



NINGBO HUAQIU INDUSTRY AND TRADE CO.,LTD

NingBo HuaQiang Mechanical Seal Factory



2025 HQ Catalogue 1-B

(Standard Mechanical Seals)

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DESCRIPTION

Standard Mechanical Seals.....	Catalogue-1
Cartridge, Metal Bellow Seals.....	Catalogue-2
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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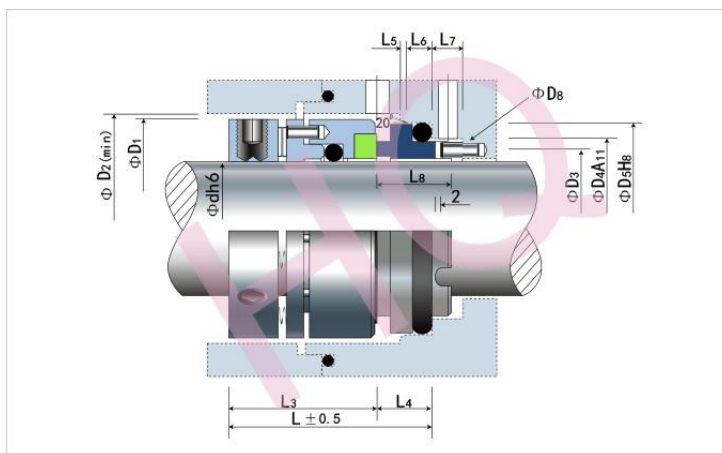


HQ105U/105B



Type: Multi Spring Mechanical Seal
 Temperature: -20 to +200°C
 Pressure: $\leq 3\text{Mpa}$
 Speed: $\leq 13\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

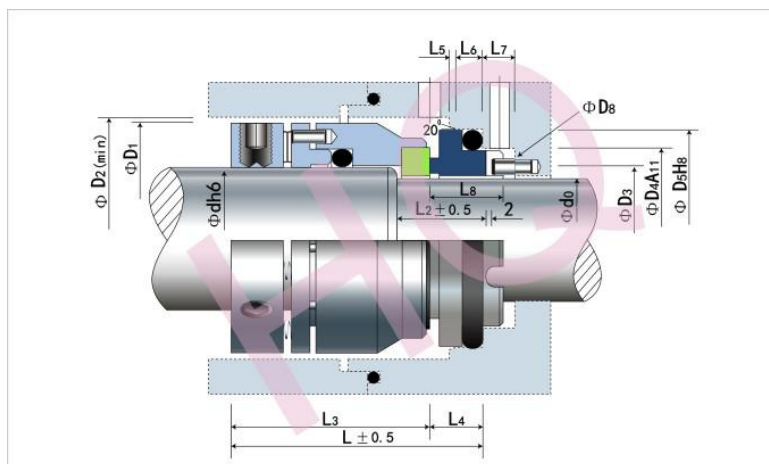
HQ105U



d (mm)	D1	D2	D3	D4	D5	D8	L	L3	L4	L5	L6	L7	L8
35	57	60	40	45	55	3	52	38	14	2.0	6.5	8	19
40	62	65	45	50	60	3	52	38	14	2.0	6.5	8	19
45	67	70	50	55	65	3	53	39	14	2.0	6.5	8	19
50	72	75	55	60	70	3	53	39	14	2.5	6.5	8	19
55	77	80	60	65	75	3	53	39	14	2.5	6.5	8	19
60	82	85	65	70	80	3	53	39	14	2.5	6.5	8	19
65	91	95	73	80	90	3	61	44	17	2.5	6.5	8	22
70	96	100	78	85	97	3	63	44	19	2.5	7.5	9	25
75	101	105	83	90	102	3	63	44	19	2.5	7.5	9	25
80	106	110	88	95	107	3	63	44	19	3.0	7.5	9	25
85	111	115	93	100	112	3	65	46	19	3.0	7.5	9	25
90	116	120	98	105	117	3	65	46	19	3.0	7.5	9	25
95	121	125	103	110	122	3	65	46	19	3.0	7.5	9	25
100	126	130	108	115	127	3	65	46	19	3.0	7.5	9	25
110	140	145	120	130	142	3	72	51	21	3.0	8.0	9	27
120	150	155	130	140	152	3	72	51	21	3.0	8.0	9	27



HQ105B



d (mm)	d0	D1	D2	D3	D4	D5	D8	L	L2	L3	L4	L5	L6	L7	L8
35	28	57	60	37	45	55	3	62	24	48	14	2.0	6.5	8	19
40	34	62	65	42	50	60	3	62	24	48	14	2.0	6.5	8	19
45	38	67	70	47	55	65	3	63	24	49	14	2.0	6.5	8	19
50	44	72	75	52	60	70	3	63	24	49	14	2.5	6.5	8	19
55	48	77	80	57	65	75	3	63	24	49	14	2.5	6.5	8	19
60	52	82	85	62	70	80	3	63	24	49	14	2.5	6.5	8	19
65	58	91	95	70	80	90	3	68	27	51	17	2.5	6.5	8	22
70	62.5	96	100	74	85	97	3	73	32	54	19	2.5	7.5	9	25
75	66	101	105	79	90	102	3	73	32	54	19	2.5	7.5	9	25
80	72	106	110	84	95	107	3	73	32	54	19	3.0	7.5	9	25
85	76	111	115	89	100	112	3	75	32	56	19	3.0	7.5	9	25
90	82	116	120	94	105	117	3	75	32	56	19	3.0	7.5	9	25
95	85	121	125	99	110	122	3	75	32	56	19	3.0	7.5	9	25
100	90	126	130	104	115	127	3	75	32	56	19	3.0	7.5	9	25
110	100	140	145	116	130	142	3	84	36	63	21	3.0	8.0	9	27
120	110	150	155	124	140	152	3	84	36	63	21	3.0	8.0	9	27



Type: Multi Spring Mechanical Seal
Replacement: Umbra DPS
Temperature: -20 to +180°C

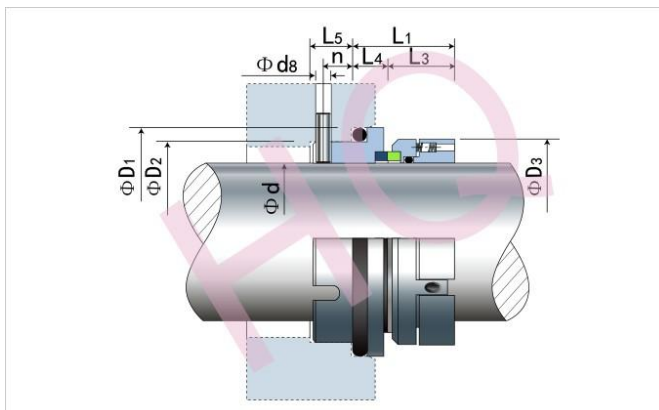
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa



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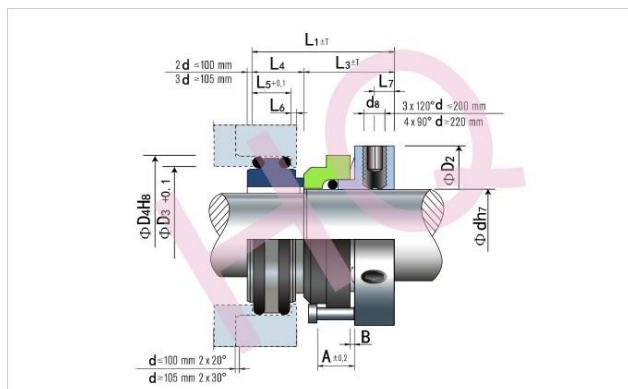


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d (mm)	d8	D1	D2	D3	L1	L3	L4	L5	N
20	3.0	30.9	25	32	27.1	19.1	8.0	8.5	4.5
22	3.5	35.4	30	35	27.1	19.1	8.0	8.5	5.0
23	3.5	35.4	30	37	27.1	19.1	8.0	8.5	5.0
24	3.5	35.4	30	37	27.1	19.1	8.0	8.5	5.0
25	4.0	38.2	33	41	27.6	19.1	8.5	9.1	5.0
28	4.0	43.3	38	41	27.1	19.1	9.0	9.6	6.0
32	4.0	43.3	38	47	28.1	19.1	9.0	9.6	6.0
33	5.0	53.5	45	48	30.6	19.1	11.5	12.0	7.5
35	5.0	53.5	45	49	30.6	19.1	11.5	12.0	7.5
38	5.0	60.5	52	53	32.6	21.1	11.5	12.0	7.5
40	5.0	60.5	52	55	32.6	21.1	11.5	12.0	7.5
43	5.0	60.5	52	60	32.6	21.1	11.5	12.0	7.5
45	5.0	65.5	57	60	32.6	21.1	11.5	13.0	8.5
48	5.0	65.5	57	65	32.6	21.1	11.5	13.0	8.5
50	5.0	42.5	64	65	32.6	21.1	11.5	13.0	8.5
55	5.0	42.5	64	74	32.6	21.1	11.5	13.0	8.5
60	5.0	79.5	72	79	37.3	25.8	11.5	13.5	8.5
65	5.0	84.5	77	87	37.3	25.8	11.5	13.5	8.5
70	5.0	89.5	82	93	37.3	25.8	11.5	13.5	8.5
75	5.0	94.5	87	98	37.3	25.8	11.5	13.5	8.5
80	5.0	99.5	92	104	37.3	25.8	11.5	13.5	8.5
85	5.0	105.5	98	108	39.3	25.8	13.5	13.5	8.5
90	5.0	111.5	105	113	39.3	25.8	13.5	13.5	8.5
95	5.0	116.5	110	118	39.3	25.8	13.5	13.5	8.5
100	5.0	119.5	114	123	39.3	25.8	13.5	13.5	8.5

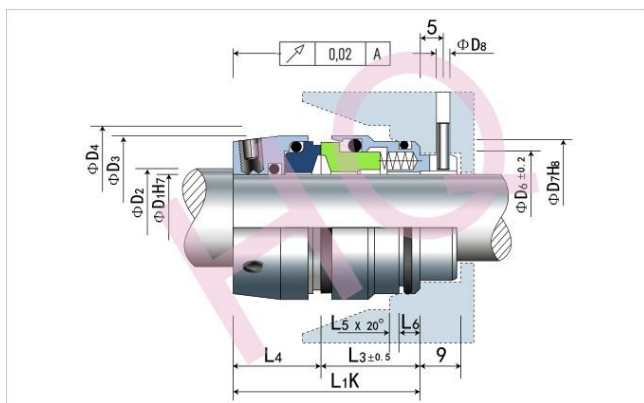
HQX25(AX25)



Type: Multi-Spring Mechanical Seal
 Replacement: Burgmann AX25
 Temperature: -40 to +220°C
 Pressure: 16 Bar
 Speed: $\leq 20\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

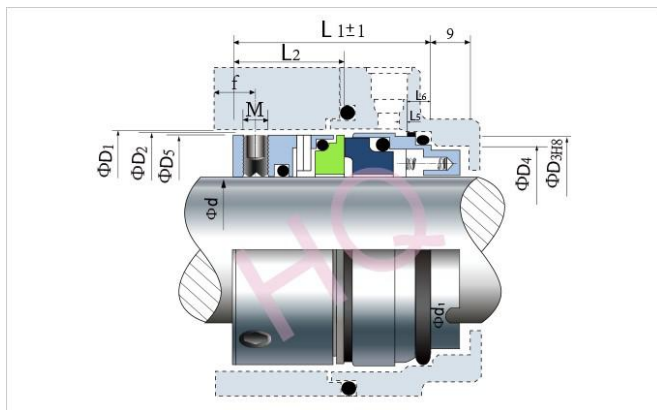
d (mm)	D1	D2	D3	d8	L1	L3	L4	L5	L6	L7	A	B	T
15	23	29	42	M6	48	31	17	12	2.0	8	12.0	2	0.5
16	24	30	43	M6	48	31	17	12	2.0	8	12.0	2	0.5
18	27	33	45	M6	48	31	17	12	2.0	8	12.0	2	0.5
20	29	35	47	M6	48	31	17	12	2.0	8	12.0	2	0.5
22	31	37	49	M6	48	31	17	12	2.0	8	12.0	2	0.5
24	33	39	51	M6	48	31	17	12	2.0	8	12.0	2	0.5
25	34	40	52	M6	48	31	17	12	2.0	8	12.0	2	0.5
28	37	43	55	M6	48	31	17	12	2.0	8	12.0	2	0.5
30	39	45	57	M6	48	31	17	12	2.0	8	12.0	2	0.5
32	42	48	59	M6	48	31	17	12	2.0	8	12.0	2	0.5
33	42	48	60	M6	48	31	17	12	2.0	8	12.0	2	0.5
35	44	50	62	M6	48	31	17	12	2.0	8	12.0	2	0.5
38	49	56	71	M8	52	33	19	14	2.0	8	13.5	2	0.5
40	51	58	73	M8	52	33	19	14	2.0	8	13.5	2	0.5
43	54	61	76	M8	52	33	19	14	2.0	8	13.5	2	0.5
45	56	63	78	M8	52	33	19	14	2.0	8	13.5	2	0.5
48	59	66	81	M8	52	33	19	14	2.0	8	13.5	2	0.5
50	62	70	83	M8	54	33	21	16	2.0	8	13.5	2	0.5
53	65	73	86	M8	54	33	21	16	2.0	8	13.5	2	0.5
55	67	75	88	M8	54	33	21	15	2.0	8	13.5	2	0.5
58	72	80	98	M10	63	41	22	16	2.5	10	15.0	2	1.0
60	75	83	100	M10	63	41	22	16	2.5	10	15.0	2	1.0
63	77	85	103	M10	63	41	22	16	2.5	10	15.0	2	1.0
65	81	90	105	M10	65	41	24	18	2.5	10	15.0	2	1.0
68	83	92	108	M10	65	41	24	18	2.5	10	15.0	2	1.0
70	88	97	111	M10	68	43	24	19	2.5	10	17.5	2	1.0
75	95	105	116	M10	68	43	25	19	2.5	10	17.5	2	1.0
80	100	110	121	M10	68	43	25	19	2.5	10	17.5	2	1.0
85	105	115	126	M10	68	43	25	19	2.5	10	17.5	2	1.0
90	110	120	131	M10	68	43	25	19	2.5	10	17.5	2	1.0
95	115	125	136	M10	68	43	25	19	2.5	10	17.5	2	1.0
100	120	130	141	M10	68	43	25	19	2.5	10	17.5	2	1.0
105	123	135	148	M10	75	47	28	22	2.5	10	21.0	3	2.0
110	128	140	153	M10	75	47	28	22	2.5	10	21.0	3	2.0
115	133	145	158	M10	75	47	28	22	2.5	10	21.0	3	2.0
120	140	152	171	M10	78	50	28	22	2.5	10	21.0	3	2.0

HQX40K(AX40K)



Type: Multi-Spring Mechanical Seal
 Replacement: Burgmann AX40K
 Temperature: -40 to +220°C
 Pressure: 25 Bar
 Speed: $\leq 20\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

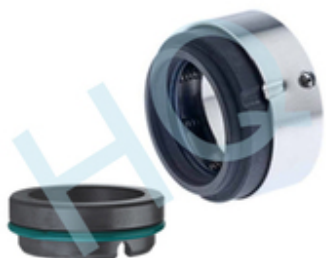
d (mm)	D2	D3	D4	D6	D7	D8	L1K	L3	L4	L5	L6
18	22	35	40	27	33	3	45.0	26.5	18.5	2.0	5
20	24	37	42	29	35	3	45.0	26.5	18.5	2.0	5
22	26	39	44	31	37	3	45.0	26.5	18.5	2.0	5
24	28	41	46	33	39	3	40.0	21.5	18.5	2.0	5
25	30	42	47	34	40	3	40.0	21.5	18.5	2.0	5
28	33	45	50	37	43	3	42.5	22.5	20.0	2.0	5
30	35	47	52	39	45	3	42.5	22.5	20.0	2.0	5
32	38	50	55	42	48	3	42.5	22.5	20.0	2.0	5
33	38	50	55	42	48	3	42.5	22.5	20.0	2.0	5
35	40	52	57	44	50	3	42.5	22.5	20.0	2.0	5
38	43	58	63	49	56	4	45.0	23.5	21.5	2.0	6
40	45	60	65	51	58	4	45.0	23.5	21.5	2.0	6
43	48	63	68	54	61	4	45.0	23.5	21.5	2.0	6
45	50	65	70	56	63	4	45.0	23.5	21.5	2.0	6
48	53	68	73	59	66	4	45.0	23.5	21.5	2.0	6
50	55	72	77	62	70	4	47.5	25.5	22.0	2.5	6
53	58	75	80	65	73	4	47.5	25.5	22.0	2.5	6
55	60	77	82	67	75	4	47.5	25.5	22.0	2.5	6
58	63	81	86	70	78	4	52.5	27.5	25.0	2.5	6
60	65	83	88	72	80	4	52.5	27.5	25.0	2.5	6
63	68	86	91	75	83	4	52.5	27.5	25.0	2.5	6
65	70	88	93	77	85	4	52.5	27.5	25.0	2.5	6
70	75	95	100	83	92	4	60.0	30.5	29.5	2.5	7
75	80	100	105	88	97	4	60.0	30.5	29.5	2.5	7
80	85	108	113	95	105	4	60.0	30.5	29.5	3.0	7
85	90	113	118	100	110	4	60.0	30.5	29.5	3.0	7
90	95	118	123	105	115	4	65.0	34	31.0	3.0	7
95	100	123	128	110	120	4	65.0	34	31.0	3.0	7
100	105	128	133	115	125	4	65.0	34	31.0	3.0	7



Type: Multi Spring Mechanical Seal
Replacement: Burgmann HRN
Temperature: -20°C to +220°C

Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q2,B,U2,P,E,V,F,G

d (mm)	D5	D1	D4	D3	d1	D2	L1	L2	L5	L6	f	M
18	33	38	27	33	3	34.7	37.5	19.5	2.0	5	3.0	4
20	35	40	29	35	3	36.7	37.5	19.5	2.0	5	3.0	4
22	37	42	31	37	3	38.7	37.5	19.5	2.0	5	3.0	4
24	39	44	33	39	3	40.7	40.0	20.5	2.0	5	3.5	5
25	40	46	34	40	3	41.7	40.0	20.5	2.0	5	3.5	5
28	43	49	37	43	3	44.7	42.5	21.5	2.0	5	3.5	5
30	45	51	39	45	3	46.7	42.5	21.5	2.0	5	3.5	5
32	48	58	42	48	3	49.7	42.5	21.5	2.0	5	3.5	5
33	48	58	42	48	3	49.7	42.5	21.5	2.0	5	3.5	5
35	50	60	44	50	3	51.7	42.5	21.5	2.0	5	3.5	5
38	56	63	49	56	4	57.7	45.0	24.0	2.0	6	4.0	6
40	58	65	51	58	4	59.7	45.0	24.0	2.0	6	4.0	6
43	61	68	54	61	4	62.7	45.0	24.0	2.0	6	4.0	6
45	63	70	56	63	4	64.7	45.0	24.0	2.0	6	4.0	6
48	66	73	59	66	4	67.7	45.0	24.0	2.0	6	4.0	6
50	70	75	62	70	4	71.7	47.5	25.0	2.5	6	4.0	6
53	73	83	65	73	4	74.7	47.5	25.0	2.5	6	4.0	6
55	75	85	67	75	4	76.7	47.5	25.0	2.5	6	4.0	6
58	78	88	70	78	4	80.5	52.5	28.0	2.5	6	4.0	6
60	80	90	72	80	4	82.5	52.5	28.0	2.5	6	4.0	6
63	83	93	75	83	4	85.5	52.5	28.0	2.5	6	4.0	6
65	85	95	77	85	4	87.5	52.5	28.0	2.5	6	4.0	6
68	90	98	81	90	4	92.5	52.5	28.0	2.5	7	4.0	6
70	92	104	83	92	4	94.5	60.0	34.0	2.5	7	6.0	8
75	97	109	88	97	4	100.5	60.0	34.0	2.5	7	6.0	8
80	105	114	95	105	4	108.5	60.0	34.0	3.0	7	6.0	8
85	110	119	100	110	4	113.5	60.0	34.0	3.0	7	6.0	8
90	115	124	105	115	4	118.5	65.0	39.0	3.0	7	10.0	8
95	120	129	110	120	4	123.5	65.0	39.0	3.0	7	10.0	8
100	125	134	115	125	4	128.5	65.0	39.0	3.0	7	10.0	8



Type: Multi Spring Mechanical Seal

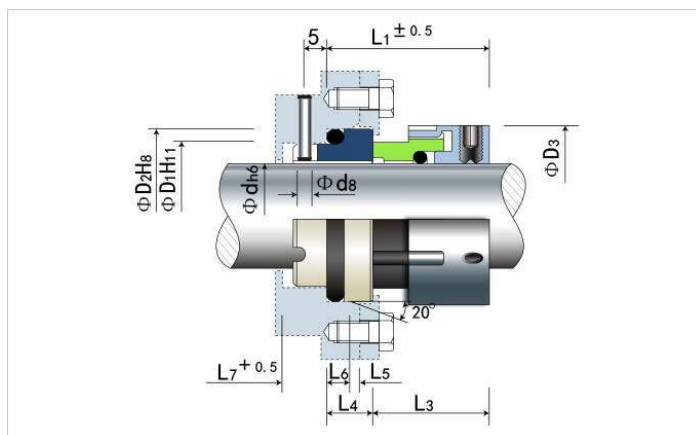
Replacement: Burgmann BT-C5E

Temperature: -20 to +150°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

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



d (mm)	d8	D1	D3	D3	L1	L3	L4	L5	L6	L7
20	3	29	35	36	29.0	19.0	10	2.0	5	9
25	3	34	40	41	29.0	19.0	10	2.0	5	9
30	3	39	45	46	29.0	19.0	10	2.0	5	9
35	3	44	50	51	29.0	19.0	10	2.0	5	9
40	4	51	58	59	34.0	23.0	11	2.0	6	9
45	4	56	63	60	34.0	23.0	11	2.0	6	9
50	4	62	70	66	35.0	22.0	13	2.5	6	9
60	4	72	80	80	39.0	26.5	13	2.5	6	9
65	4	77	85	86	39.0	26.5	13	2.5	6	9
70	4	83	92	92	41.5	26.5	15	2.5	7	9
80	4	95	105	105	42.5	26.5	16	3.0	7	9

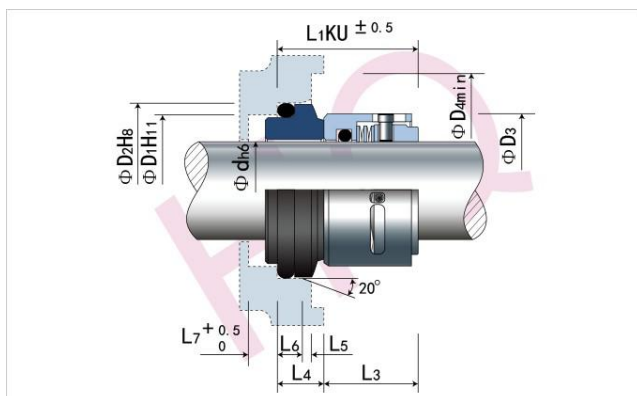


<http://www.hqseal.com>



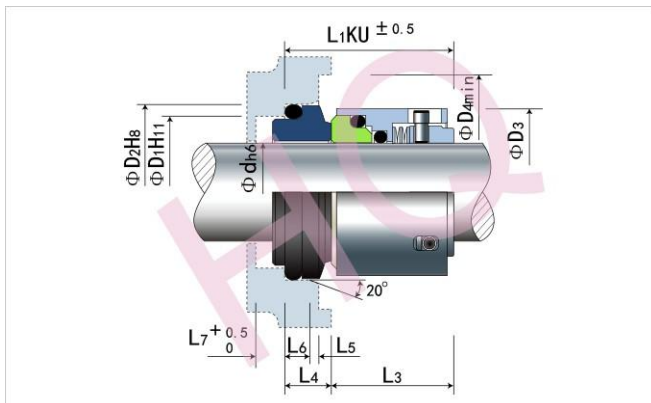
hq@hqseal.com

HQBT-C7



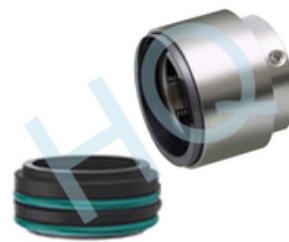
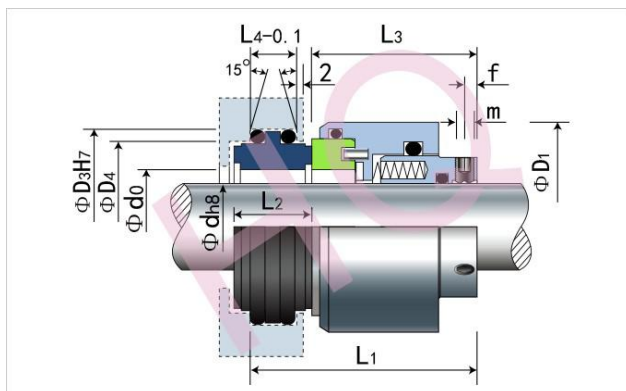
Type: Multi Spring Mechanical Seal
 Replacement: Burgmann BT-C7
 Temperature: -20 to +150°C
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

d (mm)	d8	D1	D2	D3	D4	L1KU	L3	L4	L5	L6	L7
16	3	23	27	26	28	35.0	28.0	7	1.5	4	8.5
18	3	27	33	32	34	37.5	27.5	10	2.0	5	9.0
20	3	29	35	34	36	37.5	27.5	10	2.0	5	9.0
22	3	31	37	36	38	37.5	27.5	10	2.0	5	9.0
24	3	33	39	38	40	40.0	30.0	10	2.0	5	9.0
25	3	34	40	39	41	40.0	30.0	10	2.0	5	9.0
28	3	37	43	42	44	42.5	32.5	10	2.0	5	9.0
30	3	39	45	44	46	42.5	32.5	10	2.0	5	9.0
32	3	42	48	46	48	42.5	32.5	10	2.0	5	9.0
33	3	42	48	47	49	42.5	32.5	10	2.0	5	9.0
35	3	44	50	49	51	42.5	32.5	10	2.0	5	9.0
38	4	49	56	54	58	45.0	32.0	13	2.0	6	9.0
40	4	51	58	56	60	45.0	32.0	13	2.0	6	9.0
43	4	54	61	59	63	45.0	32.0	13	2.0	6	9.0
45	4	56	63	61	65	45.0	32.0	13	2.0	6	9.0
48	4	59	66	64	68	45.0	32.0	13	2.0	6	9.0
50	4	62	70	66	70	47.5	33.5	14	2.5	6	9.0
53	4	65	73	69	73	47.5	33.5	14	2.5	6	9.0
55	4	67	75	71	75	47.5	33.5	14	2.5	6	9.0
58	4	70	78	78	83	52.5	38.5	14	2.5	6	9.0
60	4	72	80	80	85	52.5	38.5	14	2.5	6	9.0
63	4	75	83	83	88	52.5	38.5	14	2.5	6	9.0
65	4	77	85	85	90	52.5	38.5	14	2.5	6	9.0
68	4	81	90	88	93	52.5	36.5	16	2.5	7	9.0
70	4	83	92	90	95	60.0	44.0	16	2.5	7	9.0
75	4	88	97	99	104	60.0	44.0	16	2.5	7	9.0
80	4	95	105	104	109	60.0	42.0	18	3.0	7	9.0
85	4	100	110	109	114	60.0	42.0	18	3.0	7	9.0
90	4	105	115	114	119	65.0	47.0	18	3.0	7	9.0
95	4	110	120	119	124	65.0	47.0	18	3.0	7	9.0
100	4	115	125	124	129	65.0	47.0	18	3.0	7	9.0



Type: Multi Spring Mechanical Seal
 Replacement: Burgmann BT-C8
 Temperature: -20 to +150°C
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa

d (mm)	d8	D1	D2	D3	D4	L1KU	L3	L4	L5	L6	L7
16	3	23	27	29	32	35.0	28.0	7	1.5	4	8.5
18	3	27	33	33	36	37.5	27.5	10	2.0	5	9.0
20	3	29	35	33	36	37.5	27.5	10	2.0	5	9.0
22	3	31	37	38	41	37.5	27.5	10	2.0	5	9.0
24	3	33	39	38	41	40.0	30.0	10	2.0	5	9.0
25	3	34	40	40	45	40.0	30.0	10	2.0	5	9.0
28	3	37	43	46	50	42.5	32.5	10	2.0	5	9.0
30	3	39	45	46	50	42.5	32.5	10	2.0	5	9.0
32	3	42	48	46	50	42.5	32.5	10	2.0	5	9.0
33	3	42	48	52	56	42.5	32.5	10	2.0	5	9.0
35	3	44	50	56	62	42.5	32.5	10	2.0	5	9.0
38	4	49	56	63	70	45.0	32.0	13	2.0	6	9.0
40	4	51	58	63	70	45.0	32.0	13	2.0	6	9.0
43	4	54	61	63	70	45.0	32.0	13	2.0	6	9.0
45	4	56	63	69	75	45.0	32.0	13	2.0	6	9.0
48	4	59	66	69	75	45.0	32.0	13	2.0	6	9.0
50	4	62	70	76	83	47.5	33.5	14	2.5	6	9.0
53	4	65	73	76	83	47.5	33.5	14	2.5	6	9.0
55	4	67	75	76	83	47.5	33.5	14	2.5	6	9.0
58	4	70	78	82	88	52.5	38.5	14	2.5	6	9.0
60	4	72	80	84	90	52.5	38.5	14	2.5	6	9.0
63	4	75	83	86	93	52.5	38.5	14	2.5	6	9.0
65	4	77	85	89	96	52.5	38.5	14	2.5	6	9.0
68	4	81	90	92	99	52.5	36.5	16	2.5	7	9.0
70	4	83	92	94	101	60.0	44.0	16	2.5	7	9.0
75	4	88	97	100	106	60.0	44.0	16	2.5	7	9.0
80	4	95	105	105	111	60.0	42.0	18	3.0	7	9.0
85	4	100	110	115	125	60.0	42.0	18	3.0	7	9.0
90	4	105	115	120	132	65.0	47.0	18	3.0	7	9.0
95	4	110	120	126	137	65.0	47.0	18	3.0	7	9.0
100	4	115	125	130	143	65.0	47.0	18	3.0	7	9.0



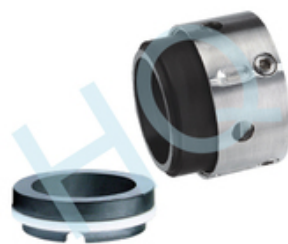
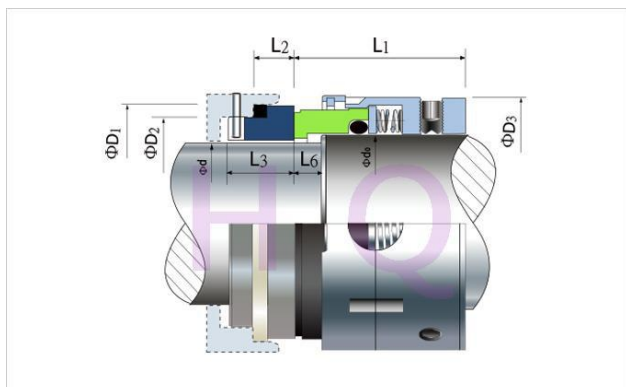
Type: Multi Spring Mechanical Seal
Replacement: Burgmann HGH201
Temperature: -20 to +150°C

