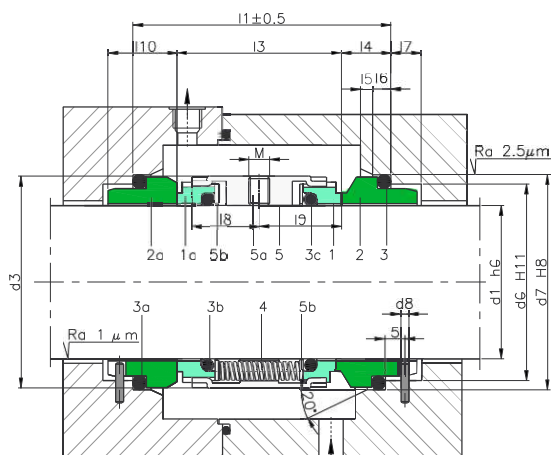




- 1 Rotating contact surface
- 1a Rotating contact surface
- 2 Stationary contact surface
- 2a Stationary contact surface
- 3 O-rings
- 3a O-rings
- 3b O-rings
- 3c O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws
- 5b Ring



- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

$$d_1 = 18 \div 100 \text{ mm} \quad p = 16 \text{ kg/cm}^2$$

$v = 20 \text{ m/s}$ $t = -15 \div +200^\circ\text{C} (*)$

(*)The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

Double seal for working with barrier fluids in which the springs are isolated from the fluid product.

Recommended in applications with toxic, pollutant or potentially dangerous products in which safety is an important factor. Available with a pumping ring on the casing to reduce the temperature between the contact surfaces and facilitate the barrier liquid movement (reference MSEI 10-F). Available in a balanced version with a stepped shaft (reference ME10DB). Contact surface kits available.

Dimensions in mm

Shaft	Rotary part					Stationary part										Total length
mm	d ₃	l ₃	l ₈	l ₉	M	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁₀	l ₁		
18	33	38	17.0	19.0	M5	27	33	3	11.5	2.0	5	9	19.5	61.0		
20	35	38	17.0	19.0	M5	29	35	3	11.5	2.0	5	9	19.5	61.0		
22	37	38	17.0	19.0	M5	31	37	3	11.5	2.0	5	9	19.5	61.0		
24	39	38	17.0	19.0	M5	33	39	3	11.5	2.0	5	9	19.5	61.0		
25	40	38	17.0	19.0	M5	34	40	3	11.5	2.0	5	9	19.5	61.0		
28	43	39	17.5	19.5	M6	37	43	3	11.5	2.0	5	9	19.5	62.0		
30	45	39	17.5	19.5	M6	39	45	3	11.5	2.0	5	9	19.5	62.0		
32	47	39	17.5	19.5	M6	42	48	3	11.5	2.0	5	9	19.5	62.0		
33	48	39	17.5	19.5	M6	42	48	3	11.5	2.0	5	9	19.5	62.0		
35	50	39	17.5	19.5	M6	44	50	3	11.5	2.0	5	9	19.5	62.0		
38	55	41	18.5	20.5	M6	49	56	4	14.0	2.0	6	9	22.0	69.0		
40	57	42	19.0	21.0	M6	51	58	4	14.0	2.0	6	9	22.0	70.0		
43	60	42	19.0	21.0	M6	54	61	4	14.0	2.0	6	9	22.0	70.0		
45	62	42	19.0	21.0	M6	56	63	4	14.0	2.0	6	9	22.0	70.0		
48	65	42	19.0	21.0	M6	59	66	4	14.0	2.0	6	9	22.0	70.0		
50	67	43	19.5	21.5	M6	62	70	4	15.0	2.5	6	9	23.0	73.0		
53	70	43	19.5	21.5	M6	65	73	4	15.0	2.5	6	9	23.0	73.0		
55	72	43	19.5	21.5	M8	67	75	4	15.0	2.5	6	9	23.0	73.0		
58	79	56	23.5	28.0	M8	70	78	4	15.0	2.5	6	9	23.0	86.0		
60	81	56	23.5	28.0	M8	72	80	4	15.0	2.5	6	9	23.0	86.0		
63	84	55	24.5	27.5	M8	75	83	4	15.0	2.5	6	9	-	85.0		
65	86	55	24.5	27.5	M8	77	85	4	15.0	2.5	6	9	23.0	85.0		
68	89	55	24.5	27.5	M8	81	90	4	18.0	2.5	7	9	26.0	91.0		
70	91	56	23.5	28.0	M8	83	92	4	18.0	2.5	7	9	26.0	92.0		
75	99	56	25.5	28.0	M8	88	97	4	18.0	2.5	7	9	26.0	92.0		
80	104	56	25.5	28.0	M8	95	105	4	18.2	3.0	7	9	26.2	92.5		
85	100	56	25.0	28.0	M8	100	110	4	18.2	3.0	7	9	26.2	92.5		
90	114	56	25.5	28.0	M8	105	115	4	18.2	3.0	7	9	26.2	92.5		
95	119	56	25.0	28.0	M8	110	120	4	17.2	3.0	7	9	25.2	90.5		
100	124	56	25.0	28.0	M8	115	125	4	17.2	3.0	7	9	25.2	90.5		

