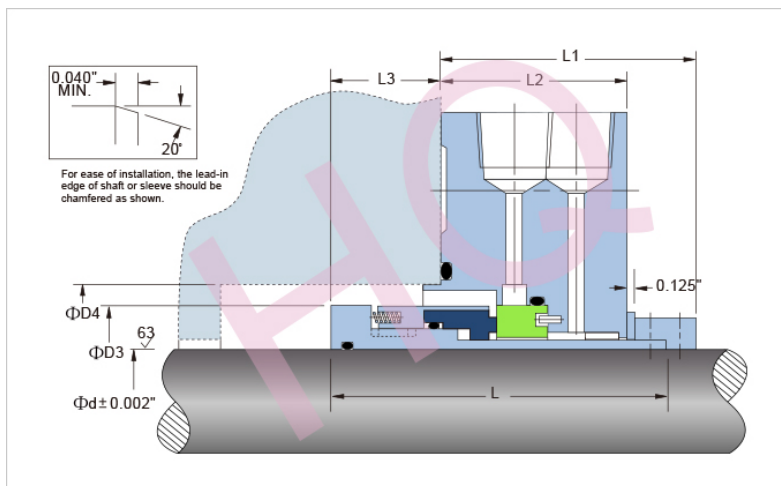
Replacement: Crane 8B

Temperature: -40 to +260°C

Pressure: ≤103.5 Bar

Speed: ≤25m/s

Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (inch)	D3	D4	L	L1	L2	L3
1.000	2.125	2.312	4.250	2.875	1.750	1.843
1.125	2.250	2.437	4.250	2.875	1.750	1.843
1.250	2.375	2.562	4.250	2.875	1.750	1.843
1.375	2.500	2.687	4.312	2.875	1.750	1.906
1.500	2.625	2.812	4.312	2.875	1.750	1.906
1.625	2.750	2.937	4.312	2.875	1.750	1.906
1.750	2.875	3.062	4.312	2.875	1.750	1.906
1.875	3.000	3.187	4.375	2.875	1.750	1.968
2.000	3.125	3.312	4.375	2.875	1.750	1.968
2.125	3.375	3.562	4.562	3.000	1.875	2.031
2.250	3.500	3.687	4.562	3.000	1.875	2.031
2.375	3.625	3.812	4.625	3.000	1.875	2.093
2.500	3.750	3.937	4.625	3.000	1.875	2.093
2.625	3.875	4.062	4.625	3.000	1.875	2.093
2.750	4.000	4.187	4.625	3.000	1.875	2.093
2.875	4.125	4.312	4.781	3.000	1.875	2.250
3.000	4.250	4.437	4.781	3.000	1.875	2.250
3.125	4.562	4.750	4.968	3.250	2.125	2.187
3.250	4.687	4.875	4.968	3.250	2.125	2.187
3.375	4.812	5.000	4.968	3.250	2.125	2.187
3.500	4.937	5.125	4.968	3.250	2.125	2.187
3.625	5.062	5.250	4.968	3.250	2.125	2.187
3.750	5.187	5.375	4.968	3.250	2.125	2.187
3.875	5.312	5.500	4.968	3.250	2.125	2.187
4.000	5.437	5.625	4.968	3.250	2.125	2.187
4.125	5.750	6.000	5.156	3.250	2.125	2.375
4.250	5.875	6.125	5.156	3.250	2.125	2.375

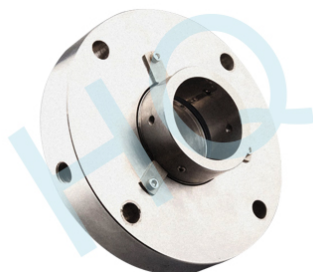
HQCS-J56(8B1D)



Type: Cartridge Seal
Replacement: Crane 8B1D
Temperature: -40 to +260°C
Pressure: $\leq 2.8\text{Mpa}$
Speed: $\leq 23\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

Cartridge seal.

Equal to Crane 8B1D.

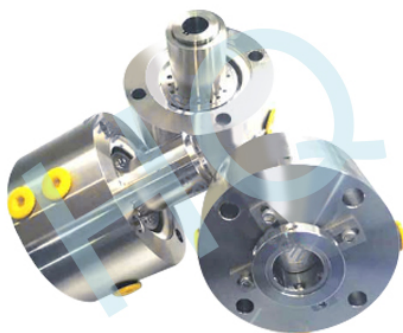


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HQCS-J54(8BV)/HQCS-J55(8BVS)



Type: Cartridge Seal
Replacement: Crane 8BV,8BVS
Temperature: -40 to +180°C
Pressure: $\leq 40\text{Mpa}$
Speed: $\leq 70\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

High speed and high Pressure mechanical seal

HQCS-J54 is equal to Crane 8BV,

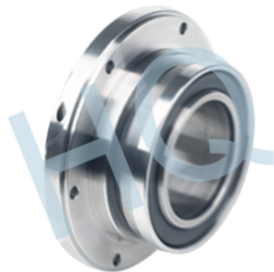
HQCS-J55 is equal to Crane 8BVS.



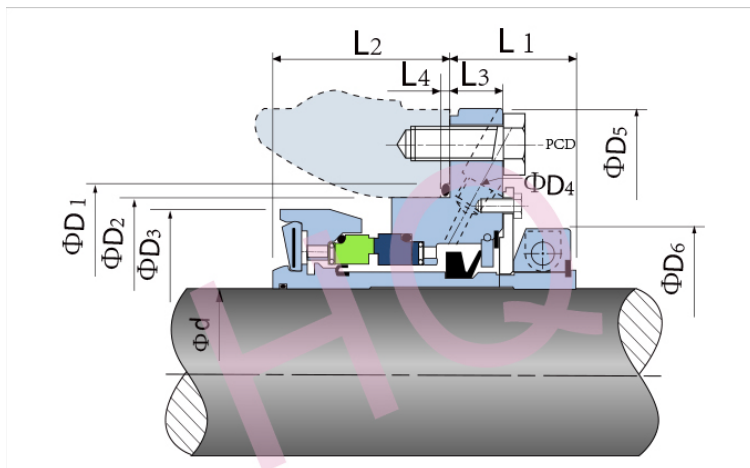
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Type: Slurry Single Cartridge Seal
 Replacement: Crane 5840
 Temperature: -20°C to +75°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q1, Q2, U2, T, P, M1,
 F, G, M



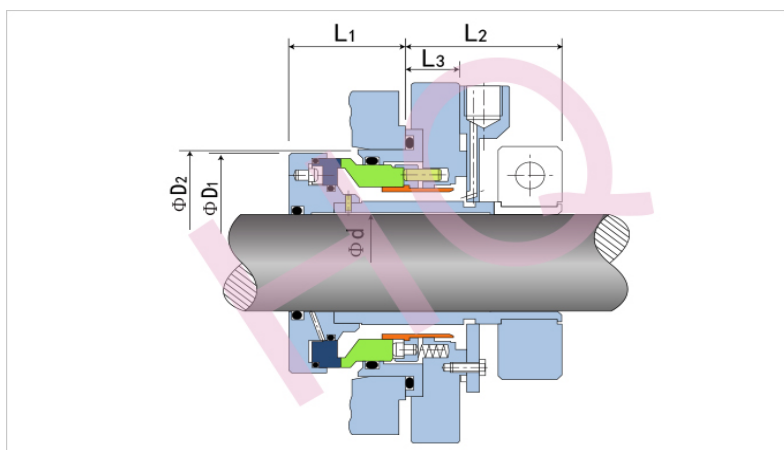
Size (mm)	d	D3	D2	D5	D1	D4	D6	L2	L3	L4	L1	Gland Stud PCD	Stud Dia
1	35-51	99	N/A	140	133	1/4" NPT	63	42	24.3	N/A	37	N/A	N/A
2	51-82.5	136	163	217	172.7	1/4" NPT	113	54.5	25	2.81	45	195	M12
3	82.5-105	170	185	243	200.6	1/4" NPT	154	69.5	21	4.33	59	220	M12
4	105-135	204	210	288	225.6	3/8" NPT	196	69.5	27	4.33	67	260	M12
5	135-180	258	270	350	285.8	3/8" NPT	235	86.5	25	5.52	67	320	M12
6	180-220	310	327.3	428	343.1	3/8" NPT	290	101	30	5.25	72	388	M20