Pressure: $\leq 1.4\text{Mpa}$

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

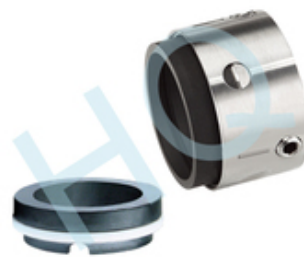
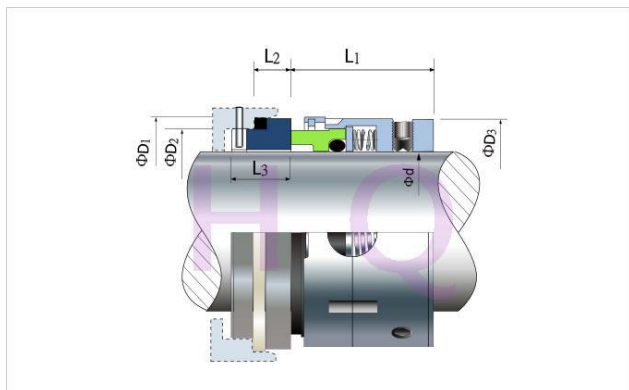
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa

d (mm)	d0	D1	D3	D4	L1	L2	L3	L4	f	m
50	60	95	89.6	80.5	95.3	31.8	70	18.8	6	M8
55	65	100	94.6	85.5	95.3	31.8	70	18.8	6	M8
60	70	105	99.6	90.5	95.3	31.8	70	18.8	6	M8
65	75	110	104.6	95.5	95.3	31.8	70	18.8	6	M8
70	80	115	109.6	100.5	95.3	31.8	70	18.8	6	M8
75	85	120	114.6	105.5	95.3	31.8	70	18.8	6	M8
80	90	125	119.6	110.5	95.3	31.8	70	18.8	6	M8
85	95	130	124.6	115.5	95.3	31.8	70	18.8	6	M8
90	100	135	129.6	120.5	95.3	31.8	70	18.8	6	M8
95	105	140	134.6	125.5	95.3	31.8	70	18.8	6	M8
100	110	145	139.6	130.5	95.3	31.8	70	18.8	6	M8
105	115	150	144.6	135.5	95.3	31.8	70	18.8	6	M8
110	120	155	149.6	140.5	95.3	31.8	70	18.8	6	M8
115	125	160	154.6	145.5	95.3	31.8	70	18.8	6	M8
120	130	165	159.6	150.5	95.3	31.8	70	18.8	6	M8
125	135	170	164.6	155.5	95.3	31.8	70	18.8	6	M8
130	140	175	169.6	160.5	95.3	31.8	70	18.8	6	M8
135	145	180	174.6	165.5	95.3	31.8	70	18.8	6	M8
140	150	185	179.6	170.5	95.3	31.8	70	18.8	6	M8
145	155	190	184.6	175.5	95.3	31.8	70	18.8	6	M8
150	160	195	189.6	180.5	95.3	31.8	70	18.8	6	M8
155	165	200	194.6	185.5	95.3	31.8	70	18.8	6	M8
160	170	205	199.6	190.5	95.3	31.8	70	18.8	6	M8
165	175	210	204.6	195.5	95.3	31.8	70	18.8	6	M8
170	180	215	209.6	200.5	95.3	31.8	70	18.8	6	M8
175	185	220	214.6	205.5	95.3	31.8	70	18.8	6	M8
180	192	225	224.6	212.5	104.2	38.0	72	26.4	6	M8



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1659BS, AES M04S,
 Crane 58B, Bergmann BT-C5 KB
 Temperature: -40°C to +250°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (mm)	d	d0	D3	D2	D1	L1	L2	L3	L6
14	14	18	32	21	25	30.5	12.0	18.5	6.0
16	16	20	34	23	27	30.5	12.0	18.5	6.0
18	18	22	36	27	33	31.5	13.5	20.5	6.5
20	20	24	38	29	35	31.5	13.5	20.5	6.5
22	22	26	40	31	37	31.5	13.5	20.5	6.5
24	24	28	42	33	39	34.2	13.3	20.3	6.7
25	25	30	44	34	40	34.5	13.0	20.0	7.0
28	28	33	47	37	43	37.5	12.5	19.5	7.5
30	30	35	49	39	45	38.0	12.0	19.0	8.0
32	32	38	54	42	48	38.0	12.0	19.0	8.0
33	33	38	54	42	48	38.0	12.0	19.0	8.0
35	35	40	56	44	50	38.0	12.0	19.0	8.0
38	38	43	59	49	56	39.5	13.0	20.0	10.0
40	40	45	61	51	58	39.5	13.0	20.0	10.0
43	43	48	64	54	61	39.5	13.0	20.0	10.0
45	45	50	66	56	63	39.5	13.0	20.0	10.0
48	48	53	69	59	66	39.5	13.0	20.0	10.0
50	50	55	71	62	70	44.0	13.5	20.5	11.5
53	53	58	78	65	73	44.0	13.5	20.5	11.5
55	55	60	80	67	75	44.0	13.5	20.5	11.5
58	58	63	83	70	78	49.0	13.5	20.5	11.5
60	60	65	85	72	80	49.0	13.5	20.5	11.5
63	63	68	88	75	83	49.0	13.5	20.5	11.5
65	65	70	90	77	85	49.0	13.5	20.5	11.5
70	70	75	95	83	92	55.5	14.5	21.5	13.5
75	75	80	104	88	97	55.5	14.5	21.5	13.5
80	80	85	109	95	105	55.5	15.0	22.0	13.0
85	85	90	114	100	110	60.0	15.0	22.0	13.0
90	90	95	119	105	115	60.0	15.0	22.0	13.0
95	95	100	124	110	120	60.0	15.0	22.0	13.0
100	100	105	129	115	125	60.0	15.0	22.0	13.0



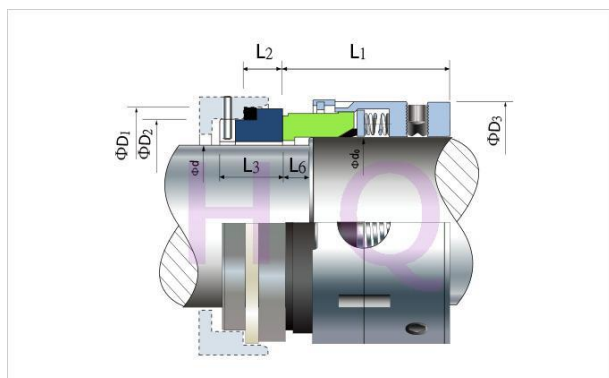
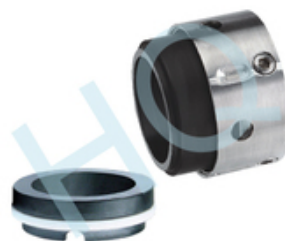
Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1659S, AES M03S, Crane 58U,
 Bergmann BT-C5 KU
 Temperature: -20°C to +180°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D2	D1	L1	L2	L3
14	24	21	25	23.0	12.0	18.5
16	26	23	27	23.0	12.0	18.5
18	32	27	33	24.0	13.5	20.5
20	34	29	35	24.0	13.5	20.5
22	36	31	37	24.0	13.5	20.5
24	38	33	39	26.5	13.3	20.3
25	39	34	40	27.0	13.0	20.0
28	42	37	43	30.0	12.5	19.5
30	44	39	45	30.5	12.0	19.0
32	46	42	48	30.5	12.0	19.0
33	47	42	48	30.5	12.0	19.0
35	49	44	50	30.5	12.0	19.0
38	54	49	56	32.0	13.0	20.0
40	56	51	58	32.0	13.0	20.0
43	59	54	61	32.0	13.0	20.0
45	61	56	63	32.0	13.0	20.0
48	64	59	65	32.0	13.0	20.0
50	66	62	70	34.0	13.5	20.5
53	69	65	73	34.0	13.5	20.5
55	71	67	75	34.0	13.5	20.5
58	78	70	78	39.0	13.5	20.5
60	80	72	80	39.0	13.5	20.5
63	83	75	83	39.0	13.5	20.5
65	85	77	85	39.0	13.5	20.5
68	88	81	90	39.0	13.5	20.5
70	90	83	92	45.5	14.5	21.5
75	99	88	97	45.5	14.5	21.5
80	104	95	105	45.0	15.0	22.0
85	109	100	110	45.0	15.0	22.0
90	114	105	115	50.0	15.0	22.0
95	119	110	120	50.0	15.0	22.0
100	124	115	125	50.0	15.0	22.0



Type: Multi Spring Mechanical Seal

Replacement: Vulcan 1659B, AES M04, Crane 59B,
Bergmann BT-C56 KB

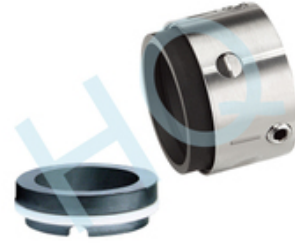
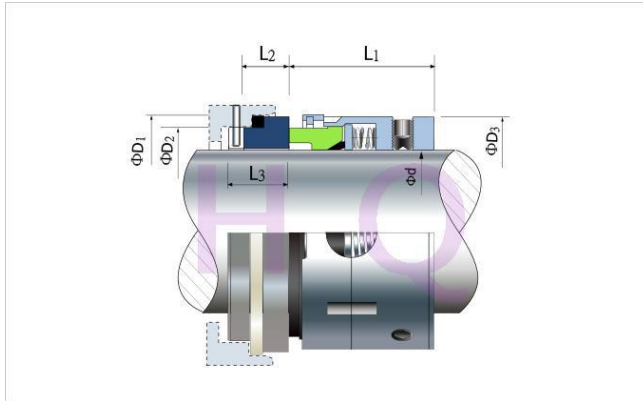
Temperature: -40°C to +250°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	d0	D3	D2	D1	L1	L2	L3	L6
14	18	32	21	25	30.5	12.0	18.5	6.0
16	20	34	23	27	30.5	12.0	18.5	6.0
18	22	36	27	33	31.5	13.5	20.5	6.5
20	24	38	29	35	31.5	13.5	20.5	6.5
22	26	40	31	37	31.5	13.5	20.5	6.5
24	28	42	33	39	34.2	13.3	20.3	6.7
25	30	44	34	40	34.5	13.0	20.0	7.0
28	33	47	37	43	37.5	12.5	19.5	7.5
30	35	49	39	45	38.0	12.0	19.0	8.0
32	38	54	42	48	38.0	12.0	19.0	8.0
33	38	54	42	48	38.0	12.0	19.0	8.0
35	40	56	44	50	38.0	12.0	19.0	8.0
38	43	59	49	56	39.5	13.0	20.0	10.0
40	45	61	51	58	39.5	13.0	20.0	10.0
43	48	64	54	61	39.5	13.0	20.0	10.0
45	50	66	56	63	39.5	13.0	20.0	10.0
48	53	69	59	66	39.5	13.0	20.0	10.0
50	55	71	62	70	44.0	13.5	20.5	11.5
53	58	78	65	73	44.0	13.5	20.5	11.5
55	60	80	67	75	44.0	13.5	20.5	11.5
58	63	83	70	78	49.0	13.5	20.5	11.5
60	65	85	72	80	49.0	13.5	20.5	11.5
63	68	88	75	83	49.0	13.5	20.5	11.5
65	70	90	77	85	49.0	13.5	20.5	11.5
70	75	95	83	92	55.5	14.5	21.5	13.5
75	80	104	88	97	55.5	14.5	21.5	13.5
80	85	109	95	105	55.5	15.0	22.0	13.0
85	90	114	100	110	60.0	15.0	22.0	13.0
90	95	119	105	115	60.0	15.0	22.0	13.0
95	100	124	110	120	60.0	15.0	22.0	13.0
100	105	129	115	125	60.0	15.0	22.0	13.0



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1659, AES M03, Crane 59U,
 Bergmann BT-C56 KU
 Temperature: -40°C to +250°C

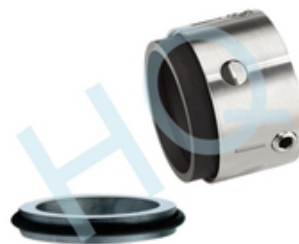
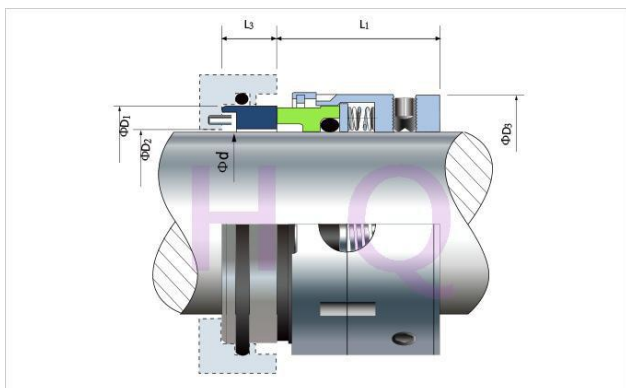
Pressure: $\leq 1.2\text{Mpa}$

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D2	D1	L1	L2	L3
14	24	21	25	23.0	12.0	18.5
16	26	23	27	23.0	12.0	18.5
18	32	27	33	24.0	13.5	20.5
20	34	29	35	24.0	13.5	20.5
22	36	31	37	24.0	13.5	20.5
24	38	33	39	26.5	13.3	20.3
25	39	34	40	27.0	13.0	20.0
28	42	37	43	30.0	12.5	19.5
30	44	39	45	30.5	12.0	19.0
32	46	42	48	30.5	12.0	19.0
33	47	42	48	30.5	12.0	19.0
35	49	44	50	30.5	12.0	19.0
38	54	49	56	32.0	13.0	20.0
40	56	51	58	32.0	13.0	20.0
43	59	54	61	32.0	13.0	20.0
45	61	56	63	32.0	13.0	20.0
48	64	59	65	32.0	13.0	20.0
50	66	62	70	34.0	13.5	20.5
53	69	65	73	34.0	13.5	20.5
55	71	67	75	34.0	13.5	20.5
58	78	70	78	39.0	13.5	20.5
60	80	72	80	39.0	13.5	20.5
63	83	75	83	39.0	13.5	20.5
65	85	77	85	39.0	13.5	20.5
68	88	81	90	39.0	13.5	20.5
70	90	83	92	45.5	14.5	21.5
75	99	88	97	45.5	14.5	21.5
80	104	95	105	45.0	15.0	22.0
85	109	100	110	45.0	15.0	22.0
90	114	105	115	50.0	15.0	22.0
95	119	110	120	50.0	15.0	22.0
100	124	115	125	50.0	15.0	22.0

HQ8-1



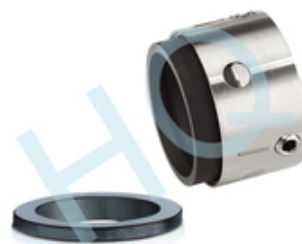
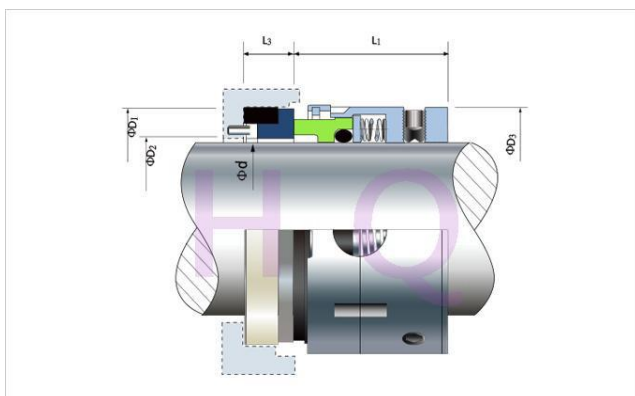
Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1609S, AES M01S, Crane 8-1
 Temperature: -20°C to +180°C

Pressure: $\leq 1.2\text{Mpa}$

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d	D3	D2	D1	L1	L3
0.500	12.7	26.19	14.0	25.60	20.62	7.92
0.625	15.8	30.15	17.5	31.95	19.05	10.31
0.750	19.0	33.32	21.0	35.12	22.23	10.31
0.875	22.2	36.50	24.0	38.30	23.80	10.31
1.000	25.4	39.67	27.5	41.48	25.40	11.10
1.125	28.5	42.85	30.5	44.65	26.97	11.10
1.250	31.7	47.63	33.5	47.83	26.97	11.10
1.375	34.9	50.80	37.0	51.00	28.58	11.10
1.500	38.1	53.98	40.0	54.18	28.58	11.10
1.625	41.2	60.33	43.5	60.53	34.93	12.70
1.750	44.4	63.50	46.5	63.70	34.93	12.70
1.875	47.6	66.68	49.5	66.88	34.93	12.70
2.000	50.8	69.85	53.0	70.05	34.93	12.70
2.125	53.9	76.20	56.0	76.40	42.85	14.27
2.250	57.1	79.38	59.0	79.58	42.85	14.27
2.375	60.3	82.55	62.5	82.75	42.85	14.27
2.500	63.5	85.73	65.5	85.93	42.85	14.27
2.625	66.6	88.90	68.5	85.93	42.85	15.88
2.750	69.8	92.08	72.0	89.10	42.85	15.88
2.875	73.0	95.25	75.0	95.45	42.85	15.88
3.000	76.2	96.82	78.5	98.63	42.85	15.88
3.125	79.3	100.00	81.5	101.80	42.85	19.84
3.250	82.5	104.78	84.5	104.98	42.85	19.84
3.375	85.7	107.95	88.0	108.15	42.85	19.84
3.500	88.9	111.13	91.0	111.33	42.85	19.84
3.625	92.0	114.30	94.0	114.50	42.85	19.84
3.700	95.2	117.48	97.5	117.68	42.85	19.84
3.875	98.4	120.65	100.5	120.85	42.85	19.84
4.000	101.6	123.83	103.5	124.03	42.85	19.84



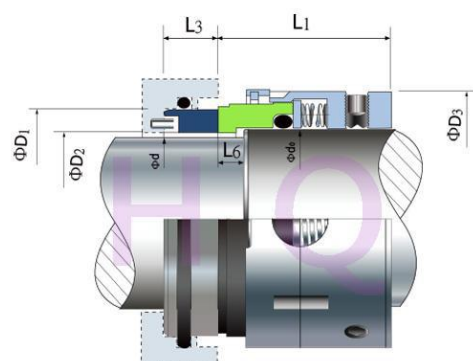
Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1645S, AESM05S, Crane 8-1T
 Temperature: -20°C to +180°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d	D3	D2	D1	L1	L3
0.500	12.7	23.80	13.4	25.40	23.80	7.9
0.625	15.8	26.97	16.6	31.75	23.80	10.3
0.750	19.0	30.15	19.7	34.93	23.80	10.3
0.875	22.2	33.32	22.9	38.10	23.80	10.3
1.000	25.4	36.50	26.1	41.28	25.40	11.1
1.125	28.5	39.67	29.3	44.45	25.40	11.1
1.250	31.7	42.85	32.4	47.63	25.40	11.1
1.375	34.9	49.20	35.6	50.80	34.93	11.1
1.500	38.1	49.20	38.8	53.98	28.58	11.1
1.625	41.2	57.15	42.4	60.33	29.36	12.7
1.750	44.4	58.72	45.5	63.50	34.93	12.7
1.875	47.6	63.50	48.7	66.68	34.93	12.7
2.000	50.8	66.68	51.9	69.85	34.93	12.7
2.125	53.9	71.42	55.0	76.20	42.85	14.3
2.250	57.1	72.21	58.2	79.38	34.93	14.3
2.375	60.3	76.20	61.4	82.55	42.85	14.3
2.500	63.5	79.38	64.6	85.73	34.93	14.3
2.625	66.6	82.55	67.7	85.73	42.85	15.9
2.750	69.8	85.73	70.9	88.90	42.85	15.9
2.875	73.0	88.90	74.1	95.25	42.85	15.9
3.000	76.2	92.08	77.3	98.43	42.85	15.9
3.125	79.3	95.25	80.5	101.60	42.85	19.8
3.250	82.5	98.43	83.6	104.78	42.85	19.8
3.375	85.7	101.60	86.8	107.95	42.85	19.8
3.500	88.9	104.78	90.0	111.13	42.85	19.8
3.625	92.0	107.95	93.1	114.3	42.85	19.8
3.700	95.2	111.13	96.3	117.48	42.85	19.8
3.875	98.4	114.30	99.5	120.65	42.85	19.8
4.000	101.6	117.48	102.7	123.83	42.85	19.8



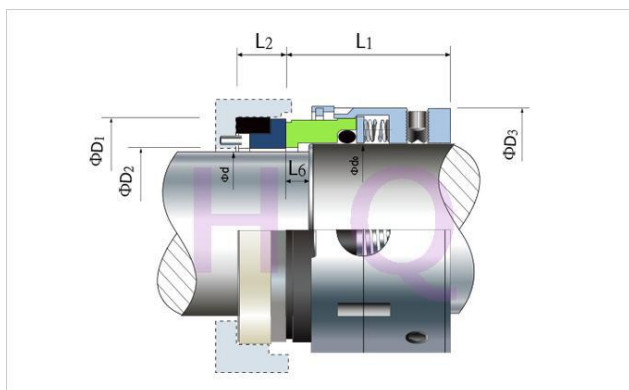
Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1609BS, AES M02S, Crane 8B1
 Temperature: -20°C to +180°C

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

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

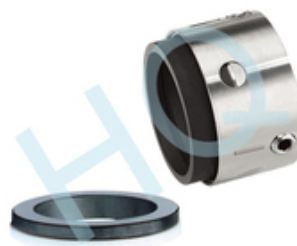
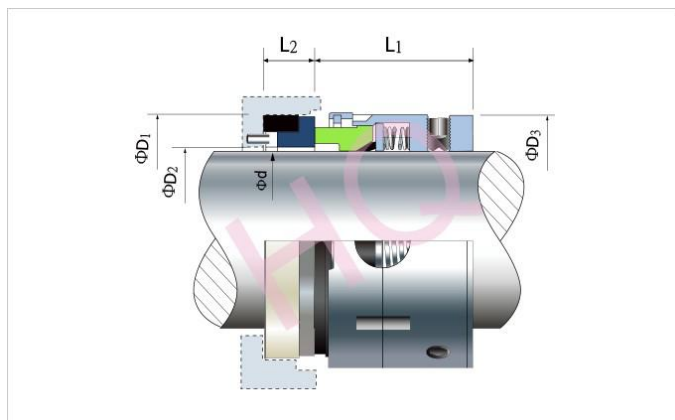
Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d0	d	D3	D2	D1	L1	L3	L6
1.000	25.4	22.2	39.67	24.0	38.30	33.32	10.31	8.0
1.125	28.5	25.4	42.85	27.5	41.48	34.93	11.10	7.9
1.250	31.7	28.5	47.63	30.5	44.65	34.93	11.10	7.9
1.375	34.9	31.7	50.80	33.5	47.83	36.50	11.10	8.7
1.500	38.1	34.9	53.98	37.0	51.00	36.50	11.10	8.7
1.625	41.2	38.1	60.33	40.0	54.18	44.45	11.10	8.7
1.750	44.4	41.2	63.50	43.5	60.53	44.45	12.70	9.5
1.875	47.6	44.4	66.68	46.5	63.70	44.45	12.70	9.5
2.000	50.8	47.6	69.85	49.5	66.88	44.45	12.70	9.5
2.125	53.9	50.8	76.20	53.0	70.05	52.37	12.70	11.1
2.250	57.1	53.9	79.38	56.0	76.40	52.37	14.27	11.1
2.375	60.3	57.1	82.55	59.0	79.58	52.37	14.27	11.1
2.500	63.5	60.3	85.73	62.5	82.75	52.37	14.27	11.1
2.625	66.6	63.5	88.90	65.5	85.93	52.37	14.27	11.1
2.750	69.8	66.6	92.08	68.5	85.93	52.37	15.88	11.1
2.875	73.0	69.8	95.25	72.0	89.10	52.37	15.88	11.1
3.000	76.2	73.0	96.82	75.0	95.45	52.37	15.88	11.1
3.125	79.3	76.2	100.00	78.5	98.63	52.37	15.88	11.1
3.250	82.5	79.3	104.78	81.5	101.80	52.37	19.84	14.3
3.375	85.7	82.5	107.95	84.5	104.98	52.37	19.84	14.3
3.500	88.9	85.7	111.13	88.0	108.15	52.37	19.84	14.3
3.625	92.0	88.9	114.30	91.0	111.33	52.37	19.84	14.3
3.750	95.2	92.0	117.48	94.0	114.50	52.37	19.84	14.3
3.875	98.4	95.2	120.65	97.5	117.68	52.37	19.84	14.3
4.000	101.6	98.4	123.83	100.5	120.85	52.37	19.84	14.3



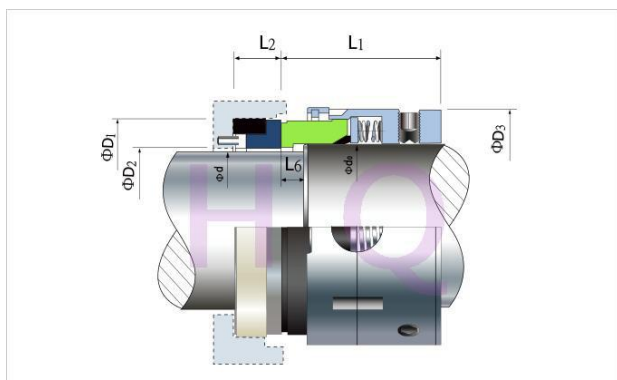
Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1645BS, AES M06S, Crane 8BT
 Temperature: -20°C to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d0	d	D3	D2	D1	L1	L2	L6
1.000	25.4	22.2	36.50	22.9	38.10	33.32	10.3	8.7
1.125	28.5	25.4	39.67	26.1	41.28	34.93	11.1	8.7
1.250	31.7	28.5	42.85	29.3	44.45	34.93	11.1	8.7
1.375	34.9	28.5	49.20	29.3	44.45	42.85	11.1	8.7
1.500	38.1	31.7	49.20	32.4	47.63	36.5	11.1	8.7
1.625	41.2	34.9	57.15	35.6	50.80	40.46	11.1	11.1
1.750	44.4	38.1	58.72	38.8	53.96	44.45	11.1	11.1
1.875	47.6	41.2	63.50	42.4	60.33	44.45	12.7	11.1
2.000	50.8	44.4	66.68	45.5	63.50	44.45	12.7	11.1
2.125	53.9	47.6	71.42	48.7	66.68	52.37	12.7	12.7
2.250	57.1	50.8	72.21	51.9	69.85	44.45	12.7	12.7
2.375	60.3	53.9	76.20	55.0	76.20	52.37	14.3	12.7
2.500	63.5	57.1	79.38	58.2	79.38	44.45	14.3	12.7
2.625	66.6	60.3	82.55	61.4	82.55	52.37	14.3	12.7
2.750	69.8	63.5	85.73	64.6	85.73	52.37	14.3	12.7
2.875	73	66.6	88.90	67.7	85.79	52.37	15.9	12.7
3.000	76.2	69.8	92.08	70.9	88.90	52.37	15.9	12.7
3.125	79.3	73.0	95.25	74.1	95.25	52.37	15.9	14.3
3.250	82.5	76.2	98.43	77.3	98.43	52.37	15.9	14.3
3.375	85.7	79.3	101.60	80.5	101.60	52.37	19.8	14.3
3.500	88.9	82.5	104.78	83.6	104.78	52.37	19.8	14.3
3.625	92.0	85.7	107.95	86.8	107.95	52.37	19.8	14.3
3.750	95.2	88.9	111.13	90.0	111.13	52.37	19.8	14.3
3.875	98.4	92.0	114.30	93.1	114.3	52.37	19.8	14.3
4.000	101.6	95.2	117.48	96.3	117.48	52.37	19.8	14.3



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1609, AES M01, Crane 109,9, 909, Roten 90
 Temperature: -40°C to +250°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d	D3	D2	D1	L1	L2
0.500	12.7	26.70	13.4	25.40	20.62	7.9
0.625	15.8	30.66	16.6	31.75	19.05	10.3
0.750	19.0	33.83	19.7	34.93	22.23	10.3
0.875	22.2	37.00	22.9	38.10	23.8	10.3
1.000	25.4	40.10	26.1	41.28	25.4	11.1
1.125	28.5	43.36	29.3	44.45	26.97	11.1
1.250	31.7	48.13	32.4	47.63	26.97	11.1
1.375	34.9	51.30	35.6	50.80	28.58	11.1
1.500	38.1	54.48	38.8	53.98	28.58	11.1
1.625	41.2	60.83	42.4	60.33	34.93	12.7
1.750	44.4	64.00	45.5	63.50	34.93	12.7
1.875	47.6	66.68	48.7	66.68	34.93	12.7
2.000	50.8	70.36	51.9	69.85	34.93	12.7
2.125	53.9	76.70	55.0	76.20	42.85	14.3
2.250	57.1	79.88	58.2	79.38	42.85	14.3
2.375	60.3	83.06	61.4	82.55	42.85	14.3
2.500	63.5	86.23	64.6	85.73	42.85	14.3
2.625	66.6	89.40	67.7	85.73	42.85	15.9
2.750	69.8	92.58	70.9	88.90	42.85	15.9
2.875	73.0	95.76	74.1	95.25	42.85	15.9
3.000	76.2	97.33	77.3	98.43	42.85	15.9
3.125	79.3	100.50	80.5	101.60	42.85	15.8
3.250	82.5	105.28	83.6	104.78	42.85	15.8
3.375	85.7	108.46	86.8	107.95	42.85	15.8
3.500	88.9	111.63	90.0	111.13	42.85	15.8
3.625	92.0	114.80	93.1	114.30	42.85	15.8
3.750	95.2	117.98	96.3	117.48	42.85	15.8
3.875	98.4	121.16	99.5	120.65	42.85	15.8
4.000	101.6	124.33	102.7	123.83	42.85	15.8



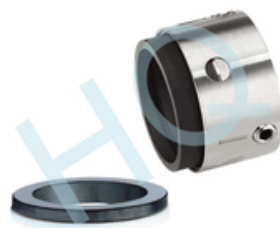
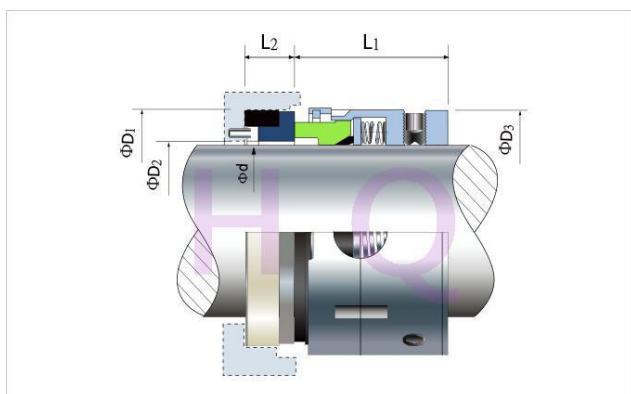
Type: Multi Spring Mechanical Seal
 Replacement: vulcan 1609B, AES M02, Crane 109B/9B
 Temperature: -40°C to +250°C

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

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

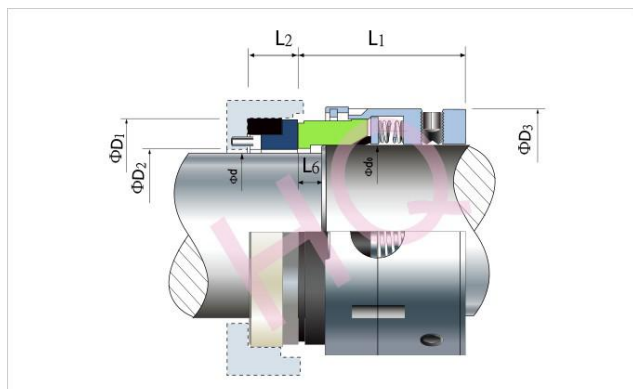
Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d0	d	D3	D2	D1	L1	L2	L6
1.000	25.4	22.2	40.10	22.9	38.10	33.32	10.3	6.4
1.125	28.5	25.4	43.36	26.1	41.28	34.93	11.1	7.9
1.250	31.7	28.5	48.13	29.3	44.45	34.93	11.1	7.9
1.375	34.9	28.5	51.30	29.3	44.45	36.50	11.1	8.7
1.500	38.1	31.7	54.48	32.4	47.63	36.50	11.1	8.7
1.625	41.2	34.9	60.83	35.6	50.80	44.45	11.1	8.7
1.750	44.4	38.1	64.00	38.8	53.98	44.45	11.1	9.5
1.875	47.6	41.2	66.68	42.4	60.33	44.45	12.7	9.5
2.000	50.8	44.4	70.36	45.5	63.50	44.45	12.7	9.5
2.125	53.9	47.6	76.70	48.7	66.68	52.37	12.7	11.1
2.250	57.1	50.8	79.88	51.9	69.85	52.37	12.7	11.1
2.375	60.3	53.9	83.06	55.0	76.20	52.37	14.3	11.1
2.500	63.5	57.1	86.23	58.2	79.38	52.37	14.3	11.1
2.625	66.6	60.3	89.40	61.4	82.55	52.37	14.3	11.1
2.750	69.8	63.5	92.58	64.6	85.73	52.37	14.3	11.1
2.875	73.0	66.6	95.76	67.7	85.73	52.37	15.9	11.1
3.000	76.2	69.8	97.33	70.9	88.90	52.37	15.9	11.1
3.125	79.3	73.0	100.50	74.1	95.25	52.37	15.9	11.1
3.250	82.5	76.2	105.28	77.3	98.43	52.37	15.9	14.3
3.375	85.7	79.3	108.46	80.5	101.6	52.37	19.8	14.3
3.500	88.9	82.5	111.63	83.6	104.78	52.37	19.8	14.3
3.625	92.0	85.7	114.80	86.8	107.95	52.37	19.8	14.3
3.750	95.2	88.9	117.98	90.0	111.13	52.37	19.8	14.3
3.875	98.4	92.0	121.16	93.1	114.30	52.37	19.8	14.3
4.000	101.6	95.2	124.33	96.3	117.48	52.37	19.8	14.3



