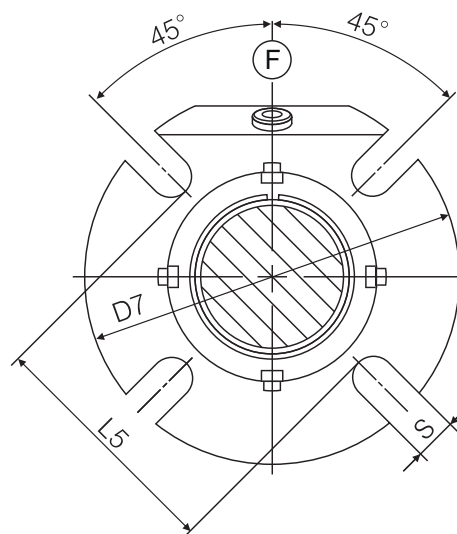
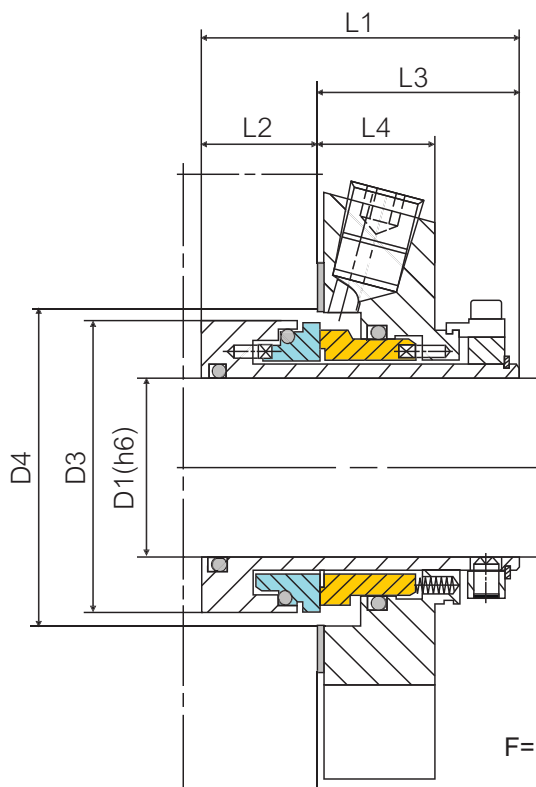


Single cartridge seal
Balanced
Massive replaceable seal rings
Independent of rotation
Stationary springs
Flushing inlet standard



F=Flushing inlet

Materials:

Rotary: Q, U

Stationary: A, B, Q, U

Rubber parts: P, E, V, K, M

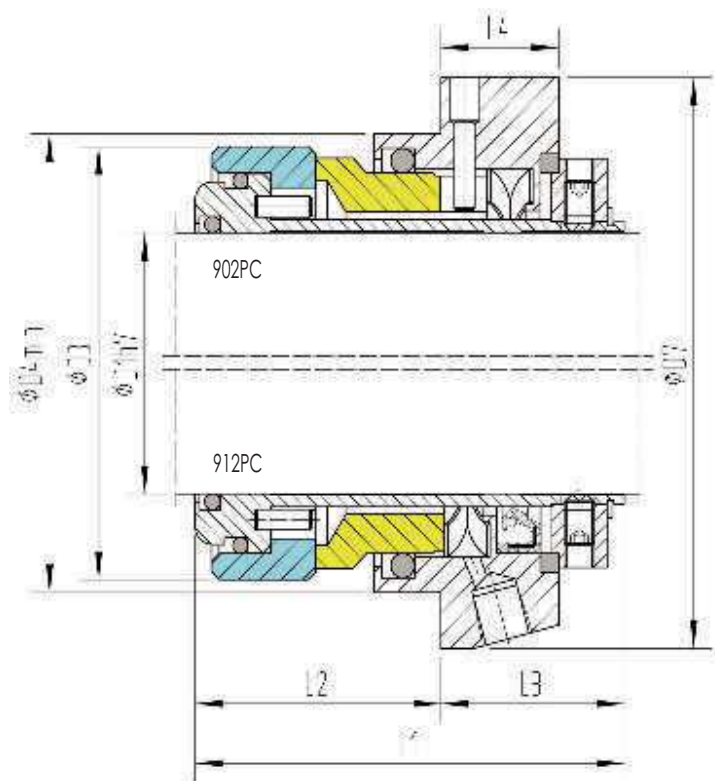
Operating limits:

