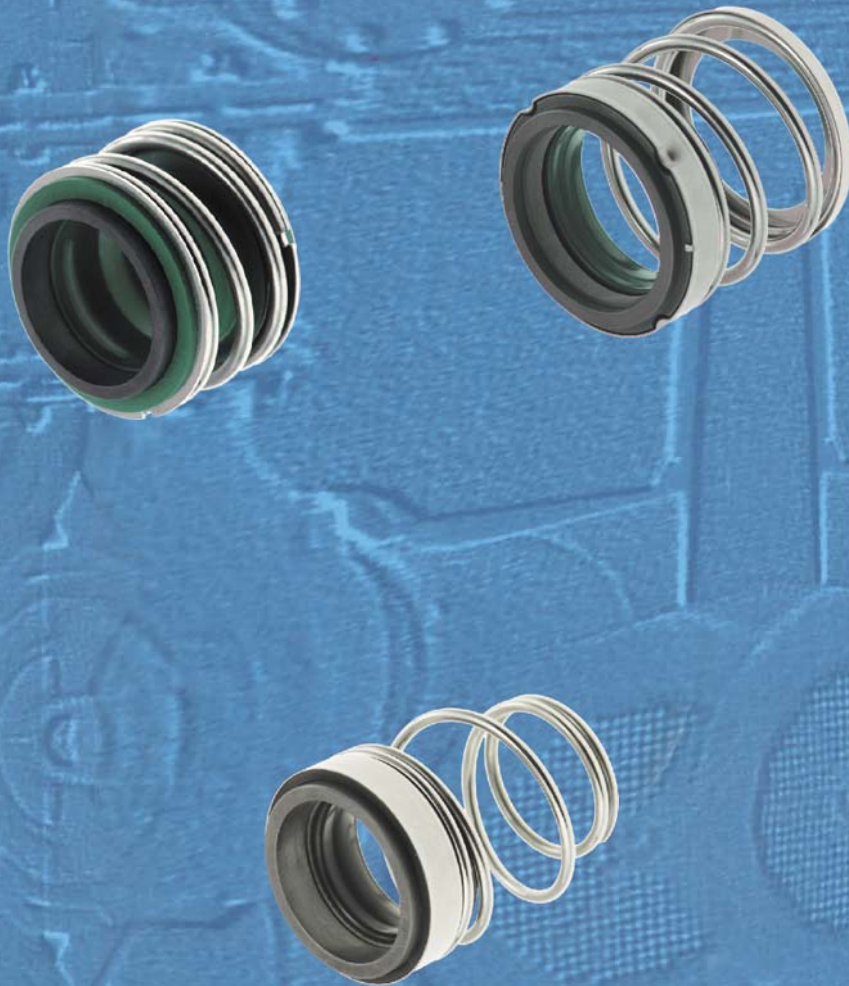


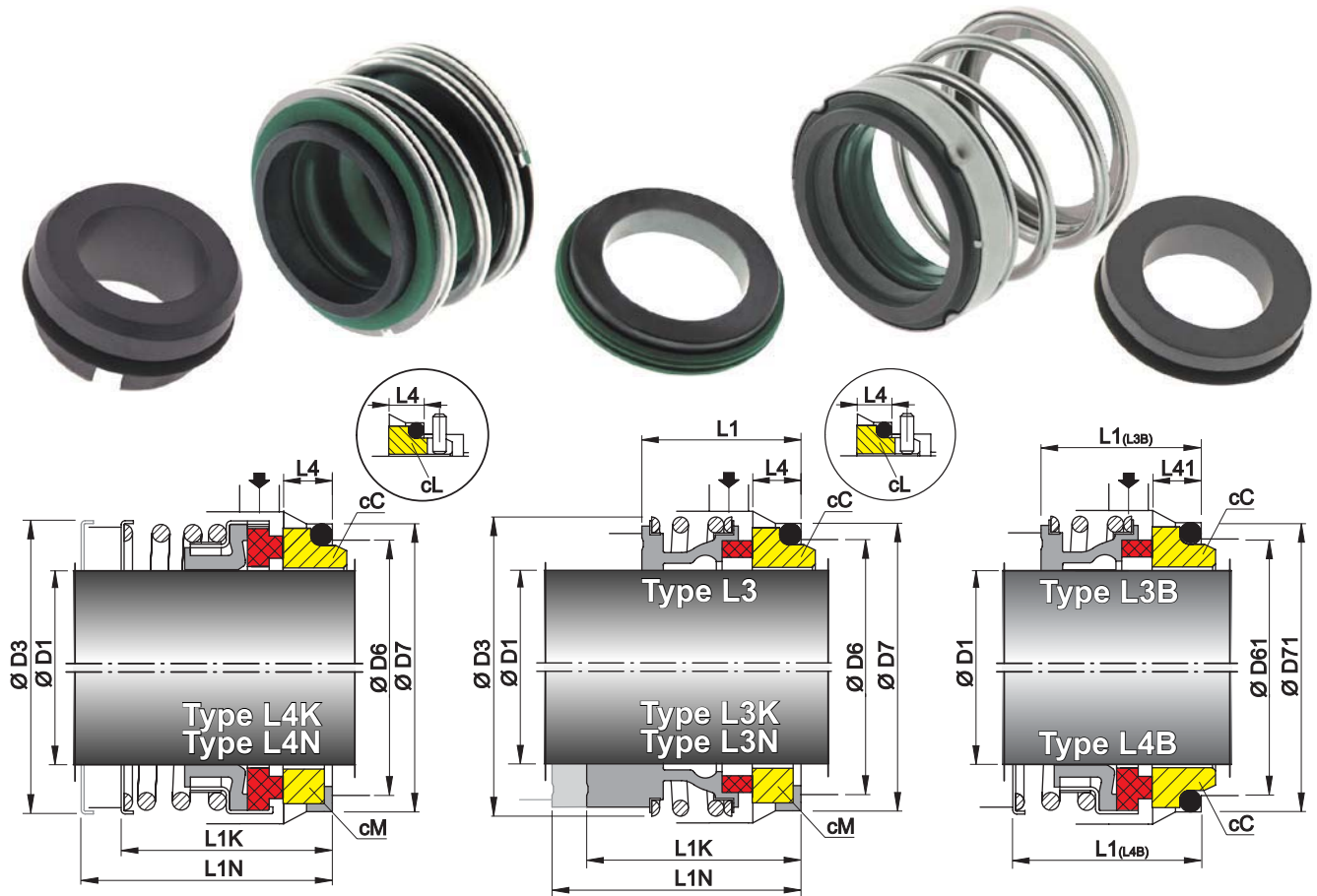
RUBBER BELLOW-MECHANICAL SEALS

robust single seal
unbalanced
bidirectional
shaft protecting
easy mounting



ROTEN-MSG

Type L3-L3K-L3N-L3B-L4K-L4N-L4B



Installing dimensions acc. to EN 12756 (DIN 24960) and Standard

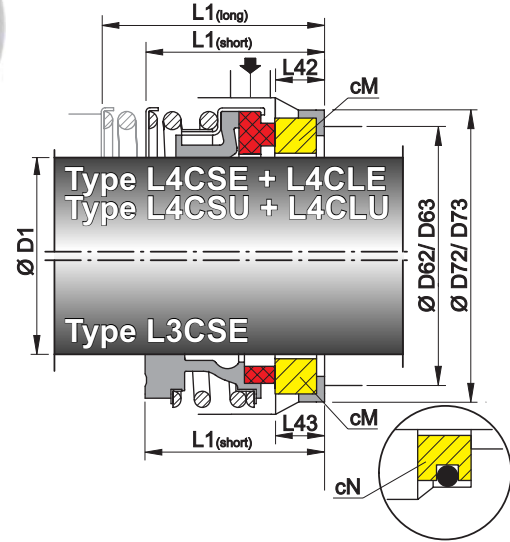
D1	D3 _{L3}	D3 _{L4}	D6	D7	L1	L1 _K	L1 _N	L4 _{cC/cM}	L4 _{cL} *
10	22,5	21	17	21	21,1	32,5	40	6,6	10,0
12	25,0	22	19	23	21,6	32,5	40	6,6	10,0
14	28,5	25	21	25	23,6	35,0	40	6,6	10,0
15	28,5	27	23	27	23,6	-	-	6,6	-
16	28,5	27	23	27	23,6	35,0	40	6,6	10,0
18	32,0	31	27	33	27,0	37,5	45	7,5	11,5
20	37,0	32	29	35	29,0	37,5	45	7,5	11,5
22	37,0	34	31	37	29,0	37,5	45	7,5	11,5
24	42,5	39	33	39	30,0	40,0	50	7,5	11,5
25	42,5	39	34	40	30,5	40,0	50	7,5	11,5
28	49,0	43	37	43	34,0	42,5	50	7,5	11,5
30	49,0	44	39	45	34,0	42,5	50	7,5	11,5
32	53,5	46	42	48	35,0	42,5	55	7,5	11,5