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1645, AES M05, Crane 9-T
 Temperature: -40°C to +250°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

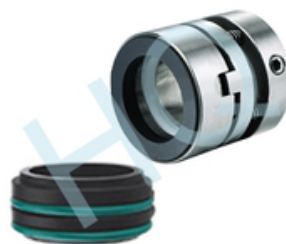
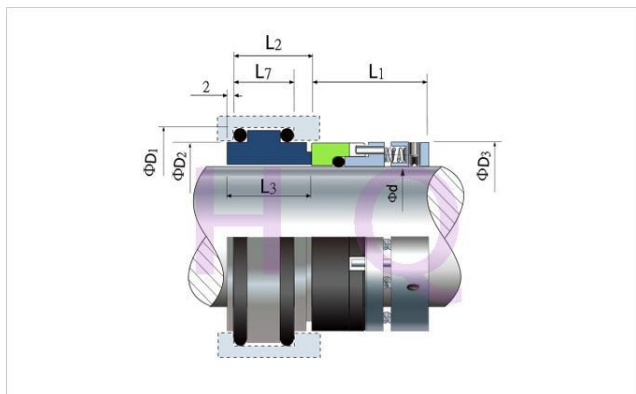
Size (Inch)	d	D3	D2	D1	L1	L2
0.500	12.7	23.80	13.4	25.40	23.80	7.9
0.625	15.8	26.97	16.6	31.75	23.80	10.3
0.750	19.0	30.15	19.7	34.93	23.80	10.3
0.875	22.2	33.32	22.9	38.10	23.80	10.3
1.000	25.4	36.50	26.1	41.28	25.40	11.1
1.125	28.5	39.67	29.3	44.45	25.40	11.1
1.250	31.7	42.85	32.4	47.63	25.40	11.1
1.375	34.9	49.20	35.6	50.80	34.93	11.1
1.500	38.1	49.20	38.8	53.98	28.58	11.1
1.625	41.2	57.15	42.4	60.33	29.36	12.7
1.750	44.4	58.72	45.5	63.50	34.93	12.7
1.875	47.6	63.50	48.7	66.68	34.93	12.7
2.000	50.8	66.68	51.9	69.85	34.93	12.7
2.125	53.9	71.42	55.0	76.20	42.85	14.3
2.250	57.1	72.21	58.2	79.38	34.93	14.3
2.375	60.3	76.20	61.4	82.55	42.85	14.3
2.500	63.5	79.38	64.6	85.73	34.93	14.3
2.625	66.6	82.55	67.7	85.73	42.85	15.9
2.750	69.8	85.73	70.9	88.90	42.85	15.9
2.875	73.0	88.90	74.1	95.25	42.85	15.9
3.000	76.2	92.08	77.3	98.43	42.85	15.9
3.125	79.3	95.25	80.5	101.60	42.85	19.8
3.250	82.5	98.43	83.6	104.78	42.85	19.8
3.375	85.7	101.60	86.8	107.95	42.85	19.8
3.500	88.9	104.78	90.0	111.13	42.85	19.8
3.625	92.0	107.95	93.1	114.3	42.85	19.8
3.750	95.2	111.13	96.3	117.48	42.85	19.8
3.875	98.4	114.30	99.5	120.65	42.85	19.8
4.000	101.6	117.48	102.7	123.83	42.85	19.8



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 1645B, AES M06, Crane 9BT
 Temperature: -40°C to +250°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

Size (Inch)	d0	d	D3	D2	D1	L1	L2	L6
1.000	25.4	22.2	36.50	22.9	38.10	33.32	10.3	8.7
1.125	28.5	25.4	39.67	26.1	41.28	34.93	11.1	8.7
1.250	31.7	28.5	42.85	29.3	44.45	34.93	11.1	8.7
1.375	34.9	28.5	49.20	29.3	44.45	42.85	11.1	8.7
1.500	38.1	31.7	49.20	32.4	47.63	36.50	11.1	8.7
1.625	41.2	34.9	57.15	35.6	50.80	40.46	11.1	11.1
1.750	44.4	38.1	58.72	38.8	53.96	44.45	11.1	11.1
1.875	47.6	41.2	63.50	42.4	60.33	44.45	12.7	11.1
2.000	50.8	44.4	66.68	45.5	63.50	44.45	12.7	11.1
2.125	53.9	47.6	71.42	48.7	66.68	52.37	12.7	12.7
2.250	57.1	50.8	72.21	51.9	69.85	44.45	12.7	12.7
2.375	60.3	53.9	76.20	55.0	76.20	52.37	14.3	12.7
2.500	63.5	57.1	79.38	58.2	79.38	44.45	14.3	12.7
2.625	66.6	60.3	82.55	61.4	82.55	52.37	14.3	12.7
2.750	69.8	63.5	85.73	64.6	85.73	52.37	14.3	12.7
2.875	73.0	66.6	88.90	67.7	85.73	52.37	15.9	12.7
3.000	76.2	69.8	92.08	70.9	88.90	52.37	15.9	12.7
3.125	79.3	73.0	95.25	74.1	95.25	52.37	15.9	14.3
3.250	82.5	76.2	98.43	77.3	98.43	52.37	15.9	14.3
3.375	85.7	79.3	101.60	80.5	101.60	52.37	19.8	14.3
3.500	88.9	82.5	104.78	83.6	104.78	52.37	19.8	14.3
3.625	92.0	85.7	107.13	86.8	107.95	52.37	19.8	14.3
3.750	95.2	88.9	111.13	90.0	111.13	52.37	19.8	14.3
3.875	98.4	92.0	114.30	93.1	114.30	52.37	19.8	14.3
4.000	101.6	95.2	117.48	96.3	117.48	52.37	19.8	14.3

HQRO-A



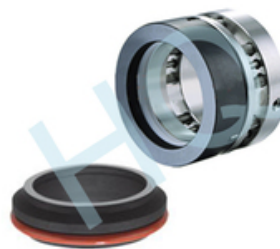
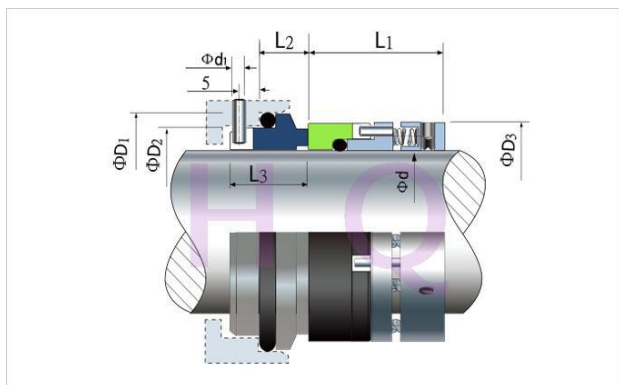
Type: Multi Spring Mechanical Seal
 Replacement: Flowserve RO-A
 Temperature: -20°C to +150°C

Pressure: $\leq 1.0\text{Mpa}$

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

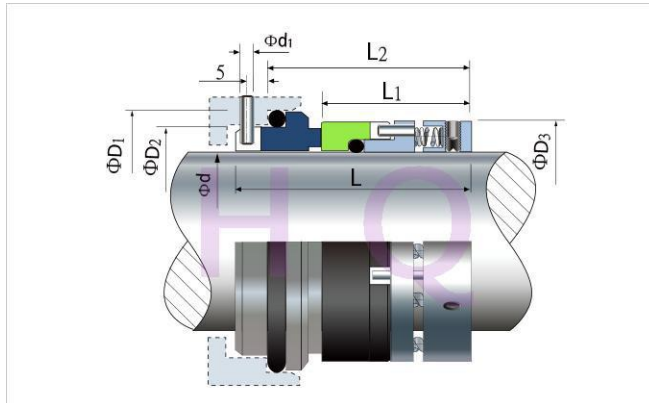
Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D2	D1	L7	L1	L2	L3
20	34	36	42	18	35	23	25
22	36	38	44	18	35	23	25
24	38	40	46	18	35	23	25
25	39	41	47	18	35	23	25
28	42	44	50	18	35	23	25
30	44	46	52	18	35	23	25
32	46	48	54	18	35	23	25
33	47	49	55	18	35	23	25
35	49	51	57	18	35	23	25
38	54	58	64	20	39	25	27
40	56	60	66	20	39	25	27
42	58	62	68	20	39	25	27
43	59	63	69	20	39	25	27
45	61	65	71	20	39	25	27
48	64	68	74	20	39	25	27
50	66	70	76	20	39	25	27
52	68	72	78	20	40	25	27
53	69	73	79	20	40	25	27
55	71	75	81	20	40	25	27
58	76	83	89	22	41	28	30
60	78	85	91	22	41	28	30
62	80	87	93	22	41	28	30
63	81	88	94	22	41	28	30
65	83	90	96	22	41	28	30
68	86	93	99	24	41	30	32
70	90	95	101	24	42	30	32
75	95	104	110	24	42	30	32
80	100	109	115	25	42	31	33
85	105	114	120	25	43	31	33
90	110	119	125	25	45	31	33
95	115	124	130	25	45	31	33
100	120	129	135	25	45	31	33



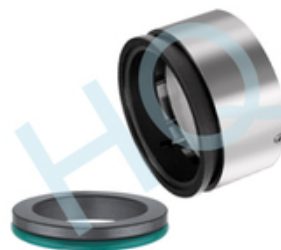
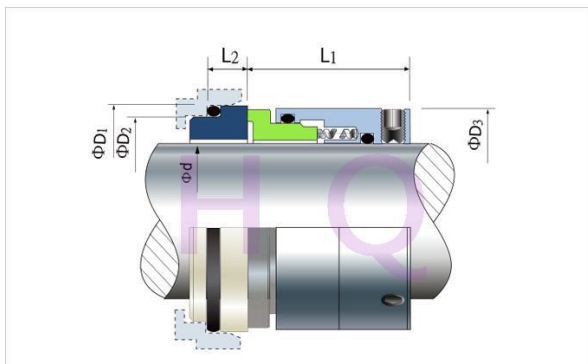
Type: Multi Spring Mechanical Seal
 Replacement: Flowserve RO-B
 Temperature: -20°C to +150°C
 Pressure: ≤1.0Mpa
 Speed: ≤15m/s
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D2	D1	d1	L1	L2	L3
20	34	29	35	3	35	13	21
22	36	31	37	3	35	13	21
24	38	33	39	3	35	13	21
25	39	34	40	3	35	13	21
28	42	37	43	3	35	13	21
30	44	39	45	3	35	13	21
32	46	42	48	3	35	13	21
33	47	42	48	3	35	13	21
35	49	44	50	3	35	13	21
38	54	50	56	4	38	13	21
40	56	52	58	4	38	13	21
43	59	55	61	4	38	13	21
45	61	57	63	4	38	13	21
48	64	60	66	4	38	13	21
50	66	62	68	4	39	13	21
53	69	65	71	4	40	13	21
55	71	67	73	4	40	13	21
58	76	70	79	4	41	16	24
60	78	72	81	4	41	16	24
63	81	75	84	4	41	16	24
65	83	77	86	4	41	16	24
68	86	81	90	4	41	16	24
70	90	83	92	4	42	16	24
75	95	88	97	4	42	16	24
80	100	96	105	4	42	16	24
85	105	101	110	4	43	16	24
90	110	106	115	4	45	16	24
95	115	111	120	4	45	16	24
100	120	116	125	4	45	16	24



Type: Multi Spring Mechanical Seal
 Replacement: Flowserve RO-C
 Temperature: -20°C to +150°C
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D2	D1	d1	L0	L2	L1
20	34	29	35	3	51	44	31
22	36	31	37	3	51	44	31
24	38	33	39	3	51	44	31
25	39	34	40	3	51	44	31
28	42	37	43	3	53	46	33
30	44	39	45	3	53	46	33
32	46	42	48	3	56	49	36
33	47	42	48	3	56	49	36
35	49	44	50	3	56	49	36
38	54	49	56	4	62	55	40
40	56	51	58	4	62	55	40
43	59	54	61	4	64	57	42
45	61	56	63	4	64	57	42
48	64	59	66	4	64	57	42
50	66	62	70	4	65	58	42
53	69	65	73	4	65	58	42
55	71	67	75	4	65	58	42
58	78	70	78	4	66	59	43
60	80	72	80	4	66	59	43
63	83	75	83	4	66	59	43
65	85	77	85	4	66	59	43
68	88	81	90	4	68	61	43
70	90	83	92	4	69	62	44
75	99	88	97	4	69	62	44
80	104	95	105	4	74	67	49
85	109	100	110	4	74	67	49
90	114	105	115	4	74	67	49
95	119	110	120	4	74	67	49
100	124	115	125	4	74	67	49
105	129	120	130	4	74	67	49
110	138	125	136	4	74	67	49
115	143	130	141	4	74	67	49
120	148	135	146	4	74	67	49



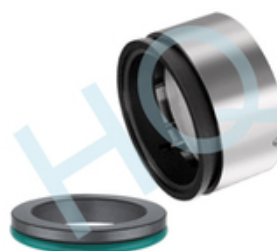
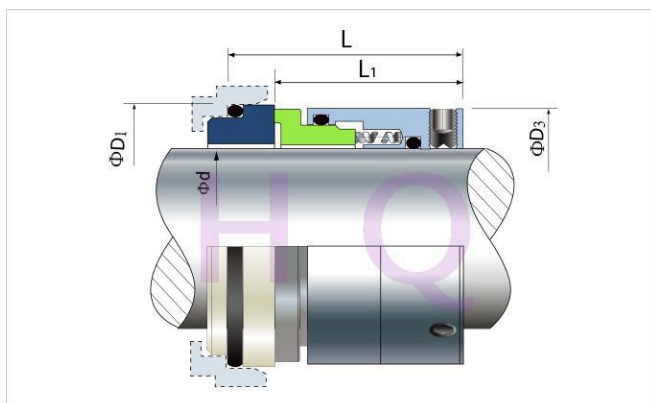
Type: Multi Spring Mechanical Seal
Temperature: -20°C to +180°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D1	D2	D3	L1	L2
18	33	27	32.28	30	7.5
20	35	29	34.29	30	7.5
22	37	31	36.30	30	7.5
24	39	33	38.30	30	7.5
25	40	34	39.29	30	7.5
28	43	37	42.29	35	7.5
30	45	39	44.30	35	7.5
32	48	42	46.30	35	7.5
33	48	42	47.90	35	7.5
35	50	44	49.48	35	7.5
38	56	49	54.28	35	9.0
40	58	51	56.08	35	9.0
43	61	54	59.08	35	9.0
45	63	56	61.09	35	9.0
48	66	59	64.11	35	9.0
50	70	62	66.09	35	9.5
53	73	65	71.00	35	11.0
55	75	67	71.07	35	11.0
60	80	72	77.14	35	11.0
65	85	77	83.01	35	11.0
68	90	81	91.00	35	11.3
70	92	83	86.08	35	11.3
75	97	88	98.43	48	11.3
80	105	95	104.79	48	12.0
85	110	100	107.95	48	12.0
90	115	105	114.30	48	14.0
100	125	115	123.83	48	14.0



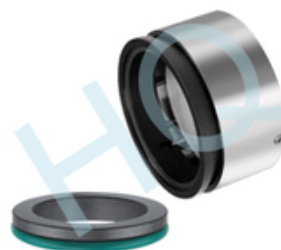
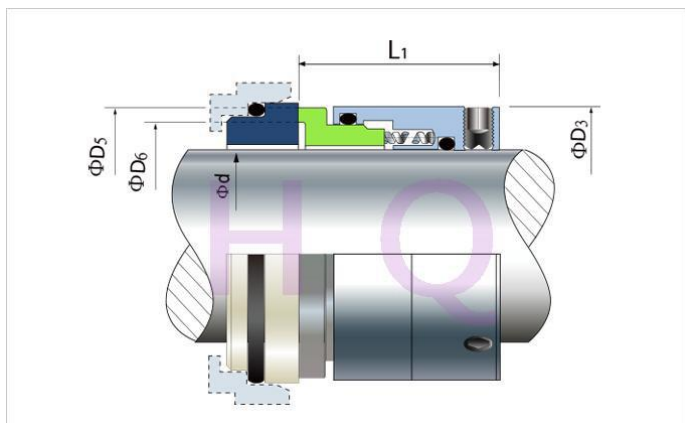
Type: Multi Spring Mechanical Seal
Temperature: -20°C to +180°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D3	D1 (DIN)	D1 (STAND)	L (DIN)	L (STAND)	L1
16	32	27	28.0	27.5	28.0	20.5
18	34	33	30.0	39.5	28.0	20.5
19	35	35	35.0	30.0	30.0	22.5
20	36	35	35.0	30.0	30.0	22.5
22	38	37	35.0	31.0	30.0	22.5
24	40	39	38.0	30.5	30.0	22.5
25	42	40	38.0	31.0	30.0	22.5
28	45	43	42.0	30.5	30.0	22.5
30	47	45	45.0	30.0	30.0	22.5
32	49	48	48.0	30.0	30.0	22.5
33	50	48	48.0	30.0	30.0	22.5
35	52	50	52.0	30.5	31.5	22.5
38	55	56	55.0	31.0	30.5	22.5
40	47	58	58.0	30.5	30.5	22.5
43	60	61	61.0	37.5	37.5	28.5
45	62	63	64.0	37.5	38.0	28.5
48	65	66	66.0	37.5	38.8	28.5
50	67	70	69.3	38.8	39.0	28.5
53	70	73	73.0	38.0	38.0	28.5
55	72	75	75.4	38.5	38.8	28.5
60	77	80	80.4	39.5	39.5	28.5
65	82	85	85.4	39.5	39.5	28.5
70	87	92	92.0	41.5	41.5	30.5
75	93	97	99.0	43.5	44.5	30.5
80	98	105	104.0	44.0	43.5	30.5
85	103	110	109.0	44.0	43.5	30.5
90	108	115	114.0	44.0	43.5	30.5
95	113	120	120.3	44.0	44.0	30.5
100	118	125	123.3	44.0	44.0	30.5



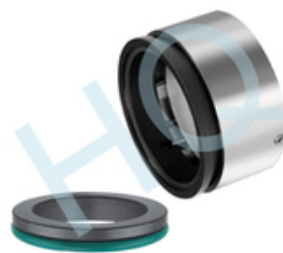
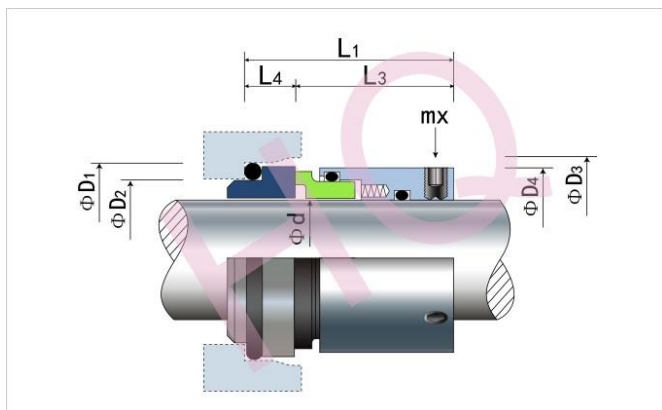
Type: Multi Spring Mechanical Seal
Temperature: -20°C to +180°C

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

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

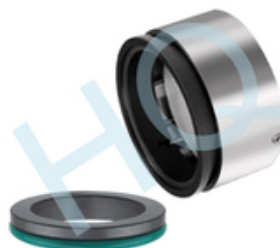
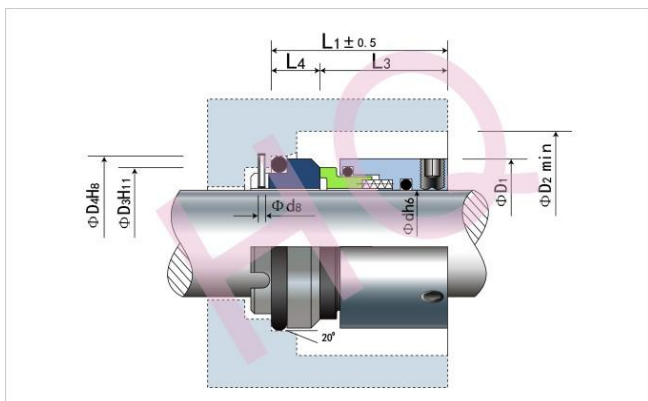
Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D5	D6	D3	L1	Size (Inch)	d	D5	D6	D3
25	37.5	32.5	39.3	34.9	1.000	25.4	37.5	32.5	39.3
28	40.0	35.0	42.3	34.9	1.125	28.5	40.0	35.0	42.3
30	42.0	37.0	44.5	34.9	1.250	31.7	44.5	39.0	46.0
32	44.5	39.0	46.0	44.4	1.375	34.9	47.5	42.0	49.0
33	45.5	40.0	47.5	44.4	1.500	38.1	50.5	45.0	52.5
35	47.5	42.0	49	44.4	1.625	41.2	55.0	49.0	57.2
38	50.5	45.0	52.5	44.4	1.750	44.4	58.0	52.0	60.3
40	53.0	47.0	55.6	44.4	1.875	47.6	61.0	55.0	63.5
42	56.0	50.0	58.7	44.4	2.000	50.8	63.6	57.6	66.7
43	56.0	50.0	58.7	44.4	2.125	53.9	67.8	61.8	69.8
45	58.0	52.0	60.3	44.4	2.250	57.1	70.8	64.8	73.0
48	61.0	55.0	63.5	44.4	2.375	60.3	73.5	67.5	76.2
50	63.6	57.6	66.7	44.4	2.500	63.5	76.5	70.5	79.4
53	67.8	61.8	69.8	44.4	2.625	66.6	79.5	73.5	82.6
55	67.8	61.8	69.8	44.4	2.750	69.8	86.4	76.9	85.7
58	70.8	64.8	73.0	44.4	2.875	73.0	88.4	79.9	88.9
60	73.5	67.5	76.2	44.4	3.000	76.2	90.4	83.9	96.8
63	76.5	70.5	79.4	44.4	3.125	79.3	94.2	87.7	100.0
65	79.5	73.5	82.6	44.4	3.250	82.5	97.3	90.3	103.2
70	83.4	76.9	85.7	44.4	3.375	85.7	100.3	93.3	106.4
75	90.4	83.9	96.8	44.4	3.500	88.9	104.9	97.4	109.5
80	94.2	87.7	100.0	44.4	3.625	92.0	106.9	99.4	112.7
85	100.3	93.3	106.4	44.4	3.750	95.2	110.5	102.5	115.9
90	104.9	97.4	109.5	44.4	3.875	98.4	113.7	105.7	119.0
95	110.5	102.5	115.9	44.4	4.000	101.6	116.9	108.9	122.2
100	116.9	108.9	122.2	44.4					



Type: Multi Spring Mechanical Seal
 Replacement: Chesterton 491
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

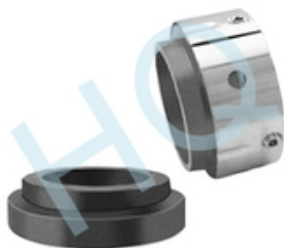
d (mm)	D4	D3	D2	D1	L1	L3	L4	m _x
16	28.9	31	23	27	35.0	30	5.0	M4
18	32.3	34	27	33	37.5	30	7.5	M4
20	34.3	36	29	35	37.5	30	7.5	M4
22	36.3	38	31	37	37.5	30	7.5	M4
24	38.4	40	33	39	37.5	30	7.5	M4
25	39.3	41	34	40	37.5	30	7.5	M4
28	42.3	44	37	43	42.5	35	7.5	M5
30	44.3	46	39	45	42.5	35	7.5	M5
32	46.4	48	42	48	42.5	35	7.5	M5
33	48.0	49	42	48	42.5	35	7.5	M5
35	49.5	51	44	50	42.5	35	7.5	M5
38	54.3	58	49	56	44.0	35	9.0	M5
40	56.1	60	51	58	44.0	35	9.0	M5
43	59.1	63	54	61	44.0	35	9.0	M5
45	61.1	65	56	63	44.0	35	9.0	M5
48	64.2	68	59	66	44.0	35	9.0	M5
50	66.1	70	62	70	44.5	35	9.5	M5
53	69.1	73	65	73	46.0	35	11.0	M5
55	71.1	75	67	75	46.0	35	11.0	M5
60	76.1	85	72	80	46.0	35	11.0	M5
65	81.1	90	77	85	46.0	35	11.0	M5
68	86.1	93	81	90	46.3	35	11.3	M5
70	86.1	95	83	92	46.3	35	11.3	M5
75	98.6	104	88	97	59.3	48	11.3	M6
80	104.2	109	95	105	60.0	48	12.0	M6
85	108.1	114	100	110	60.0	48	12.0	M6
90	114.0	119	105	115	62.0	48	14.0	M6
100	117.6	129	115	125	62.0	48	14.0	M6
110	133.5	139	125	135	62.0	48	14.0	M6



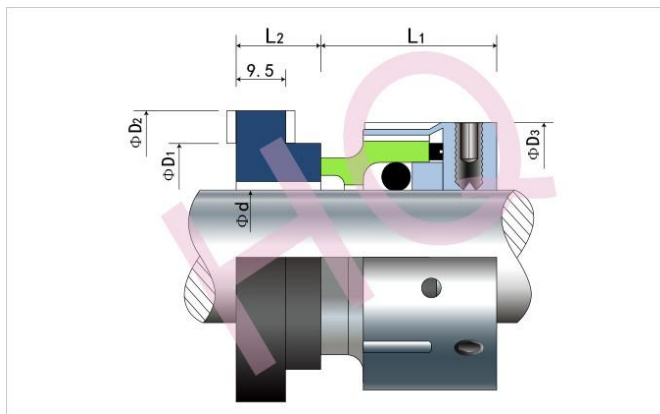
Type: Multi Spring double face Seal
 Replacement: Chesterton 891
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

d (mm)	D1	D2	D3	D4	d8	L1	L3	L4
18	27	33	33	36	3	45.5	32	13.5
20	29	35	35	38	3	45.5	32	13.5
22	31	37	37	40	3	45.5	32	13.5
24	33	39	39	42	3	45.5	32	13.3
25	34	40	40	43	3	45.0	32	13.0
28	37	43	43	46	3	44.5	32	12.5
30	39	45	45	48	3	44.0	32	12.0
32	42	48	47	50	3	54.0	42	12.0
33	42	48	48	51	3	54.0	42	12.0
35	44	50	50	53	3	54.0	42	12.0
38	49	56	55	58	3	55.0	42	13.0
40	51	58	57	60	3	55.0	42	13.0
43	54	61	60	63	4	55.0	42	13.0
45	56	63	62	65	4	55.0	42	13.0
48	59	66	65	68	4	55.0	42	13.0
50	62	70	67	70	4	55.5	42	13.5
53	65	73	70	73	4	55.5	42	13.5
55	67	75	72	75	4	55.5	42	13.5
58	70	78	79	82	4	55.5	42	13.5
60	72	80	81	84	4	55.5	42	13.5
65	77	85	86	89	4	55.5	42	13.5
68	81	90	89	92	4	55.5	42	13.5
70	83	92	91	94	4	56.5	42	14.5
75	88	97	99	102	4	62.5	48	14.5
80	95	105	104	107	4	63.0	48	15.0
85	100	110	109	112	4	63.0	48	15.0
90	105	115	114	117	4	63.0	48	15.0
95	110	120	119	122	4	63.0	48	15.0
100	115	125	124	127	4	63.0	48	15.0

HQ740



Type: Multi Spring Mechanical Seal
 Replacement: Chesterton 740
 Temperature: -40 to +205°C
 Pressure: ≤ 10 Bar
 Speed: ≤ 12 m/s
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm/inch)	D1	D2	D3	L1	L2
25.00	41.1	53.2	48.5	31.75	15.9
1.000	41.1	53.2	48.5	31.75	15.9
28.00	44.5	56.4	52.0	31.75	15.9
1.125	44.5	56.4	52.0	31.75	15.9
30.00	47.5	59.5	55.0	31.75	15.9
32.00	47.5	59.5	55.0	31.75	15.9
1.250	47.5	59.5	55.0	31.75	15.9
33.00	50.7	61.1	58.0	31.75	15.9
35.00	50.7	61.1	58.0	31.75	15.9
1.375	50.7	61.1	58.0	31.75	15.9
38.00	57.0	69.1	61.0	31.75	15.9
1.500	57.0	69.1	61.0	31.75	15.9
40.00	60.2	72.2	64.0	31.75	15.9
1.625	60.2	72.2	64.0	31.75	15.9
43.00	63.4	78.6	67.5	31.75	15.9
45.00	63.4	78.6	67.5	31.75	15.9
1.750	63.4	78.6	67.5	31.75	15.9
48.00	66.5	81.8	70.5	31.75	15.9
1.875	66.5	81.8	70.5	31.75	15.9
50.00	69.7	88.1	74.0	31.75	15.9
2.000	69.7	88.1	74.0	31.75	15.9
53.00	72.9	94.5	77.0	31.75	15.9
2.125	72.9	94.5	77.0	31.75	15.9



HQ502



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Type: Multi Spring Mechanical Seal,Suit for Alfa

Laval ALC(D Series) Pumps

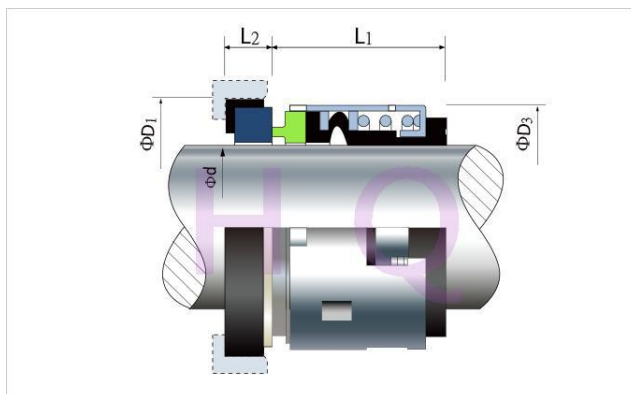
Replacement: AES B07, Vulcan 1724, Crane 502(N
Seat)

Temperature: -20°C to +120°C

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

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M



Size (mm)	D1	D3	L1	L2
12	23	22.0	23.9	8.6
14	25	24.0	26.4	8.6
16	27	26.2	26.4	8.6
18	33	32.2	27.5	10.0
20	35	33.9	27.5	10.0
22	37	36.1	27.5	10.0
24	39	38.1	30.0	10.0
25	40	38.8	30.0	10.0
28	43	42.1	32.5	10.0
30	45	44.2	32.5	10.0
32	48	45.8	32.5	10.0
33	48	46.9	32.5	10.0
35	50	48.8	32.5	10.0
38	56	54.2	34.0	11.0
40	58	56.1	34.0	11.0
43	61	58.8	34.0	11.0
45	63	60.9	34.0	11.0
48	66	64.1	34.0	11.0
50	70	66.2	34.5	13.0
53	73	69.1	34.5	13.0
55	75	71.1	34.5	13.0
58	78	78.2	39.5	13.0
60	80	79.9	39.5	13.0
63	83	82.8	39.5	13.0
65	85	85.1	39.5	13.0
70	92	90.0	44.7	15.3
75	97	97.0	44.7	15.3
80	105	104.0	44.3	15.7
85	110	108.0	44.3	15.7
90	115	114.0	49.3	15.7
95	120	118.0	49.3	15.7
100	125	124.0	49.3	15.7