HQS-J5860



Type: Slurry Pumps Seal
 Replacement: Crane 5860
 Temperature: Elastomer dependent
 Pressure: $\leq 2.80\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



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d(mm) (max)	D1	D2 (min)	L1	L2	L3
30.0	67.0	73.0	32.5	54.5	20.0
41.3	85.0	91.0	32.5	60.5	23.0
48.0	90.0	96.0	34.5	63.5	26.0
55.0	100.0	106.0	34.5	63.5	26.0
70.0	119.0	125.0	40.5	63.5	26.0
76.2	130.0	136.0	47.5	66.5	27.0
86.0	138.5	144.5	45.5	66.5	27.0
92.0	148.0	154.0	45.5	66.5	27.0
112.0	172.0	178.0	59.0	75.0	28.5
124.0	187.0	193.0	59.0	75.0	28.5
140.0	205.0	211.0	59.0	75.0	28.5
158.0	225.0	231.0	60.5	78.5	32.0
165.1	240.0	246.0	60.0	79.0	32.5
194.0	266.0	272.0	60.0	79.0	32.5
200.0	275.0	281.0	67.4	82.0	35.5
220.0	288.0	294.0	69.3	82.0	35.5



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HQMB-J32(EZ-1)

Type: Metal Bellow Seal

Replacement: Crane EZ-1

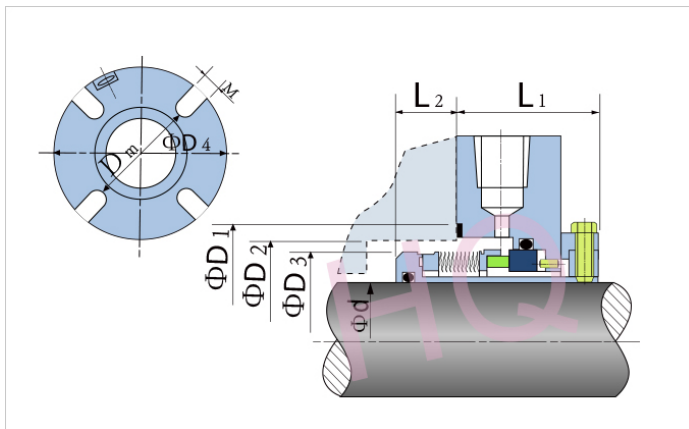
Temperature: -30°C to +200°C

Pressure: $\leq 2.0\text{Mpa}$

Speed: $\leq 25\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,V,

Graphite,T6,F,G,M, M1



<http://www.hqseal.com>

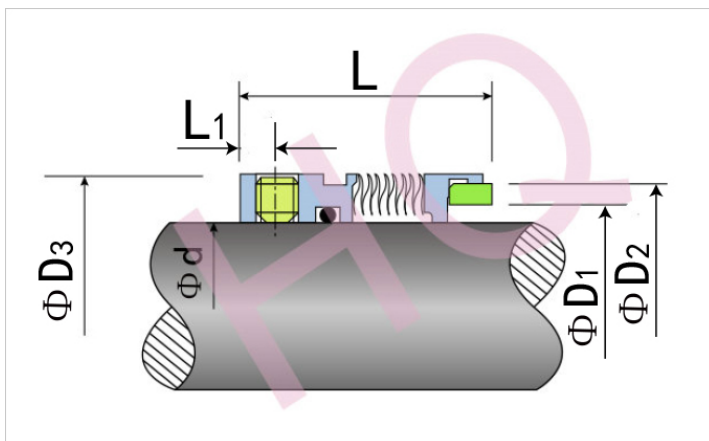
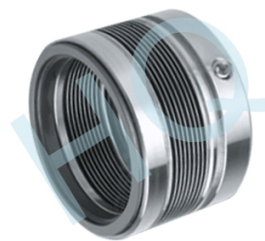


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d (inch)	D3	D2	D1	L2	L1	Dm	M	D4
1.125	1.687	1.937	2.375	0.687	1.687	2.437	0.562	4.375
1.125	1.687	1.937	3.250	0.687	1.687	3.312	0.437	4.500
1.375	1.937	2.062	2.375	0.687	1.562	2.437	0.562	4.375
1.375	1.937	2.812	3.250	0.687	1.562	3.437	0.500	5.250
1.500	2.187	2.937	2.750	0.750	1.687	2.812	0.562	5.125
1.625	2.312	2.437	2.812	0.750	1.687	2.875	0.562	5.250
1.750	2.437	2.562	3.125	0.750	1.687	3.187	0.562	5.250
1.750	2.437	3.437	4.250	0.750	1.687	4.562	0.562	6.500
1.875	2.562	2.687	3.250	0.750	1.687	3.312	0.562	5.375
1.875	2.562	3.562	4.250	0.750	1.687	4.437	0.562	6.500
2.000	2.687	2.812	3.250	0.750	1.750	3.312	0.687	5.500
2.125	2.812	2.937	3.500	0.875	1.687	3.562	0.687	5.437
2.500	3.312	3.437	4.250	1.000	1.687	4.312	0.812	6.250
2.500	3.312	4.375	5.500	1.000	1.687	5.625	0.750	8.000
2.625	3.437	3.562	4.375	1.187	1.625	4.437	0.562	6.500
2.625	3.437	4.375	5.375	1.187	1.625	5.435	0.565	7.000
2.750	3.625	3.750	4.500	1.062	1.625	4.562	0.750	7.000
3.000	3.875	4.000	4.812	1.125	1.656	4.875	0.812	7.750
3.250	4.125	4.250	4.937	1.125	1.656	5.000	0.812	7.500
3.500	4.375	4.687	5.625	1.125	1.656	5.687	0.812	8.500

HQMB-J20(680)

Type: Metal Bellow Seal
 Replacement: Crane 680
 Temperature: -75°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,Q2,U2,V,E,P,F,G,T6



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d (mm)	D1	D2	D3	L	L1	Set Screw Size/Qty
24	29.79	34.93	38.10	30.0	4.5	M5X3
25	30.50	35.68	39.00	30.0	4.5	M5X3
28	33.50	38.68	42.00	32.5	5.5	M5X3
30	35.50	40.68	44.00	32.5	5.1	M5X3
32	38.51	43.66	46.02	32.5	5.1	M5X3
33	38.20	44.63	47.00	32.5	4.5	M5X3
35	41.68	46.86	49.20	32.5	4.5	M5X3
38	43.59	50.04	52.37	34.0	5.2	M6X3
40	46.76	53.21	55.55	34.0	5.2	M6X3
43	49.94	56.39	58.72	34.0	5.2	M6X3
45	49.94	56.39	58.72	34.0	5.2	M6X3
48	53.09	59.56	61.90	34.0	5.2	M6X3
50	56.29	62.76	65.07	34.0	5.2	M6X3
53	59.44	65.91	68.25	34.0	5.2	M6X3
55	62.00	68.45	71.00	34.0	4.6	M6X3
58	65.79	72.29	74.60	39.5	6.6	M6X3
60	65.79	72.29	74.60	39.5	6.6	M8X3
63	70.87	78.64	80.95	39.5	6.6	M8X3
65	74.04	81.81	84.12	39.5	6.0	M8X3
68	77.22	85.01	87.30	37.5	5.1	M8X3
70	77.22	85.01	87.30	45.0	8.2	M8X3
75	84.38	92.13	95.25	45.0	7.8	M8X3
80	87.30	95.81	98.43	44.5	6.7	M8X3
85	93.65	102.16	104.78	44.5	6.7	M8X3
90	96.82	105.33	107.95	49.5	9.0	M8X3
95	103.17	111.68	114.30	49.5	9.0	M8X3
100	109.52	118.03	120.65	49.5	9.0	M8X3

HQMB-J22(670/675/676)