33	53,5	47	42	48	35,0	42,5	55	7,5	11,5
35	57,0	50	44	50	36,0	42,5	55	7,5	11,5
38	59,0	53	49	56	39,0	45,0	55	9,0	14,0
40	62,0	56	51	58	39,0	45,0	55	9,0	14,0
43	65,5	59	54	61	39,0	45,0	60	9,0	14,0
45	68,0	62	56	63	39,0	45,0	60	9,0	14,0
48	70,5	65	59	66	39,5	45,0	60	9,0	14,0
50	74,0	68	62	70	40,0	47,5	60	9,5	15,0
53	78,5	71	65	73	44,0	47,5	70	11,0	15,0
55	81,0	72	67	75	46,0	47,5	70	11,0	15,0
58	85,5	79	70	78	48,0	52,5	70	11,0	15,0
60	88,5	79	72	80	49,0	52,5	70	11,0	15,0
63	92,5	82	75	83	55,0	52,5	70	11,0	15,0
65	93,5	85	77	85	51,0	52,5	80	11,0	15,0
68	96,5	90	81	90	51,3	52,5	80	11,3	18,0
70	99,5	90	83	92	51,3	60,0	80	11,3	18,0
75	107,0	97	88	97	51,3	60,0	80	11,3	18,0
80	112,0	104	95	105	52,0	60,0	90	12,0	18,2
85	120,0	108	100	110	55,0	60,0	90	14,0	18,2
90	127,0	112	105	115	59,0	65,0	90	14,0	18,2
95	132,0	120	110	120	60,0	65,0	90	14,0	17,2
100	137,0	124	115	125	61,0	65,0	90	14,0	17,2