HQ502S



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Type: Multi Spring Mechanical Seal, Suit for Alfa

Laval ALC(D Series) Pumps

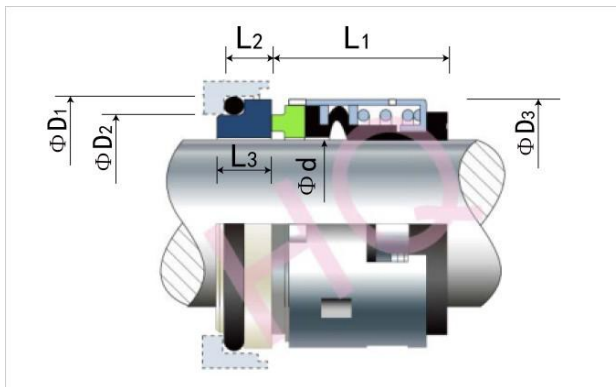
Replacement: AES B07S, Vulcan 502/BO

Temperature: -20°C to +120°C

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

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

Material: Q1, Q2, V, K, E, P, G, M5, M6, T4



d (mm)	D1	D2	D3	L1	L2	L3
14	25	21	24	23.0	12.0	12.8
16	27	23	26	23.0	12.0	12.8
18	33	27	32	24.0	13.5	14.5
20	35	29	34	24.0	13.5	14.5
22	37	31	36	24.0	13.5	14.5
24	39	33	38	26.7	13.3	14.3
25	40	34	39	27.0	13.0	14.0
28	43	37	42	30.0	12.5	13.5
30	45	39	44	30.5	12.0	13.0
32	48	42	46	30.5	12.0	13.0
33	48	42	47	30.5	12.0	13.0
35	50	44	49	30.5	12.0	13.0
38	56	49	54	32.0	13.0	14.0
40	58	51	56	32.0	13.0	14.0
43	61	54	59	32.0	13.0	14.0
45	63	56	61	32.0	13.0	14.0
48	66	59	64	32.0	13.0	14.0
50	70	62	66	34.0	13.5	14.5
53	73	65	69	34.0	13.5	14.5
55	75	67	71	34.0	13.5	14.5
58	78	70	78	39.0	13.5	14.2
60	80	72	80	39.0	13.5	14.2
63	83	75	83	39.0	13.5	14.2
65	85	77	85	39.0	13.5	14.2
68	90	81	88	39.0	13.5	14.2
70	92	83	89	45.5	14.5	15.2
75	97	88	96	45.5	14.5	15.2
80	105	95	104	45.0	15.0	15.7
85	110	100	108	45.0	15.0	15.7
90	115	105	114	50.0	15.0	15.7
95	120	110	118	50.0	15.0	15.7
100	125	115	124	50.0	15.0	15.7



HQ502L



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Type: Multi Spring Mechanical Seal, Suit for

Grundfos, Hilge Pumps

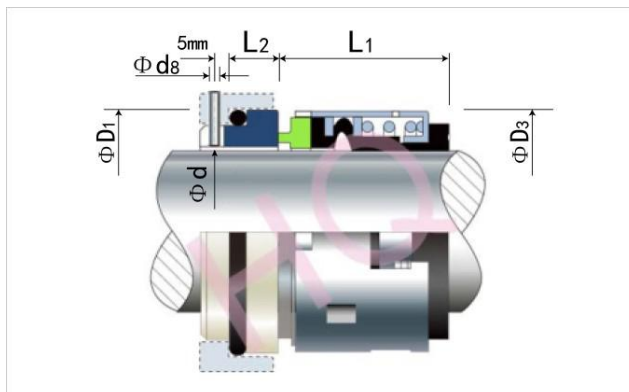
Replacement: AES B07SL, Vulcan 502/BP

Temperature: -20°C to +120°C

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

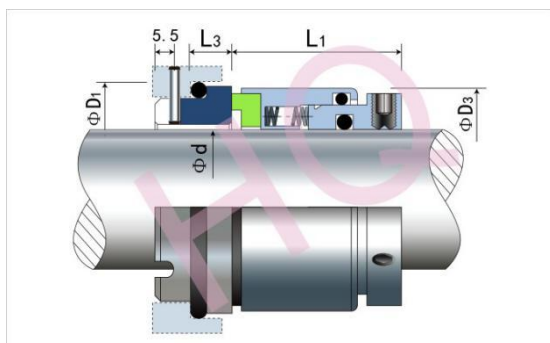
Speed: $\leq 15\text{m/s}$

Material: A, Q1, Q2, U2, P, E, V, F, G



d (mm)	D1	D3	d8	L1	L2
12	23	22.0	3	23.9	8.6
14	25	24.0	3	26.4	8.6
16	27	26.2	3	26.4	8.6
18	33	32.2	3	27.5	10.0
20	35	33.9	3	27.5	10.0
22	37	36.1	3	27.5	10.0
24	39	38.1	3	30.0	10.0
25	40	38.8	3	30.0	10.0
28	43	42.1	3	32.5	10.0
30	45	44.2	3	32.5	10.0
32	48	45.8	3	32.5	10.0
33	48	46.9	3	32.5	10.0
35	50	48.8	3	32.5	10.0
38	56	54.2	4	34.0	11.0
40	58	56.1	4	34.0	11.0
43	61	58.8	4	34.0	11.0
45	63	60.9	4	34.0	11.0
48	66	64.1	4	34.0	11.0
50	70	66.2	4	34.5	13.0
53	73	69.1	4	34.5	13.0
55	75	71.1	4	34.5	13.0
58	78	78.2	4	39.5	13.0
60	80	79.9	4	39.5	13.0
63	83	82.8	4	39.5	13.0
65	85	85.1	4	39.5	13.0
70	92	90.0	4	44.7	15.3
75	97	97.0	4	44.7	15.3
80	105	104.0	4	44.3	15.7
85	110	108.0	4	44.3	15.7
90	115	114.0	4	49.3	15.7
95	120	118.0	4	49.3	15.7
100	125	124.0	4	49.3	15.7

HQ40/HQ40S/HQ40L



Type: Multi Spring Mechanical Seal
 Replacement: Vulcan 40/40S/40L
 Temperature: -20°C to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	d (inch)	D1	D3	L1	L3	40L slot width	40L slot depth
18		33	32.5	30.0	10.0	4	5.5
19	0.750	35	33.5	30.0	10.0	4	5.5
20		35	34.5	30.0	10.0	4	5.5
22	0.875	37	36.5	30.0	10.0	4	5.5
24		39	38.5	30.0	10.0	4	5.5
25		40	39.5	30.0	10.0	4	5.5
	1.125	43	39.5	30.0	10.0	4	5.5
28		43	42.5	32.5	10.0	4	5.5
		45	42.5	32.5	10.0	4	5.5
30		45	44.5	32.5	10.0	4	5.5
32	1.250	48	46.0	32.5	10.0	4	5.5
33		48	47.0	32.5	10.0	4	5.5
35	1.375	50	48.0	32.5	10.0	4	5.5
38	1.500	56	52.0	34.0	11.0	5	5.5
40		58	56.0	34.0	11.0	5	5.5
42	1.625	61	56.0	34.0	11.0	5	5.5
43		61	59.0	34.0	11.0	5	5.5
44-45	1.750	63	59.0	34.0	11.0	5	5.5
48	1.875	66	62.4	34.0	11.0	5	5.5
50	2.000	70	65.6	34.0	13.0	5	5.5
53	2.125	73	68.8	34.5	13.0	5	5.5
55		75	70.8	34.5	13.0	5	5.5
	2.250	78	71.9	34.5	13.0	5	5.5
58		78	75.2	34.5	13.0	5	5.5
60	2.375	80	75.2	34.5	13.0	5	5.5
63		83	78.3	34.5	13.0	5	5.5
	2.500	85	78.3	34.5	13.0	5	5.5
65		85	84.2	36.5	13.0	5	5.5
68	2.625	90	85.5	36.5	15.3	5	5.5
70	2.750	92	87.4	36.5	15.3	5	5.5
73	2.875	97	90.6	36.5	15.3	5	5.5
75		97	92.7	36.5	15.3	5	5.5
	3.000	105	93.7	36.5	15.7	5	5.5
80	3.125	105	100.0	36.5	15.7	5	5.5
	3.250	110	100.0	36.5	15.7	5	5.5
85	3.375	110	103.3	36.5	15.7	5	5.5

40L with Vulcan type 24 DIN LONG seat, 40S with Vulcan type 24 DIN SHORT seat



HQSAI

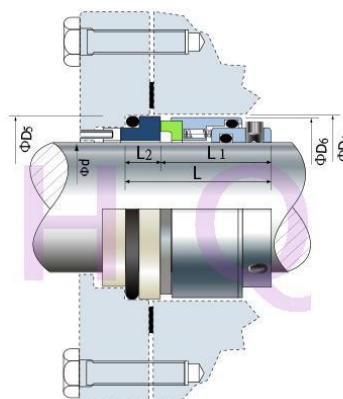


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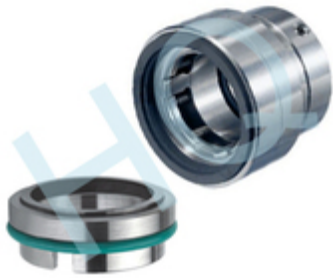
Type: Multi Spring Mechanical Seal
 Replacement: AES DIN SAI
 Temperature: -50°C to +204°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M



d (mm)	L1	L	L2	D5	D6	D4
18	27.90	37.5	9.6	33	32	34
20	27.90	37.5	9.6	35	34	36
22	27.90	37.5	9.6	37	36	38
24	29.99	40.0	10.1	39	38	40
25	29.99	40.0	10.1	40	39	41
28	32.40	42.5	10.1	43	42	44
30	32.40	42.5	10.1	45	44	46
32	32.40	42.5	10.1	48	46	48
33	32.40	42.5	10.1	48	47	49
35	32.40	42.5	10.1	50	49	51
38	33.90	45.0	11.1	56	54	58
40	33.90	45.0	11.1	58	56	60
43	33.90	45.0	11.1	61	59	63
45	33.90	45.0	11.1	63	61	65
48	33.90	45.0	11.1	66	64	68
50	34.40	47.5	11.1	70	66	70
53	34.40	47.5	13.1	73	69	73
55	34.40	47.5	13.1	75	71	75
58	38.90	52.5	13.1	78	78	83
60	38.90	52.5	13.6	80	80	85
63	38.90	52.5	13.6	83	83	88
65	38.90	52.5	13.6	85	85	90
68	37.40	52.5	15.1	90	88	93
70	44.90	60.0	15.1	92	90	95
75	44.90	60.0	15.1	97	99	104
80	44.20	60.0	15.8	105	104	119
85	44.20	60.0	15.8	110	109	114
90	49.20	65.0	15.8	115	114	119
95	49.20	65.0	15.8	120	119	124
100	49.20	65.0	15.8	125	124	129



HQTK(TZKA)



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Type: Multi Spring Seal

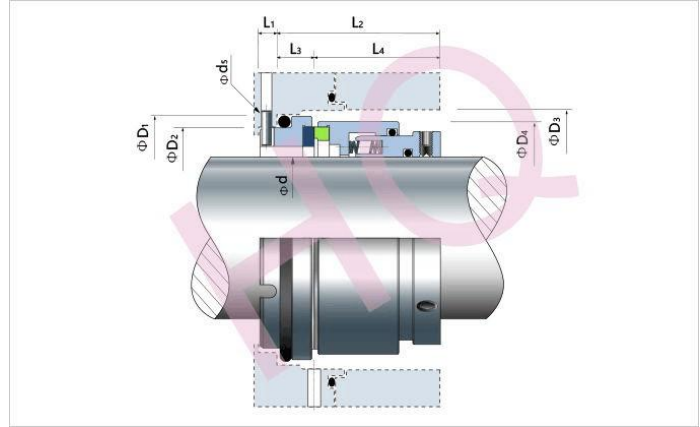
Replacement: Fluiten TZKA

Temperature: -20°C to +180°C

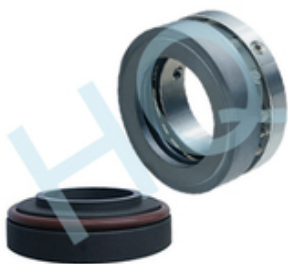
Pressure: $\leq 2.5\text{Mpa}$

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

Material: Q2.U2,B,V1,P,E,V,F,GF,G



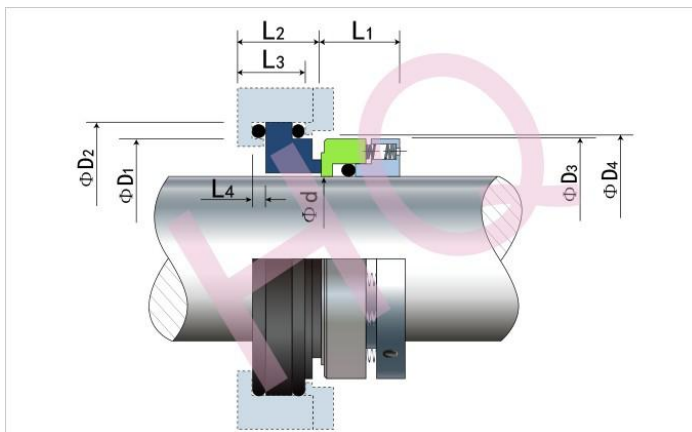
d (mm)	d5	D1	D2	D3	D4	L1	L2	L3	L4
35	4	61	54.0	61	58	9	55.0	11	44.0
38	4	63	56.0	63	60	9	55.0	11	44.0
40	4	66	59.0	66	63	9	56.0	11	45.0
43	4	70	62.0	70	65	9	58.0	13	45.0
45	4	73	65.0	73	69	9	58.0	13	45.0
48	4	75	67.0	75	71	9	58.0	13	45.0
50	4	78	70.0	78	74	9	58.0	13	45.0
53	4	85	77.0	85	82	9	58.0	13	45.0
55	4	85	77.0	85	82	9	58.0	13	45.0
58	4	92	83.0	92	87	9	66.5	15	51.5
60	4	92	83.0	92	87	9	66.5	15	51.5
63	4	97	88.0	97	92	9	69.5	15	54.5
65	4	97	88.0	97	92	9	69.5	15	54.5
68	4	105	95.0	105	100	9	70.0	15.5	54.5
70	4	105	95.0	105	100	9	70.0	15.5	54.5
75	4	110	100.0	110	105	9	80.0	15.5	64.5
80	4	115	105.0	115	110	9	80.0	15.5	64.5
85	4	120	110.0	120	115	9	80.0	15.5	64.5
90	4	125	115.0	125	120	9	80.0	15.5	64.5
95	4	129	120.5	130	125	12	83.5	19	64.5
100	4	134	125.5	135	130	12	83.5	19	64.5
105	4	139	130.5	140	135	12	90.5	19	71.5
110	4	144	135.5	145	140	12	90.5	19	71.5
115	4	149	140.5	150	145	12	90.5	19	71.5
120	4	154	145.5	155	150	12	90.5	19	71.5
125	4	161	149.5	161	155	12	93.5	22	71.5
130	4	166	154.5	166	160	13	93.5	22	71.5
140	5	183	171.5	85	180	13	104.0	26	78.0
150	5	193	181.5	196	190	13	104.0	26	78.0
160	5	203	191.5	208	200	13	104.0	26	78.0
170	5	213	201.5	218	210	13	104.0	26	78.0
180	5	223	211.5	228	220	13	104.0	26	78.0
190	5	233	221.5	238	230	13	104.0	26	78.0
200	5	243	231.5	248	240	13	104.0	26	78.0



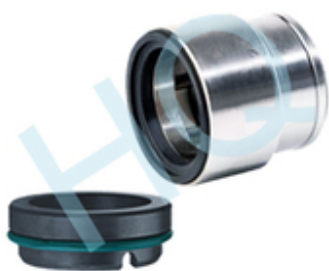
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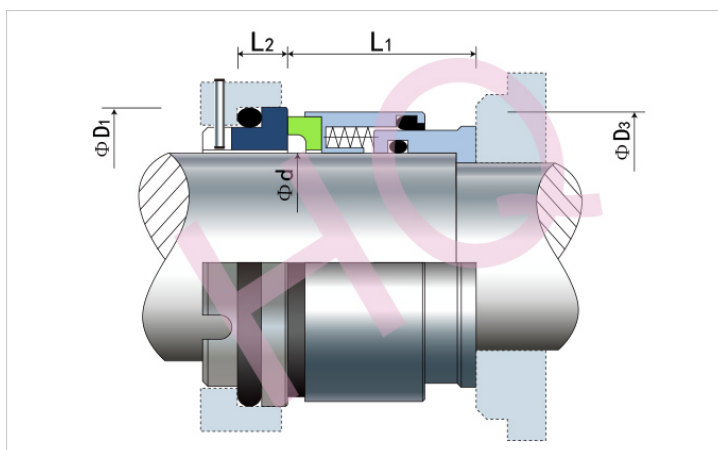


d (mm)	D1	D2	D3	D4	L1	L2	L3	L4
20	39	49.2	40.0	40.5	22	23.0	18.0	4.0
22	44	54.2	42.0	44.5	22	23.0	18.0	4.0
24	46	56.2	44.0	46.5	22	23.0	18.0	4.0
25	47	57.2	47.0	47.5	24	23.0	18.0	4.0
28	50	60.2	50.0	50.5	24	23.0	18.0	4.0
30	52	62.2	52.0	52.5	24	25.0	20.0	4.0
32	54	64.2	54.0	54.5	24	25.0	20.0	4.0
33	55	65.2	55.0	55.5	24	25.0	20.0	4.0
35	57	67.2	57.0	57.5	29	26.0	20.0	4.0
38	63	73.2	65.0	65.5	29	26.0	20.0	4.0
40	65	75.2	67.0	67.5	29	26.0	20.0	4.0
42	67	77.2	69.0	69.5	29	26.0	20.0	4.0
43	68	78.2	70.0	70.5	29	26.0	20.0	4.0
45	70	80.2	72.0	72.5	29	26.0	20.0	4.0
48	73	83.2	75.0	75.5	29	25.5	18.4	3.2
50	76	88.2	77.0	77.5	29	25.5	18.4	3.2
53	79	91.2	80.0	80.5	29	25.5	18.4	3.2
55	81	93.2	82.0	82.5	29	25.5	18.4	3.2
58	84	96.2	85.0	85.5	29	25.5	18.4	3.2
60	86	98.2	87.0	87.5	29	25.5	18.4	3.2
63	89	101.2	80.0	90.5	29	25.5	18.4	3.2
65	91	103.2	92.0	92.5	29	25.5	18.4	3.2
68	94	107.2	95.0	95.5	29	25.5	18.4	3.2
70	96	108.2	97.0	97.5	29	25.5	18.4	3.2
75	101	113.2	102.0	102.5	29	25.5	18.4	3.2
80	111	123.2	112.5	113.0	31	25.5	18.4	3.2
85	116	128.2	117.5	118.0	31	25.5	18.4	3.2
90	121	133.2	122.5	123.0	31	25.5	18.4	3.2
95	126	138.2	127.5	128.0	31	25.5	18.4	3.2
100	131	143.2	132.5	133.0	31	25.5	18.4	3.2
105	136	148.2	137.5	138.0	31	25.5	18.4	3.2
110	141	153.2	142.5	143.0	31	25.5	18.4	3.2
115	155	175.2	156.0	156.6	55	31.0	26.0	5.0
120	160	180.2	161.0	161.6	55	31.0	26.0	5.0



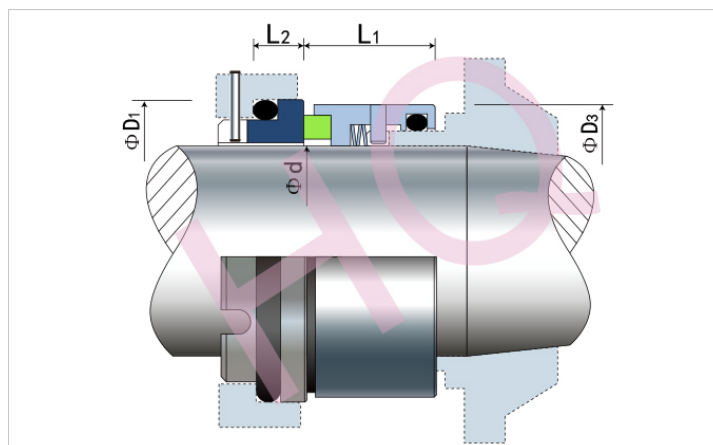
Type: Multi-Spring Mechanical Seal
 Replacement: AES M010S4, Burgmann
 SHJ92S9/SHJ97GS9
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa

HQM010S4(AES M010S4,
 Burgmann SHJ92S9)



d		D1		D3		L1		L2	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
30	1.181	45	1.772	44	1.732	32.0	1.26	7.5	0.295
35	1.378	50	1.969	49	1.929	39.9	1.571	7.8	0.295

HQM010S4-B(AES M010S4/TypeB,
 Burgmann SHJ92GS9)



d		D1		D3		L1		L2	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
25	0.984	40	1.575	38.8	1.528	24.5	0.965	7.0	0.276
30	1.181	45	1.772	43.7	1.720	27.1	1.067	7.6	0.299

HQ58R(ITT)

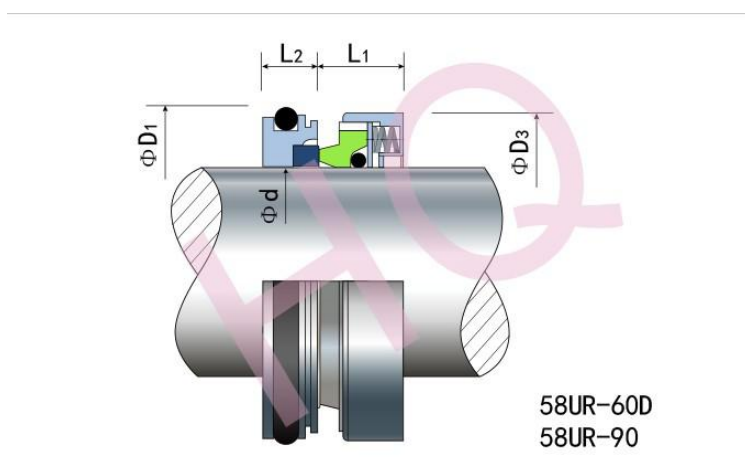


Type: Multi Spring Seals
Replacement: ITT,widely used for FLYGT PUMP
Temperature: -30°C to +150°C

Pressure: $\leq 3.0\text{Mpa}$

Speed: $\leq 16\text{m/s}$

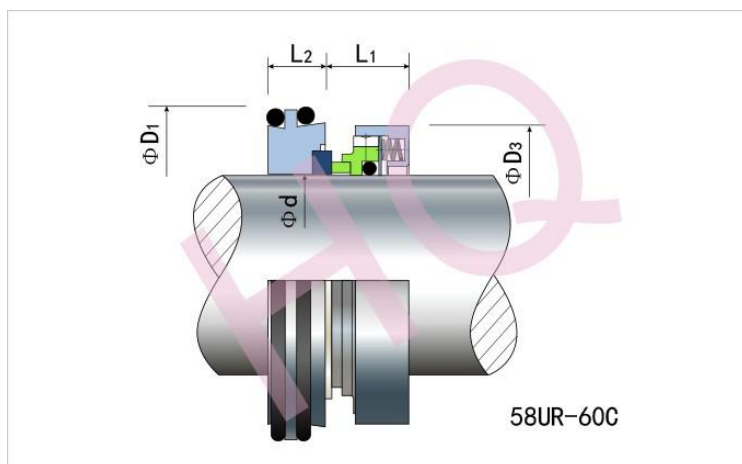
Material: U1,U2,F2,V,B,F,G



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Model	d (mm)	D1	D3	L1	L2	Conform
HQ58UR-60C	60	103.0	93.0	36	20.2	58UR-60B
HQ58UR-60D	60	85.5	93.0	36	13.0	58UR-60A
HQ58UR-90	90	115.0	116.5	32	16.0	\

HQ68/68A

Type: Multi Spring Mechanical Seal,Suit for

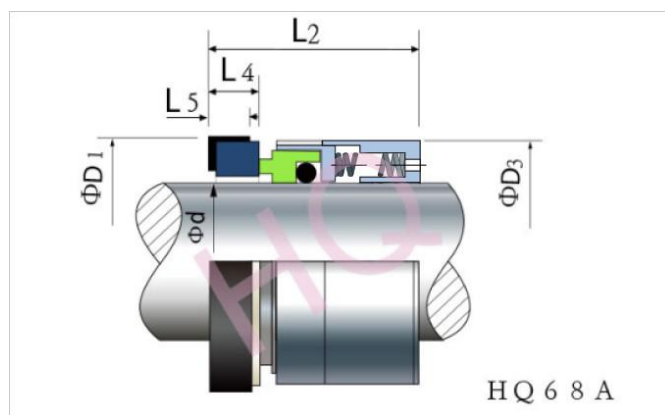
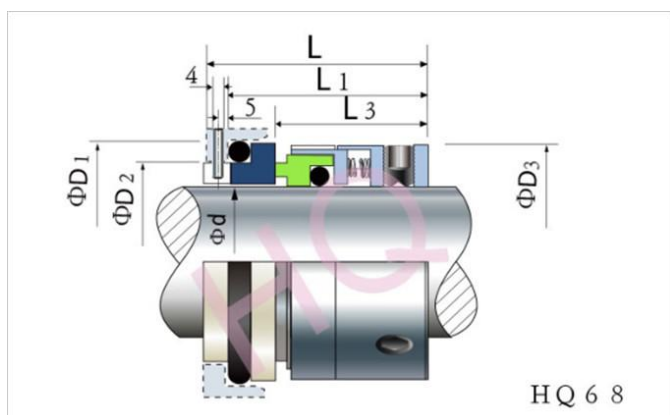
Grundfos,Hilge Pumps

Temperature: -20 to +180°C

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

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

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



d (mm)	D1	D2	D3	L	L1	L2	L3	L4	L5
18	33	27	32	37.5	30.5	27.0	21.5	7.5	6.0
20	35	29	34	37.5	30.5	27.0	21.5	7.5	6.5
22	37	31	36	37.5	30.5	27.0	21.5	7.5	6.5
24	39	33	38	39.5	32.5	30.0	23.0	7.5	6.5
25	40	34	39	40.5	33.5	30.5	24.0	7.5	6.5
28	43	37	42	40.5	33.5	34.0	24.0	7.5	6.5
30	45	39	44	41.5	34.5	34.0	24.0	7.5	6.5
32	48	42	46	41.5	34.5	35.0	24.0	7.5	6.5
35	50	44	49	41.5	34.5	36.0	24.0	7.5	6.5
38	56	49	54	45.0	38.0	39.0	26.5	9.0	7.5
40	58	51	56	45.0	38.0	39.0	27.5	9.0	7.5
43	61	54	59	45.0	38.0	39.0	27.5	9.0	8.0
45	63	56	61	45.0	38.0	39.0	27.5	9.0	8.0
48	66	59	64	45.0	38.0	39.0	27.5	9.0	8.0
50	70	62	66	47.0	40.0	40.0	27.0	9.5	8.0
53	73	65	69	47.0	40.0	40.0	27.0	11.0	8.0
55	75	67	71	47.0	40.0	40.0	27.0	11.0	8.0
58	78	70	78	49.0	42.0	48.0	28.5	11.0	8.0
60	80	72	80	49.0	42.0	49.0	28.5	11.0	8.0
65	85	77	85	52.0	45.0	51.0	31.5	11.0	8.0
70	92	83	90	54.0	47.0	51.3	32.0	11.3	10.0
75	97	88	99	54.0	47.0	51.3	32.0	11.3	10.0
80	105	95	104	55.0	48.0	52.0	33.0	12.0	10.0
85	110	100	109	55.0	48.0	55.0	33.0	14.0	10.0
90	115	105	114	61.0	54.0	59.0	38.0	14.0	10.0
95	120	110	119	61.0	54.0	60.0	38.0	14.0	12.0
100	125	115	124	61.0	54.0	61.0	38.0	14.0	12.0
110	136	125	138	61.0	54.0	62.0	38.0	14.0	12.0
120	146	135	148	61.0	54.0	62.0	38.0	14.0	12.0

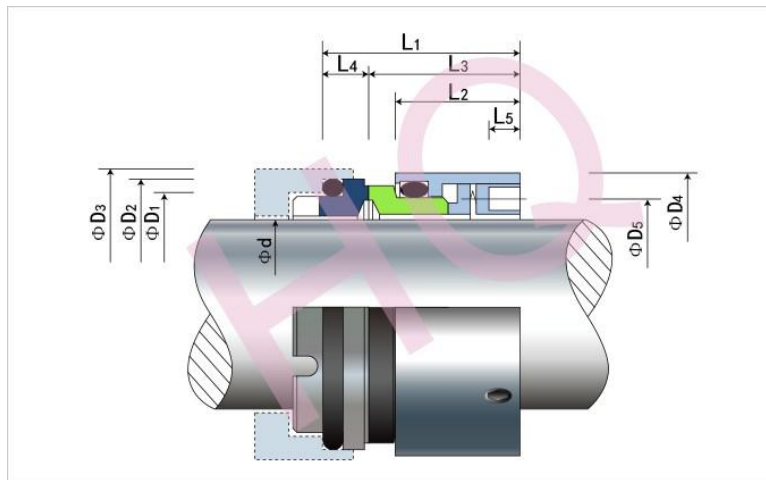


Type: Multi-Spring Seal
 Replacement: Lidering 26
 Temperature: -20 to +140°C

Pressure: $\leq 4.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$

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



d (mm)	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
40	53.5	59.0	65	65	52	48.5	30.0	39.0	9.5	5
50	63.5	72.0	75	75	61	54.5	33.0	42.2	12.3	5
53	66.5	75.0	80	80	64	55.0	33.5	42.7	12.3	5
55	71.5	80.0	85	85	68	60.0	36.5	47.2	12.8	5
60	76.5	85.0	90	90	74	61.5	38.0	47.7	12.8	5
65	81.5	90.0	95	95	78	62.0	38.0	49.2	12.8	5
80	102.0	110.5	115	115	98	63.5	38.0	50.0	13.5	5



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Type: Multi-Spring Seal

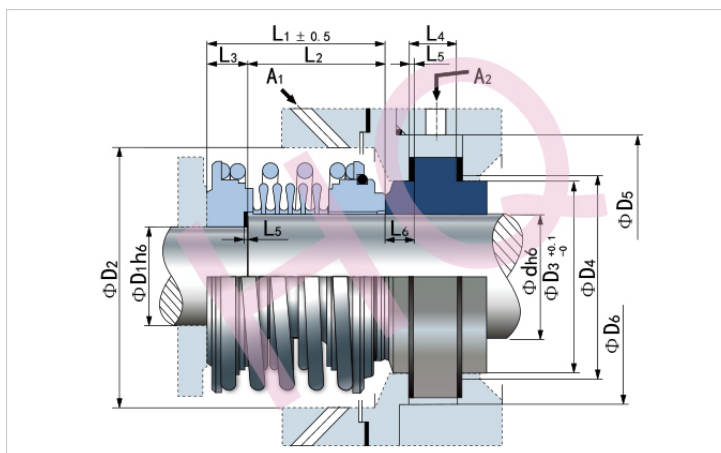
Replacement: Roten RF

Temperature: -70 to +350°C

Pressure: $\leq 8\text{Bar}$

Speed: $\leq 10\text{m/s}$

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



d (mm)	D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	L6
18	12	48	36	37.6	56	47.6	32	25	7	9.0	1.0	5
20	14	48	36	37.6	56	47.6	34	27	7	10.0	1.0	6
22	16	52	39	40.6	59	50.6	38	29	9	10.0	1.0	6
24	16	52	39	40.6	59	50.6	40	31	9	10.0	1.0	6
25	18	52	42	43.6	62	53.6	40	31	9	12.0	1.0	6
28	20	65	46	48.0	70	60.0	43	32	11	12.0	1.0	7
30	24	65	46	48.0	70	60.0	43	32	11	12.0	1.0	7
32	26	70	50	52.0	76	65.0	47	34	13	12.0	1.0	7
35	28	70	53	55.0	79	68.0	47	34	13	12.0	1.0	7
38	30	80	56	58.0	82	71.0	48	34	14	13.0	1.0	9
40	32	90	63	65.0	89	78.0	50	35	15	13.0	1.0	9
42	33	90	63	65.0	89	78.0	50	35	15	13.0	1.0	9
45	35	90	66	68.0	92	81.0	50	35	15	13.0	1.0	9
48	40	100	69	71.0	95	84.0	55	40	15	13.0	1.0	9
50	40	100	72	74.0	101	87.0	55	40	15	13.0	1.0	9
55	45	100	82	84.4	114	100.4	55	37	18	15.5	1.5	9
60	50	120	85	87.4	117	103.4	55	37	18	15.5	1.5	9
65	55	120	91	93.4	124	109.4	60	40	20	15.5	1.5	9
70	60	130	95	97.4	127	113.4	65	45	20	15.5	1.5	9
75	65	130	99	101.4	131	117.4	65	45	20	15.5	1.5	9