(look at working conditions page 112)

p≤	25 bar
t=	-35 ÷ 220°C
v≤	10 m/s

D1	D3	D4 min	D4 max	L1	L2	L3	L4	L5	D7	S
25	43	44	51.5	67	24.6	42.4	25.4	62	105	13.2
28	46	47	52	67	24.6	42.4	25.4	62	105	13.2
30	48	49	56	67	24.6	42.4	25.4	65	110	13.2
32	49.8	51	57	67	24.6	42.4	25.4	67	110	13.2
33	49.8	51	57	67	24.6	42.4	25.4	67	113	13.2
35	53	54	61.5	67	24.6	42.4	25.4	70	123	13.2
38	56	57	66	67	24.6	42.4	25.4	75	123	14.2
40	58	59	68	67	24.6	42.4	25.4	75	133	14.2
42	60.5	61.5	69.5	67	24.6	42.4	25.4	80	133	14.2
43	60.5	61.5	70.5	67	24.6	42.4	25.4	80	138	14.2
45	62.5	64	73	67	24.6	42.4	25.4	81	138	14.2
48	65.6	57	75	67	24.6	42.4	25.4	84	148	14.2
50	68	59	78	67	24.6	42.4	25.4	87	148	18
53	72	73	87	67	24.6	42.4	25.4	97	148	18
55	73	74	83	67	24.6	42.4	25.4	90	148	18
60	78	79	91	67	24.6	42.4	25.4	102	157	18
65	84.8	85.7	98.5	67	24.6	42.4	25.4	109	163	18
70	93	95	108	67	24.6	42.4	25.4	118	178	18
75	100	101.6	118	84	26.6	57.4	28	129	190	18
80	106.4	108	124	84	26.6	57.4	28	135	195	18
85	109.5	111.1	128	84	26.6	57.4	28	139	198	22
90	115.9	117.5	135	84	26.6	57.4	28	145	205	22
95	119.1	120.7	138	84	26.6	57.4	28	148	208	22
100	125.4	127	144	84	26.6	57.4	28	154	218	22

Single working solid-cartridge seal
Balanced
Super-sinus-spring, stationary
Massive replaceable seal rings
Independent of rotation



Materials:

Rotary: Q, U

Stationary: Q, U

Rubber parts: P, E, V, K, M

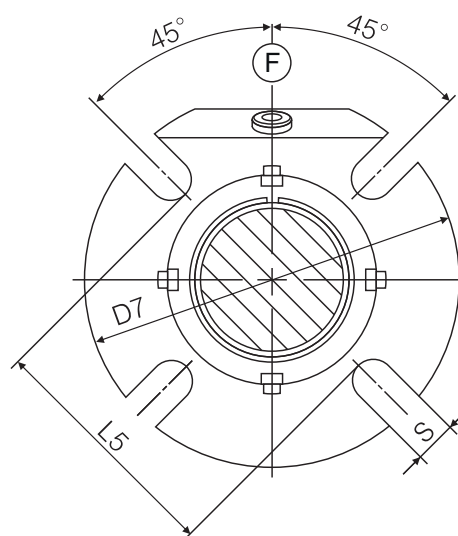
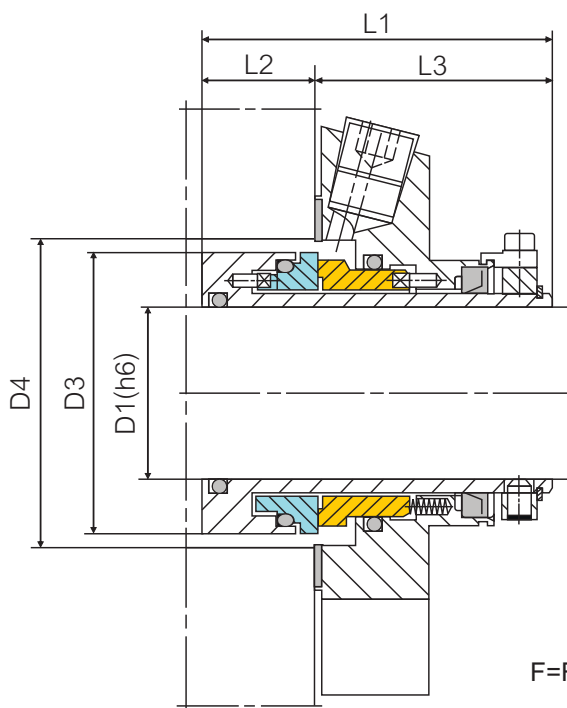
Operating limits:

(look at working conditions page 112)

$p \leq$	25 bar
$t =$	$-35 \div 220^\circ\text{C}$
$v \leq$	10 m/s

D1	D3	D4 min	L1	L2	L3	L4	D7
35	62	64	63	39	24	14	80
60	88	106	91	57	34	22	129
80	113	140	102	36	66	52	185

Single cartridge seal with unpressurized quench
With outboard lip seal
Balanced
Massive replaceable seal rings
Independent of rotation
Stationary springs



F=Flushing inlet

Materials:

Rotary: Q, U

Stationary: A, B, Q, U

Rubber parts: P, E, V, K, M

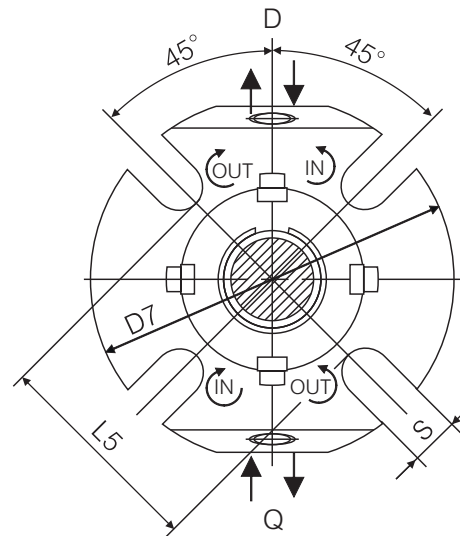
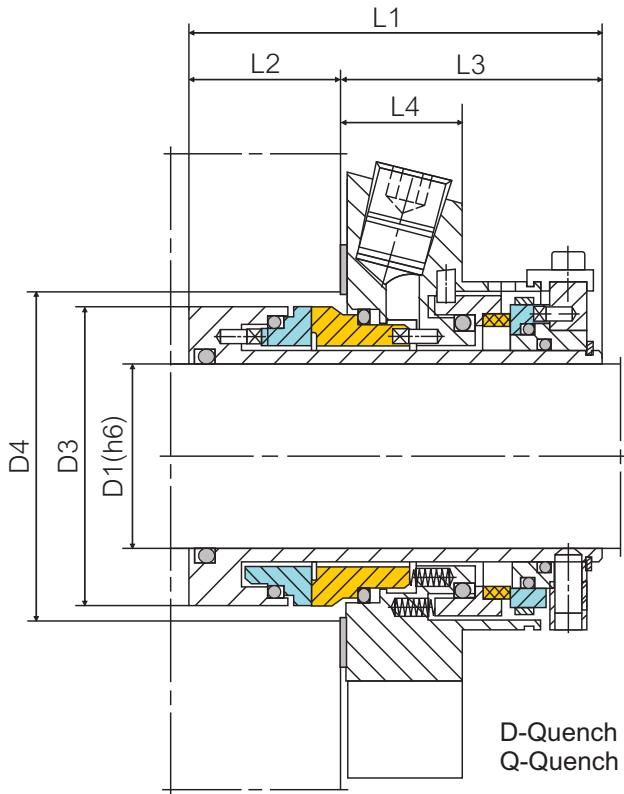
Operating limits:

(look at working conditions page 112)