Type: Metal Bellow Seal

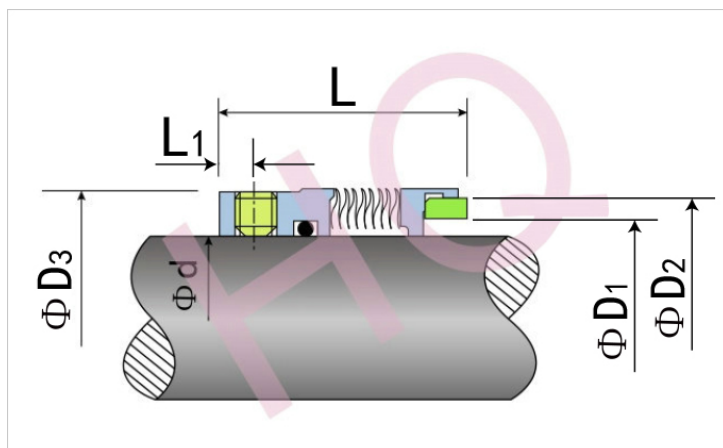
Replacement: Crane

Temperature: -75°C to +200°C

Pressure: $\leq 2.0\text{Mpa}$

Speed: $\leq 22\text{m/s}$

Material: B,Q2,U2,V,E,P,F,G,T6



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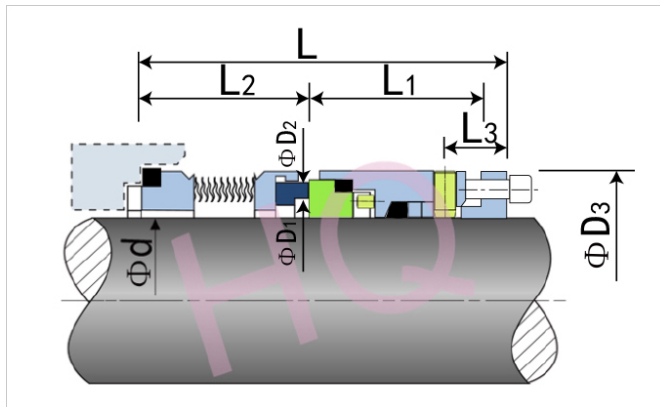
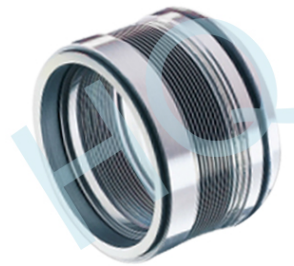


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d (mm)	D1	D2	D3	L	L1	Set Screw Size/Qty
24	29.79	34.93	38.10	30.0	4.5	M5X3
25	30.50	35.68	39.00	30.0	4.5	M5X3
28	33.50	38.68	42.00	32.5	5.5	M5X3
30	35.50	40.68	44.00	32.5	5.1	M5X3
32	38.51	43.66	46.02	32.5	5.1	M5X3
33	38.20	44.63	47.00	32.5	4.5	M5X3
35	41.68	46.86	49.20	32.5	4.5	M5X3
38	43.59	50.04	52.37	34.0	5.2	M6X3
40	46.76	53.21	55.55	34.0	5.2	M6X3
43	49.94	56.39	58.72	34.0	5.2	M6X3
45	49.94	56.39	58.72	34.0	5.2	M6X3
48	53.09	59.56	61.90	34.0	5.2	M6X3
50	56.29	62.76	65.07	34.0	5.2	M6X3
53	59.44	65.91	68.25	34.0	5.2	M6X3
55	62.00	68.45	71.00	34.0	4.6	M6X3
58	65.79	72.29	74.60	39.5	6.6	M6X3
60	65.79	72.29	74.60	39.5	6.6	M6X3
63	70.87	78.64	80.95	39.5	6.6	M6X3
65	74.04	81.81	84.12	39.5	6.0	M6X3
70	77.22	85.01	87.30	45.0	8.2	M6X3
75	84.38	92.13	95.25	45.0	7.8	M6X3
80	87.3	95.81	98.43	44.5	6.7	M6X4
85	93.65	102.16	104.78	44.5	6.7	M6X4
90	96.82	105.33	107.95	49.5	9.0	M6X4
95	103.17	111.68	114.30	49.5	9.0	M6X4
100	109.52	118.03	120.65	49.5	9.0	M6X4

HQMB-J23(604)

Type: Metal Bellow Seal
 Replacement: Crane 604
 Temperature: -75°C to $+400^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,Q2,U2,Graphite,F,G,T6



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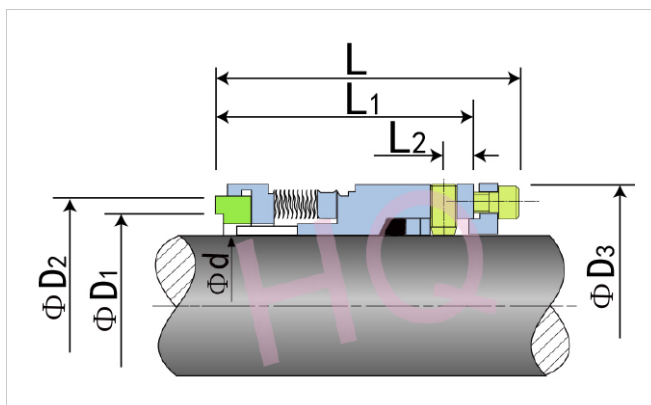


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Dash No.	d (inch)	D1	D2	D3	L	L1	L2	L3
18	1.000	1.365	1.565	1.937	3.107	1.969	1.138	0.500
20	1.125	1.519	1.719	2.062	3.107	1.969	1.138	0.500
22	1.250	1.645	1.845	2.187	3.107	1.969	1.138	0.500
24	1.375	1.72	1.970	2.312	3.076	1.938	1.138	0.501
26	1.500	1.845	2.095	3.562	3.254	2.063	1.191	0.620
28	1.625	1.970	2.22	2.562	3.282	2.060	1.222	0.625
30	1.750	2.095	2.345	2.687	3.312	2.060	1.254	0.625
32	1.875	2.221	2.471	2.812	3.315	2.062	1.254	0.629
34	2.000	2.345	2.596	2.937	3.345	2.060	1.285	0.623
36	2.125	2.471	2.721	3.187	3.499	2.182	1.317	0.620
38	2.250	2.596	2.846	2.312	3.566	2.218	1.346	0.657
40	2.375	2.796	3.096	3.437	3.565	2.186	1.379	0.625
42	2.500	2.921	3.221	3.562	3.595	2.184	1.410	0.625
44	2.625	3.047	3.347	3.687	3.693	2.250	1.443	0.625
46	2.750	3.202	3.502	3.937	3.858	2.250	1.608	0.625
48	2.875	3.327	3.327	4.062	3.889	2.281	1.608	0.656
50	3.000	3.442	3.772	4.187	3.858	2.250	1.608	0.625
52	3.125	3.567	3.897	4.312	3.858	2.250	1.608	0.625
54	3.250	3.692	4.022	4.437	3.827	2.219	1.608	0.594
56	3.375	3.817	4.147	4.562	3.89	2.282	1.608	0.657
58	3.500	3.942	4.272	4.687	4.023	2.373	1.650	0.656
60	3.625	4.067	4.397	4.812	4.025	2.375	1.650	0.656
62	3.750	4.192	4.522	4.937	4.025	2.375	1.650	0.656
64	3.875	4.317	4.647	5.062	4.027	2.377	1.650	0.656

HQMB-J24(606)

Type: Metal Bellow Seal
 Replacement: Crane 606
 Temperature: -20°C to +425°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: A,Q1,Q2,U2,Graphite,F,G,M,T6