HQR7F



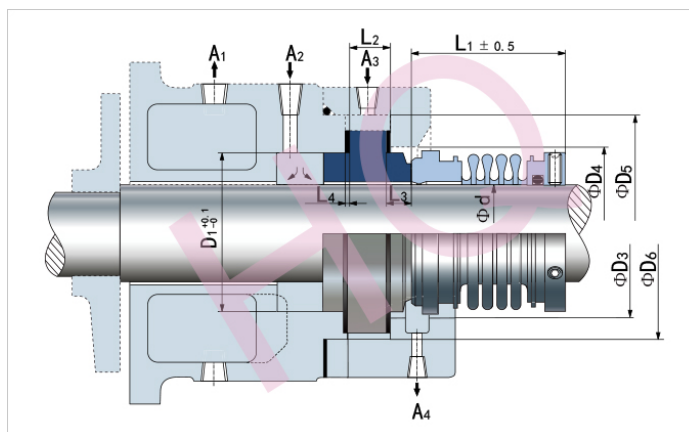
Type: Multi-Spring Seal
 Replacement: Roten R7F
 Temperature: -50 to +250°C
 Pressure: ≤8Bar
 Speed: ≤10m/s
 Material: Q1,Q2,U2,T,V,M1,F,G,M



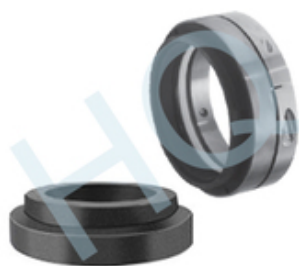
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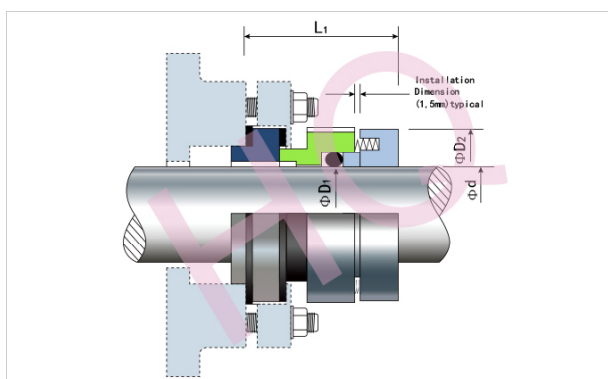


d (mm)	D1	D3	D4	D5	D6	L1	L2	L3	L4
18	36	36.0	37.6	47.6	56	38.0	9.0	5	1.0
20	36	36.0	37.6	47.6	56	38.0	10.0	6	1.0
22	39	38.5	40.6	50.6	59	39.5	10.0	6	1.0
24	39	38.5	40.6	50.6	59	39.5	10.0	6	1.0
25	42	38.5	43.6	53.6	62	39.5	10.0	6	1.0
28	46	47.0	48.0	60.0	70	46.0	12.0	7	1.0
30	46	47.0	48.0	60.0	70	46.0	12.0	7	1.0
32	50	50.0	52.0	65.0	76	48.0	12.0	7	1.0
35	53	55.0	55.0	68.0	79	48.0	12.0	7	1.0
38	56	58.0	58.0	71.0	82	50.0	13.0	9	1.0
40	63	61.0	65.0	78.0	89	50.0	13.0	9	1.0
43	63	64.0	65.0	78.0	89	53.0	13.0	9	1.0
45	66	68.0	68.0	81.0	92	53.0	13.0	9	1.0
48	69	70.0	71.0	84.0	95	55.0	13.0	9	1.0
50	72	74.0	74.0	87.0	101	55.0	13.0	9	1.0
55	82	76.0	84.4	100.4	114	58.0	15.5	9	1.5
60	85	81.0	87.4	103.4	117	58.0	15.5	9	1.5
65	91	87.0	93.4	109.4	124	60.0	15.5	9	1.5
70	95	92.0	97.4	113.4	127	65.0	15.5	9	1.5
75	99	98.0	101.4	117.4	131	68.0	15.5	9	1.5

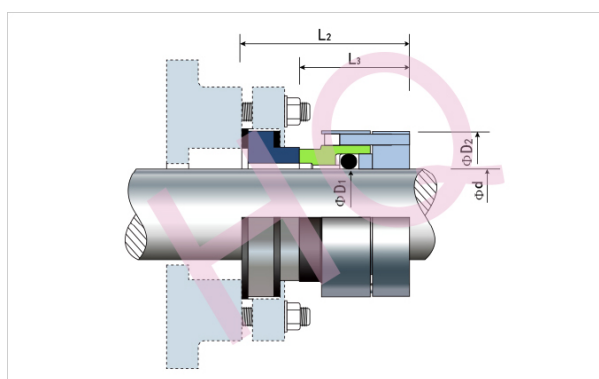


Type: Multi Spring Mechanical Seal
 Replacement: Chesterton 440
 Temperature: -20 to +180°C
 Pressure: ≤ 2.5 Mpa
 Speed: ≤ 15 m/s
 Material: Q1, Q2, U2, T, V, M1, F, G, M

HQ440(Nose in)

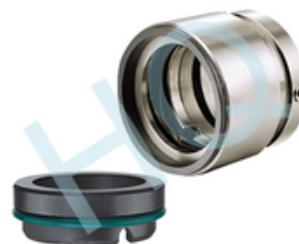
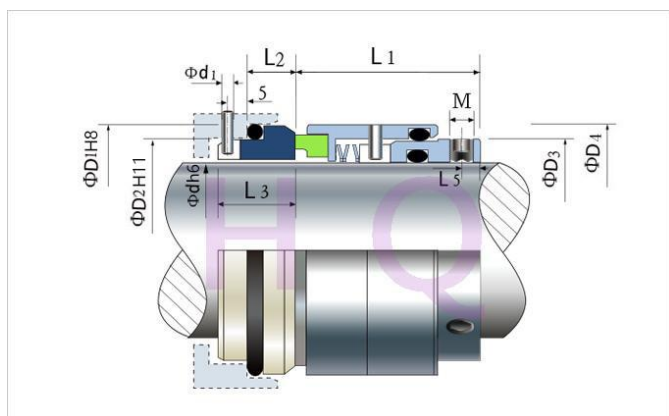


HQ440(Nose out)



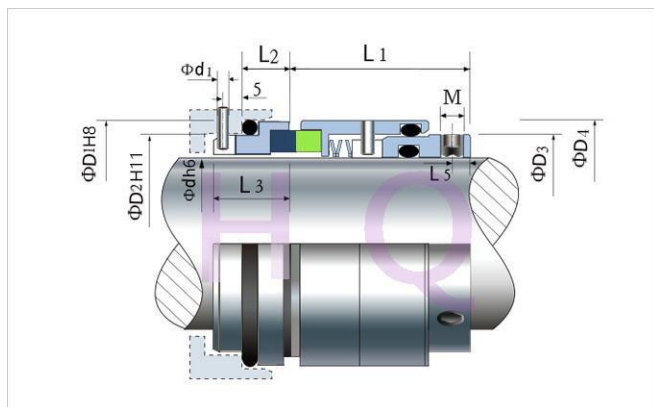
d (mm)	D1	D2	L1
24	317	49.2	49
25	318	50.0	49
28	320	54.0	49
30	321	57.2	49
32	322	57.2	49
35	324	60.3	49
38	325	63.5	49
40	326	66.7	49
42	326	69.9	49
45	327	69.9	49
48	328	73.0	49
50	329	76.2	49
55	331	79.4	49
60	332	85.7	49
65	334	92.1	49
70	335	98.0	62
75	337	104.4	62
80	338	108.2	62
85	340	113.8	62
90	342	118.1	62
95	343	123.4	62
100	345	128.3	62
110	348	139.2	62

d (mm)	D1	D2	L2	L3
24	317	49.2	55.5	38.0
25	318	50.0	55.5	38.0
28	320	54.0	55.5	38.0
30	321	57.2	55.5	38.0
32	322	57.2	55.5	38.0
35	324	60.3	55.5	38.0
38	325	63.5	55.5	38.0
40	326	66.7	55.5	38.0
42	326	69.9	55.5	38.0
45	327	69.9	55.5	38.0
48	328	73.0	55.5	38.0
50	329	76.2	55.5	38.0
55	331	79.4	55.5	38.0
60	332	85.7	55.5	38.0
65	334	92.1	55.5	38.0
70	335	98.0	68.5	41.5
75	337	104.4	68.5	41.5
80	338	108.2	68.5	41.5
85	340	113.8	68.5	41.5
90	342	118.1	68.5	41.5
95	343	123.4	68.5	41.5
100	345	128.3	68.5	41.5
110	348	139.2	68.5	41.5



Type: Wave Spring Mechanical Seal,Suit for,
Grundfos,Hilge Pumps
Replacement: AES M010, Burgmann HJ92N, Roten
EHS
Temperature: -20°C to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M

d (mm)	D1	D2	D3	D4	d1	L1	L2	L3	L5	M
18	33	27	26.0	32	3	30.5	7.0	15.0	3.0	M4
20	35	29	28.0	34	3	30.5	7.0	15.0	3.0	M4
22	37	31	30.0	36	3	30.5	7.0	15.0	3.0	M4
24	39	33	32.5	38	3	33.0	7.0	15.0	3.5	M5
25	40	34	33.5	39	3	33.0	7.0	15.0	3.5	M5
28	43	37	36.5	42	3	35.5	7.0	15.0	3.5	M5
30	45	39	38.5	44	3	35.5	7.0	15.0	3.5	M5
32	48	42	41.5	47	3	35.5	7.0	15.0	3.5	M5
33	48	42	41.5	47	3	35.5	7.0	15.0	3.5	M5
35	50	44	43.5	49	3	35.5	7.0	15.0	3.5	M5
38	56	49	47.5	54	4	37.0	8.0	16.0	4.0	M5
40	58	51	49.5	56	4	37.0	8.0	16.0	4.0	M5
43	61	54	52.5	59	4	37.0	8.0	16.0	4.0	M5
45	63	56	54.5	61	4	37.0	8.0	16.0	4.0	M5
48	66	59	57.5	64	4	37.0	8.0	16.0	4.0	M5
50	70	62	59.5	66	4	38.0	9.5	17.0	4.5	M6
53	73	65	62.5	69	4	38.0	9.5	17.0	4.5	M6
55	75	67	64.5	71	4	38.0	9.5	17.0	4.5	M6
58	78	70	68.5	78	4	42.0	10.5	18.0	4.5	M6
60	80	72	70.5	80	4	42.0	10.5	18.0	4.5	M6
63	83	75	73.5	83	4	42.0	10.5	18.0	4.5	M6
65	85	77	75.5	85	4	42.0	10.5	18.0	4.5	M6
68	90	81	78.5	88	4	41.5	10.5	18.0	4.5	M6
70	92	83	80.5	90	4	48.5	11.5	18.5	4.5	M6
75	97	88	89.0	99	4	48.5	11.5	19.0	5.0	M6
80	105	95	94.0	104	4	48.5	11.5	19.0	5.5	M8
85	110	100	99.0	109	4	48.5	11.5	19.0	5.5	M8
90	115	105	104.0	114	4	52.0	13.0	20.5	5.5	M8
95	120	110	109.0	119	4	52.0	13.0	20.5	5.5	M8
100	125	115	114.0	124	4	52.0	13.0	20.5	5.5	M8



Type: Wave Spring Mechanical Seal, Suit for,
Grundfos, Hilge Pumps
Replacement: Burgmann HJ927N, Roten EHS
Temperature: -20°C to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: V1, Q1, Q2, U2, B, A, P, E, V, M1, M2, F, G, M

d (mm)	D1	D2	D3	D4	d1	L1	L2	L3	L5	M
18	33	27	26.0	32	3	30.5	9.0	17.0	3.0	M4
20	35	29	28.0	34	3	30.5	9.0	17.0	3.0	M4
22	37	31	30.0	36	3	30.5	9.0	17.0	3.0	M4
24	39	33	32.5	38	3	33.0	9.0	17.0	3.5	M5
25	40	34	33.5	39	3	33.0	9.0	17.0	3.5	M5
28	43	37	36.5	42	3	35.5	9.5	17.5	3.5	M5
30	45	39	38.5	44	3	35.5	9.5	17.5	3.5	M5
32	48	42	41.5	47	3	35.5	9.5	17.5	3.5	M5
33	48	42	41.5	47	3	35.5	9.5	17.5	3.5	M5
35	50	44	43.5	49	3	35.5	9.5	17.5	3.5	M5
38	56	49	47.5	54	4	37.0	10.5	18.5	4.0	M5
40	58	51	49.5	56	4	37.0	10.5	18.5	4.0	M5
43	61	54	52.5	59	4	37.0	10.5	18.5	4.0	M5
45	63	56	54.5	61	4	37.0	10.5	18.5	4.0	M5
48	66	59	57.5	64	4	37.0	10.5	18.5	4.0	M5
50	70	62	59.5	66	4	38.0	12.0	19.5	4.5	M6
53	73	65	62.5	69	4	38.0	12.0	19.5	4.5	M6
55	75	67	64.5	71	4	38.0	12.0	19.5	4.5	M6
58	78	70	68.5	78	4	42.0	13.0	20.5	4.5	M6
60	80	72	70.5	80	4	42.0	13.0	20.5	4.5	M6
63	83	75	73.5	83	4	42.0	13.0	20.5	4.5	M6
65	85	77	75.5	85	4	42.0	13.0	20.5	4.5	M6
68	90	81	78.5	88	4	41.5	13.5	21.0	4.5	M6
70	92	83	80.5	90	4	48.5	14.0	21.5	4.5	M6
75	97	88	89.0	99	4	48.5	14.0	21.5	5.0	M6
80	105	95	94.0	104	4	48.5	14.0	21.5	5.5	M8
85	110	100	99.0	109	4	48.5	14.0	21.5	5.5	M8
90	115	105	104.0	114	4	52.0	15.5	23.0	5.5	M8
95	120	110	109.0	119	4	52.0	15.5	23.0	5.5	M8
100	125	115	114.0	124	4	52.0	15.5	23.0	5.5	M8

HQJ977GN

Type: Wave Spring Mechanical Seal, Suit for,
Grundfos, Hilge Pumps

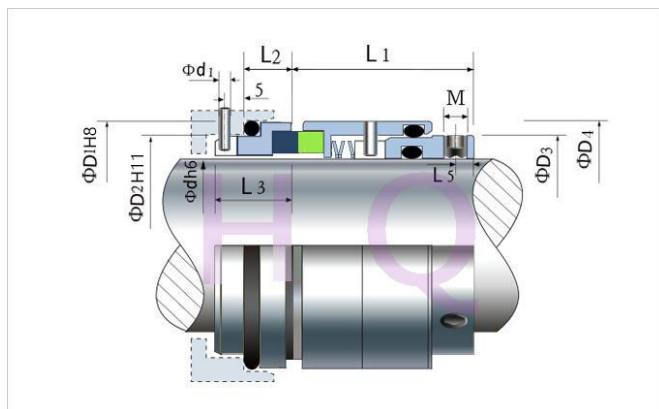
Replacement: Burgmann HJ977GN

Temperature: -20°C to +180°C

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

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

Material: V1, Q1, Q2, U2, B, A, P, E, V, M1, M2, F, G, M



d (mm)	D1	D2	D3	D4	d1	L1	L2	L3	L5	M
18	33	27	26.0	32	3	28.5	9.0	17.0	3.0	M4
20	35	29	28.0	34	3	28.5	9.0	17.0	3.0	M4
22	37	31	30.0	36	3	28.5	9.0	17.0	3.0	M4
24	39	33	32.5	38	3	31.0	9.0	17.0	3.5	M5
25	40	34	33.5	39	3	31.0	9.0	17.0	3.5	M5
28	43	37	36.5	42	3	33.0	9.5	17.5	3.5	M5
30	45	39	38.5	44	3	33.0	9.5	17.5	3.5	M5
32	48	42	41.5	47	3	33.0	9.5	17.5	3.5	M5
33	48	42	41.5	47	3	33.0	9.5	17.5	3.5	M5
35	50	44	43.5	49	3	33.0	9.5	17.5	3.5	M5
38	56	49	47.5	54	4	34.5	10.5	18.5	4.0	M5
40	58	51	49.5	56	4	34.5	10.5	18.5	4.0	M5
43	61	54	52.5	59	4	34.5	10.5	18.5	4.0	M5
45	63	56	54.5	61	4	34.5	10.5	18.5	4.0	M5
48	66	59	57.5	64	4	34.5	10.5	18.5	4.0	M5
50	70	62	59.5	66	4	35.5	12.0	19.5	4.5	M6
53	73	65	62.5	69	4	35.5	12.0	19.5	4.5	M6
55	75	67	64.5	71	4	35.5	12.0	19.5	4.5	M6
58	78	70	68.5	78	4	39.5	13.0	20.5	4.5	M6
60	80	72	70.5	80	4	39.5	13.0	20.5	4.5	M6
63	83	75	73.5	83	4	39.5	13.0	20.5	4.5	M6
65	85	77	75.5	85	4	39.5	13.0	20.5	4.5	M6
68	90	81	78.5	88	4	39.0	13.5	21	4.5	M6
70	92	83	80.5	90	4	46.0	14.0	21.5	4.5	M6
75	97	88	89.0	99	4	46.0	14.0	21.5	5.0	M6
80	105	95	94.0	104	4	46.0	14.0	21.5	5.5	M8
85	110	100	99.0	109	4	46.0	14.0	21.5	5.5	M8
90	115	105	104.0	114	4	49.5	15.5	23.0	5.5	M8
95	120	110	109.0	119	4	49.5	15.5	23.0	5.5	M8
100	125	115	114.0	124	4	49.5	15.5	23.0	5.5	M8

HQH7N/H75



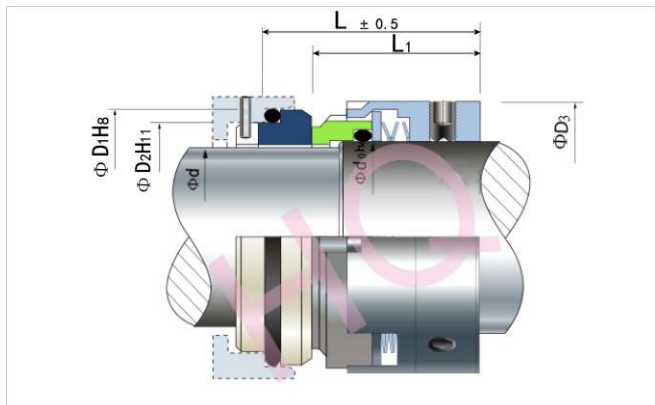
Type : Wave/Multi Spring Mechanical Seal
Replacement : Bergmann H7N/H75,AES W07DMB
Temperature: -20°C to +180°C

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

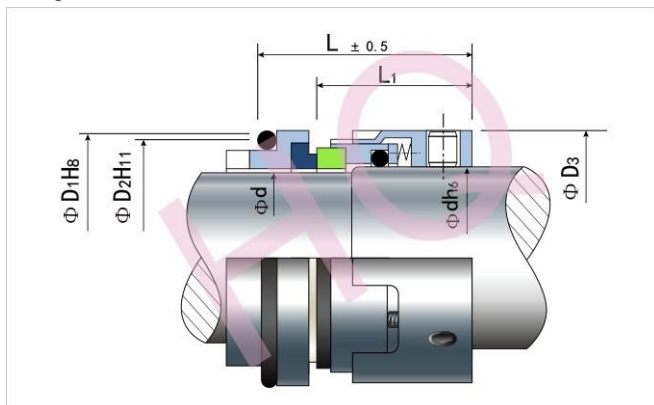
Speed: $\leq 15\text{m/s}$

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

HQH7N



HQH75



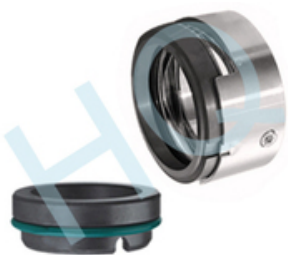
d (mm)	d0	D1	D2	D3	L	L1
14	18	25	21	33	42.5	32.5
16	20	27	23	35	42.5	32.5
18	22	33	27	37	45.0	33.5
20	24	35	29	39	45.0	33.5
22	26	37	31	41	45.0	33.5
24	28	39	33	43	47.5	36.0
25	30	40	34	45	47.5	36.0
28	33	43	37	48	50.0	38.5
30	35	45	39	50	50.0	38.5
32	38	48	42	55	50.0	38.5
33	38	48	42	55	50.0	38.5
35	40	50	44	57	50.0	38.5
38	43	56	49	60	52.5	38.5
40	45	58	51	62	52.5	38.5
43	48	61	54	65	52.5	38.5
45	50	63	56	67	52.5	38.5
48	53	66	59	70	52.5	38.5
50	55	70	62	72	57.5	42.5
53	58	73	65	79	57.5	42.5
55	60	75	67	81	57.5	42.5
58	63	78	70	84	62.5	47.5
60	65	80	72	86	62.5	47.5
63	68	83	75	89	62.5	47.5
65	70	85	77	91	62.5	47.5
70	75	92	83	99	70.0	52.0
75	80	97	88	104	70.0	52.0
80	85	105	95	109	70.0	51.8
85	90	110	100	114	75.0	56.8
90	95	115	105	119	75.0	56.8
95	100	120	110	124	75.0	57.8
100	105	125	115	129	75.0	57.8

HQM7N/M74/M74F

Type: Wave/Multi Spring Mechanical Seal ,Suit for Grundfos,Higle Pumps

Replacement: Bergmann M7N/M74/M74F, Fluiten US3A/UM3A,Flowerve Europac 600,AES W07DM

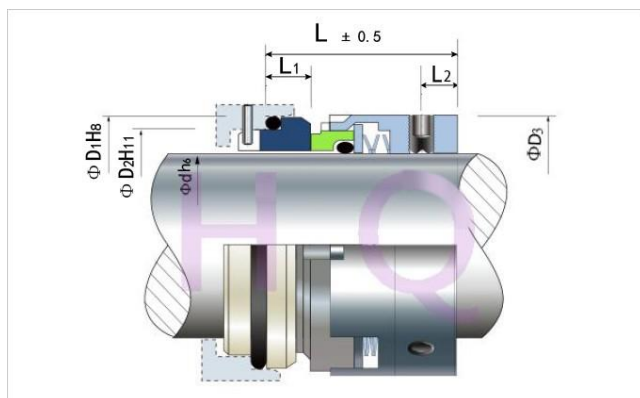
Temperature: -20°C to +180°C



Pressure: $\leq 1.2\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: Q2,B,U2,
P,E,V,F,G



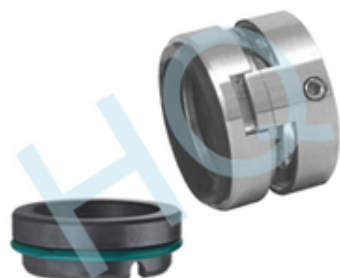
M74



M74F

d (mm)	D1	D2	D3	L	L1	L2
14	25	21	25	35.0	10.0	6
16	27	23	27	35.0	10.0	6
18	33	27	33	37.5	11.5	7
20	35	29	35	37.5	11.5	7
22	37	31	37	37.5	11.5	7
24	39	33	39	40.0	11.5	8
25	40	34	40	40.0	11.5	8
28	43	37	43	42.5	11.5	8
30	45	39	45	42.5	11.5	8
32	48	42	47	42.5	11.5	8
33	48	42	48	42.5	11.5	8
35	50	44	50	42.5	11.5	8
38	56	49	55	45.0	14.0	8
40	58	51	57	45.0	14.0	8
43	61	54	60	45.0	14.0	8
45	63	56	62	45.0	14.0	8
48	66	59	65	45.0	14.0	8
50	70	62	67	47.5	15.0	8
53	73	65	70	47.5	15.0	8
55	75	67	72	47.5	15.0	8
58	78	70	79	52.5	15.0	9
60	80	72	81	52.5	15.0	9
63	83	75	84	52.5	15.0	9
65	85	77	86	52.5	15.0	9
68	90	81	89	52.5	18.0	9
70	92	83	91	60.0	18.0	9
75	97	88	99	60.0	18.0	10
80	105	95	104	60.0	18.2	10
85	110	100	109	60.0	18.2	10
90	115	105	114	65.0	18.2	10
95	120	110	119	65.0	17.2	10
100	125	115	124	65.0	17.2	10

HQM78N



 <http://www.hqseal.com>

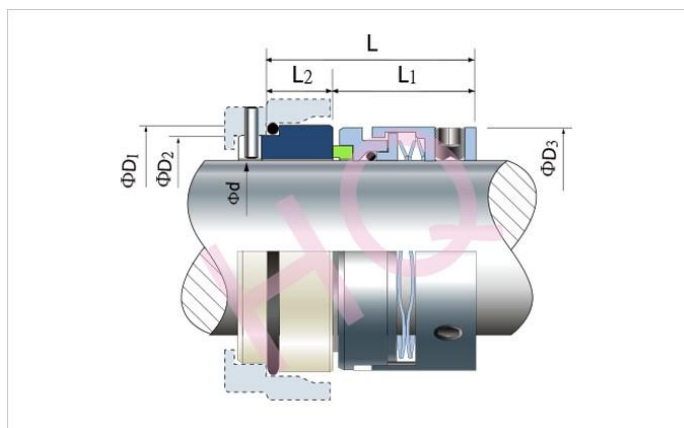
 hq@hqseal.com

Type: Wave Spring Mechanical Seal
Replacement: Bergmann M7N/M78N, AES W07DM,
Vulcan 1677, Flowserve Europac 600
Temperature: -30°C to +210°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 18\text{m/s}$

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



d (mm)	Code	D1	D2	D3	L1	L2	L
14	140	25	21	24	25.0	10.0	35.0
16	160	27	23	26	25.0	10.0	35.0
18	180	33	27	32	26.0	11.5	37.5
20	200	35	29	34	26.0	11.5	37.5
22	240	37	31	36	26.0	11.5	37.5
24	250	39	33	38	28.5	11.5	40.0
25	280	40	34	39	28.5	11.5	40.0
28	300	43	37	42	31.0	11.5	42.5
30	320	45	39	44	31.0	11.5	42.5
32	330	48	42	46	31.0	11.5	42.5
33	350	48	42	47	31.0	11.5	42.5
35	380	50	44	49	31.0	11.5	42.5
38	400	56	49	54	31.0	14.0	45.0
40	430	58	51	56	31.0	14.0	45.0
43	450	61	54	59	31.0	14.0	45.0
45	480	63	56	61	31.0	14.0	45.0
48	600	66	59	64	31.0	14.0	45.0
50	500	70	62	66	32.5	15.0	47.5
53	530	73	65	69	32.5	15.0	47.5
55	550	75	67	71	32.5	15.0	47.5
58	580	78	70	78	37.5	15.0	52.5
60	600	80	72	80	37.5	15.0	52.5
63	630	83	75	83	37.5	15.0	52.5
65	650	85	77	85	37.5	15.0	52.5
68	680	90	81	88	34.5	18.0	52.5
70	700	92	83	90	42.5	18.0	60.0
75	750	97	88	99	42.5	18.0	60.0
80	800	105	95	104	41.8	18.2	60.0
85	850	110	100	109	41.8	18.2	60.0
90	900	115	105	114	46.8	18.2	65.0
95	950	120	110	119	47.8	17.2	65.0
100	1000	125	115	124	47.8	17.2	65.0

HQW01



<http://www.hqseal.com>



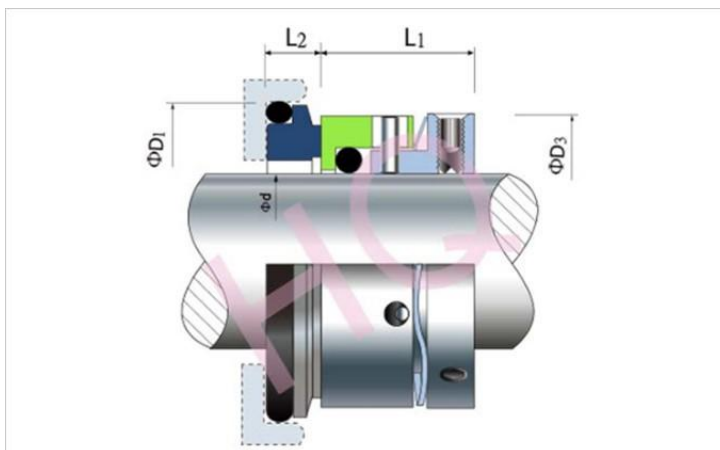
hq@hqseal.com

Type: Wave Spring Mechanical Seal
Replacement: AES W01, Vulcan 1688, Crane
80(DF/FP), Roten 7K, Flowserve168
Temperature: -40°C to +200°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 18\text{m/s}$

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

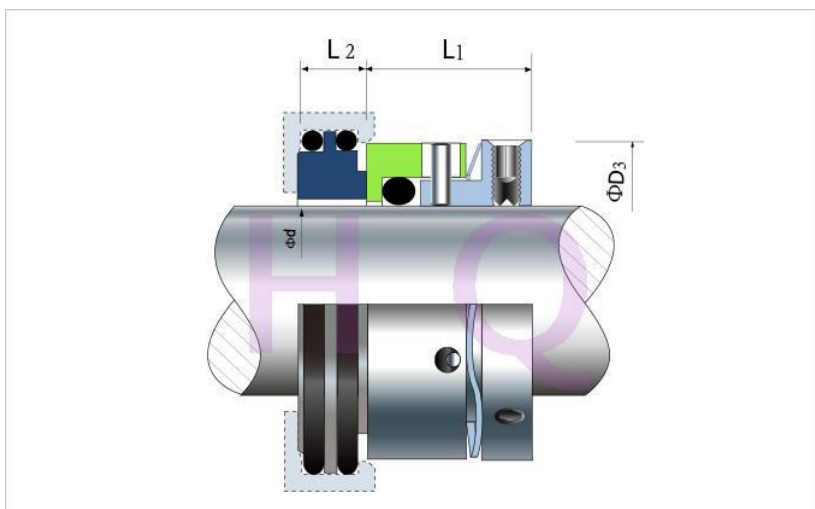


d (mm)	D1	D3	L1	L2
15.8	28.5	27.0	19.1	6.3
16.0	28.5	27.0	19.1	6.3
19.1	31.7	30.0	19.1	6.3
24.0	35.4	34.1	19.1	7.6
28.0	42.0	40.0	19.1	7.6
28.6	41.2	39.5	19.1	7.6
30.0	42.7	41.0	19.1	7.6
31.7	44.2	42.4	19.1	7.6
32.0	44.4	42.4	19.1	7.6
35.0	47.6	45.5	19.1	7.6
38.0	53.9	51.8	21.1	8.1
44.4	60.3	58.2	21.1	8.1
47.6	63.5	61.4	21.1	8.1
50.0	63.9	61.9	21.1	8.1
50.8	66.6	64.6	22.1	9.6
53.9	73.0	71.0	22.1	9.6
54.0	73.9	71.0	22.1	9.6
54.6	75.0	72.0	22.1	9.6
55.0	75.0	72.0	22.1	9.6
63.0	83.0	79.3	25.8	9.1
63.5	88.9	79.3	25.8	9.1
69.8	95.2	88.9	25.8	9.1
73.0	98.4	94.0	25.8	9.1
75.0	100.4	96.0	25.8	9.1