$p \leq$	25 bar
$t =$	$-35 \div 220^\circ\text{C}$
$v \leq$	10 m/s

D1	D3	D4 min	D4 max	L1	L2	L3	L5	D7	S
25	43	44	51.5	79.5	26.1	53.4	62	105	13.2
28	46	47	52	79.5	26.1	53.4	62	105	13.2
30	48	49	56	79.5	26.1	53.4	65	110	13.2
32	49.8	51	57	79.5	26.1	53.4	67	110	13.2
33	49.8	51	57	79.5	26.1	53.4	67	113	13.2
35	53	54	61.5	79.5	26.1	53.4	70	123	13.2
38	56	57	66	79.5	26.1	53.4	75	123	14.2
40	58	59	68	79.5	26.1	53.4	75	133	14.2
42	60.5	61.5	69.5	79.5	26.1	53.4	80	133	14.2
43	60.5	61.5	70.5	79.5	26.1	53.4	80	138	14.2
45	62.5	64	73	79.5	26.1	53.4	81	138	14.2
48	65.6	57	75	79.5	26.1	53.4	84	148	14.2
50	68	59	78	79.5	26.1	53.4	87	148	18
53	72	73	87	79.5	26.1	53.4	97	148	18
55	73	74	83	79.5	26.1	53.4	90	148	18
60	78	79	91	79.5	26.1	53.4	102	157	18
65	84.8	85.7	98.5	79.5	26.1	53.4	109	163	18
70	93	95	108	79.5	26.1	53.4	118	178	18
75	100	101.6	118	98	34.1	63.9	129	190	18
80	106.4	108	124	98	34.1	63.9	135	195	18
85	109.5	111.1	128	98	34.1	63.9	139	198	22
90	115.9	117.5	135	98	34.1	63.9	145	205	22
95	119.1	120.7	138	98	34.1	63.9	148	208	22
100	125.4	127	144	98	34.1	63.9	154	218	22

Double working seal
Balanced
Massive replaceable seal rings
Independent of rotation
Stationary springs



D-Quench / Barrier Fluid Out
Q-Quench / Barrier Fluid IN

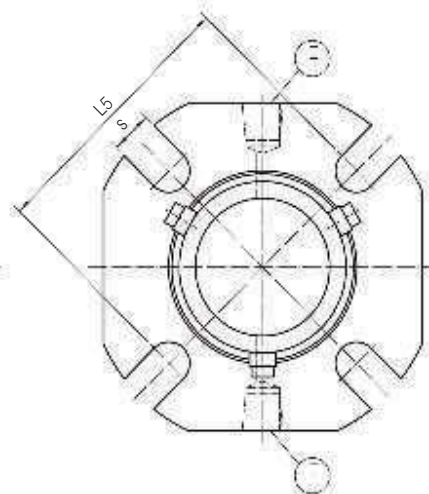
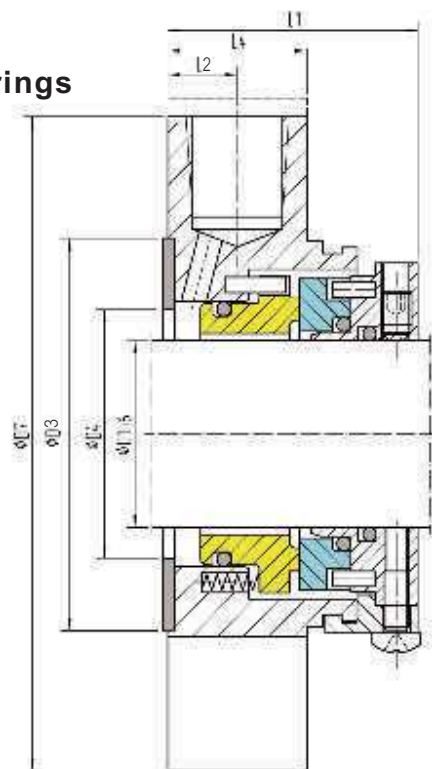
Materials:
Rotary: Q, U
Stationary: A, Q, U
Rubber parts: P, E, V, K, M

Operating limits:
(look at working conditions page 112)