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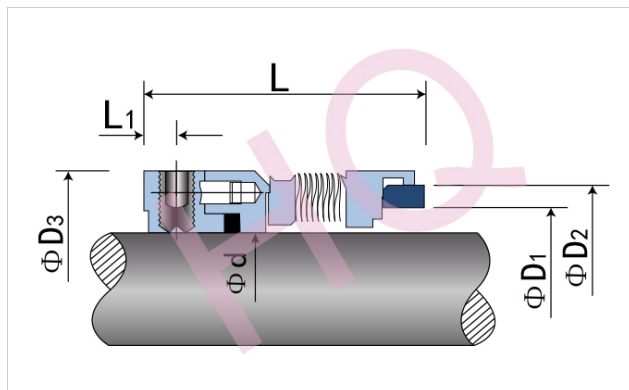
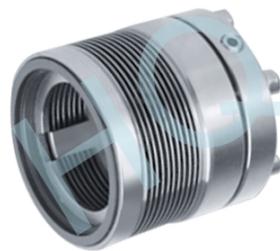
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Dash No.	d (inch)	D1	D2	D3	L	L1	L2
16	0.750	1.238	1.438	1.625	2.312	1.687	0.188
18	0.875	1.365	1.565	1.750	2.343	1.719	0.188
20	1.000	1.519	1.719	1.875	2.343	1.719	0.188
22	1.125	1.645	1.845	2.000	2.375	1.750	0.188
24	1.250	1.720	1.970	2.125	2.375	1.750	0.188
26	1.375	1.845	2.095	2.250	2.468	1.844	0.250
28	1.500	1.970	2.220	2.375	2.500	1.875	0.250
30	1.625	2.095	2.345	2.500	2.500	1.875	0.250
32	1.750	2.221	2.471	2.625	2.531	1.906	0.250
34	1.875	2.345	2.596	2.750	2.531	1.906	0.250
36	2.000	2.471	2.721	2.875	2.562	1.937	0.250
38	2.125	2.596	2.846	3.000	2.562	1.937	0.250
40	2.250	2.796	3.096	3.250	2.750	2.000	0.250
42	2.375	2.921	3.221	3.375	2.781	2.031	0.250
44	2.500	3.047	3.347	3.500	2.781	2.031	0.250
46	2.625	3.202	3.502	3.687	2.875	2.125	0.250
48	2.750	3.327	3.327	3.812	3.000	2.250	0.281
50	2.875	3.442	3.772	4.000	3.000	2.250	0.281
52	3.000	3.567	3.897	4.125	3.000	2.250	0.281
54	3.125	3.692	4.022	4.250	3.000	2.250	0.281
56	3.250	3.817	4.147	4.375	3.000	2.250	0.281
58	3.375	3.942	4.272	4.500	3.000	2.250	0.281
60	3.500	4.067	4.397	4.625	3.000	2.250	0.281
62	3.625	4.192	4.522	4.750	3.000	2.250	0.281
64	3.750	4.317	4.647	4.875	3.000	2.250	0.281



HQMB-J21(609)

Type: Metal Bellow Seal
 Replacement: Crane 609
 Temperature: -75°C to +400°C
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 23\text{m/s}$
 Material: B,Q2,U2,Graphite,F,G,T6



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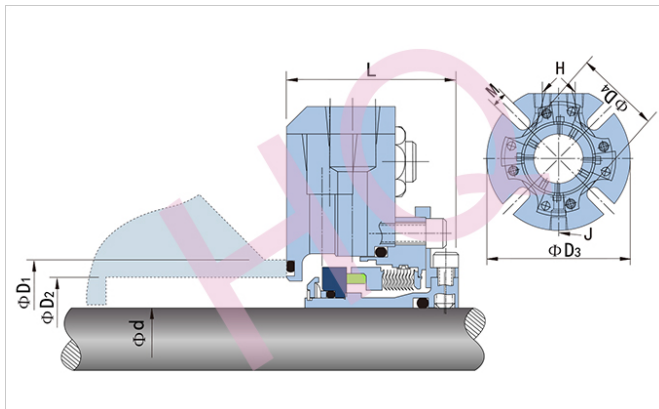


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Dash No.	d (inch)	D1	D2	D3	L	L1
16	1.000	1.238	1.438	1.625	1.531	0.219
18	1.125	1.365	1.565	1.750	1.562	0.219
20	1.250	1.519	1.719	1.875	1.593	0.219
22	1.375	1.645	1.845	2.000	1.593	0.219
24	1.500	1.720	1.970	2.125	1.593	0.219
26	1.625	1.845	2.095	2.250	1.593	0.219
28	1.750	1.970	2.220	2.375	1.625	0.219
30	1.875	2.095	2.345	2.500	1.625	0.219
32	2.000	2.221	2.471	2.625	1.656	0.219
34	2.125	2.345	2.596	2.750	1.656	0.219
36	2.250	2.471	2.721	2.875	1.719	0.219
38	2.375	2.596	2.846	3.000	1.719	0.219
40	2.500	2.796	3.096	3.250	1.750	0.219
42	2.625	2.921	3.221	3.375	1.781	0.219
44	2.750	3.047	3.347	3.500	1.781	0.219
46	2.875	3.202	3.502	3.687	1.875	0.219
48	3.000	3.327	3.327	3.812	1.875	0.219
50	3.125	3.442	3.772	4.000	1.875	0.219
52	3.250	3.567	3.897	4.125	1.875	0.219
54	3.375	3.692	4.022	4.250	1.875	0.219
56	3.500	3.817	4.147	4.375	1.875	0.219
58	3.625	3.942	4.272	4.500	1.875	0.219
60	3.750	4.067	4.397	4.625	1.875	0.219
62	3.875	4.192	4.522	4.750	1.875	0.219
64	4.000	4.317	4.647	4.875	1.875	0.219

HQMB-J25(613)

Type: Metal Bellow Seal
 Replacement: Crane 613
 Temperature: -75°C to +200°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: A, Q1, Q2, Graphite, F, G, M, M5



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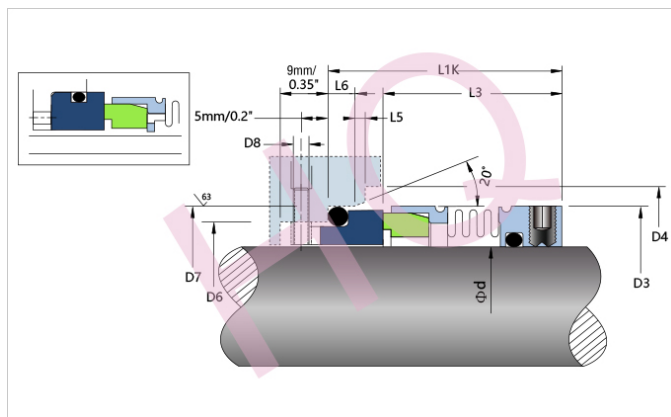
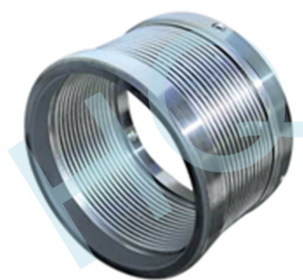
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d (mm)	D1	D2	D3	D4	L	M	H	J
33	60.33	53.98	117.48	71.45	52.43	12.70	2001-4-18	2003-8-18
35	60.33	53.98	117.48	71.45	52.43	12.70	2001-4-18	2003-8-18
43	76.19	66.68	119.35	85.73	53.98	14.27	2003-8-18	2003-8-18
45	76.19	66.68	119.35	85.73	53.98	14.27	2003-8-18	2003-8-18
53	95.00	83.00	152.40	100.03	61.90	14.27	2003-8-18	2003-8-18
55	95.00	83.00	152.40	100.03	61.90	14.27	2003-8-18	2003-8-18
65	107.95	92.08	171.45	122.25	70.64	17.45	2003-8-18	2003-8-18

d (inch)	D1	D2	D3	D4	L	M	H	J
1.125	2.250	2.000	4.625	2.44	2.00	0.44	2001-4-18	2003-8-18
1.375	2.375	2.125	4.625	2.81	2.06	0.50	2001-4-18	2003-8-18
1.375*	3.312	2.875	5.25	3.44	2.06	0.44	2001-4-18	2003-8-18
1.750	3.000	2.625	5.50	3.38	2.13	0.56	2003-8-18	2003-8-18
1.750*	3.937	3.500	6.75	4.44	2.13	0.69	2003-8-18	2003-8-18
1.875	3.125	2.750	5.50	3.31	2.19	0.56	2003-8-18	2003-8-18
1.875*	4.125	3.625	6.00	4.44	2.56	0.56	2003-8-18	2003-8-18
2.125	3.437	3.062	6.00	3.94	2.44	0.56	2003-8-18	2003-8-18
2.125*	4.437	4.000	7.25	4.75	2.44	0.75	2003-8-18	2003-8-18
2.500	4.000	3.500	6.75	4.25	2.63	0.75	2003-8-18	2003-8-18
2.500*	5.250	4.750	8.00	5.56	2.63	0.69	2003-8-18	2003-8-18
2.625	4.250	3.625	6.75	4.81	2.78	0.69	2003-8-18	2003-8-18
2.625*	5.125	4.625	7.375	5.31	2.78	0.69	2003-8-18	2003-8-18