HQW01-TL

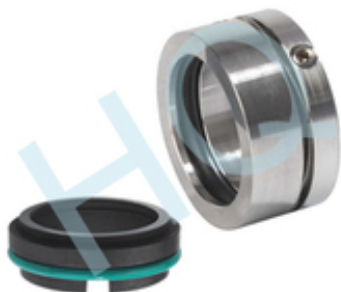


Type: Wave Spring Mechanical Seal
 Replacement: AES W01-TL, Burgmann M7KS60
 Temperature: -40°C to +200°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q2,B,U2,P,E,V,F,G



PUMP ref:	d (mm)	D3	L1	L2
10	30	41.0	19.1	10.3
20	35	45.5	19.1	12.0
30	50	61.9	21.0	12.0



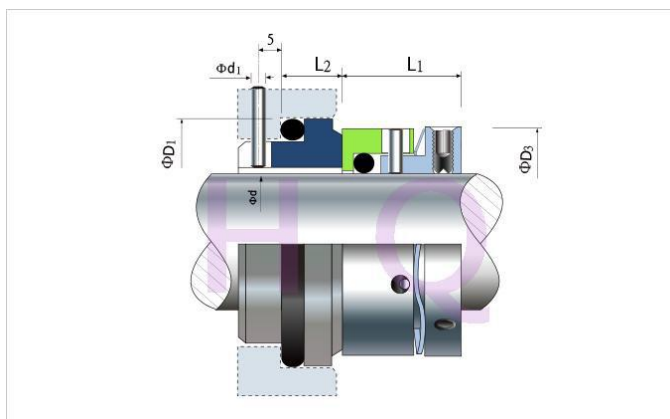


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Type: Wave Spring Mechanical Seal
 Replacement: AES W02, Vulcan 1688L, Roten
 UNITEN 7K
 Temperature: -40°C to +200°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: Q2,B,U2,P,E,V,F,G



d (mm)	D1	D3	d1	L1	L2
16	27	27.0	4	19.1	8.6
20	35	31.0	5	19.1	10.0
22	37	33.0	5	19.1	10.0
24	39	34.1	5	19.1	10.0
25	40	35.2	5	19.1	10.0
28	43	40.0	5	19.1	10.0
30	45	41.0	5	19.1	10.0
32	48	42.4	5	19.1	10.0
33	48	44.0	5	19.1	10.0
35	50	45.5	5	19.1	10.0
38	56	51.8	5	21.1	11.0
40	58	53.8	5	21.1	11.0
43	61	56.0	5	21.1	11.0
45	63	58.2	5	21.1	11.0
48	66	61.4	5	21.1	11.0
50	70	61.9	5	21.1	13.0
55	75	72.0	5	22.1	13.0
60	80	76.0	5	25.8	13.0
63	83	79.3	5	25.8	13.0
65	85	82.3	5	25.8	13.0
70	92	88.9	5	25.8	15.3
75	97	96.0	5	25.8	15.3

HQW03



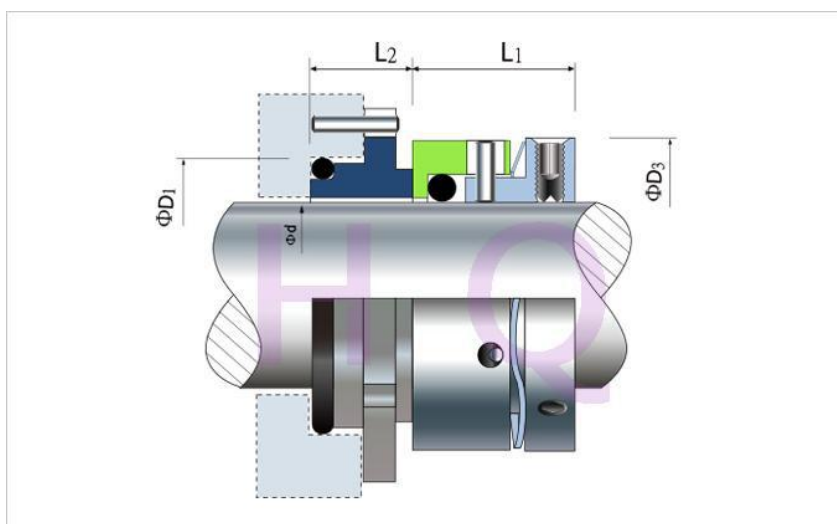
Type: Wave Spring Mechanical Seal
Replacement: AES W03, Vulcan 1688W, Crane
87(EI/EC)

Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

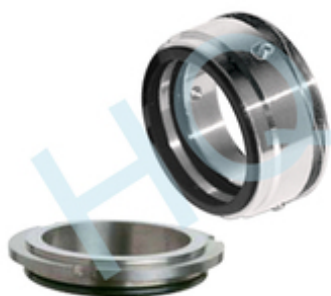
Speed: $\leq 18\text{m/s}$

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

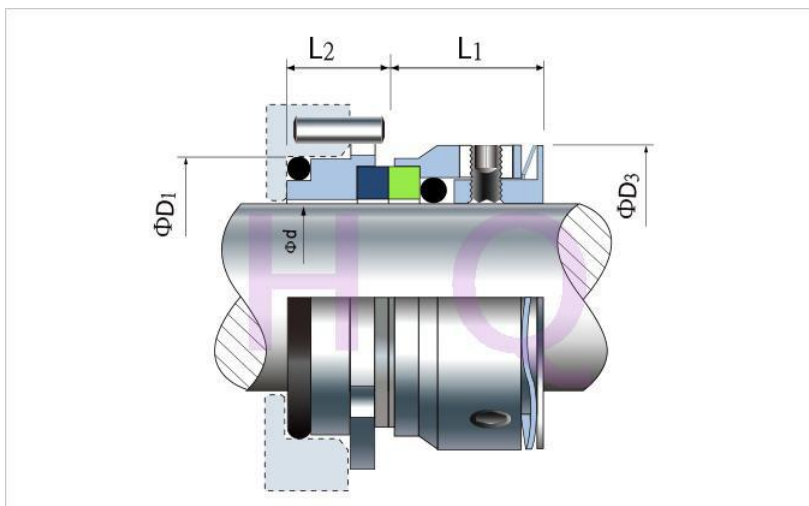


PUMP ref:	d (mm)	D1	D3	L1	L2
SR1	20	30	31.0	19.1	10.7
SR2	30	41	41.0	19.1	10.9
SR3	35	47	45.5	21.1	12.2
SR4	45	58	58.2	21.1	11.6
SR5	55	70	72.0	22.1	13.0
SR6	75	92	96.0	25.8	14.5

HQW03S



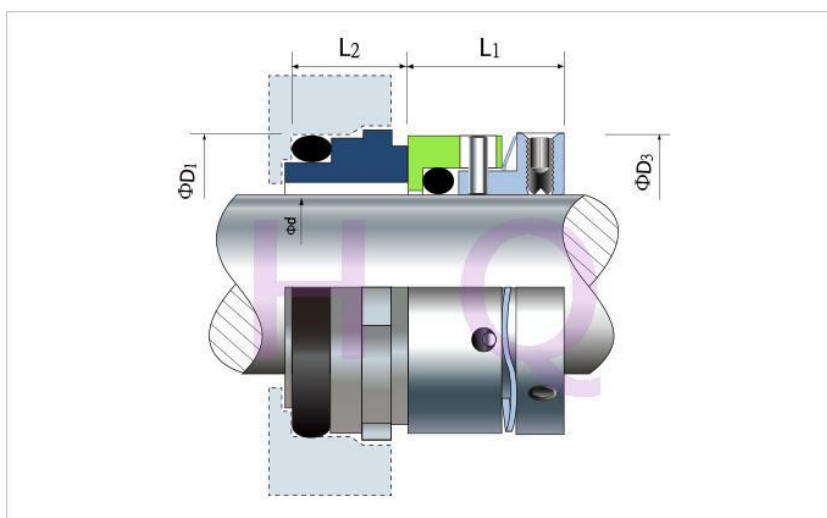
Type: Wave Spring Mechanical Seal
 Replacement: AES W03S, Vulcan
 1688W, Crane87(EI/EC)
 Temperature: -40°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: Q2,B,U2,P,E,V,F,G



PUMP ref:	d (mm)	D1	D3	L1	L2
SR1	20	30.0	32.4	20.0	10.7
SR2	30	41.3	44.0	21.4	10.9
SR3	35	47.0	50.8	22.0	12.2
SR4	45	58.3	62.4	22.9	11.6
SR5	55	69.6	76.0	29.3	13.0
SR6	75	92.2	99.2	31.1	14.5



Type: Wave Spring Mechanical Seal ,Suit for
Grundfos,Hilge Pumps
Replacement: AES W04, Vulcan 1688Y
Temperature: -40°C to +200°C
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 18\text{m/s}$
Material: Q2,B,U2,P,E,V,F,G



PUMP ref:	d (mm)	D1	D3	L1	L2
10	30	40.0	41.0	19.1	9.3
20	35	44.5	45.5	19.1	9.2
30	50	62.0	61.9	21.1	10.4
40	70	85.0	88.9	25.8	14.1
50	80	95.0	101.0	15.8	16.2

HQWP03



Type: Wave Spring Mechanical Seal, Suit for
Gundfos CRT, NK Pumps, CLM-G, CLP-G
Pumps

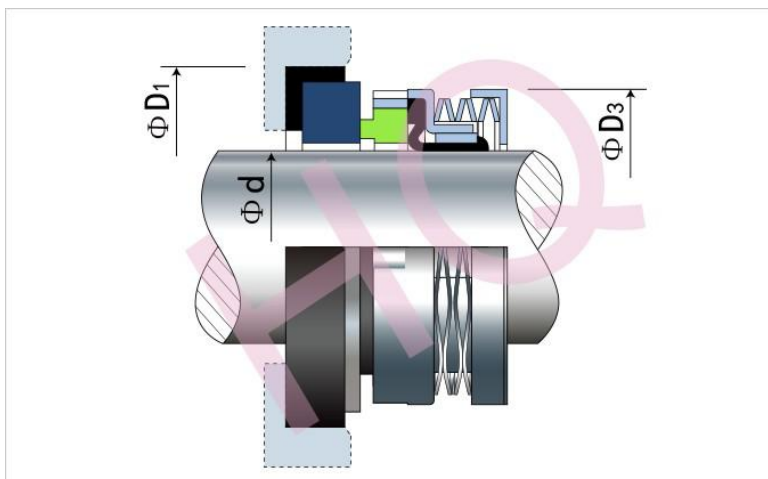
Replacement: AES WP03, Burgmann MG7/50-G23

Temperature: -40 to $+20^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

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



d (mm)	D1	D3
50	72	66.4
d (inch)	D1	D2
1.969	2.835	2.614



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HQWP03S



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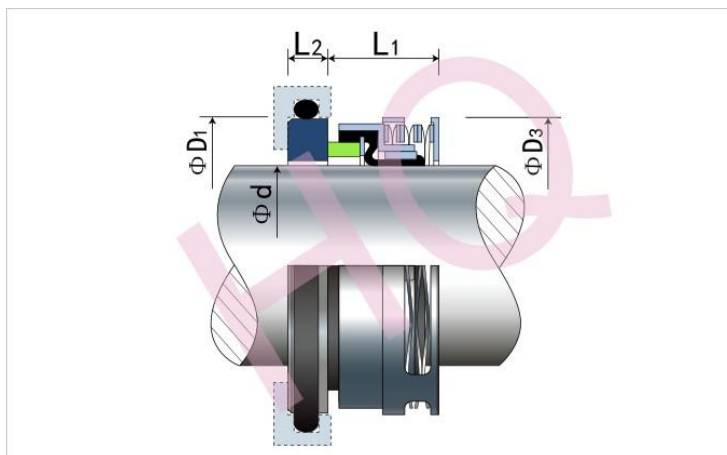
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Type: Wave Spring Mechanical Seal
Replacement: AES WP03S, Burgmann MG7
Temperature: -40 to +20°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 18\text{m/s}$

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

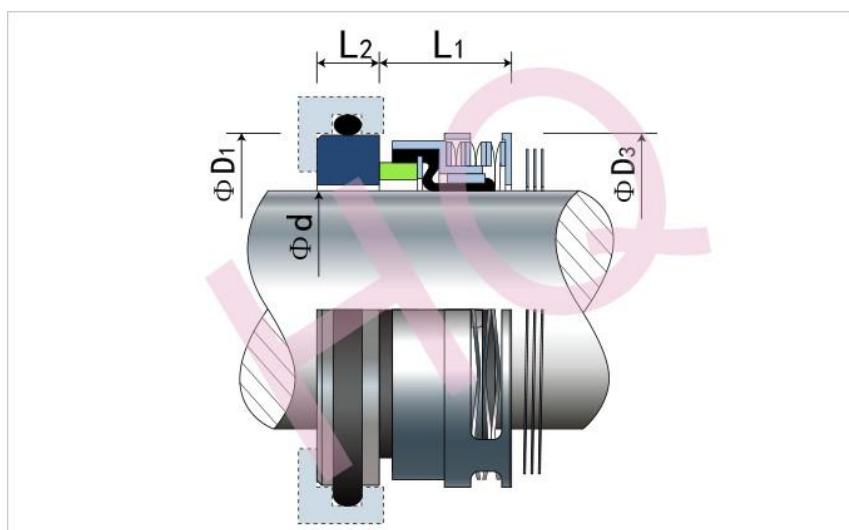


d (mm)	D1	D3	L1	L2
32	46.5	47.6	20.0	5.4
40	56.0	57.9	20.0	6.8
48	67.0	62.0	15.6	14.5
55	72.0	73.4	20.0	7.9
60	75.0	80.5	21.0	10.9
75	93.2	97.2	26.8	9.9
d (inch)	D1	D3	L1	L2
1.260	1.831	1.874	0.787	0.213
1.575	2.205	2.280	0.787	0.268
1.890	2.638	2.441	0.614	0.571
2.165	2.835	2.890	0.787	0.311
2.362	2.953	3.169	0.827	0.429
2.953	3.669	3.820	1.055	0.390

GQWP03SX



Type: Wave Spring Mechanical Seal
 Replacement: AES WP03SX
 Temperature: -40 to +20°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
55	72	73.4	20	11.2
d (inch)	D1	D2	L1	L2
2.165	2.835	2.890	0.787	0.441

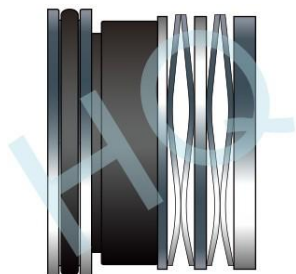


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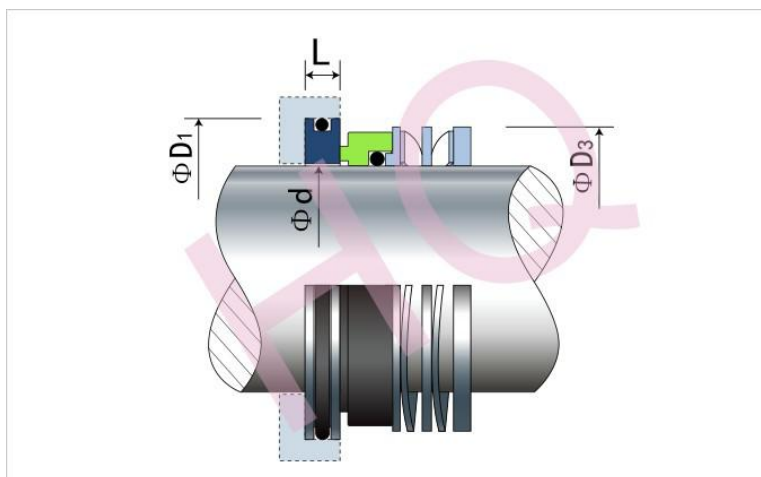


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HQW12U



Type: Wave Spring Mechanical Seal
 Replacement: AES W012U
 Temperature: -40 to +20°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L2
46	65	62	7.2
d (inch)	D1	D2	L2
1.811	2.559	2.441	0.283

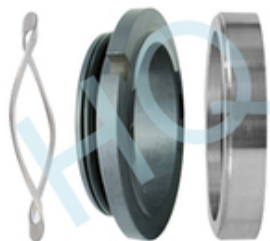


<http://www.hqseal.com>

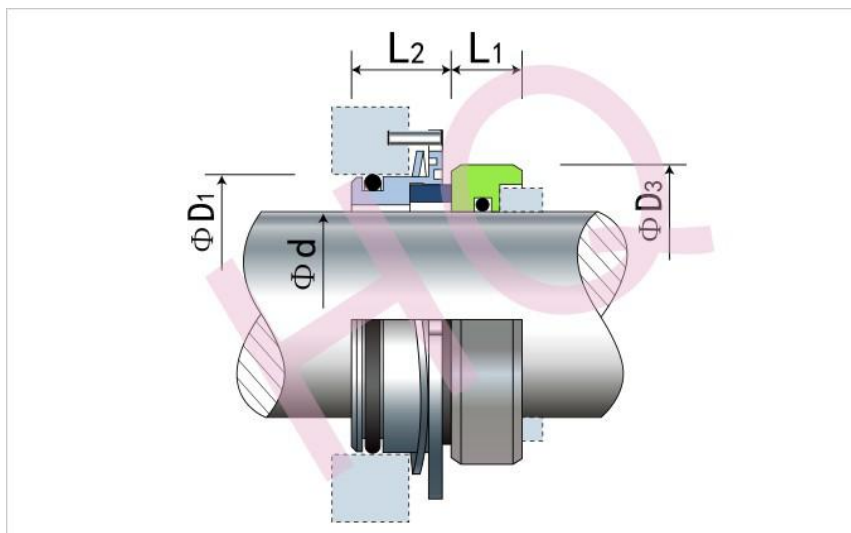


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HQW27U



Type: Wave Spring Mechanical Seal
 Replacement: AES W027U
 Temperature: -40 to +20°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



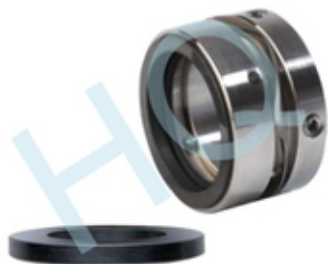
d (mm)	D1	D3	L1	L2
40	55	55	13.2	18
d (inch)	D1	D2	L1	L2
1.575	2.165	2.165	0.520	0.709



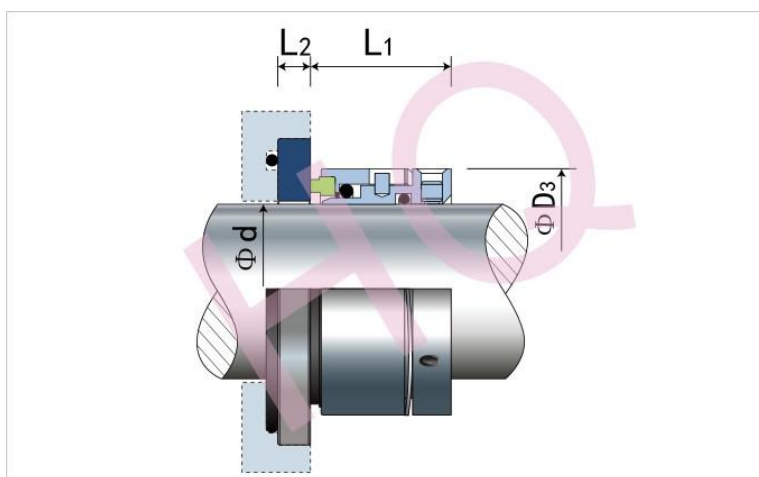
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Type: Wave Spring Mechanical Seal
 Replacement: AES WOXU
 Temperature: -40 to $+20^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	D3	L1	L2
40	56	32	7.3
d (inch)	D2	L1	L2
1.575	2.205	1.260	0.287





HQ82

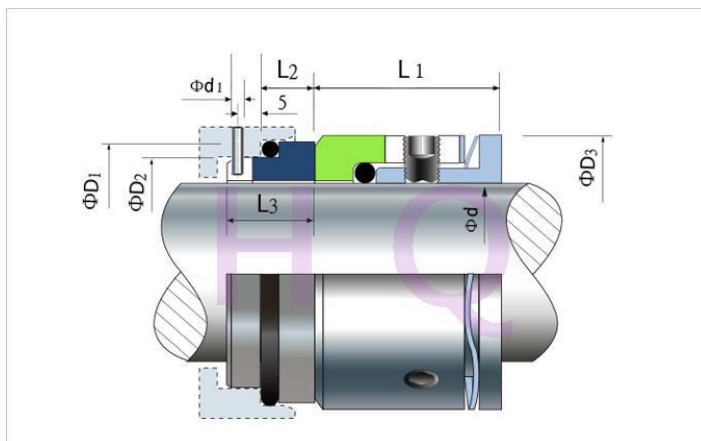


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Type: Wave Spring Mechanical Seal
 Temperature: -20°C to +180°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q2,B,U2,P,E,V,F,G



d (mm)	D1	D2	D3	d1	L1	L2	L3
16	27	23	26	3	19.1	8.6	15.0
18	33	27	29	3	19.1	10.0	17.0
20	35	29	32	3	19.1	10.0	17.0
22	37	31	35	3	19.1	10.0	17.0
24	39	33	37	3	19.1	10.0	17.0
25	40	34	37	3	19.1	10.0	17.0
28	43	37	41	3	19.1	10.0	17.0
30	45	39	43	3	19.1	10.0	17.0
32	48	42	47	3	19.1	10.0	17.0
33	48	42	48	3	19.1	10.0	17.0
35	50	44	49	3	19.1	10.0	17.0
38	56	49	53	4	21.1	11.0	18.0
40	58	51	55	4	21.1	11.0	18.0
43	61	54	60	4	21.1	11.0	18.0
45	63	56	60	4	21.1	11.0	18.0
48	66	59	65	4	21.1	11.0	18.0
50	70	62	65	4	21.1	13.0	20.0
53	73	65	74	4	22.1	13.0	20.0
55	75	67	74	4	22.1	13.0	20.0
58	78	70	79	4	25.8	13.0	20.0
60	80	72	79	4	25.8	13.0	20.0
63	83	75	87	4	25.8	13.0	20.0
65	85	77	87	4	25.8	13.0	20.0
68	90	81	93	4	25.8	15.3	22.0
70	92	83	93	4	25.8	15.3	22.0
75	97	88	98	4	25.8	15.3	22.0
80	105	95	104	4	25.8	15.7	22.5
85	110	100	108	4	25.8	15.7	22.5
90	115	105	113	4	25.8	15.7	22.5
95	120	110	118	4	25.8	15.7	22.5
100	125	115	123	4	25.8	15.7	22.5



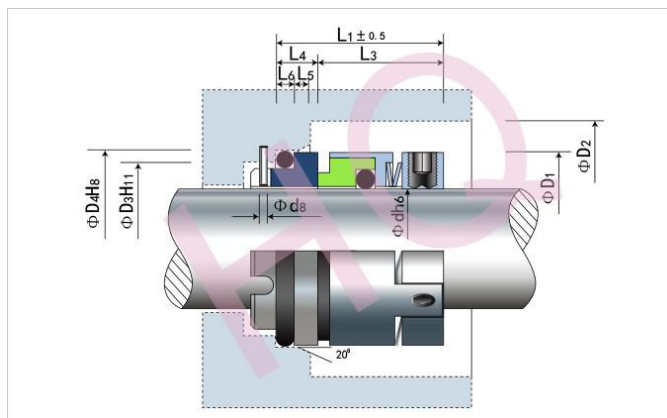
HQR33



Type: Wave Spring Seal
 Replacement: Crane R33,Vulcan 1633,IIDERING LWS12
 Temperature: -15 to +200°C

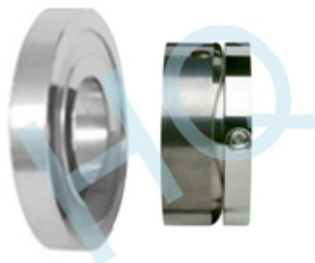
Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

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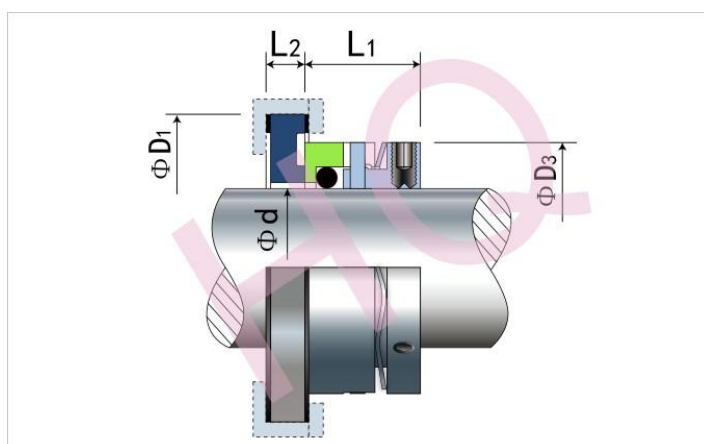


d (mm)	D1	D2	D3	D4	d8	L1	L2	L3	L4	L5	16
20	29	35	20.5	36	3	30.5	35	20.5	10.0	2.0	5
22	31	37	20.5	38	3	30.5	37	30.5	10.0	2.0	5
24	33	39	22.5	41	3	32.5	39	22.5	10.0	2.0	5
25	34	40	23.5	44	3	33.5	40	23.5	10.0	2.0	5
28	37	43	23.5	47	3	33.5	43	23.5	10.0	2.0	5
30	39	45	24.5	49	3	34.5	45	24.5	10.0	2.0	5
32	42	48	24.5	51	3	34.5	48	24.5	10.0	2.0	5
33	42	48	24.5	52	3	34.5	48	24.5	10.0	2.0	5
35	44	50	24.5	54	3	34.5	50	24.5	10.0	2.0	5
38	49	56	27.0	58	4	38.0	56	27.0	11.0	2.0	6
40	51	58	28.0	60	4	39.0	58	28.0	11.0	2.0	6
43	54	61	28.0	63	4	39.0	61	28.0	11.0	2.0	6
45	56	63	28.0	65	4	39.0	63	28.0	11.0	2.0	6
48	59	66	28.0	68	4	39.0	66	28.0	11.0	2.0	6
50	62	70	27.0	71	4	39.0	70	27.0	13.0	2.5	6
53	65	73	27.0	74	4	39.0	73	27.0	13.0	2.5	6
55	67	75	27.0	76	4	39.0	75	27.0	13.0	2.5	6
58	70	78	29.0	82	4	42.0	78	29.0	13.0	2.5	6
60	72	80	29.0	84	4	42.0	80	29.0	13.0	2.5	6
63	75	83	32.0	87	4	45.0	83	32.0	13.0	2.5	6
65	77	85	32.0	89	4	45.0	85	32.0	13.0	2.5	6
68	81	90	33.5	92	4	48.5	90	33.5	15.0	2.5	7
70	83	92	32.0	94	4	47.0	92	32.0	15.0	2.5	7
75	88	97	32.0	99	4	47.0	97	32.0	15.0	2.5	7
80	95	105	32.5	105	4	48.0	105	32.5	15.5	3.0	7
85	100	110	32.5	110	4	48.0	110	32.5	15.5	3.0	7
90	105	115	38.5	117	4	54.0	115	38.5	15.5	3.0	7
95	110	120	38.5	122	4	54.0	120	38.5	15.5	3.0	7
100	115	125	38.5	127	4	54.0	125	38.5	15.5	3.0	7

FR-28(W01FU)



Type: Suit for FRISTAM Pumps
 Replacement: AES W01FU
 Temperature: -20°C to $+200^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
22	45	33.0	19.1	8
38	62	51.8	21.1	8
d (inch)	D1	D3	L1	L2
0.866	1.771	1.300	0.750	0.315
1.496	2.441	2.039	0.831	0.315



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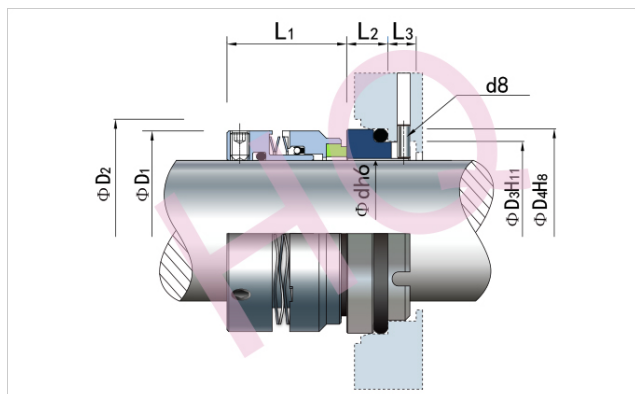


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HQK1BA



Type: Wave Spring Mechanical Seal
 Replacement: FLUITEN K1BA
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



<http://www.hqseal.com>

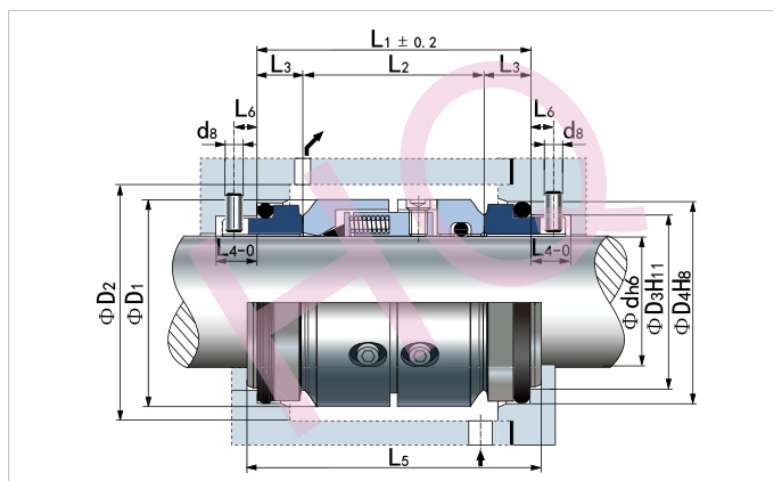


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d (mm)	D1	D2 (min)	D3	D4	d8	L1	L2	L3
20	34	36	29	35	3	27.5	10	9
22	36	38	31	37	3	27.5	10	9
24	38	40	33	39	3	30.0	10	9
25	39	41	34	40	3	30.0	10	9
28	42	44	37	43	3	32.5	10	9
30	44	46	39	45	3	32.5	10	9
32	46	48	42	48	3	32.5	10	9
33	47	49	42	49	3	32.5	10	9
35	49	51	44	50	3	32.5	10	9
38	54	58	49	56	4	34.0	11	9
40	56	60	51	58	4	34.0	11	9
43	59	63	54	61	4	34.0	11	9
45	61	65	56	63	4	34.0	11	9
48	64	68	59	66	4	34.0	11	9
50	66	70	62	70	4	34.5	13	9
53	69	73	65	73	4	34.5	13	9
55	71	75	67	75	4	34.5	13	9
58	78	83	70	78	4	39.5	13	9
60	80	85	72	80	4	39.5	13	9
63	83	88	75	83	4	39.5	13	9
65	85	90	77	85	4	39.5	13	9
68	88	93	81	90	4	37.5	15	9
70	90	95	83	92	4	45.0	15	9
75	99	104	88	97	4	45.0	15	9
80	104	109	95	105	4	44.5	15.5	9
85	109	114	100	110	4	44.5	15.5	9
90	114	119	105	115	4	49.5	15.5	9
95	119	124	110	120	4	49.5	15.5	9
100	124	129	115	125	4	49.5	15.5	9



Type: Double Faces Mechanical Seal
 Replacement: Roten 842
 Temperature: -70 to +350°C
 Pressure: $\leq 8\text{Bar}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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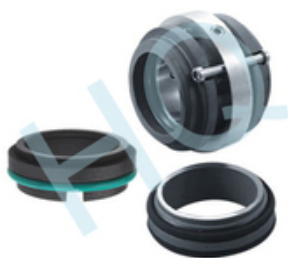