D61	D71	L1 _(L3B)	L1 _(L4B)	L41
15,5	19,2	21,1	22,6	6,6
17,5	21,6	20,6	23,1	5,6
20,5	24,6	22,6	23,1	5,6
20,5	24,6	23,6	24,1	6,6
22,0	28,0	24,5	26,5	7,5
24,0	30,0	27,5	28,5	8,0
29,5	35,0	29,0	29,5	7,5
29,5	35,0	29,0	31,0	7,5
32,0	38,0	30,0	32,5	7,5
32,0	38,0	30,5	34,0	7,5
36,0	42,0	35,5	35,5	9,0
39,2	45,0	37,0	35,5	10,5
42,2	48,0	38,0	39,0	10,5
44,2	50,0	38,5	39,5	11,0
46,2	52,0	39,5	39,5	11,0
49,2	55,0	40,3	42,5	10,3
52,2	58,0	40,8	45,5	10,8
53,3	62,0	42,0	48,0	12,0
55,3	64,0	41,6	50,8	11,6
59,7	68,4	42,1	56,3	11,6
60,8	69,3	42,1	57,3	11,6
63,8	72,3	45,3	60,3	12,3
66,5	75,4	48,3	62,3	13,3
69,5	78,4	50,3	65,3	13,3
71,5	80,4	51,3	66,3	13,3
74,5	83,4	53,3	-	13,3
76,5	85,4	53,0	67,3	13,0
82,7	91,5	53,7	69,0	13,7
83,0	92,0	53,0	69,3	13,0
90,2	99,0	54,0	70,3	14,0
95,2	104,0	55,0	74,3	15,0
100,2	109,0	55,8	-	14,8
105,2	114,0	59,8	-	14,8
111,6	120,3	61,8	-	15,8
114,5	123,3	62,8	-	15,8

* in case of stationary type cL the length L1, L1K and L1N will exceed

Subject to change

Type L3CSE Type L4CSE - L4CLE - L4CSU - L4CLU



Installing dimensions according to Inch-Standards

Type L3CSE - L4CSE - L4CLE Version "E" Europe Standard						
D1 (metr.)	D1 (Inch)	D62	D72	L1 (short)	L1 (long)	L42
10	0,375"	11,0	24,60	34,0	53,0	9,0
12	0,500"	13,5	27,80	34,0	53,0	9,0
14		17,0	30,95	35,5	54,5	10,5
15		17,0	30,95	35,5	54,5	10,5
16	0,625"	17,0	30,95	35,5	54,5	10,5
18	0,750"	20,0	34,15	35,5	54,5	10,5
20		21,5	35,70	35,5	54,5	10,5
22	0,875"	23,0	37,30	35,5	54,5	10,5
24		26,5	40,50	35,5	54,5	10,5
25	1,000"	26,5	40,50	35,5	54,5	10,5
28	1,125"	29,5	47,65	45,0	72,0	12,0
30		32,5	50,80	45,0	72,0	12,0
32	1,250"	32,5	50,80	45,0	72,0	12,0
33		36,5	54,00	45,0	72,0	12,0
35	1,375"	36,5	54,00	45,0	72,0	12,0
38	1,500"	39,5	57,15	45,0	72,0	12,0
40	1,625"	42,5	60,35	45,0	72,0	12,0
43	1,750"	46,0	63,50	53,0	83,0	12,0
45		46,0	63,50	53,0	83,0	12,0
48	1,875"	49,0	66,70	53,0	83,0	12,0
50	2,000"	52,0	69,85	54,5	84,5	13,5
53	2,125"	55,5	73,05	54,5	84,5	13,5
55	2,250"	58,5	76,20	54,5	84,5	13,5
58		61,5	79,40	54,5	84,5	13,5
60	2,375"	61,5	79,40	54,5	84,5	13,5
	2,500"	65,0	82,55	54,5	84,5	13,5
65	2,625"	68,0	92,10	65,0	86,0	16,0
68		71,0	95,25	65,0	86,0	16,0
70	2,750"	71,0	95,25	65,0	86,0	16,0
	2,875"	74,5	98,45	68,0	89,0	16,0
75	3,000"	77,5	101,60	68,0	89,0	16,0
	3,125"	80,5	111,15	76,0	99,0	20,0
80	3,250"	84,0	114,30	76,0	99,0	20,0
85	3,375"	87,0	117,50	76,0	99,0	20,0
	3,500"	90,5	120,65	76,0	99,0	20,0
90	3,625"	93,5	123,85	79,0	103,0	20,0
95	3,750"	96,5	127,00	79,0	103,0	20,0
	3,875"	100,0	130,20	82,0	106,0	20,0
100	4,000"	103,0	133,35	82,0	106,0	20,0