Dimensions subject to changes or modifications.

MSE11



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws
- 5b Ring

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$$d_1 = 18 \div 100 \text{ mm} \quad p = 10 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -15 \div +200^\circ\text{C}^*$$

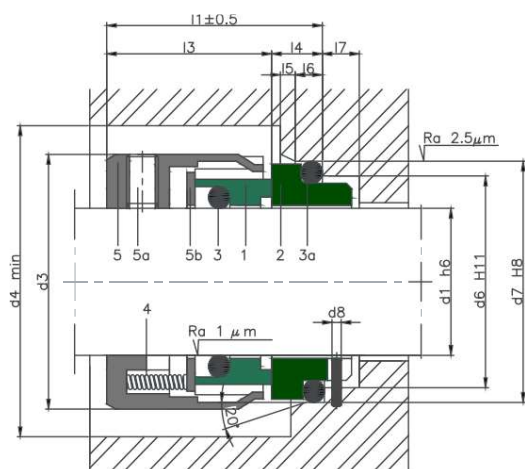
(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

The contact surface of the rotating part can be detached, which makes this model extremely versatile as it is easy to exchange contact surfaces made of different materials.

Seal compliant with standard EN 12756.



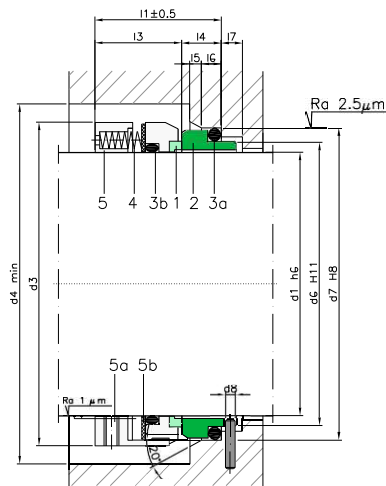
DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part			Stationary part							Total length
mm	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁
18	32	37	21.0	27	33	3	10.0	2.0	4	9	31
20	34	39	21.0	29	35	3	10.0	2.0	5	9	31
22	36	41	21.0	31	37	3	10.0	2.0	5	9	31
24	38	43	24.0	33	39	3	10.0	2.0	5	9	34
25	39	44	24.0	34	40	3	10.0	2.0	5	9	34
28	42	47	24.0	37	43	3	10.0	2.0	5	9	34
30	44	49	25.0	39	45	3	10.0	2.0	5	9	35
32	46	51	25.0	42	48	3	10.0	2.0	5	9	35
33	47	52	25.0	42	48	3	10.0	2.0	5	9	35
35	49	54	25.0	44	50	3	10.0	2.0	5	9	35
38	54	59	28.0	49	56	4	11.0	2.0	6	9	39
40	56	61	28.0	51	58	4	11.0	2.0	6	9	39
43	59	64	28.0	54	61	4	11.0	2.0	6	9	39
45	61	66	28.0	56	63	4	11.0	2.0	6	9	39
48	64	69	28.0	59	66	4	11.0	2.0	6	9	39
50	66	71	28.0	62	70	4	13.0	2.5	6	9	41
53	69	74	28.0	65	73	4	13.0	2.5	6	9	41
55	71	76	28.0	67	75	4	13.0	2.5	6	9	41
58	78	83	29.0	70	78	4	13.0	2.5	6	9	42
60	80	85	29.0	72	80	4	13.0	2.5	6	9	42
63	83	88	32.0	75	83	4	13.0	2.5	6	9	45
65	85	90	32.0	77	85	4	13.0	2.5	6	9	45
68	88	93	32.7	81	90	4	15.3	2.5	7	9	48
70	90	95	32.7	83	92	4	15.3	2.5	7	9	48
75	99	104	36.7	88	97	4	15.3	2.5	7	9	52
80	104	109	36.3	95	105	4	15.7	3.0	7	9	52
85	109	114	36.3	100	110	4	15.7	3.0	7	9	52
90	114	119	39.3	105	115	4	15.7	3.0	7	9	55
95	119	124	39.3	110	120	4	15.7	3.0	7	9	55
100	124	129	39.3	115	125	4	15.7	3.0	7	9	55

Dimensions subject to changes or modifications.