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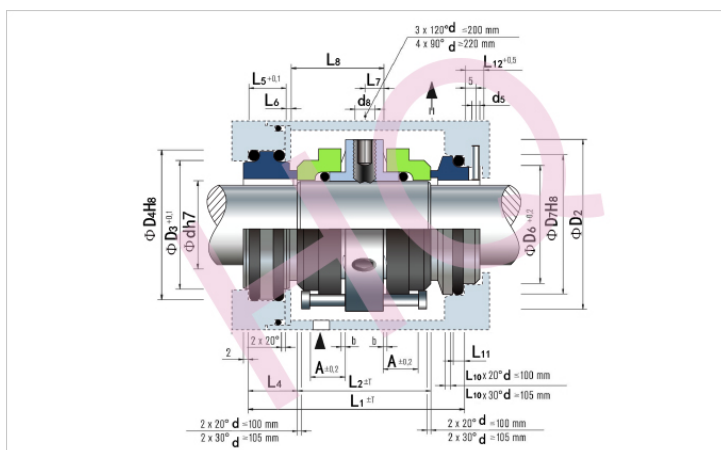
d (mm)	D1	D2	D3	D4	d8	L1	L2	L3	L4	L5	L6
22	36.0	41	30	35.4	3.5	53	37	8.0	8.5	55.4	5.0
24	39.0	41	30	35.4	3.5	53	37	8.0	8.5	55.4	5.0
25	40.0	45	33	38.2	4.0	54	37	8.5	9.1	57.0	5.0
28	43.0	48	38	43.3	4.0	57	39	9.0	9.6	61.0	6.0
30	46.0	50	38	43.3	4.0	60	42	9.0	9.6	64.0	6.0
32	46.5	50	38	43.3	4.0	60	42	9.0	9.6	64.0	6.0
33	53.0	60	45	53.5	5.0	68	45	11.5	12.0	73.4	7.5
35	53.0	60	45	53.5	5.0	68	45	11.5	12.0	73.4	7.5
38	56.0	63	52	60.5	5.0	75	52	11.5	12.0	80.4	7.5
40	58.0	65	52	60.5	5.0	75	52	11.5	12.0	80.4	7.5
42	61.0	68	52	60.5	5.0	75	52	11.5	12.0	80.4	7.5
43	61.0	68	52	60.5	5.0	75	52	11.5	12.0	80.4	7.5
44	66.0	72	57	65.5	5.0	78	55	11.5	13.0	80.4	8.5
45	66.0	72	57	65.5	5.0	78	55	11.5	13.0	85.4	8.5
48	69.0	75	57	65.5	5.0	78	55	11.5	13.0	85.4	8.5
50	71.0	80	64	72.5	5.0	80	57	11.5	13.0	89.4	8.5
55	76.0	83	64	72.5	5.0	85	62	11.5	13.0	92.4	8.5
60	88.0	95	72	79.3	5.0	95	72	11.5	13.5	108.4	8.5
65	93.0	100	77	84.5	5.0	95	72	11.5	13.5	108.4	8.5
70	98.0	105	82	89.5	5.0	95	72	11.5	13.5	108.4	8.5
75	100.0	107	87	94.5	5.0	101	78	11.5	13.5	114.4	8.5
80	105.0	112	92	99.5	5.0	101	78	11.5	13.5	114.4	8.5
85	118.0	125	98	105.5	5.0	109	82	13.5	13.5	122.4	8.5
90	120.0	127	105	111.5	5.0	109	82	13.5	13.5	122.4	8.5
95	126.0	133	110	116.5	5.0	114	87	13.5	13.5	127.4	8.5
100	132.0	140	114	119.5	5.0	119	92	13.5	13.5	132.4	8.5
110	150.0	158	124	132.2	5.0	129	94	17.5	13.5	143.0	8.5
120	160.0	168	134	142.2	5.0	136	101	17.5	13.5	150.0	8.5
130	175.0	183	145	153.2	5.0	136	101	17.5	13.5	150.0	8.5
135	180.0	188	152	161.2	5.0	142	105	18.5	13.5	156.0	8.5
140	185.0	193	157	164.3	5.0	147	110	18.5	13.5	161.0	8.5



HQX25D(AX25D)



Type: Double Faces Mechanical Seal
 Replacement: Burgmann AX25D
 Temperature: -40 to +220°C
 Pressure: 16 Bar
 Speed: $\leq 20\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

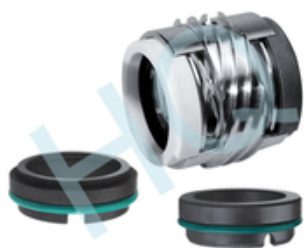


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d (mm)	D3	D4	D6	D7	D2	d5	d8	L1	L2	L4	L5	L6	L7	L8	L9	L10	L1 1	T	A
20	29	35	29	35	47	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
22	31	37	31	37	49	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
24	33	39	33	39	51	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
25	34	40	34	40	52	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
28	37	43	37	43	55	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
30	39	45	39	45	57	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
32	42	48	42	48	59	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
33	42	48	42	48	60	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
35	44	50	44	50	62	3	M6	76	48	17	12	2	9	34	5	2	5	0.5	12
38	49	56	49	56	71	4	M8	84	52	19	14	2	9	36	5	2	6	0.5	13.5
40	51	58	51	58	73	4	M8	84	52	19	14	2	9	36	5	2	6	0.5	13.5
43	54	61	54	61	76	4	M8	84	52	19	14	2	9	36	5	2	6	0.5	13.5
45	56	63	56	63	78	4	M8	84	52	19	14	2	9	36	5	2	6	0.5	13.5
48	59	66	59	66	81	4	M8	84	52	19	14	2	9	36	5	2	6	0.5	13.5
50	62	70	62	70	83	4	M8	87.5	52	21	16	2	9	36	5	2.5	6	0.5	13.5
53	65	73	65	73	86	4	M8	87.5	52	21	16	2	9	36	5	2.5	6	0.5	13.5
55	67	75	67	75	88	4	M8	87.5	52	21	16	2	9	36	5	2.5	6	0.5	13.5
58	72	80	70	78	98	4	M10	99	62.5	22	16	2.5	9	44.5	5	2.5	6	1	15
60	75	83	72	80	100	4	M10	99	62.5	22	16	2.5	9	44.5	5	2.5	6	1	15
63	77	85	75	83	103	4	M10	99	62.5	22	16	2.5	9	44.5	5	2.5	6	1	15
65	81	90	77	85	105	4	M10	101	62.5	24	18	2.5	9	44.5	5	2.5	6	1	15
68	83	92	81	90	108	4	M10	101	62.5	24	18	2.5	9	44.5	5	2.5	7	1	15
70	88	97	83	92	111	4	M10	109	67	25	19	2.5	9	46.5	5	2.5	7	1	17.5



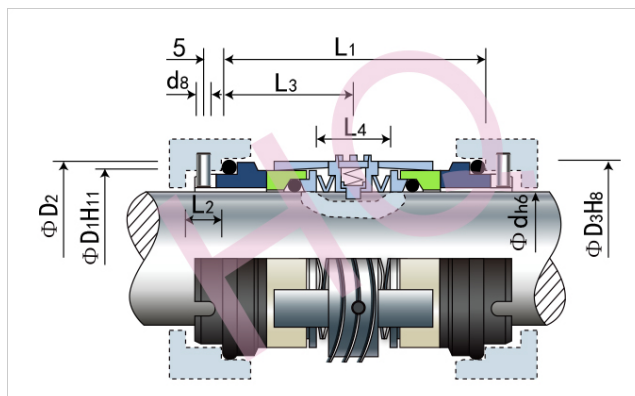
Type: Double Faces Mechanical Seal, Suit for Grundfos, Hilge Pumps
 Replacement: Hecker Aegira HN 417
 Temperature: -40 to +200°C
 Pressure: ≤10 Bar
 Speed: ≤25m/s
 Material: B, Q2, U2, P, E, N, V, F, G, Alfa



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d (mm)	d8	d9	D1	D2	D3	L1	L2	L3	L4
18	3	M6	27	34.5	33	60	9	30.0	15
20	3	M6	29	37.5	35	60	9	30.0	15
22	3	M6	31	39.5	37	65	9	32.5	15
24	3	M6	33	41.5	39	65	9	32.5	15
25	3	M6	34	42.5	40	65	9	32.5	15
28	3	M6	37	45.5	43	68	9	34.0	15
30	3	M6	39	47.5	45	68	9	34.0	15
32	3	M6	42	50.5	48	68	9	34.0	15
33	3	M6	42	50.5	48	68	9	34.0	15
35	3	M6	44	54.5	50	68	9	34.0	15
38	4	M6	49	59.5	56	75	9	37.5	15
40	4	M6	51	61.5	58	75	9	37.5	15
43	4	M6	54	64.5	61.0	75	9	37.5	15
45	4	M6	56	67.5	63	75	9	37.5	15
48	4	M6	59	69.5	66	80	9	40.0	15
50	4	M6	62	71.5	70	83	9	41.5	15
53	4	M6	65	74.5	73	83	9	41.5	15
55	4	M6	67	77.5	75	83	9	41.5	15
58	4	M8	70	84.5	78	86	9	43.0	20
60	4	M8	72	87.5	80	90	9	45.0	20
65	4	M8	77	94.5	85	92	9	46.0	20
70	4	M8	83	97.5	92	99	9	49.5	20
75	4	M8	88	104.5	97	104	9	52.0	25



Type: Double Mechanical Seal
Temperature: -20 to +180°C

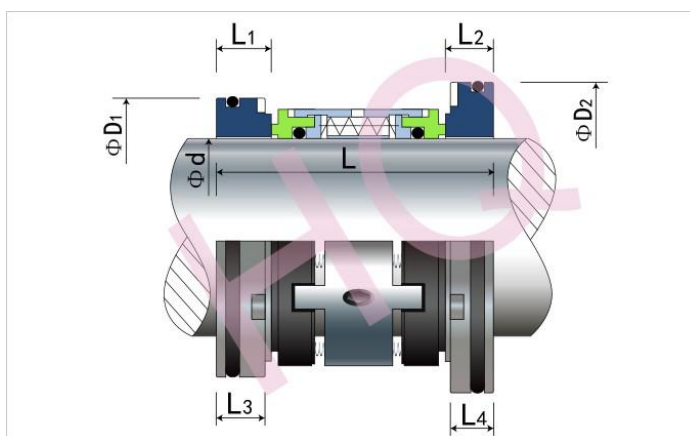
Pressure: $\leq 1.4\text{Mpa}$

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

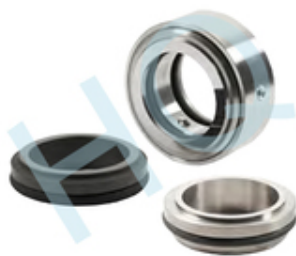
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

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d (mm)	D1	D2	D3	L	L1	L2	L3	L4	Q-M
30	44	57	70	60	9.5	10.5	7	9.0	3-M5
35	54	57	70	60	9.5	10.5	8	8.5	3-M5
40	60	70	85	65	10.5	11.5	9	10.0	3-M5
45	65	70	90	65	10.5	11.5	9	10.0	3-M5
50	75	80	95	75	14.0	11.0	12	9.5	3-M5
60	85	95	110	85	17.0	15.0	15	11.0	3-M5
70	95	105	120	85	17.0	15.0	15	11.0	3-M5
80	115	115	130	98	19.0	19.0	15	15.0	4-M5
90	125	125	140	98	19.0	19.0	15	15.0	4-M5
100	135	135	150	98	19.0	19.0	15	15.0	4-M5
110	145	145	160	102	19.0	19.0	15	15.0	4-M5
120	155	155	170	102	19.0	19.0	15	15.0	4-M5
130	165	165	180	105	19.0	19.0	15	15.0	4-M5
140	175	175	190	105	19.0	19.0	15	15.0	4-M5
150	185	185	200	105	19.0	19.0	15	15.0	4-M5
160	195	195	210	106	19.5	19.5	16	16.0	4-M5



Type: Double Mechanical Seal
Replacement: Roten 877, Burgmann M87N

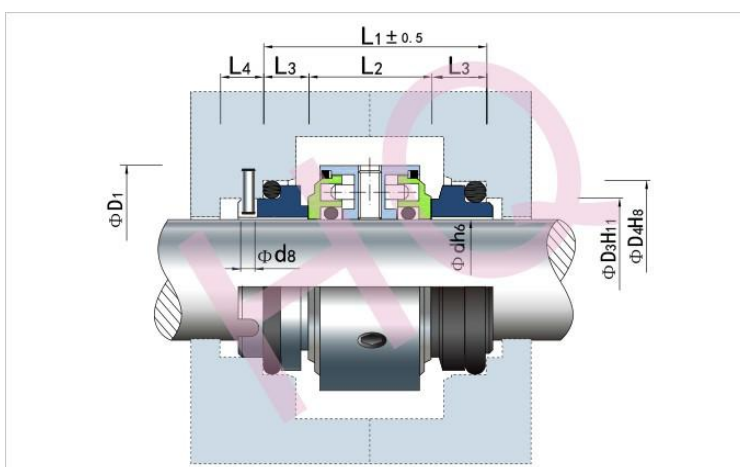
Lidring LMS15D

Temperature: -20 to +180°C

Pressure: $\leq 1.4\text{Mpa}$

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

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



d (mm)	d8	D1	D3	D4	L1	L2	L3	L4
20	3	40.0	29	35	43.0	23.0	10.0	9
25	3	44.5	34	40	45.0	25.0	10.0	9
28	3	47.5	37	43	38.0	25.0	8.5	9
30	3	50.0	39	45	47.0	27.0	10.0	9
35	3	56.0	44	50	48.5	28.5	10.0	9
43	4	71.0	54	61	56.0	30.0	13.0	9
50	4	80.0	62	70	58.0	30.0	14.0	9
65	4	98.0	77	85	63.0	35.0	14.0	9
100	4	145.0	115	125	81.0	45.0	16.0	9



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HQ224

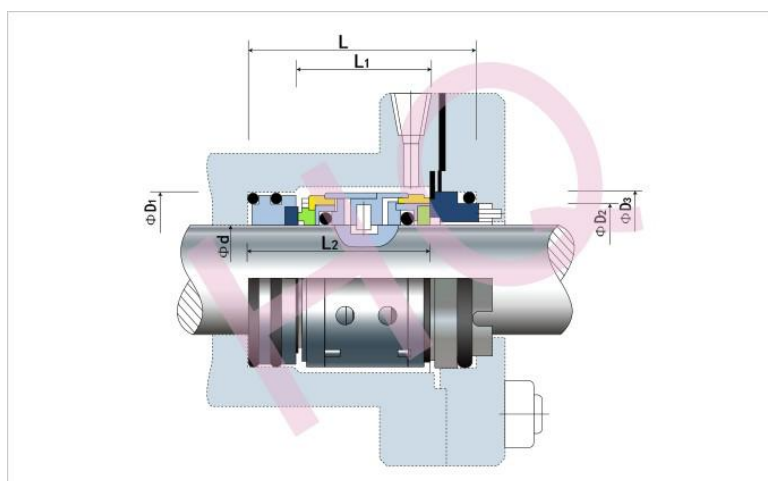


Type: Double Mechanical Seal
Temperature: -15 to +150°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 3000\text{r/min}$

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



d (mm)	D1	D2	D3	L	L1	L2
35	51	44	50	87	54	74
40	60	50	58	99	62	86
45	65	55	63	99	62	86
50	70	62	70	99	62	86
55	75	67	75	105	62	86
60	85	72	80	105	62	90
65	89	77	85	105	62	90
70	95	84	92	105	63	90
75	102	87	97	105	63	80
80	107	95	105	105	63	80
85	112	100	110	105	63	80



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HQH74D



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Type: Double Mechanical Seal

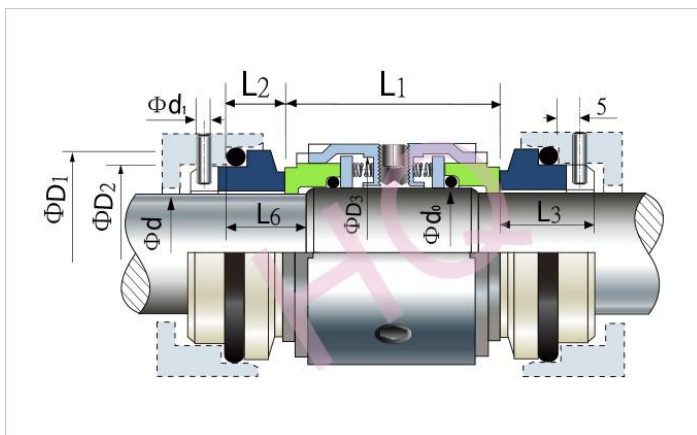
Replacement: Burgmann H74D

Temperature: -20°C to +180°C

Pressure: $\leq 1.2\text{Mpa}$

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

Material: V1,Q1,Q2,U2,B,A,P,E,V,M1,M2,F,G,M



d (mm)	d0	D3	D2	D1	d1	L1	L2	L3	L6
14	18	33	21	25	3	53.0	10.0	17.5	18
16	20	35	23	27	3	53.0	10.0	17.5	18
18	22	37	27	33	3	53.0	11.5	19.5	20
20	24	39	29	35	3	53.0	11.5	19.5	20
22	26	41	31	37	3	53.0	11.5	19.5	20
24	28	43	33	39	3	54.0	11.5	19.5	20
25	30	45	34	40	3	54.0	11.5	19.5	20
28	33	48	37	43	3	54.0	11.5	19.5	20
30	35	50	39	45	3	54.0	11.5	19.5	20
32	38	55	42	48	3	56.0	11.5	19.5	20
33	38	55	42	48	3	56.0	11.5	19.5	20
35	40	57	44	50	3	57.0	11.5	19.5	20
38	43	60	49	58	4	57.0	14.0	22.0	23
40	45	62	51	58	4	57.0	14.0	22.0	23
43	48	65	54	61	4	57.0	14.0	22.0	23
45	50	67	56	63	4	56.0	14.0	22.0	23
48	53	70	59	66	4	56.0	14.0	22.0	23
50	55	72	62	70	4	63.0	15.0	23.0	25
53	58	79	65	73	4	67.0	15.0	23.0	25
55	60	81	67	75	4	67.0	15.0	23.0	25
58	63	84	70	78	4	74.0	15.0	23.0	25
60	65	86	72	80	4	74.0	15.0	23.0	25
63	68	89	75	83	4	79.0	15.0	23.0	25
65	70	91	77	85	4	68.0	15.0	23.0	25
70	75	99	83	92	4	76.4	18.0	26.0	28
75	80	104	88	97	4	76.4	18.0	26.0	28
80	85	109	95	105	4	76.0	18.2	26.2	28
85	90	114	100	110	4	76.0	18.2	26.2	28
90	95	119	105	115	4	76.0	18.2	26.2	28
95	100	124	110	120	4	76.0	17.2	25.2	28
100	105	129	115	125	4	76.0	17.2	25.2	28



HQM74D

Type: Double Mechanical Seal
 Replacement: Burgmann M74D
 Temperature: -20°C to +180°C

Pressure: $\leq 1.2\text{Mpa}$

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

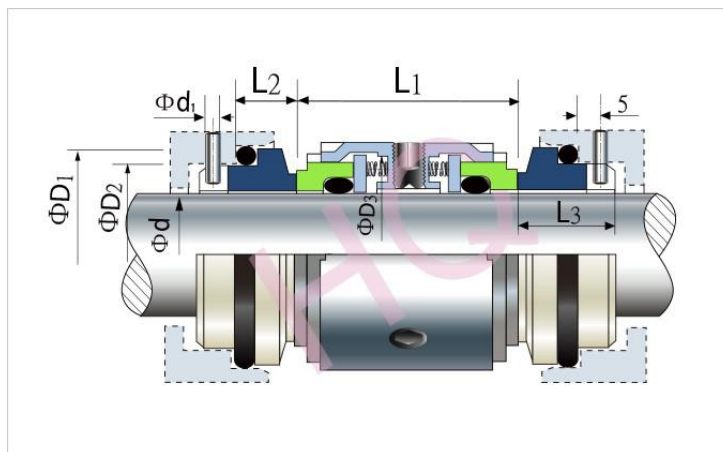
Material: Q2,B,U2,P,E,V,F,G



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d (mm)	D3	D2	D1	d1	L1	L2	L3
18	33	27	33	3	38	11.5	19.5
20	35	29	35	3	38	11.5	19.5
22	37	31	37	3	38	11.5	19.5
24	39	33	39	3	38	11.5	19.5
25	40	34	40	3	38	11.5	19.5
28	43	37	43	3	39	11.5	19.5
30	45	39	45	3	39	11.5	19.5
32	47	42	48	3	39	11.5	19.5
33	48	42	48	3	39	11.5	19.5
35	50	44	50	3	39	11.5	19.5
38	55	49	56	4	41	14.0	22.0
40	57	51	58	4	42	14.0	22.0
43	60	54	61	4	42	14.0	22.0
45	62	56	63	4	42	14.0	22.0
48	65	59	66	4	42	14.0	22.0
50	67	62	70	4	43	15.0	23.0
53	70	65	73	4	43	15.0	23.0
55	72	67	75	4	43	15.0	23.0
58	79	70	78	4	56	15.0	23.0
60	81	72	80	4	56	15.0	23.0
63	84	75	83	4	55	15.0	23.0
65	86	77	85	4	55	15.0	23.0
68	89	81	90	4	55	18.0	26.0
70	91	83	92	4	56	18.0	26.0
75	99	88	97	4	56	18.0	26.0
80	104	95	105	4	56	18.2	26.2
85	109	100	110	4	56	18.2	26.2
90	114	105	115	4	56	18.2	26.2
95	119	110	120	4	56	17.2	25.2
100	124	115	125	4	56	17.2	25.2

HQ8-1D



Type: Double Multi Spring Mechanical Seal,
For Fybroc/Tri-Clover

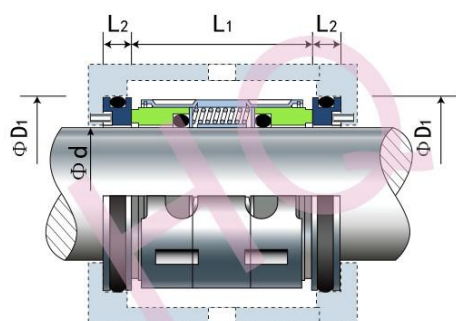
Replacement: AES M01SD

Temperature: -40 to +220°C

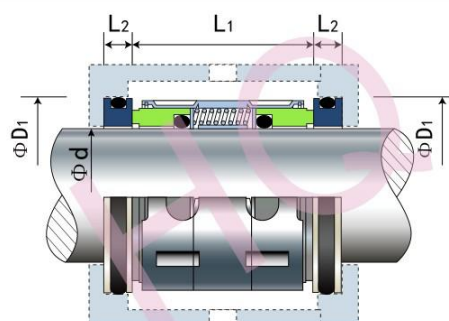
Pressure: $\leq 1.4\text{Mpa}$

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

Material: A,B,U1,U2,Q1,Q2,F,V,G,K,T,M5



Fybroc Seal



Tri-Clover Seal

d (mm)	D1	L1	L2
34.9	50.8	47.6	11.1
53.9	73.0	66.6	7.9
28.6	44.4	38.4	11.1
38.1	53.9	46.0	11.1
d (inch)	D1	L1	L2
1.375	2.000	1.875	0.437
2.125	2.875	2.625	0.312
1.125	1.750	1.512	0.437
1.500	2.125	1.811	0.437



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HQ202D



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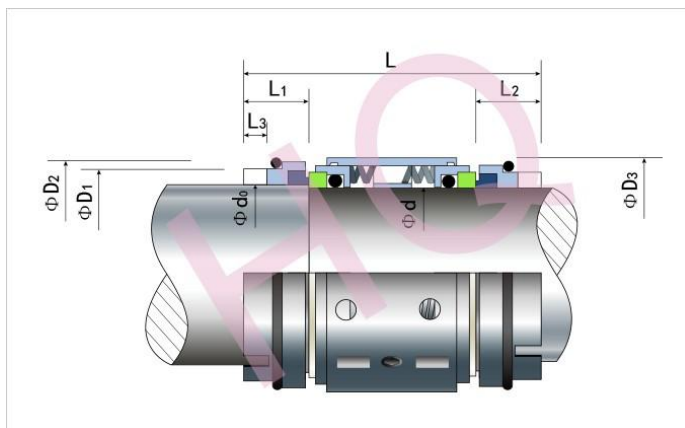
Type: Double Mechanical Seal

Temperature: -20°C to $+180^{\circ}\text{C}$

Pressure: $\leq 1.2\text{Mpa}$

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

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



d (mm)	d0	D1	D2	D3	L	L1	L2	L3
20	21	29	35	38	77	19	19	7
25	26	34	40	43	77	19	19	7
30	31	39	45	48	80	19	19	7
35	36	44	50	53	80	20	20	7
40	41	51	58	61	85	20	20	7
45	46	56	63	66	85	20	20	7
50	51	62	70	73	88	21	21	7
55	56	67	75	78	88	22	22	7
60	61	72	80	83	100	22	22	7
65	66	77	85	88	100	22	22	7
70	71	83	92	95	108	25	25	7
75	76	88	97	100	108	25	25	7
80	81	95	105	108	108	25	25	7
85	86	100	110	113	108	26	26	7
90	91	105	115	118	108	26	26	7
95	96	110	120	123	108	26	26	7
100	102	115	125	128	108	26	26	7

HQ202

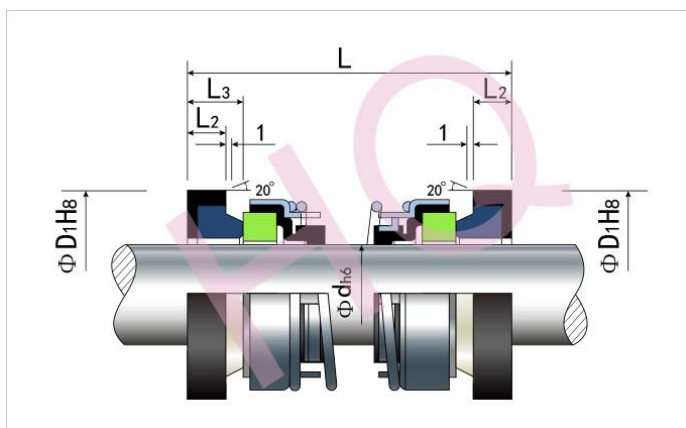


Type: Double Mechanical Seal
Temperature: -20°C to +150°C

Pressure: $\leq 0.6\text{Mpa}$

Speed: $\leq 5\text{m/s}$

Material: A,B,Q2,U2,P,K,E,G,M5



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d (mm)	D1	L	L2	L3
12	24/26	32/41	4.5	5.6
14	26/28	38/41	5.0	7.0
16	28	38/45	5.0	7.0
17	34/35	38/48	5.0	7.0
18	34/35	38/48	5.0	7.0
20	36	40/48	5.0	7.0
22	38	45	5.0	7.0
25	41	51	7.0	9.0
30	46	51	7.0	9.0
35	51	51	7.0	9.0
40	60	61	9.0	10.5
45	65	61	9.0	10.5

HQ208



Type: Double Mechanical Seal

Temperature: -15 to +150°C

Pressure: $\leq 0.6\text{Mpa}$

Speed: $\leq 5\text{m/s}$

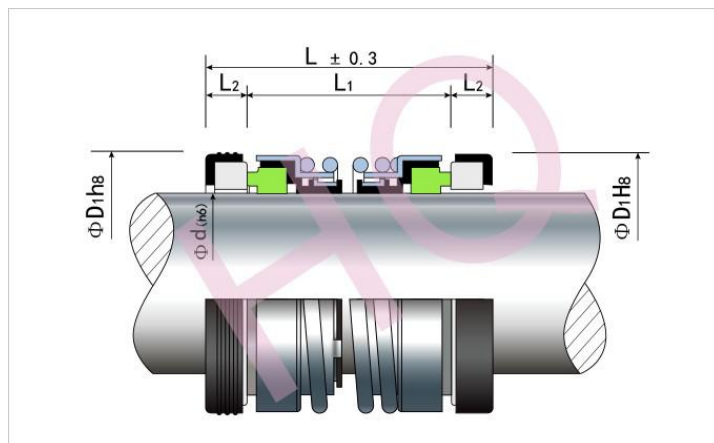
Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



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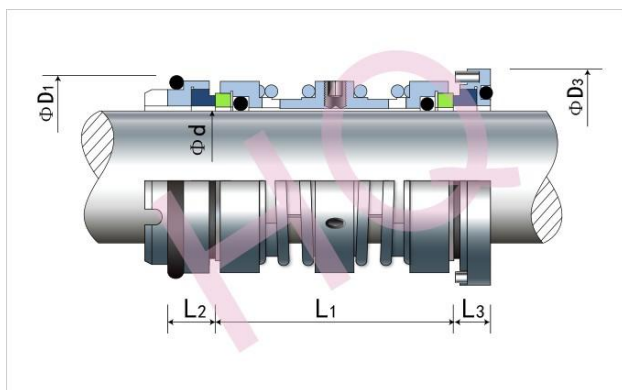


d (mm)	D1	L	L1	L2
10	22	30	20	5.0
12	23/24/26	30/32/35/38/40	22/25/28/30	4/5.0
14	26/28/30	35/36/38/40/41	25/26/28/30/31	5.0
15	27/28	38	28	5.0
16	27/28/30	38/40/41/42/44	28/30/31/32/34	5.0
17	33/35	38/40/42/45	28/30/32/35	5.0
18	33/35	38/42	28/32	5.0
20	35/36	38/40/42/45	28/30/32/35	5.0
22	36/37	40/42	30	5/6.0
24	40/41	48/51/54	35/36/38	6/8.0
25	40/41	48/51/54	35/36/38	6/8.0
28	45/46	51	36	7.5
30	45/46	51	36	7.5
35	50	51	35	8.0
40	58	58/60/61	40/42/43	9.0
45	63	61	44	8.5
50	70	69	50	9.5
55	75	70/78	51/59	9.5

HQU208



Type: Double Multi Spring Mechanical Seal
 Temperature: -20 to $+120^{\circ}\text{C}$
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



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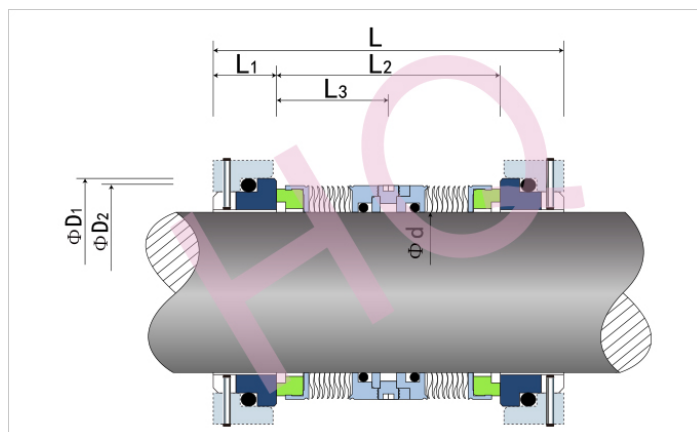
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d=30mm,35mm,40mm,45mm,50mm

HQMF85-D



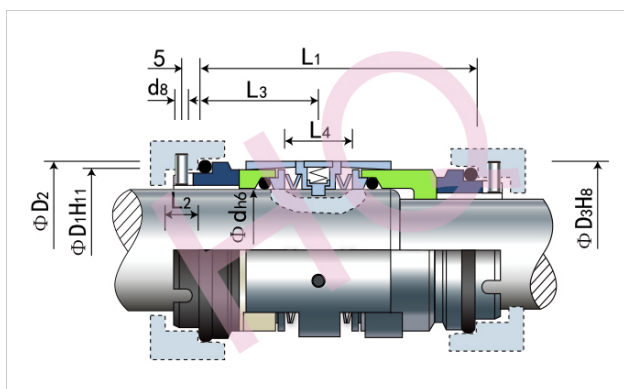
Type: Double Faces Seal
 Temperature: -40 to $+200^{\circ}\text{C}$
 Pressure: ≤ 50 Bar
 Speed: $\leq 23\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



HQ437



Type: Double Faces Seal
 Replacement: Hecker Aegira HN437/HN447
 Temperature: -40 to +200°C
 Pressure: ≤ 50 Bar
 Speed: ≤ 25 m/s
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