Subject to change

Type L4CSU - L4CLU Version "U" US-Standard					
D1 (Inch)	D63	D73	L1 (short)	L1 (long)	L43
0,375"	0,625	0,875	1,125	1,500	0,313
0,500"	0,750	1,000	1,125	1,500	0,313
0,625"	0,937	1,250	1,281	1,718	0,406
0,750"	1,062	1,375	1,281	1,718	0,406
0,875"	1,187	1,500	1,343	1,781	0,406
1,000"	1,312	1,625	1,437	2,000	0,437
1,125"	1,437	1,750	1,500	2,062	0,437
1,250"	1,563	1,875	1,500	2,062	0,437
1,375"	1,687	2,000	1,562	2,124	0,437
1,500"	1,813	2,125	1,562	2,124	0,437
1,625"	2,000	2,375	1,875	2,500	0,500
1,750"	2,125	2,500	1,875	2,500	0,500
1,875"	2,250	2,625	2,000	2,625	0,500
2,000"	2,375	2,750	2,000	2,625	0,500
2,125"	2,375	3,000	2,249	2,937	0,562
2,250"	2,437	3,125	2,249	2,937	0,562
2,375"	2,563	3,250	2,375	3,062	0,562
2,500"	2,687	3,375	2,375	3,062	0,562
2,625"	2,812	3,375	2,562	3,375	0,625
2,750"	2,937	3,500	2,562	3,375	0,625
2,875"	3,062	3,750	2,687	3,500	0,625
3,000"	3,187	3,875	2,687	3,500	0,625
3,125"	3,312	4,000	2,968	3,906	0,781
3,250"	3,437	4,125	2,968	3,906	0,781
3,375"	3,562	4,250	2,968	3,906	0,781
3,500"	3,687	4,375	2,968	3,906	0,781
3,625"	3,812	4,500	3,093	4,031	0,781
3,750"	3,937	4,625	3,093	4,031	0,781
3,875"	4,062	4,750	3,218	4,156	0,781
4,000"	4,187	4,875	3,218	4,156	0,781

Subject to change

Type L352K Type L321 - L321K - L321N



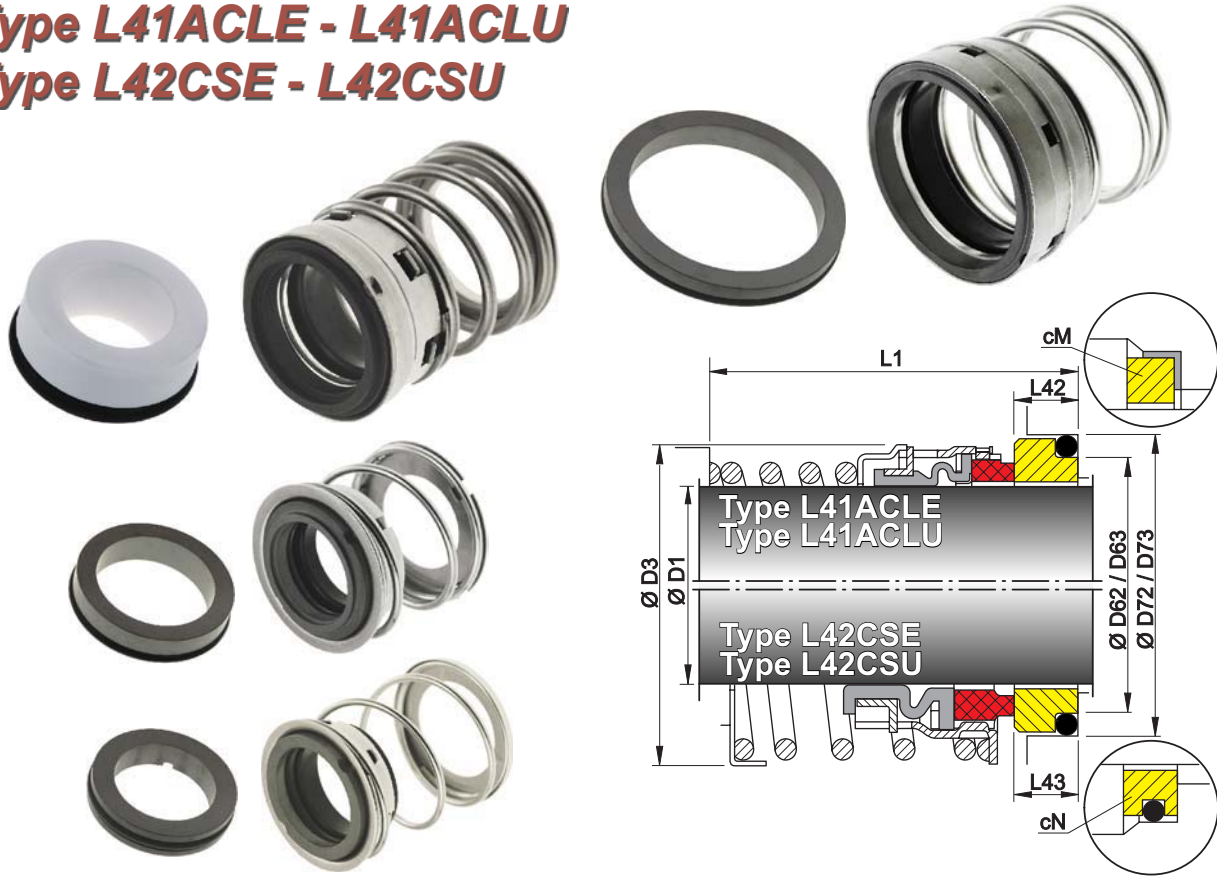
Installing dimensions acc. to EN 12756 (DIN 24960)