p ≤	25 bar
t =	-35 ÷ 220 °C
v ≤	10 m/s

D1	D3	D4 min	D4 max	L1	L2	L3	L4	L5	D7	S
25	43	44	51.5	86.5	33.1	53.4	25.4	62	105	13.2
28	46	47	52	86.5	33.1	53.4	25.4	62	105	13.2
30	48	49	56	86.5	33.1	53.4	25.4	67	105	13.2
32	49.8	51	57	86.5	33.1	53.4	25.4	70	110	13.2
33	49.8	51	57	86.5	33.1	53.4	25.4	70	110	13.2
35	53	54	61.5	86.5	33.1	53.4	25.4	72	113	13.2
38	56	57	66	86.5	33.1	53.4	25.4	75	123	13.2
40	58	59	68	86.5	33.1	53.4	25.4	77	123	14.2
42	60.5	61.5	69.5	86.5	33.1	53.4	25.4	80	133	14.2
43	60.5	61.5	70.5	86.5	33.1	53.4	25.4	80	133	14.2
45	62.5	64	73	86.5	33.1	53.4	25.4	82	138	14.2
48	65.6	57	75	86.5	33.1	53.4	25.4	85	137	14.2
50	68	59	78	86.5	33.1	53.4	25.4	87	148	14.2
53	72	73	87	86.5	33.1	53.4	25.4	97	148	18
55	73	74	83	86.5	33.1	53.4	25.4	92	148	18
60	78	79	91	86.5	33.1	53.4	25.4	102	157	18
65	84.8	85.7	98.5	86.5	33.1	53.4	25.4	109	163	18
70	93	95	108	86.5	33.1	53.4	25.4	118	178	18
75	100	101.6	118	108	44.1	63.9	28	129	190	18
80	106.4	108	124	108	44.1	63.9	28	135	195	18
85	109.5	111.1	128	108	44.1	63.9	28	139	198	22
90	115.9	117.5	135	108	44.1	63.9	28	145	205	22
95	119.1	120.7	138	108	44.1	63.9	28	148	208	22
100	125.4	127	144	108	44.1	63.9	28	154	218	22

Shorter simple working seal
 Balanced
 Multiple springs
 Massive replaceable seal rings
 Independent of rotation
 Flushing inlet standard



F=Flushing inlet

Materials:

Rotary: Q, U

Stationary: A, B, Q, U

Rubber parts: P, E, V, K, M

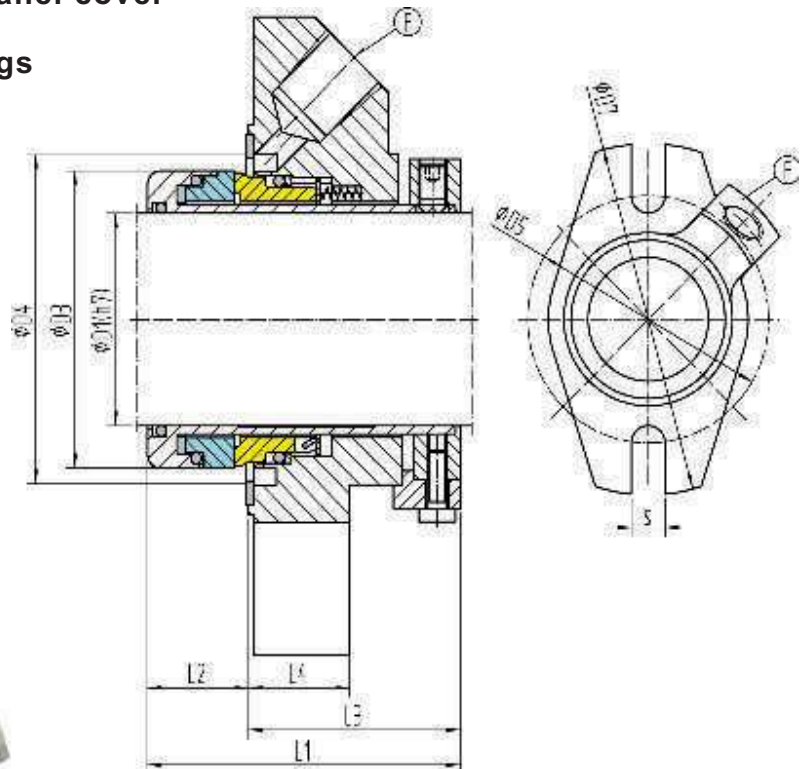
Operating limits:

(look at working conditions page 112)