HQMB-J33(GL1B)

Type: Formed Metal Bellows Seal
 Replacement: Crane GL1B
 Temperature: -30 to +200°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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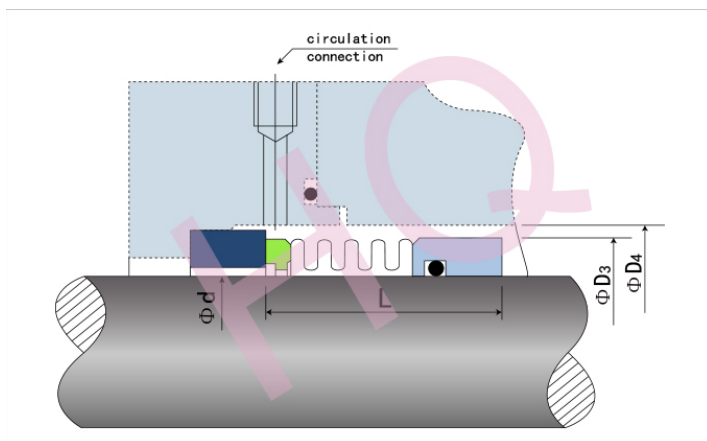


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d(mm)		D4		D7		L1K	L3		
+0.00/ -0.05	D3	min.	D6	+0.00/ -0.05	D8	+/_ 0.05	+/_ 0.05	L5	L6
25	39.6	41	34	40	3	40.0	30.0	2.0	5
28	42.5	44	37	43	3	42.5	32.5	2.0	5
30	44.5	46	39	45	3	42.5	32.5	2.0	5
32	46.5	48	42	48	3	42.5	32.5	2.0	5
33	47.5	49	42	48	3	42.5	32.5	2.0	5
35	49.4	51	44	50	3	42.5	32.5	2.0	5
38	54.0	58	49	56	4	45.0	34.0	2.0	5
40	56.5	60	51	58	4	45.0	34.0	2.0	6
43	56.5	63	54	61	4	45.0	34.0	2.0	6
45	63.3	65	56	63	4	45.0	34.0	2	6
48	65.2	68	59	66	4	47.5	34.0	2.5	6
50	66.3	70	62	70	4	47.5	34.0	2.5	6
53	71.5	73	65	73	4	47.5	34.0	2.5	6
55	71.5	75	67	75	4	47.5	34.0	2.5	6
58	74.7	83	70	78	4	52.5	39.5	2.5	6
60	79.3	85	72	80	4	52.5	39.5	2.5	6
63	82.3	88	75	83	4	52.5	39.5	2.5	6
65	82.3	90	77	85	4	52.5	39.5	2.5	7
68	87.5	93	81	90	4	52.5	37.5	2.5	7
70	89.5	95	83	92	4	60.0	45.0	2.5	7
75	92.5	104	88	97	4	60.0	45.0	2.5	7
80	98.6	109	95	105	4	60.0	44.5	3.0	7
85	107.1	114	100	110	4	60.0	44.5	3.0	7
90	113.5	119	105	115	4	65.0	49.5	3.0	7
95	116.7	124	110	120	4	65.0	49.5	3.0	7
100	123.0	129	115	125	4	65.0	49.5	3.0	7

HQMB-J34(515E)

Type: Asymmetric Formed Metal Bellow Seal
 Replacement: Crane 515E
 Temperature: -40 to +200°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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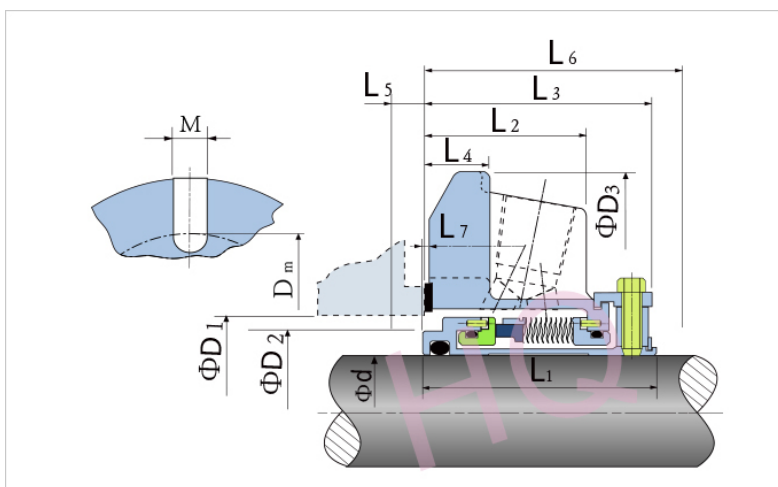


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Size (mm)	d	D3	D4	L
18	18	31.0	34	31.5
20	20	31.0	36	31.5
22	22	31.0	38	31.5
24	24	36.0	40	36.7
25	25	36.0	41	37.0
28	28	39.0	44	37.5
30	30	42.0	46	38.0
32	32	46.0	48	43.0
33	33	46.0	49	43.0
35	35	48.5	51	43.0
38	38	51.5	58	42.0
40	40	54.0	60	42.0
43	43	58.4	63	47.0
45	45	58.4	65	47.0
48	48	63.7	68	47.0
50	50	63.7	70	46.5
53	53	69.0	73	56.5
55	55	71.0	75	56.5
58	58	73.3	83	56.5
60	60	76.7	85	56.5
63	63	79.4	88	56.5
65	65	83.0	90	66.5
68	68	87.8	93	66.5
70	70	87.8	95	65.5
75	75	94.0	104	65.5
80	80	100.6	109	75.0
85	85	106.0	114	75.0
90	90	110.3	119	75.0
95	95	114.9	124	75.0
100	100	121.3	129	75.0

HQMB-J26(5615)

Type: Metal Bellow Seal
 Replacement: Crane 5615
 Temperature: -30°C to +205°C
 Pressure: ≤ 2.1 Mpa
 Speed: ≤ 25 m/s
 Material: A,B,Q1,Q2,U1,U2,T,V,
 Graphite, T6,F,G,M



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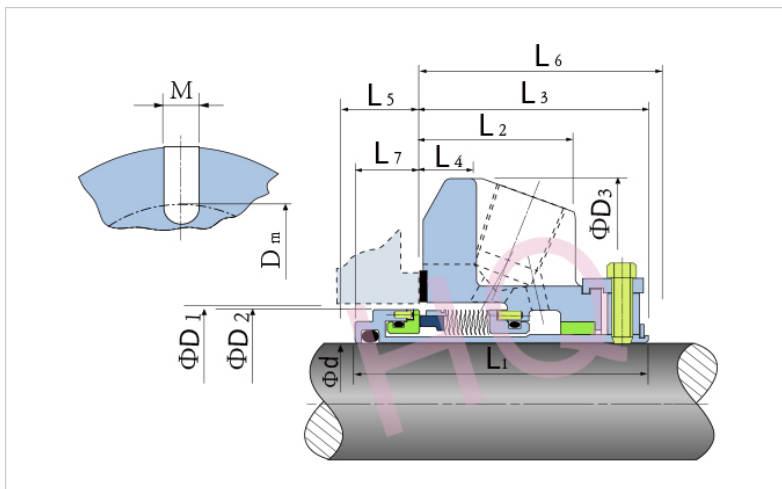
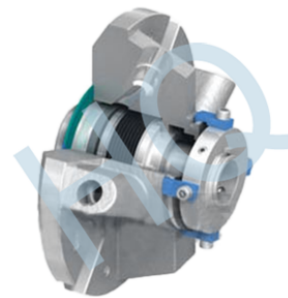