D1	D3 _{L352K}	D3 _{L321}	L1	L1 _K	L1 _N	L44	L45	D6	D7
10	-	20	20,0	32,5	40	-	5,0	17	21
12	-	22	21,0	32,5	40	-	6,0	19	23
14	24	24	21,0	35,0	40	12,0	6,0	21	25
15	-	25	21,0	-	-	-	6,0	23	27
16	26	26	21,0	35,0	40	12,0	6,0	23	27
18	32	32	26,0	37,5	45	13,5	6,0	27	33
20	34	34	26,0	37,5	45	13,5	6,0	29	35
22	36	36	26,0	37,5	45	13,5	6,0	31	37
24	38	38	26,0	40,0	50	13,5	6,0	33	39
25	39	39	26,0	40,0	50	13,0	6,0	34	40
28	42	42	32,0	42,5	50	12,5	6,0	37	43
30	44	44	33,0	42,5	50	12,0	7,0	39	45
32	46	46	33,0	42,5	55	12,0	7,0	42	48
33	47	47	33,0	42,5	55	12,0	7,0	42	48
35	49	49	34,0	42,5	55	12,0	8,0	44	50
38	54	54	38,0	45,0	55	13,0	8,0	49	56
40	56	56	38,0	45,0	55	13,0	8,0	51	58
43	59	59	38,0	45,0	60	13,0	8,0	54	61
45	61	61	38,0	45,0	60	13,0	8,0	56	63
48	64	64	40,0	45,0	60	13,0	10,0	59	66
50	66	66	40,0	47,5	60	13,5	10,0	62	70
53	69	69	40,0	47,5	70	13,5	10,0	65	73
55	71	71	40,0	47,5	70	13,5	10,0	67	75
58	78	78	43,0	52,5	70	13,5	10,0	70	78
60	80	80	45,0	52,5	70	13,5	12,0	72	80
63	83	83	45,0	52,5	70	13,5	12,0	75	83
65	85	85	45,0	52,5	80	13,5	12,0	77	85
68	88	88	45,0	52,5	80	13,5	12,0	81	90
70	89	90	45,0	60,0	80	14,5	12,0	83	92
75	96	99	52,0	60,0	80	14,5	12,0	88	97
80	104	104	52,5	60,0	90	15,0	12,5	95	105
85	108	109	52,5	60,0	90	15,0	12,5	100	110
90	114	114	52,5	65,0	90	15,0	12,5	105	115
95	118	119	52,5	65,0	90	15,0	12,5	110	120
100	124	124	52,5	65,0	90	15,0	12,5	115	125