$p \leq$	16 bar
$t =$	$-20 \div 160^\circ\text{C}$
$v \leq$	10 m/s

D1	D3	D4 min	D4 max	L1	L2	L4	L5	D7	S
20	58	30	51	42	12	23	60	104	12
24	58	34	51	42	12	23	60	104	12
25	58	35	51	42	12	23	60	104	12
28	63	38	54	42	12	23	65	108	12
30	63	40	56	42	12	23	65	108	12
32	63	42	56	42	12	23	65	108	12
33	73	43	66	42	12	23	75	118	14
35	73	45	66	42	12	23	75	118	14
38	73	48	66	42	12	23	75	118	14
40	73	50	66	42	12	23	75	118	14
43	78	53	71	42	12	23	80	128	14
45	78	55	71	42	12	23	80	128	14
48	88	58	81	44	12	23	90	138	14
50	88	60	81	44	12	23	90	138	14
53	88	63	81	44	12	23	90	138	14
55	88	65	81	44	12	23	90	138	14
58	103	68	96	46	12	23	105	164	18
60	103	70	96	46	12	23	105	164	18
63	103	73	96	46	12	23	105	164	18
65	103	75	96	46	12	23	105	164	18
70	109	80	102	46	12	23	111	178	18
75	121	85	114	49	12	23	123	193	18
80	121	90	114	49	12	23	123	193	18
85	131	95	124	49	12	23	133	208	20
90	131	100	124	49	12	23	133	208	20
95	141	105	134	49	12	23	143	218	20
100	141	110	134	49	12	23	143	218	20

Simple working seal with smaller cover
 Balanced
 Massive replaceable seal rings
 Independent of rotation
 Stationary springs
 Flushing inlet standard



F=Flushing inlet

Materials:

Rotary: Q, U

Stationary: A, B, Q, U

Rubber parts: P, E, V, K, M

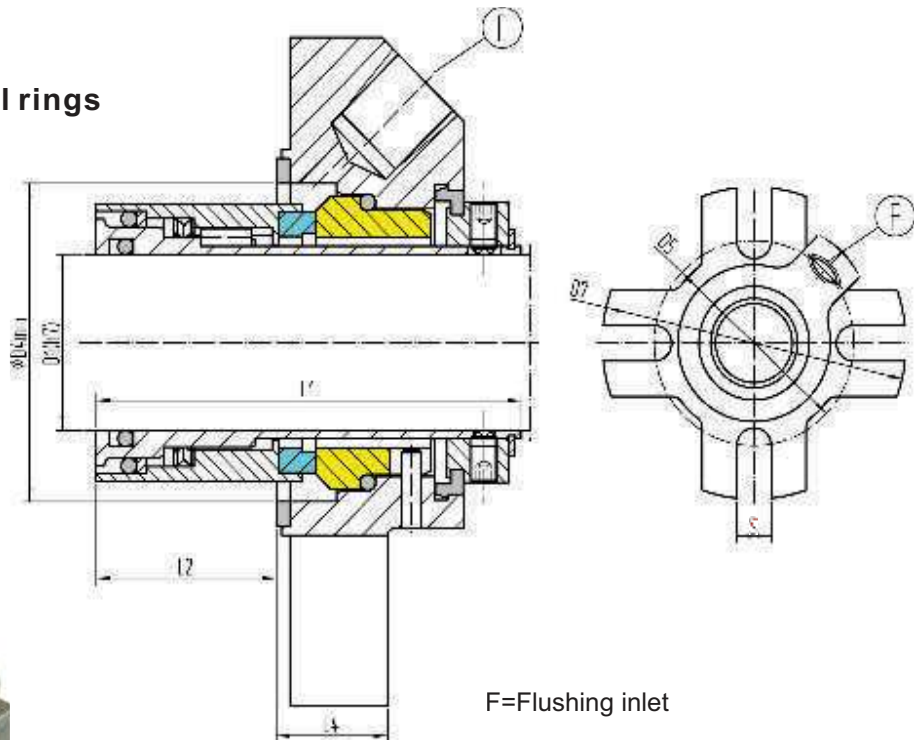
Operating limits:

(look at working conditions page 112)