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d (inch)	D2	D(min)	D1(max)	D3	L1	L2	L3	L4	L6	L5	L7	M	Dm
1.000	1.375	1.445	1.889	4.000	1.989	1.353	1.954	0.531	2.000	0.160	0.035	0.525	2.805
1.125	1.500	*	2.015	4.125	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	2.933
1.250	1.625	*	2.294	4.250	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	3.213
1.375	1.750	*	2.421	4.375	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	3.338
1.500	1.937	2.007	2.680	4.875	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.525	3.599
1.625	2.062	2.132	2.812	5.000	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.766
1.750	2.170	2.24	2.918	5.250	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.875
1.875	2.312	2.382	2.918	5.25	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.875
2.000	2.437	2.507	3.015	5.500	2.375	1.601	2.312	1.063	2.375	0.187	0.062	0.562	4.000
2.125	2.562	2.632	3.360	5.859	2.375	1.601	2.312	0.593	2.375	0.187	0.062	0.687	4.469
2.250	2.687	2.757	3.485	6.500	2.375	1.601	2.312	0.593	2.375	0.187	0.062	0.687	4.357
2.375	2.812	2.882	3.610	6.500	2.484	1.717	2.466	0.625	2.528	0.143	0.018	0.687	4.719
2.500	3.062	*	3.891	6.75	2.484	1.717	2.563	0.625	2.625	0.125	*	0.687	5.000
2.625	3.312	*	4.062	6.75	2.500	1.625	2.5000	0.625	2.562	0.125	*	0.687	5.170
2.750	3.312	*	4.062	6.75	2.500	1.625	2.500	0.625	2.562	0.125	*	0.687	5.170
2.875	3.375	*	1.186	7.000	2.500	1.725	2.500	0.625	2.562	0.125	*	0.687	5.312
3.000	3.625	*	4.469	7.75	2.500	1.787	2.562	0.685	2.625	0.125	*	0.812	5.720

HQMB-J27(5615Q)

Type: Metal Bellow Seal
 Replacement: Crane 5615Q
 Temperature: -30°C to $+205^{\circ}\text{C}$
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 25\text{m/s}$
 Material: A,B,Q1,Q2,U1,U2,T,V,
 Graphite,T6,F,G,M



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d (mm)	D2	D1(min.)	D1(max.)	D3	L1	L2	L3	L4	L6	L5	L7	M	Dm
24	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
25	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
28	42.9	44.5	51.2	104.8	67.3	36.7	52.4	13.5	54.0	18.1	15.0	13.3	74.5
30	44.5	46.1	56.5	108.0	65.1	36.7	52.4	13.5	54.0	15.9	12.7	13.3	79.9
32	46.0	47.6	58.3	108.0	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	81.6
33	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.6
35	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.6
38	55.5	57.2	68.1	123.8	69.7	37.8	54.0	15.1	55.5	18.9	15.7	13.3	91.4
40	58.7	60.3	71.4	127.0	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	95.7
43	61.1	63.0	74.4	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
45	61.1	63.0	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
48	65.1	66.7	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
50	68.3	70.0	76.6	139.7	75.3	40.7	58.7	27	60.3	19.7	16.5	14.3	101.0
53	71.4	73.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.0
55	72.9	75.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.0
58	74.6	76.2	88.5	165.1	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	116.0
60	77.8	79.4	91.7	165.1	77.8	43.6	62.6	15.9	64.2	18.3	15.2	17.4	119.0
63	84.1	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
65	84.1	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
68	90.5	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	17.4	131.3
70	90.5	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	17.4	131.3
75	100	101.6	113.5	196.9	78.4	45.4	65.1	17.4	66.7	16.5	13.4	20.6	145.3

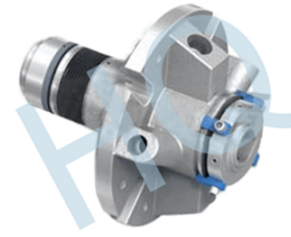
HQMB-J28(5625/5625P)

Type: Metal Bellow Seal
Replacement: Crane 5625/5625PR
Temperature: -30°C to +205°C

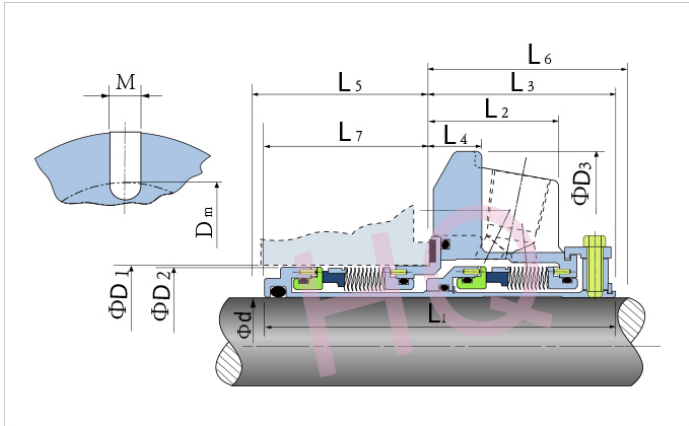
Pressure: $\leq 2.1\text{Mpa}$

Speed: $\leq 25\text{m/s}$

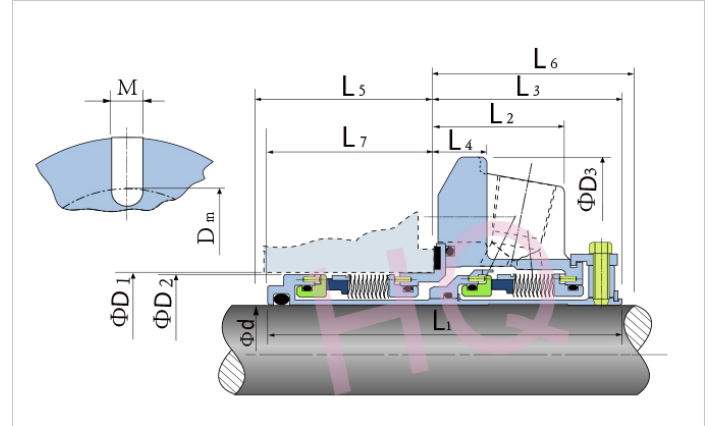
Material: A,B,Q1,Q2,U1,U2,T,V,Graphite,T6,F,G,M



5625



5625PR



d (mm)	D1 (min)	D1 (max)	D2	D3	L1	L2	L3	L4	L5	L6	L7	M	Dm
24	41.3	48.0	39.7	101.6	94.1	34.4	49.6	13.5	47.7	50.8	44.5	13.3	71.2
25	41.3	48.0	39.7	101.6	84.1	34.4	49.6	13.5	47.7	50.8	44.5	13.3	71.2
28	44.5	51.2	42.9	104.8	97.8	36.7	52.4	13.5	48.6	54.0	45.4	13.3	74.5
30	46.1	56.5	44.8	108.0	97.8	36.7	52.4	13.5	48.6	54.0	45.4	13.3	79.9
32	47.6	58.3	46.0	108.0	97.8	36.7	52.4	13.5	48.6	54.0	45.4	13.3	81.6
33	50.8	61.5	49.3	111.	97.8	36.7	52.4	13.5	48.6	54.0	45.4	13.3	84.8
35	50.8	61.5	49.3	111.	97.8	36.7	52.4	13.5	48.6	54.0	45.4	13.3	84.8
38	57.2	68.1	55.6	123.8	101.5	37.8	54.0	15.1	50.7	55.5	47.5	13.3	91.4
40	60.3	71.4	58.7	127	101.5	37.8	54.0	15.1	50.7	55.5	47.5	14.3	95.7
43	63.0	74.1	61.5	133.4	101.5	37.8	54.0	15.1	50.7	55.5	47.5	14.3	98.4
45	63.0	74.1	61.5	133.4	101.5	37.8	54.0	15.1	50.7	55.5	47.5	14.3	98.4
48	66.7	74.1	65.1	133.4	101.5	37.8	54.0	15.1	50.7	55.5	47.5	14.3	98.4
50	70.0	76.6	68.3	139.7	110.6	40.7	58.7	15.1	55.0	60.3	51.9	14.3	101.6
53	73.0	85.3	71.4	148.8	110.6	40.7	58.7	15.1	55.0	60.3	51.9	17.4	113.5
55	75.0	85.3	73.0	148.8	110.6	40.7	58.7	15.1	55.0	60.3	51.9	17.4	113.5
58	76.2	88.5	74.6	165.1	110.6	40.7	58.7	15.1	55.0	60.3	51.9	17.4	116.0
60	79.4	91.7	77.8	165.1	115.4	43.6	62.6	15.9	56.0	64.2	52.8	17.4	119.9
63	85.7	98.8	84.1	171.5	115.4	43.6	65.1	15.9	53.5	66.7	50.3	17.4	127.0
65	85.7	98.8	84.1	171.5	115.4	43.6	65.1	15.9	53.5	66.7	50.3	17.4	127.0
68	92.1	103.2	90.5	171.5	116.7	41.3	63.5	15.9	59.4	65.1	53.2	17.4	131.3
70	92.1	103.2	90.5	171.5	116.7	41.3	63.5	15.9	59.4	65.1	53.2	17.4	131.3
75	101.6	113.5	100.0	196.9	116.7	45.4	65.1	17.4	54.8	66.7	51.6	20.6	145.3