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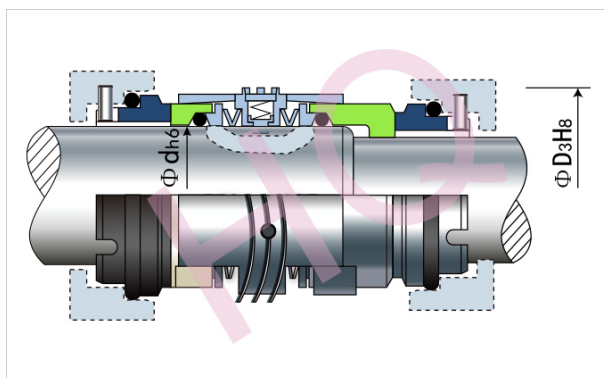
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d (mm)	d0	d8	d9	d10	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
18	22	3	M6	3	31	37	27	33	37	74.5	20	9	32.5	15
20	24	3	M6	3	33	39	29	35	39	74.5	20	9	32.5	15
24	28	3	M6	3	37	43	33	39	43	78.5	20	9	34.0	15
25	30	3	M6	3	39	45	34	40	45	78.5	20	9	34.0	15
28	33	3	M6	3	42	48	37	43	48	78.5	20	9	34.0	15
30	35	3	M6	3	44	50	39	45	50	78.5	20	9	34.0	15
32	38	3	M6	4	49	56	42	48	55	82.5	20	9	37.5	15
33	38	3	M6	4	49	56	42	48	55	82.5	20	9	37.5	15
35	40	3	M6	4	51	58	44	50	57	82.5	20	9	37.5	15
38	43	4	M6	4	54	61	49	56	60	85.5	23	9	37.5	15
40	45	4	M6	4	56	63	51	58	62	85.5	23	9	37.5	15
43	48	4	M6	4	59	66	54	61	66	89.5	23	9	40.0	15
45	50	4	M6	4	62	70	58	63	68	91.0	23	9	41.5	15
48	53	4	M6	4	65	73	59	66	71	91.0	23	9	41.5	15
50	55	4	M6	4	67	75	62	70	74	94.0	25	9	41.5	15
53	58	4	M8	4	70	78	65	73	79	97.0	25	9	43.0	20
55	60	4	M8	4	72	80	67	75	82	99.5	25	9	45.0	20
58	63	4	M8	4	75	83	70	78	85	102.0	25	9	46.0	20
60	65	4	M8	4	77	85	72	80	87	102.0	25	9	46.0	20
65	70	4	M8	4	83	92	77	85	92	105.5	25	9	49.5	20
70	75	4	M8	4	88	97	83	92	100	114.0	28	9	52.0	25
75	80	4	M8	4	95	105	88	97	105	114.0	28	9	52.0	25
80	85	4	M8	4	100	110	95	105	110	114.0	28	9	52.0	25
85	90	4	M8	4	105	115	100	110	116	122.0	28	9	56.0	25
90	95	4	M8	4	110	120	105	115	121	122.0	28	9	56.0	25
95	100	4	M8	4	115	125	110	120	126	122.0	28	9	56.0	25

HQ447



Type: Double Faces Seal
 Replacement: Hecker Aegira HN437/HN447
 Temperature: -40 to +200°C
 Pressure: ≤50 Bar
 Speed: ≤25m/s
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



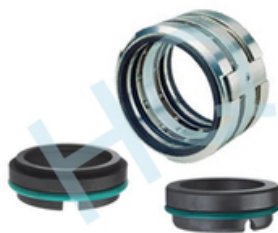
<http://www.hqseal.com>



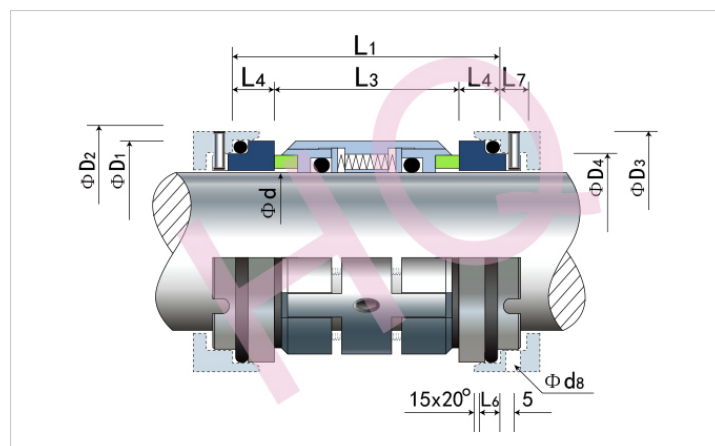
hq@hqseal.com

d (mm)	d0	d8	d9	d10	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
18	22	3	M6	3	31	37	27	33	39.5	74.5	20	9	32.5	15
20	24	3	M6	3	33	39	29	35	41.5	74.5	20	9	32.5	15
24	28	3	M6	3	37	43	33	39	45.5	78.5	20	9	34.0	15
25	30	3	M6	3	39	45	34	40	47.5	78.5	20	9	34.0	15
28	33	3	M6	3	42	48	37	43	50.5	78.5	20	9	34.0	15
30	35	3	M6	3	44	50	39	45	54.5	78.5	20	9	34.0	15
32	38	3	M6	4	49	56	42	48	59.5	82.5	20	9	37.5	15
33	38	3	M6	4	49	56	42	48	59.5	82.5	20	9	37.5	15
35	40	3	M6	4	51	58	44	50	61.5	82.5	20	9	37.5	15
38	43	4	M6	4	54	61	49	56	64.5	85.5	23	9	37.5	15
40	45	4	M6	4	56	63	51	58	67.5	85.5	23	9	37.5	15
43	48	4	M6	4	59	66	54	61	69.5	89.5	23	9	40.0	15
45	50	4	M6	4	62	70	58	63	71.5	91.0	23	9	41.5	15
48	53	4	M6	4	65	73	59	66	74.5	91.0	23	9	41.5	15
50	55	4	M6	4	67	75	62	70	77.5	94.0	25	9	41.5	15
53	58	4	M8	4	70	78	65	73	84.5	97.0	25	9	43.0	20
55	60	4	M8	4	72	80	67	75	87.5	99.5	25	9	45.0	20
58	63	4	M8	4	75	83	70	78	89.5	102.0	25	9	46.0	20
60	65	4	M8	4	77	85	72	80	94.5	102.0	25	9	46.0	20
65	70	4	M8	4	83	92	77	85	97.5	105.5	25	9	49.5	20
70	75	4	M8	4	88	97	83	92	104.5	114.0	28	9	52.0	25
75	80	4	M8	4	95	105	88	97	109.5	114.0	28	9	52.0	25
80	85	4	M8	4	100	110	95	105	114.5	114.0	28	9	52.0	25
85	90	4	M8	4	105	115	100	110	119.5	122.0	28	9	56.0	25
90	95	4	M8	4	110	120	105	115	129.5	122.0	28	9	56.0	25
95	100	4	M8	4	115	125	110	120	131.5	122.0	28	9	56.0	25

HQ3A-D(UM3A-UM3A)

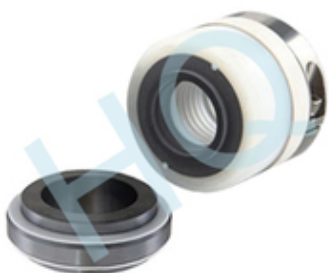


Type: Double Faces Seal
 Replacement: Fluiten UM3A-UM3A
 Temperature: -20 to +180°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D2	D3	D4	d8	L1	L3	L4	L6	L7
20	34	38	35	29	3	60	40	10.0	5	9
22	35	38	37	31	3	60	40	10.0	5	9
24	38	40	39	33	3	63	43	10.0	5	9
25	39	41	40	34	3	63	43	10.0	5	9
28	42	44	43	37	3	64	44	10.0	5	9
30	44	46	45	39	3	64	44	10.0	5	9
32	46	49	48	42	3	64	44	10.0	5	9
33	47	49	48	42	3	64	44	10.0	5	9
35	49	51	50	44	3	64	44	10.0	5	9
38	54	58	56	49	4	69	47	11.0	2	6
40	58	60	58	51	4	69	47	11.0	2	6
43	59	63	61	54	4	69	47	11.0	2	6
45	61	65	63	56	4	69	47	11.0	2	6
48	64	68	66	59	4	69	47	11.0	2	6
50	65	70	70	62	4	74	48	13.0	6	9
53	69	73	73	65	4	74	48	13.0	6	9
55	71	75	75	67	4	74	48	13.0	6	9
58	79	83	78	70	4	82	56	13.0	6	9
60	80	85	80	72	4	82	56	13.0	6	9
63	83	88	83	75	4	82	58	13.0	6	9
65	85	90	85	77	4	82	56	13.0	6	9
68	89	93	90	81	4	86	56	15.0	7	9
70	90	95	92	86	4	88	58	15.0	7	9
75	99	104	97	88	4	91	61	15.0	7	9
80	104	109	108	95	4	92	61	15.5	7	9
85	109	114	110	100	4	92	61	15.5	7	9
90	114	119	115	105	4	94	63	15.5	7	9
95	119	124	120	110	4	94	63	15.5	7	9
100	124	129	125	115	4	94	63	15.5	7	9

HQW10R/10T



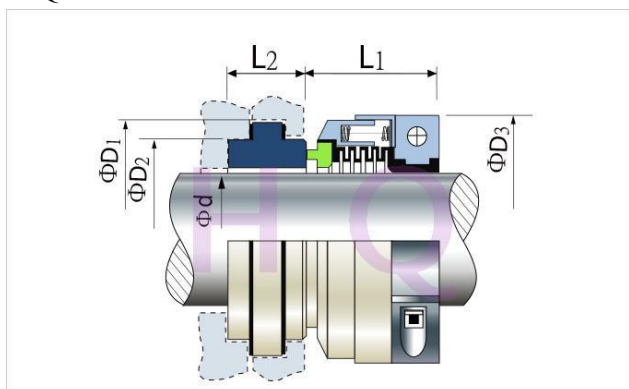
Type: PTFE Bellow Mechanical Seal
Replacement: Crane 10R/10T
Temperature: -20°C to +120°C

Pressure: $\leq 0.5\text{Mpa}$

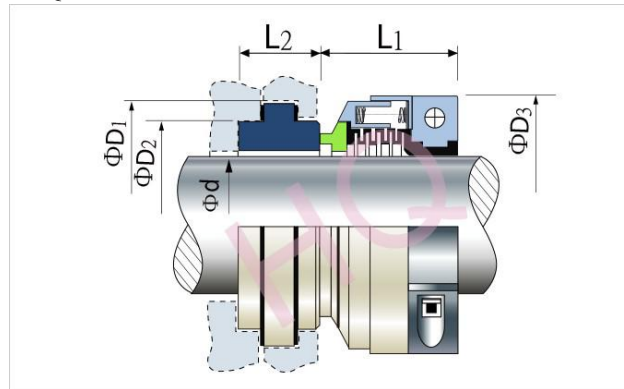
Speed: $\leq 10\text{m/s}$

Material: Q2,V2,F,G,TEFLON

HQW10R



HQW10T



d (Inch)	D3	D2	D1	L1	L2
25.40	60	54	42.86	33.2	17.6
28.60	67	65	50.80	36.2	27.0
31.75	69	68	53.98	37.2	27.0
34.93	72	71	57.15	38.2	27.0
38.10	76	78	63.50	38.2	27.0
41.28	80	81	66.68	40.2	27.0
44.45	84	84	69.85	40.2	27.0
47.63	86	87	73.03	43.2	27.0
50.80	90	97	79.38	43.2	33.3



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HQW20/20R



Type: PTFE Bellow Mechanical Seal
 Replacement: Crane20/20R, 20 is integral rotary face ,
 20R is insert rotary face

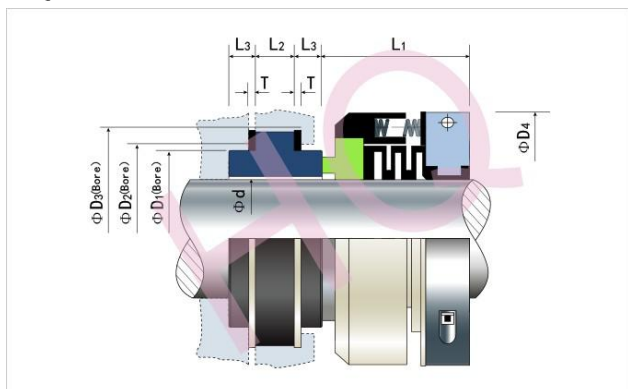
Temperature: -35°C ~+120°C

Pressure: $\leq 1.0\text{Mpa}$

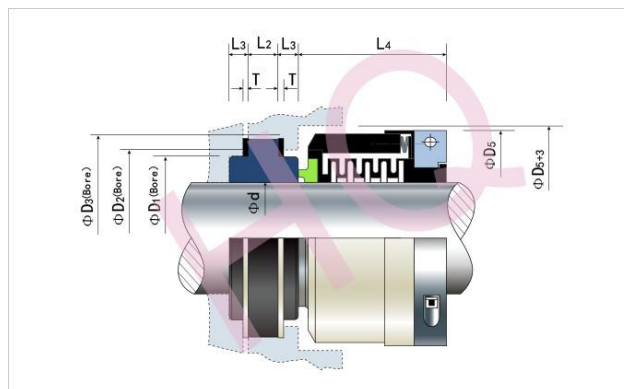
Speed: $\leq 13\text{m/s}$

Material: Q2, V2, F, G, TEFLON

HQW20



HQW20R



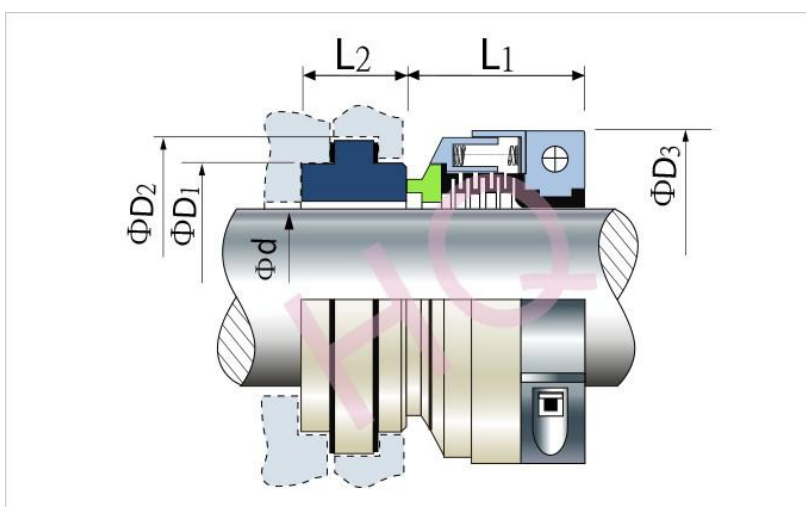
d (inch)	D1	D2	D3	D4	L1	L2	L3	L4	D5	T
0.625				33.3	52.4					
0.750	36.51	37.5	48	36.5	52.4	8.0	4.8			0.8
0.875	39.69	40.5	51	39.7	25.4	8.0	4.8	49.2	49.2	0.8
1.000	42.86	43.5	54	57.2	25.4	8.0	4.8	27.0	57.2	0.8
1.125	50.80	51.5	61	60.3	27.0	9.5	5.5	28.6	60.3	1.6
1.250	53.98	55.0	68	66.7	27.0	9.5	6.4	28.6	66.7	1.6
1.375	57.15	58.0	71	69.9	28.6	9.5	6.4	28.6	69.9	1.6
1.500	63.50	64.5	77	73.0	28.6	9.5	6.4	28.6	73.0	1.6
1.625	66.68	67.5	80	76.2	34.9	9.5	6.4	34.9	76.2	1.6
1.750	69.85	71.0	83	79.4	34.9	9.5	6.4	34.9	79.4	1.6
1.875	73.03	74.0	90	85.7	34.9	12.7	6.4	34.9	85.7	1.6
2.000	79.38	80.0	96	88.9	34.9	12.7	6.4	34.9	88.9	1.6
2.125	82.55	83.5	99	92.1	42.8	12.7	6.4	42.8	92.1	1.6
2.250	85.73	86.5	102	95.3	42.8	12.7	6.4	42.8	95.3	1.6
2.375	88.90	89.5	106	98.4	42.8	12.7	6.4	42.8	98.4	1.6
2.500	92.08	93.0	109	101.6	42.8	12.7	6.4	42.8	101.6	1.6
2.625	95.25	96.0	112	104.8	42.8	12.7	6.4	42.8	104.8	1.6
2.750	98.43	99.0	115	108.0	42.8	12.7	6.4	42.8	108.0	1.6
2.875	101.60	102.5	118	111.1	42.8	12.7	6.4	42.8	111.1	1.6
3.000	103.17	104.0	120	114.3	42.8	12.7	6.4	42.8	114.3	1.6
3.125				123.8	42.8	12.7	6.4	42.8	123.8	1.6
3.250	114.30	115.0	131	127.0	42.8	12.7	6.4	42.8	127.0	1.6
3.375				130.2	42.8			42.8	130.2	1.6
3.500	120.65	121.5	137	133.4	42.8	12.7	6.4	42.8	133.4	1.6
3.625				136.5	42.8			42.8	136.5	1.6
3.750	127.00	128.0	144	139.7	42.8	12.7	6.4	42.8	139.7	1.6
3.875				142.9	42.8			42.8	142.9	1.6
4.000	136.53	137.5	153	146.1	42.8	12.7	6.4	42.8	146.1	1.6

HQWB2A/WB2B

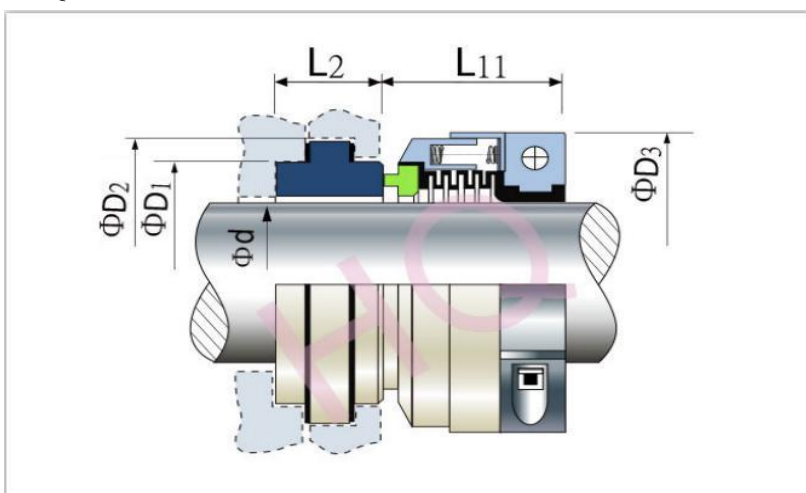


Type: PTFE Bellow Mechanical Seal
 Replacement: Crane WB2
 Temperature: -20°C to $+120^{\circ}\text{C}$
 Pressure: $\leq 0.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q2, V2, F, G, TEFLON

HQWB2-XXA



HQWB2-XXB



HQWB2A/WB2B

d (mm)	D1	D2	D3	L1	L2	L11
25	47	60	60	42	27	45
30	53	67	67	42	27	45
32	50.7	64	69	42	27	45
35	57	70	72	42	27	45
40	62	76	78	42	26	45
45	67	82	84	44	27	46
50	72	86	88	46	27	46
55	77	90	95	46	27	46
60	82	95	100	46	27	46
65	87	100	105	46	27	46

d (Inch)	D1	D2	D3	L1	L2	L11
25.40	42.86	54	60	42	17.5	45
28.60	46.03	60	67	42	27.0	45
31.75	50.80	65	69	42	27.0	45
34.93	53.98	68	72	42	27.0	45
38.10	57.15	71	76	42	27.0	45
41.28	63.50	78	80	42	27.0	45
44.45	66.68	81	84	44	27.0	46
47.63	69.85	84	86	44	27.0	46
50.80	73.03	87	90	46	27.0	46
53.98	79.38	97	95	46	33.5	46
57.15	82.55	100	98	46	33.5	46
60.30	85.73	103	100	46	33.5	46

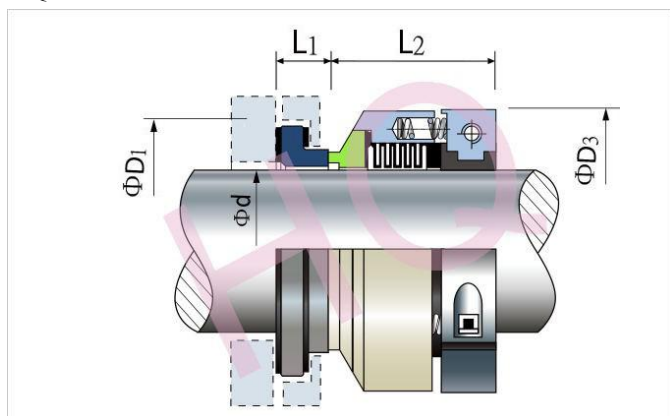


HQWB4(152)

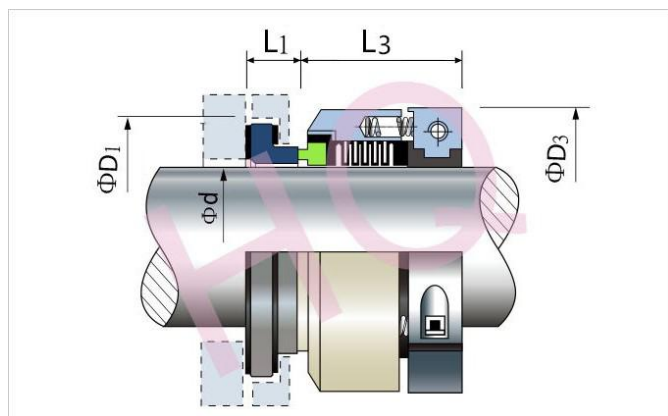


Type: PTFE Bellow Mechanical Seal
 Replacement: Suit for Sulzer Pumps
 Temperature: -20°C to +120°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q2,V2,F,G,TEFLON

HQW152-T

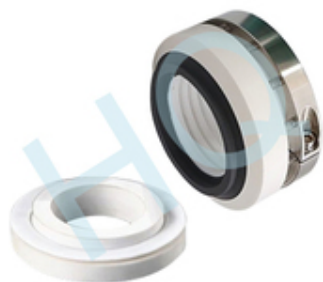


HQW152-R



d (mm)	D1	D3	L1	L2	L3
25	48	60	13	42	45
30	53	67	13	42	45
35	58	72	13	42	45
40	63	78	13	42	45
45	68	84	16	44	46
50	73	88	16	46	46
55	78	95	16	46	46
60	83	100	17	46	46
65	88	105	17	46	46





Type: Kettle Seal

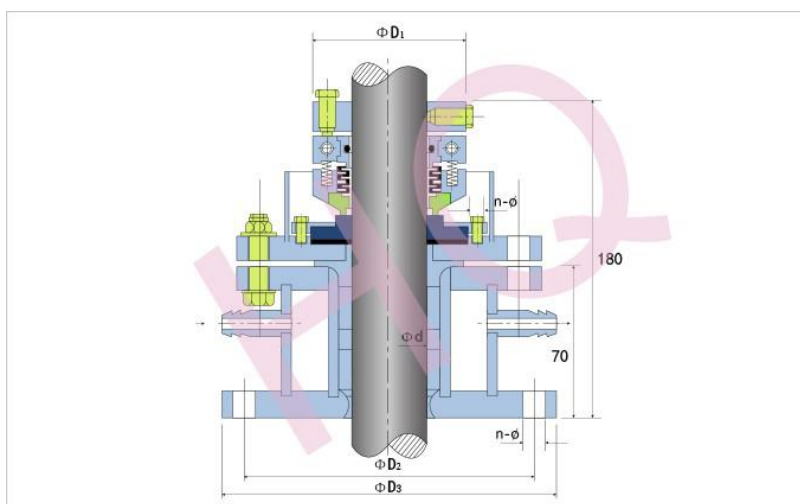
Replacement: Small spring, end surface, teflon bellows
mechanical seal

Temperature: -40°C to +150°C

Pressure: 0.6Mpa

Speed: ≤500rpm

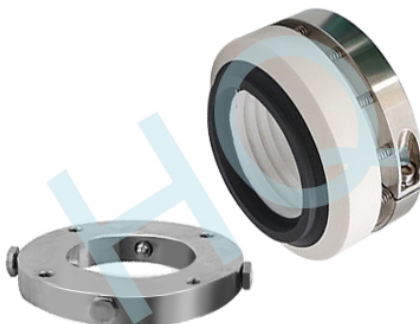
Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



69 Sizes						79 Sizes						91 Sizes				
d	D1	D2	D3	n-φ		d	D1	D2	D3	n-φ		d	D1	D2	D3	n-φ
42	90	140	170	6-φ 16		40	90	130	160	4-φ 18		40	90	130	160	4-φ 18
50	100	170	200	8-φ 16		50	100	150	185	4-φ 18		50	100	150	190	4-φ 18
60	110	190	220	10-φ 16		65	115	170	205	4-φ 18		65	115	170	210	4-φ 18
70	120	250	280	16-φ 16		80	130	200	235	8-φ 18		80	130	200	240	8-φ 18
76	130	250	280	16-φ 16		95	150	200	235	8-φ 18		95	150	225	265	8-φ 18
80	130	250	280	16-φ 16		102	150	255	290	8-φ 18		110	165	280	320	8-φ 18
89	140	250	280	16-φ 16								125	180	280	320	8-φ 18
95	150	300	330	20-φ 16								140	195	335	375	12-φ 18



HQW212F



Type: PTFE Bellow Mechanical Seal
Temperature: $\leq 450^{\circ}\text{C}$
Pressure: $\leq 0.50\text{Mpa}$
Speed: $\leq 300\text{r/min}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

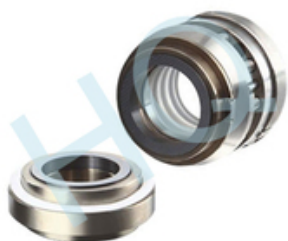


<http://www.hqseal.com>

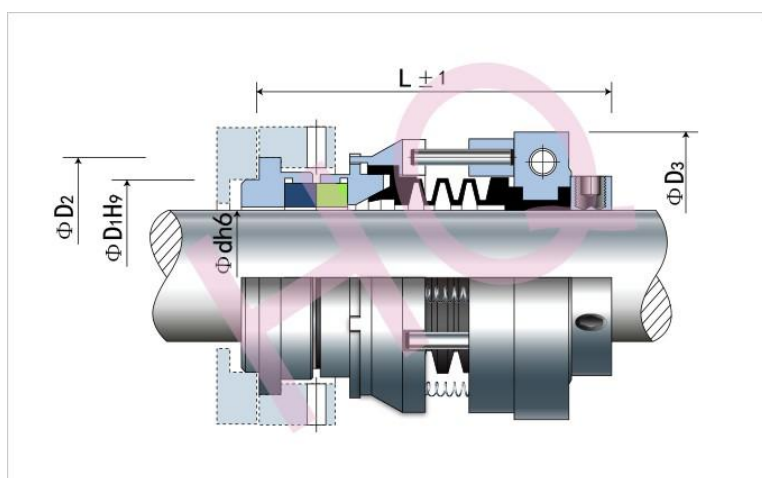


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HQ169



Type: PTFE Bellow Mechanical Seal
 Temperature: 0 to +130°C
 Pressure: $\leq 0.5\text{Mpa}$
 Speed: $\leq 14\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D2	D3	L
30	54	44	65	74.5
35	59	49	70	74.5
38	63	54	75	74.5
40	66	56	75	74.5
45	71	61	82	74.5
50	76	66	87	74.5
55	81	71	92	74.5
60	90	80	97	74.5



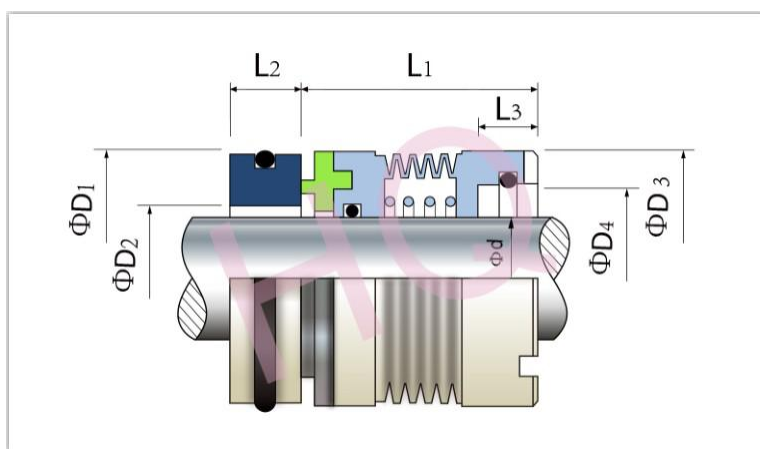
<http://www.hqseal.com>



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Type: PTFE Bellow Mechanical Seal
 Temperature: -20°C to $+120^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q2, V2, F, G, TEFLON



HQWB3-1

d (mm)	D1	D2	D3	L1	L2	L3
25	58.5	30	52	48	18	12.2

HQWB3-2

d (mm)	D1	D2	D3	L1	L2	L3
25	45	30	52	48	12	12.2



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Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWERVE	FLEXA	FLUITEN
Standard Mechanical seals:Multi-Spring Seals								
HQ8-1	-	M01S	8-1	1609S	-	-		
HQ8-1T	-	M05S	8-1T	1645S	-	-		
HQ8B1	-	M02S	8B1	1609BS	-	-		
HQ8BT	-	M06S-	8BT	1645BS	-	-		
HQ9	-	M01	109,9,909	1609	90	-		
HQ9B	-	M02	109B,9B	1609B	-	-		
HQ9-T	-	M05	9T	1645	-	-		
HQ9BT	-	M06	9BT	1645B	-	-		
HQ58B	BT-C5.KB	M04S	58B	1659BS	-	-		
HQ58U	BT-C5.KU	M03S	58U	1659S	-	-		
HQ59B	BT-C56.KB	M04	59B	1659B	-	-		
HQ59U	BT-C56.KU	M03	59U	1659	-	-		
HQRO-A	-	-	-	-	-	RO-A		
HQRO-B	-	-	-	-	-	RO-B		
HQRO-C	-	-	-	-	-	RO-C		
HQ91A	-	-	-	-	-	-		
HQ91B	-	-	-	-	-	-		
HQ91C	-	-	-	-	-	-		
HQ502		B07	502(N Seat)	1724		-		
HQ502S		B07S	502 (B0 Seat)	1724				
HQ502L		B07SL	502(BP Seat)	1724				
HQ502G		B07X						
HQ68								
HQ40/40S/40L	-	-	-	40/40S/40L	-	-		

Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWERVE	FLEXA	FLUITEN
Standard Mechanical Seals: Multi Spring Seals								
HQBT-C5E	BT-C5E							
HQBT-C7	BT-C7							
HQBT-C8	BT-C8							
HQHG201	HGH201							
HQHRN	HRN							
HQX40K	AX40K							
HQSAI		DIN SAI						
HQDV								EDV
HQTK								TZKA
Standard Mechanical Seals: Double seals								
HQH74D	H74-D	-	-					
HQM74D	M74-D	-	-					
HQX25D	AX25D							
HQ8-1D		M01SD						
HQ877					877			
HQ3A-D								UM3A- UM3A
Standard Mechanical Seals: Teflon Wedge Seals								
HQW10R/10T			10R/10T	-	-	-		
HQWB2A/WB2B	-	-	B2					
HQW20/20R			20/20R	-	-	-		

Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWERVE	FLEXA	FLUITEN
Standard Mechanical seals:Wave Spring Seals								
HQM78N	M7N/M78N	W07DM	-	1677	-	Europe 600		
HQH7N/H75	H7N/H75	-	-	-	-	-		
HQM7N/M74/M74F	M7N/M74/M74F	-	-	-	-	-		
HQJ92N	HJ92N	M010	-	-	EHS	-		
HQW01	-	W01	80(DF/FP)	1688	7K	168		
HQW01-TL	M7KS60	W01-TL	-	-	-	-		
HQW02	-	W02	-	1688L	UNITEN 7K	-		
HQW03	-	W03	87(EI/EC)	1688	-	-		
HQW03S	-	W03S	87(EI/EC)		-	-		
HQW04	-	W04	-	1688Y	-	-		
HQWP03	MG7/50-G23	WP03						
HQWP03S	MG7	WP03S						
HQWP03SX		WP03SX						
HQW12U		W12U						
HQW27U		W27U						
HQWOXU		WOXU						
HQ82	-	-	-	-	-	-		

Material Codes

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

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

Metarial Codes

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