p ≤	25 bar
t =	-35 ÷ 220°C
v ≤	20 m/s

D1	D3	D4 min	D4 max	L1	L2	L3	L4	D5	D7	S
24	43	44	52	68	22	46	21.5	76	104	13
25	43	44	52	68	22	46	21.5	76	104	13
28	46	47	55	68	22	46	21.5	76	104	13
30	48	49	57	68	22	46	21.5	80	110	13
32	51	52	60	68	22	46	21.5	80	110	13
33	51	52	60	68	22	46	21.5	80	110	13
35	53	54	62	68	22	46	21.5	89	128	13
38	58	59	67	68	22	46	21.5	89	128	13
40	58	59	67	68	22	46	21.5	89	128	13
42	63	64	72	68	22	46	21.5	100	142	14
43	63	64	72	68	22	46	21.5	100	142	14
45	63	64	72	68	22	46	21.5	100	142	14
48	66	69	77	68	22	46	21.5	106	154	17
50	68	70	77	68	22	46	21.5	106	154	17
53	73	75	82	68	22	46	21.5	106	154	17
55	73	75	82	68	22	46	21.5	120	172	17
58	78	80	87	68	22	46	21.5	120	172	17
60	78	80	87	68	22	46	21.5	120	172	17
-	78	80	87	68	22	46	21.5	120	172	17
63	87	90	97	70	24	46	26.5	134	180	17
65	87	90	97	70	24	46	26.5	134	180	17
68	92	95	102	70	24	46	26.5	134	180	17
70	92	95	102	70	24	46	26.5	134	180	17
-	100	105	116	83	24	46	26.5	148	200	19
75	100	105	116	83	24	46	26.5	148	200	19
-	105	110	123	83	24	46	26.5	148	200	19
80	105	110	123	83	24	46	26.5	148	200	19

Simple working seal
Balanced
Massive replaceable seal rings
Independent of rotation
Springs rotating



F=Flushing inlet

Materials:

Rotary: A, B, Q, U

Stationary: Q, U

Rubber parts: P, E, V, K, M

Operating limits:

(look at working conditions page 112)