HQMB-J29(1604)



Type: Metal Bellow Seal

Replacement: Crane 1604

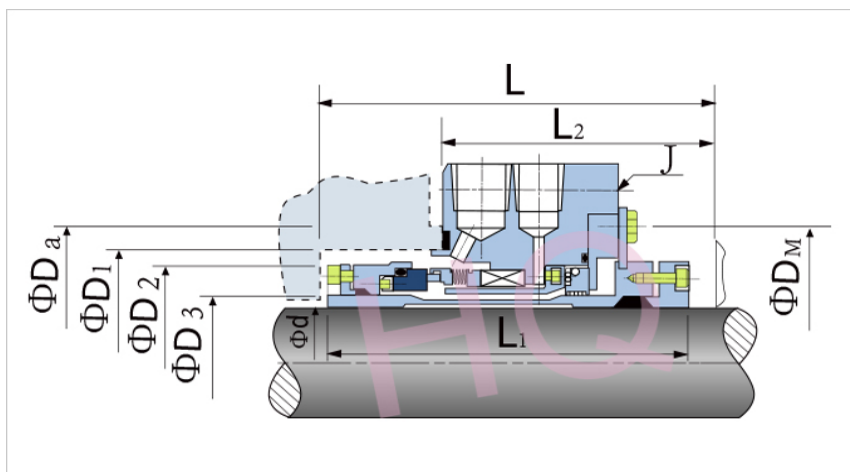
Temperature: -75°C to $+425^{\circ}\text{C}$

Pressure: $\leq 2.0\text{--}6.9\text{Mpa}$

Speed: $\leq 25\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,V,

Graphite,T6,F,G,M, M1



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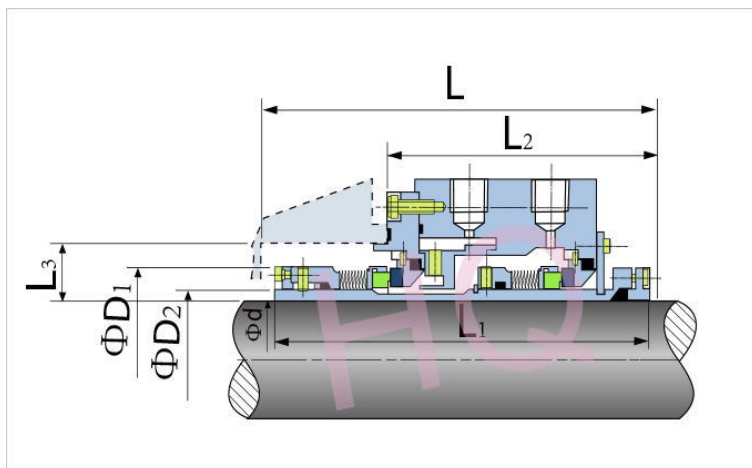


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d (inch)	D1	D2	D3	L1	L	Dm	L2	Da
1.375	2.756	2.187	1.125	5.421	5.90	3.94	4.13	1/2
1.750	3.150	2.562	1.500	5.508	6.10	3.94	4.53	1/2
2.250	3.543	3.187	2.000	5.765	6.30	3.94	4.92	1/2
2.625	3.937	3.562	2.375	5.859	6.50	4.33	5.51	5/8
3.000	4.724	4.063	2.750	6.109	6.69	4.33	6.30	5/8
3.500	5.118	4.563	3.250	6.109	6.89	4.33	6.69	5/8
3.750	5.512	4.812	3.500	6.266	7.03	4.33	7.09	5/8
4.250	6.299	5.312	4.000	6.266	7.28	4.72	8.07	3/4
4.750	6.693	5.812	4.500	6.266	7.48	4.72	8.46	3/4
5.250	7.087	6.437	5.000	6.422	7.69	4.72	8.86	3/4

HQMB-J30(2609)

Type: Metal Bellow Seal
 Replacement: Crane 2609
 Temperature: -75°C to +200°C
 Pressure: ≤8.0Mpa
 Speed: ≤25m/s
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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d (inch)	D1	D2	L	L1	L2	L3
1.125	2.125	1.500	5.75	5.540	3.332	1.000
1.250	2.250	1.625	5.75	5.604	3.396	1.000
1.375	2.375	1.750	5.75	5.680	3.131	1.000
1.500	2.500	1.875	5.75	5.720	3.453	1.000
1.625	2.625	2.000	5.75	5.751	3.453	1.000
1.750	2.750	2.125	5.75	5.944	3.448	1.000
1.875	2.875	2.250	5.75	6.002	3.448	1.000
2.000	3.000	2.375	6.50	6.002	3.427	1.000
2.125	3.250	2.500	6.50	6.058	3.553	1.125
2.250	3.375	2.625	6.50	6.163	3.556	1.125
2.375	3.500	2.750	6.50	6.163	3.467	1.125
2.500	3.687	2.875	6.50	6.212	3.461	1.125
2.625	3.812	3.000	6.50	6.307	3.538	1.125
2.750	4.000	3.125	6.50	6.313	3.538	1.125
2.875	4.125	3.250	6.50	6.313	3.535	1.125
3.000	4.25	3.375	6.50	6.313	3.535	1.125
3.125	4.375	3.500	7.00	6.344	3.869	1.250
3.250	4.625	3.750	7.00	6.428	3.953	1.250
3.375	4.750	3.875	7.00	6.500	4.025	1.250
3.500	4.875	4.000	7.00	6.479	4.004	1.250
3.625	5.187	4.250	7.00	6.500	4.025	1.250
3.750	5.187	4.250	7.00	6.500	4.025	1.250
3.875	5.438	4.500	7.00	6.500	4.025	1.250
4.000	5.438	4.500	7.00	6.500	4.025	1.250

HQMB-J31(3609)



Type: Metal Bellow Seal

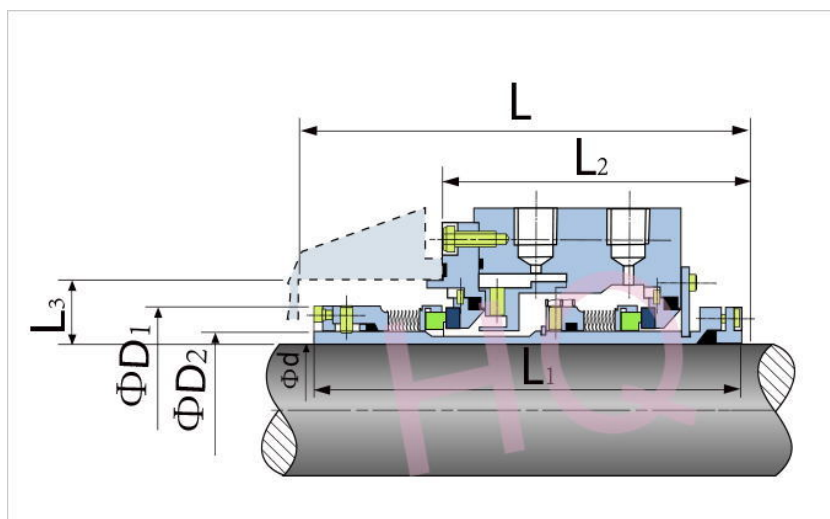
Replacement: Crane 3609

Temperature: -75°C to $+290^{\circ}\text{C}$

Pressure: $\leq 6.0\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M



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Cross Reference Charts

HQ	BURGMANN	AES	CRANE	DEPAC	Chesterton	FLOWSERVE	FLEXA	APEX
Cartridge,Metal Bellow Seals								
HQCS-A50		DIN SAI						
HQCS-A51		CS						
HQCS-A52		1640						
HQCS-A53		CONVERTOR II						
HQCS-A54		CURC						
HQCS-A55		CDSA						
HQCS-A56		CSS						
HQCS-A57		CSSN						
HQCS-A58		CDP						
HQCS-A59		CDPN						
HQCS-A60		DMSF						
HQCS-A61		CDFC						
HQCS-A62		NCE						
HQCS-63		DISP						
HQCS-A64		SCUSI						
HQCS-A65		SMSS						
HQCS-A32		SISS						
HQCS-A32-1		SISR						
HQS-09		CDPH						
HQMB-A50		BQFD						
HQMB-A51		BDFC						
HQMB-A52		BDTP						
HQMB-A53		BSFG						
HQMB-A54		BASI						