Subject to change

Other dimensions, operating limits and materials on request

Type L41ACLE - L41ACLU Type L42CSE - L42CSU



Installing dimensions according to Inch-Standards

Type L41ACLE - L42CSE Version "E" Europe Standard								
D1 (mm)	D1 (Inch)	D3 (L41A)	D3 (L42)	L1 (L41A)	L1 (L42)	D62	D72	L42
12	0,500"	27	32	53,0	34,0	13,5	27,80	9,0
14		29	35	53,0	34,0	17,0	30,95	9,0
15		29	35	54,5	35,5	17,0	30,95	10,5
16	0,625"	29	35	54,5	35,5	17,0	30,95	10,5
18	0,750"	32	40	54,5	35,5	20,0	34,15	10,5
20		33	41	54,5	35,5	21,5	35,70	10,5
22	0,875"	35	43	54,5	35,5	23,0	37,30	10,5
24		38	47	54,5	35,5	26,5	40,50	10,5
25	1,000"	38	47	54,5	35,5	26,5	40,50	10,5
28	1,125"	46	56	72,0	45,0	29,5	47,65	12,0
30		49	59	72,0	45,0	32,5	50,80	12,0
32	1,250"	49	59	72,0	45,0	32,5	50,80	12,0
35	1,375"	52	63	72,0	45,0	36,5	54,00	12,0
38	1,500"	56	67	72,0	45,0	39,5	57,15	12,0
40	1,625"	59	71	72,0	45,0	42,5	60,35	12,0
43	1,750"	62	74	83,0	53,0	46,0	63,50	12,0
45		62	74	83,0	53,0	46,0	63,50	12,0
48	1,875"	65	77	83,0	53,0	49,0	66,70	12,0
50	2,000"	68	81	84,5	54,5	52,0	69,85	13,5
53	2,125"	75	88	84,5	54,5	55,5	73,05	13,5
55	2,250"	75	88	84,5	54,5	58,5	76,20	13,5
60	2,375"	78	91	84,5	54,5	61,5	79,40	13,5
63	2,500"	86	100	84,5	54,5	65,0	82,55	13,5
65	2,625"	86	100	86,0	65,0	68,0	92,10	16,0
68		89	103	86,0	65,0	71,0	95,25	16,0
70	2,750" 2,875"	89 92	103 108	86,0 89,0	65,0 68,0	71,0 74,5	95,25 98,45	16,0 16,0
75	3,000"	95	111	89,0	68,0	77,5	101,60	16,0
	3,125"	102	118	99,0	76,0	80,5	111,15	20,0
80	3,250"	105	121	99,0	76,0	84,0	114,30	20,0
85	3,375" 3,500" 3,625"	108 111 114	125 128 131	103,0 103,0 103,0	76,0 76,0 79,0	87,0 90,5 93,5	117,50 120,65 123,85	20,0 20,0 20,0
90								
95	3,750" 3,875"	118 121	134 139	103,0 106,0	79,0 82,0	96,5 100,0	127,00 130,20	20,0 20,0
100	4,000"	124	142	106,0	82,0	103,0	133,35	20,0

Subject to change

Type L41ACLU - L42CSU Version "U" US-Standard					
D1 (Inch)	L1 (L41A)	L1 (L42)	D63	D73	L43
0,375"	1,500"	1,125"	0,625"	0,875"	0,313"
0,500"	1,500"	1,125"	0,750"	1,000"	0,313"
0,625"	1,718"	1,281"	0,937"	1,250"	0,406"
0,750"	1,718"	1,281"	1,062"	1,375"	0,406"
0,875"	1,781"	1,343"	1,187"	1,500"	0,406"
1,000"	2,000"	1,437"	1,312"	1,625"	0,437"
1,125"	2,062"	1,500"	1,437"	1,750"	0,437"
1,250"	2,062"	1,500"	1,563"	1,875"	0,437"
1,375"	2,124"	1,562"	1,687"	2,000"	0,437"
1,500"	2,124"	1,562"	1,813"	2,125"	0,437"
1,625"	2,500"	1,875"	2,000"	2,375"	0,437"
1,750"	2,500"	1,875"	2,125"	2,500"	0,500"
1,875"	2,625"	2,000"	2,250"	2,625"	0,500"
2,000"	2,625"	2,000"	2,375"	2,750"	0,500"
2,125"	2,937"	2,249"	2,375"	3,000"	0,562"
2,250"	2,937"	2,249"	2,437"	3,125"	0,562"
2,375"	3,062"	2,375"	2,563"	3,250"	0,562"
2,500"	3,062"	2,375"	2,687"	3,375"	0,562"
2,625"	3,375"	2,562"	2,812"	3,375"	0,625"
2,750"	3,375"	2,562"	2,937"	3,500"	0,625"
2,875"	3,500"	2,687"	3,062"	3,500"	0,625"
3,000"	3,500"	2,687"	3,187"	3,875"	0,625"
3,125"	3,906"	2,968"	3,312"	4,000"	0,781"
3,250"	3,906"	2,968"	3,437"	4,125"	0,781"
3,375"	3,906"	2,968"	3,562"	4,250"	0,781"
3,500"	3,906"	2,968"	3,687"	4,375"	0,781"
3,625"	4,031"	3,093"	3,812"	4,500"	0,781"
3,750"	4,031"	3,093"	3,937"	4,625"	0,781"
3,875"	4,156"	3,218"	4,062"	4,750"	0,781"
4,000"	4,156"	3,218"	4,187"	4,875"	0,781"