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws
- 5b Ring



SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 20 \div 100 \text{ mm}$ $p = 12 \text{ kg/cm}^2$

$v = 20 \text{ m/s}$ $t = -40 \div +200 \text{ s (}^{\circ}\text{C}^*)$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

The contact surface of the rotating part can be detached, which makes this model extremely versatile as it is easy to exchange contact surfaces made of different materials.

Seal compliant with standard EN. 12756

DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part					Stationary part					Total length
mm	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁
20	34	36	27,5	29,0	35,0	3,0	10,0	2,0	5,0	9,0	37,5
22	36	38	27,5	31,0	37,0	3,0	10,0	2,0	5,0	9,0	37,5
25	39	41	30,0	34,0	40,0	3,0	10,0	2,0	5,0	9,0	40,0
30	44	46	32,5	39,0	45,0	3,0	10,0	2,0	5,0	9,0	42,5
33	47	49	32,5	42,0	48,0	3,0	10,0	2,0	5,0	9,0	42,5
38	54	58	34,0	49,0	56,0	4,0	11,0	2,0	6,0	9,0	45,0
43	59	63	34,0	54,0	61,0	4,0	11,0	2,0	6,0	9,0	45,0
48	64	68	34,0	59,0	66,0	4,0	11,0	2,0	6,0	9,0	45,0
53	69	73	34,5	65,0	73,0	4,0	13,0	2,5	6,0	9,0	47,5
58	78	83	39,5	70,0	78,0	4,0	13,0	2,5	6,0	9,0	52,5
63	83	88	39,5	75,0	83,0	4,0	13,0	2,5	6,0	9,0	52,5
68	88	93	37,5	81,0	90,0	4,0	15,0	2,5	7,0	9,0	52,5
75	99	104	45,0	88,0	97,0	4,0	15,0	2,5	7,0	9,0	60,0
85	109	114	44,5	100,0	110,0	4,0	15,5	3,0	7,0	9,0	60,0
95	119	124	49,5	110,0	120,0	4,0	15,5	3,0	7,0	9,0	65,0
100	124	129	49,5	115,0	125,0	4,0	15,5	3,0	7,0	9,0	65,0

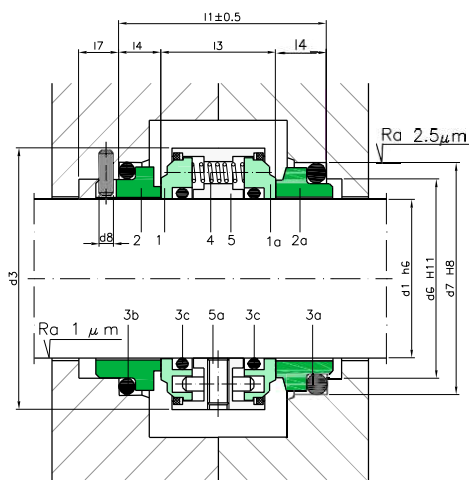
Dimensions subject to changes or modifications.

MSEI5D



COMPONENTES:

- 1 Rotating contact surface
- 1a Rotating contact surface
- 2 Stationary contact surface
- 2a Stationary contact surface
- 3a O-rings
- 3b O-rings
- 3c O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws



SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$$d_1 = 20 \div 100 \text{ mm} \quad p = 12 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -40 \div +200^\circ\text{C} (*)$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Double seal for working with barrier fluids in which the springs are isolated from the fluid product.

API 53A and API54 assemblies.

Recommended in applications with toxic, pollutant or potentially dangerous products in which safety is an important factor.

DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part		Stationary part				Total length	
mm	d ₃	l ₃	d ₆	d ₇	d ₈	l ₄	l ₇	l ₁
20	40	23	29	35	3	10	9	43
25	44,5	25	34	40	3	10	9	45
28	47,5	25	37	43	3	8,5	9	38
30	50	27	39	45	3	10	9	47
35	56	28,5	44	50	3	10	9	48,5
43	71	30	54	61	4	13	9	56
50	80	30	62	70	4	14	9	58
65	98	35	77	85	4	14	9	63
100	145	45	115	125	4	16	9	81

Dimensions subject to changes or modifications.