$p \leq$ 15 bar

$t =$ $-25 \div 120^\circ\text{C}$

$v \leq$ 20m/s

D1	D4 Min.	D4 Max.	D7	D5 Min.	D5 Max.	S	L1	L2	L4	D1Inch	D4 Min.	D4 Max.	D7	D5 Min.	D5 Max.	S	L1	L2	L4
24	40.0	49.2	104.8	66.7	95.3	11.1	69.5	32.0	21.5	1,000	1.615	1.940	4.125	2.62	3.75	0.437	2.736	1.260	0.546
25	41.0	49.2	104.8	66.7	95.3	11.1	69.5	32.0	21.5	1,125	1.730	2.060	4.250	2.75	3.87	0.437	2.736	1.260	0.546
28	44.0	52.4	108.0	69.9	98.4	11.1	69.5	32.0	21.5	1,250	1.875	2.190	4.370	2.87	4.00	0.437	2.736	1.260	0.546
30	46.0	55.6	111.0	73.0	101.6	11.1	69.5	32.0	21.5	1,375	2.000	2.310	4.500	3.06	4.12	0.437	2.736	1.260	0.546
32	47.6	55.6	111.0	73.0	101.6	11.1	69.5	32.0	21.5	1,500	2.250	2.500	5.000	3.43	4.50	0.563	2.815	1.299	0.673
33	49.0	58.7	114.3	77.8	104.8	11.1	69.5	32.0	21.5	1,625	2.360	2.500	5.000	3.43	4.50	0.563	2.815	1.299	0.673
35	50.8	58.7	114.3	77.8	104.8	11.1	69.5	32.0	21.5	1,750	2.500	2.625	5.250	3.56	4.75	0.563	2.815	1.299	0.673
38	57.2	63.5	127.0	87.3	114.3	14.3	71.5	33.0	21.5	1,875	2.625	3.000	5.500	3.87	5.00	0.563	2.815	1.299	0.673
40	60.0	63.5	127.0	87.3	114.3	14.3	71.5	33.0	21.5	2,000	2.750	3.000	5.500	3.87	5.00	0.563	2.815	1.299	0.673
43	63.0	66.7	133.4	90.5	120.7	14.3	71.5	33.0	21.5	2,125	2.875	3.310	5.750	4.37	5.12	0.563	2.815	1.299	0.673
45	63.5	66.7	133.4	90.5	120.7	14.3	71.5	33.0	21.5	2,250	3.000	3.310	5.750	4.37	5.12	0.689	2.815	1.299	0.673
48	66.7	76.2	139.7	98.4	127.0	14.3	71.5	33.0	21.5	2,375	3.130	3.560	6.000	4.62	5.37	0.689	2.815	1.299	0.673
50	69.8	76.2	139.7	98.4	127.0	14.3	71.5	33.0	21.5	2,500	3.250	3.875	6.250	4.87	5.62	0.689	2.952	1.417	0.800
53	73.0	84.1	146.0	111.1	130.2	17.5	71.5	33.0	21.5	2,625	3.500	3.875	6.250	4.87	5.62	0.689	2.952	1.417	0.800
55	73.0	84.1	146.0	111.1	130.2	17.5	71.5	33.0	21.5	2,750	3.740	3.875	6.250	4.87	5.62	0.689	2.952	1.417	0.800
58	79.4	90.5	152.4	117.5	136.5	17.5	71.5	33.0	21.5	2,875	4.000	4.500	6.110	5.71	6.59	0.811	3.484	1.673	0.953
60	79.4	90.5	152.4	117.5	136.5	17.5	71.5	33.0	21.5	3,000	4.000	4.500	6.110	5.71	6.59	0.811	3.484	1.673	0.953
63	82.6	98.4	158.8	123.8	142.9	17.5	75.0	36.0	26.5	3,125	4.252	4.748	6.110	5.94	6.59	0.811	3.484	1.673	0.953
65	88.9	98.4	158.8	123.8	142.9	17.5	75.0	36.0	26.5	3,250	4.252	4.748	6.110	5.94	6.59	0.811	3.484	1.673	0.953
70	95.0	98.4	158.8	123.8	142.9	17.5	75.0	36.0	26.5	3,375	4.370	4.874	6.110	6.06	6.59	0.811	3.484	1.673	0.953
75	101.6	114.3	206.0	145.0	167.0	20.6	88.5	42.5	26.5	3,500	4.500	5.000	6.504	6.22	6.98	0.811	3.484	1.673	0.953
80	108.0	120.6	206.0	151.0	167.0	20.6	88.5	42.5	26.5	3,625	4.626	5.118	6.504	6.30	6.98	0.811	3.484	1.673	0.953
85	111.0	123.8	206.0	154.0	167.0	20.6	88.5	42.5	31.5	3,750	4.752	5.252	6.685	6.46	8.17	0.811	3.484	1.673	0.953
90	117.5	130.0	216.0	160.0	177.0	20.6	88.5	42.5	31.5	3,875	4.874	5.374	6.685	6.57	8.17	0.811	3.484	1.673	0.953
95	120.7	133.4	246.0	164.0	207.0	20.6	88.5	42.5	31.5	4,000	5.000	5.512	6.685	6.73	8.17	0.811	3.484	1.673	0.953
100	127.0	140.0	246.0	171.0	207.0	20.6	88.5	42.5	31.5	4,125	5.252	5.906	6.685	7.13	8.80	0.811	4.173	1.732	1.206
105	133.4	150.0	246.0	181.0	223.0	20.6	106.0	44.0	31.5	4,250	5.252	5.906	6.685	7.13	8.80	0.811	4.173	1.732	1.206
110	139.7	155.0	246.0	188.0	223.0	20.6	106.0	44.0	31.5	4,375	5.500	6.102	6.685	7.40	8.80	0.811	4.173	1.732	1.206
115	139.7	155.0	246.0	188.0	223.0	20.6	106.0	44.0	31.5	4,500	5.500	6.102	6.685	7.40	8.80	0.811	4.173	1.732	1.206
120	146.1	162.0	266.0	194.0	223.0	20.6	106.0	44.0	31.5	4,625	5.752	6.378	10.472	7.64	8.80	0.811	4.173	1.732	1.206
125	160.0	176.0	266.0	210.0	253.0	20.6	106.0	44.0	37.5	4,750	5.752	6.378	10.472	7.64	8.80	0.811	4.173	1.732	1.206
130	160.0	176.0	266.0	210.0	253.0	20.6	106.0	44.0	37.5	4,875	6.299	6.929	10.472	8.27	9.98	0.811	4.173	1.732	1.206
135	174.0	190.0	296.0	226.0	275.0	23.8	106.0	44.0	37.5	5,000	6.299	6.929	10.472	8.27	9.98	0.811	4.173	1.732	1.206
140	174.0	190.0	296.0	226.0	275.0	23.8	106.0	44.0	37.5	5,125	6.299	6.929	10.472	8.27	9.98	0.811	4.173	1.732	1.206
										5,250	6.850	7.480	11.654	8.90	10.84	0.937	4.173	1.732	1.206
										5,375	6.850	7.480	11.654	8.90	10.84	0.937	4.173	1.732	1.206
										5,500	6.850	7.480	11.654	8.90	10.84	0.937	4.173	1.732	1.206
										5,625	6.850	7.480	11.654	8.90	10.84	0.937	4.173	1.732	1.206