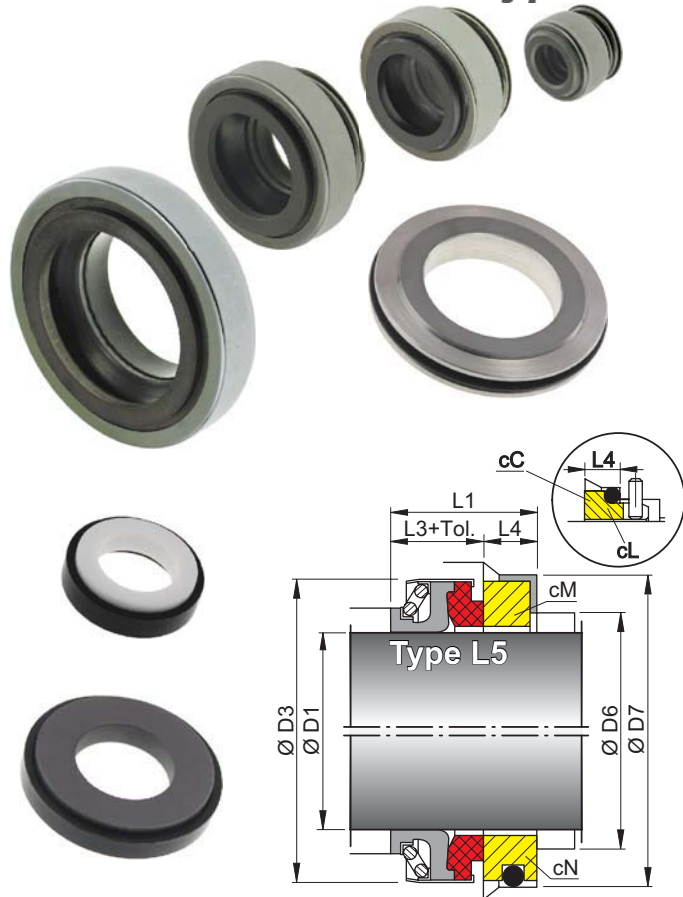
Subject to change

Installation dimensions according to standard

D1	D3	D6	D7	L1	L3	Tol.	L4
6	18	8	22	12,0	8	0,5	4,0
8	20/24	10	22/26	16,5	11	0,5	5,5
10	24	12	26	19,0	11	0,5	8,0
11	24	13	26	19,0	11	0,5	8,0
12	24	14	26	19/16,5	11	0,5	8/5,5
12	24	14	26	21/18,5	13	0,5	8/5,5
13	24	15	26	21,0	13	0,7	8,0
14	32	16	29,5/38	21,0	13	0,7	8,0
15	32/35	17	29,5/38	21,0	13	0,7	8,0
16	32/35	18	29,5/38	21,0	13	0,7	8,0
17	39	19	42	21,0	13	0,7	8,0
18	39	20	42	21,0	13	0,7	8,0
19	39	21	42	21,0	13	0,7	8,0
20	39/42	22	42/45	21/23	13	0,7	8/10
22	42	24	45	23,0	13	0,7	10,0
23	47	25	50	24,0	14	1,0	10,0
24	47	26	50	24,0	14	1,0	10,0
25	42/47	27	50	24,0	14	1,0	10,0
28	54	31	57	25,0	15	1,0	10,0
30	54	33	57	25,0	15	1,0	10,0
32	54	35	57	25,0	15	1,0	10,0
35	60	38	63	26,0	16	1,0	10,0
38	65	41	68	29,0	17	1,0	12,0
40	65	43	68	29,0	17	1,0	12,0
45	70	48	73	32,0	20	1,0	12,0
50	85	53	88	35,0	20	1,0	15,0
60	105	65	110	45,0	30	2,0	15,0
65	105	70	110	47,0	30	2,0	15,0
70	105	75	110	47,0	32	2,0	15,0

Subject to change

Type L5



Installation dimensions according to EN 12756 (DIN 24960)

D1	D3	D6	D7	L _{1K}	L ₄ _{c/cM}	L ₄ _{cL} *
10	19,6	17	21	32,5	6,6	10,0
12	21,6	19	23	32,5	6,6	10,0
14	24,0	21	25	35,0	6,6	10,0
15	25,0	23	27	-	6,6	-
16	26,5	23	27	35,0	6,6	10,0
18	29,0	27	33	37,5	7,5	11,5
20	31,5	29	35	37,5	7,5	11,5
22	33,0	31	37	37,5	7,5	11,5
24	37,0	33	39	40,0	7,5	11,5
25	38,0	34	40	40,0	7,5	11,5
28	41,0	37	43	42,5	7,5	11,5
30	43,0	39	45	42,5	7,5	11,5
32	45,0	42	48	42,5	7,5	11,5
33	46,0	42	48	42,5	7,5	11,5
35	48,0	44	50	42,5	7,5	11,5
38	52,5	49	56	45,0	9,0	14,0
40	55,5	51	58	45,0	9,0	14,0
43	58,5	54	61	45,0	9,0	14,0
45	60,5	56	63	45,0	9,0	14,0
48	64,0	59	66	45,0	9,0	14,0
50	66,0	62	70	47,5	9,5	15,0
53	69,0	65	73	47,5	11,0	15,0
55	71,0	67	75	47,5	11,0	15,0
58	76,0	70	78	52,5	11,0	15,0
60	78,0	72	80	52,5	11,0	15,0
63	82,0	75	83	52,5	11,0	15,0
65	84,0	77	85	52,5	11,0	15,0
68	87,0	81	90	52,5	11,3	18,0
70	89,0	83	92	60,0	11,3	18,0
75	95,0	88	97	60,0	11,3	18,0
80	101,5	95	105	60,0	12,0	18,2
85	108,0	100	110	60,0	14,0	18,2
90	111,5	105	115	65,0	14,0	18,2
95	118,0	110	120	65,0	14,0	17,2
100	122,5	115	125	65,0	14,0	17,2