Cross Reference Charts

HQ	BURGMANN	AES	CRANE	DEPAC	Chesterton	FLOWSERVE	FLEXA	APEX
Cartridge, Metal Bellow Seals								
HQCS-B01	H10/H8							
HQCS-B02	HR							
HQCS-B03	HRC-N							
HQCS-B04	SH							
HQCS-B05K	H75VK							
HQCS-B05N	H75VN							
HQCS-B06	MA290/MA390							
HQCS-B07	UNITEX							
HQCS-B08	CARTEX-SN							
HQCS-B09	CARTEX-DN							
HQCS-B10	CARTEX ANSI-S							
HQCS-B11	CARTEX ANSI-D							
HQCS-B12	CARTEX-QN							
HQCS-B13	TSK1							
HQCS-B14	TSK1D							
HQCS-B15	APITEX-S							
HQCS-B16	APITEX-T							
HQCS-B17	4600							
HQCS-B18	SHF(V)- D/SHF(V)-D							
HQCS-B19	SHI300							
HQCS-B20	SHI366							
HQCS-B21	LL9DJUE							



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Cross Reference Charts

HQ	BURGMANN	AES	CRANE	DEPAC	Chesterton	FLOWSERVE	FLEXA	APEX
Cartridge,Metal Bellow Seals								
HQ-N13C	LP-S							
HQ-N14C	LP-D							
HQMB-B01	MFL65							
HQMB-B02	MBS100							
HQMB-B03	MFL85N							
HQMB-B04	MFLWT80							
HQMB-B05	MFLCT80							
HQMB-B06	LY9SA							
HQMB-B07	MBS682							
HQMB-B08	LY9DZSS							
HQMB-B09	LY9DSTT							
HQMB-B10	MTEX-S							
HQMB-B11	MTEX-D							
HQMB-B12	TS700							
HQMB-B13	MBS682P-D							
HQMB-B14	MBS682-PTA							
HQMB-B15	LY9TC							
HQMB-B16	LY9DZTT							
HQ-N11B	MF95N							
HQ-N12B	YE400							
HQCS-AP01								S1
HQCS-AP02								S1CVD
HQCS-AP03								S1BB
HQCS-AP04								D2PR
HQCS-AP05								HDS
HQMB-AP01								WB400/450/500
HQMB-AP02								WB800
HQMB-AP03								S1WBC



Cross Reference Charts

HQ	BURGMANN	AES	CRANE	DEPAC	Chesterton	FLOWSERVE	FLEXA	APEX
Cartridge, Metal Bellow Seals								
HQCS-J21			4610					
HQCS-J22			4620P					
HQCS-J23			5610					
HQCS-J24			5610Q					
HQCS-J25			5611					
HQCS-J26			5611Q					
HQCS-J27			48LP/48HP					
HQCS-J28			5620/5620P					
HQCS-J29			5840					
HQCS-J30			1648					
HQCS-J31			SB2					
HQCS-J33			SB1					
HQCS-J34			SBW					
HQCS-J35			SB1A					
HQCS-J36			SB2A					
HQCS-J37			FFET					
HQCS-J39			2648					
HQCS-J40			3648					
HQCS-J41			SE					
HQCS-J42			SE1					
HQCS-J43			SE2					
HQCS-J44			SE2C					
HQCS-J45			SEW					
HQCS-J46			JCS1					
HQCS-J47			JCS1A					
HQCS-J48			JCS1F					



HQ	BURGMANN	AES	CRANE	DEPAC	Chesterton	FLOWSERVE	FLEXA	APEX
Cartridge,Metal Bellow Seals								
HQCS-J49			JCS2					
HQCS-J50			JCS2P					
HQCS-J51			SAF					
HQCS-J52			4111					
HQCS-J53			8B					
HQCS-J54			8BV					
HQS-08			5860					
HQMB-J20			680					
HQMB-J21			609					
HQMB-J22			670/676					
HQMB-J23			604					
HQMB-J24			606					
HQMB-J25			613					
HQCS-J26			5615					
HQMB-J27			5615Q					
HQMB-J28			5625/5625P					
HQMB-J29			1604					
HQMB-J30			2609					
HQMB-J31			3609					
HQMB-J32			EZ1					
HQMB-J33			GL1B					
HQMB-J34			515E					



Metarial Codes

Metal Materials			
Type	Material Description	Symbol	Code
	Normal Stainless Steel	2Cr13	F2
	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	Hastelloy C-4 Alloy	Hast C4	M
	Hastelloy B-2 Alloy	Hast B2	M1
	Carpenter	Carp.20	M3
	Monel	Monel.K50	M4
	Hastelloy C-4C-276 Alloy	Hast.C-276	M5
	Pure Titanim	TA2	T2
	Carpenter	Carp.42	T4
	Deposit induration Stainless Steel	Am350	T6
	08F Coated with Chrome	Q235-A	C
	Brass	H62	H
Secondary Seal Materials			
Type	Material Description	Symbol	Code
Rubber	Nitrile(NBR)	NBR	P
	Ethylene Propylene(EPDM)	EPR	E
	Fluorocarbon Rubber(Viton)	FPM	V
	Silicon Rubber	SI	S
	Chloroprene Rubber	CR	N
	Hydrogen Nitrile	HNBR	H
	Perfluoroelastomer(Kalrez,Chemraz)	FFKM	K
PTFE	Pure PTFE	PTFE	T
	PTFE, glassfibre reinforced		T2
	PTFE,Carbon Reinforced		T3
PTFE Wrapped	FPM,with PTFE wrapped	PTFE+FPM	M1
	EPR,with PTFE wrapped	PTFE+EPR	M2
	MVQ,with PTFE wrapped	PTFE+MVQ	M3
Expended graphite	Expanded Graphite		G



Seal Ring Materials			
Type	Material Description	Symbol	Code
SIC	Silicon Carbide,Sintered Pressureless	SSIC	Q1
	Silicon Carbide,Sintered Pressureless(shrunk-in)		Q12
	Silicon Carbide,Reaction bonded	RBSIC	Q2
	Silicon Carbide,Reaction bonded(shrunk-in)		Q22
	Reaction Silicon Carbide with graphite		Q3
	Sintered Silocon Carbide with SB		Q4
AL203	Ceramic(Alumina)	99.5% AL203	V
	Ceramic(Alumina)	99% AL203	V1
	Ceramic(Alumina)	95% AL203	V2
	Cermet	Fe+AL203	V3
TC	Co-binder Tungsten Carbide	YG6,GY8	U1
	Co-binder Tungsten Carbide(shrunk-in)		U12
	Ni-binder Tungsten Carbide	M106,M108	U2
	Ni-binder Tungsten Carbide(shrunk-in)		U22
	NiCrmo-binder Tungsten Carbide		U3
	NiCrmo-binder Tungsten Carbide(shrunk-in)		U32
Carbon	Antimony Impreg,Carbon Graphite		A
	Babbitt Alloy Impreg,Carbon Graphite		A1
	Copper Impreg,Carbon Graphite		A2
	Resin Impregnated Carbon Graphite(Furan)		B
	Resin Impregnated Carbon Graphite(Epoxy)		B1
	Resin Impregnated Carbon(Phedol-formaldehyde)		B2
	Hot-pressing Carbon		B5
Metal	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	Tin bronze	ZQSn6-6-3	S1
	High silicon cast iron		S2
	High nickel cast iron		S3
Plastic	PTFE,glassfibre reinforced		Y1
	PTFE,carbon reinforced		Y2
Spring Materials			
Type	Material Description	Symbol	Code
	Hastelloy C-4 Alloy	Hast.C4	M
	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	65Mn Coated with Chrome	65Mn	G8