* in case of stationary type cL the length L_{1K} will exceed Subject to change

Type L6K



Other dimensions, operating limits and materials on request

Installing dimensions

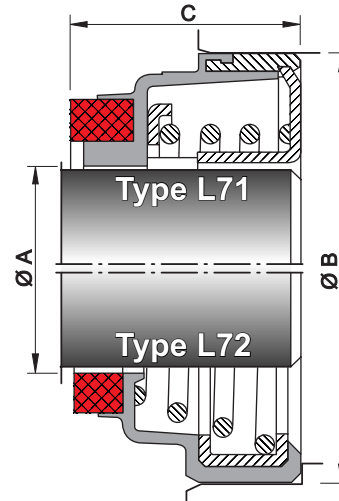
A	B	C
13,0	30	15
17,0	35	16
21,0	40	17
22,0	42	18
27,0	47	19
32,5	52	20
37,0	60	20
42,0	65	22

7,0	20	8
10,0	24	10
10,6	30	15
13,0	30	15
13,0	32/34	12
17,5	35	16

Subject to change



Type L7



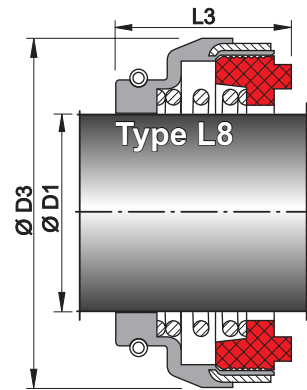
Installing dimensions

D1	D3	L3
6	18,0	10
10	24,0	16
12	26,0	16
14	28,0	16
15	30,0	16
16	33,0	18
18	36,0	18
20	38,0	18
22	40,0	20
24	43,0	20
25	44,0	20
28	47,0	22
30	50,0	22
32	53,0	26
35	56,5	26
38	59,0	26
40	61,0	26
45	73,0	26
50	78,0	26
65	95,0	30
70	100,0	30

Subject to change



Type L8



Installing dimensions

metric

D1	D3	D7	L1	L4	L5
13	28,5	25,0	13,2	5,0	8,0
13	28,5	25,4	13,8	7,9	8,0
17	36,4	31,0	14,8	5,0	8,0
17	36,4	31,7	15,4	10,3	8,0
20	40,0	35,0	15,5	5,0	9,5
20	40,0	34,9	15,4	10,3	9,5
30	52,0	48,0	19,0	8,0	11,0

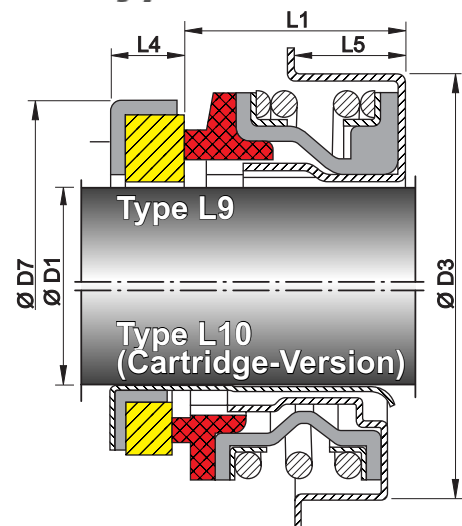
Inch

D1	D3	D7	L1	L4	L5
0,500	1,125	0,985	0,520	0,197	0,315
0,500	1,125	1,000	0,543	0,312	0,315
0,625	1,435	1,220	0,583	0,197	0,315
0,625	1,435	1,250	0,605	0,406	0,315
0,750	1,575	1,378	0,610	0,197	0,374
0,750	1,575	1,375	0,605	0,406	0,374
1,125	2,047	1,890	0,748	0,315	0,433

Subject to change



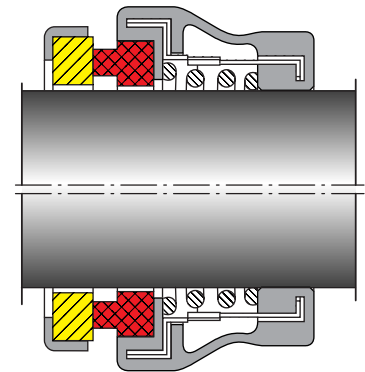
Type L9 Type L10



Further special versions



Special version with a spring, product protected



Our own rubber molding production (certified qualities)



Tel. +49-(0) 6400-8004
Fax. +49-(0) 6400-8224
E-Mail: info@roten-msg.de
Internet: www.roten-msg.de

ROTEN-MSG

Dichtungen GmbH

An der Ohm 7 • 35325 Mücke-Wettsaasen