MSE20 / MSE20T



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3T PTFE wedge
- 3a O-rings
- 3Ta PTFE gasket
- 4 Springs
- 5 Metal frame
- 5a Set screws
- 5b Ring

SECTORS:



CHARACTERISTICS:

- **Unbalanced.**
- System attached to the shaft by allen screws.
- **Not dependent on the rotation direction.**

OPERATING LIMITS:

$$d_f = 14 \div 100 \text{ mm} \quad p = 10 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -15 \div +200^\circ\text{C}^{(*)}$$

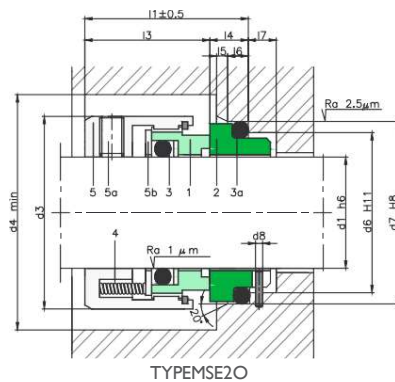
(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

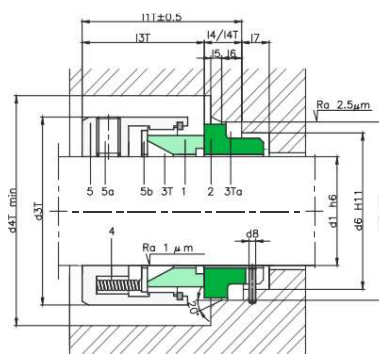
DESCRIPTION:

The set of springs placed around the contact surface of the rotating part generates a more uniform load than in models with a single spring.

The MSE20 is suitable for many different applications. Seal compliant with standard EN 12756 (KU). The MSE20T uses a PTFE wedge as a secondary seal and is appropriate for highly aggressive chemicals and for thermal oils with high temperatures. The version in inches has a standard stationary PF.L22 part.



TYP MSE20



TYP MSE20T

DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part						Stationary part							Total length	
mm	d ₃	d _{3T}	d ₄	d _{4T}	l ₃	l _{3T}	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁	l _{1T}
14	24	28,4	26	31	23	21	21	25	3	12	1,5	4	8,5	35	33
16	26	30,8	28	34	23	19	23	27	3	12	1,5	4	8,5	35	31
18	32	33,8	34	36,5	24	22	27	33	3	13,5	2	5	9	37,5	35,5
20	34	34,8	36	38	24	24	29	35	3	13,5	2	5	9	37,5	37,5
22	36	35,6	38	39	24	24	31	37	3	13,5	2	5	9	37,5	37,5
24	38	38,8	40	42	26,7	25	33	39	3	13,3	2	5	9	40	38,3
25	39	39,8	41	43	27	25	34	40	3	13	2	5	9	40	38
28	42	43,4	44	46	30	27	37	43	3	12,5	2	5	9	42,5	39,5
30	44	46,4	46	49	30,5	27	39	45	3	12	2	5	9	42,5	39
32	46	49,7	48	53	30,5	29	42	48	3	12	2	5	9	42,5	41
33	47	-	49	-	30,5	-	42	48	3	12	2	5	9	42,5	-
35	49	51,3	51	54	30,5	29	44	50	3	12	2	5	9	42,5	41
38	54	54,5	58	58	32	29	49	56	4	13	2	6	9	45	42
40	56	59,6	60	63	32	35	51	58	4	13	2	6	9	45	48
43	59	-	63	-	32	-	54	61	4	13	2	6	9	45	-
45	61	64,7	65	68	32	35	56	63	4	13	2	6	9	45	48
48	64	67,2	68	70	32	35	59	66	4	13	2	6	9	45	48
50	66	69,6	70	73	34	35	62	70	4	13,5	2,5	6	9	47,5	48,5
53	69	-	73	-	34	-	65	73	4	13,5	2,5	6	9	47,5	-
55	71	77,7	75	81	34	43	67	75	4	13,5	2,5	6	9	47,5	56,5
58	78	-	83	-	39	-	70	78	4	13,5	2,5	6	9	52,5	-
60	80	82,7	85	86	39	43	72	80	4	13,5	2,5	6	9	52,5	56,5
63	83	-	88	-	39	-	75	83	4	13,5	2,5	6	9	52,5	-
65	85	87,7	90	91	39	43	77	85	4	13,5	2,5	6	9	52,5	56,5
68	88	-	93	-	39	-	81	90	4	13,5	2,5	7	9	52,5	-
70	90	92,6	95	96	45,5	43	83	92	4	14,5	2,5	7	9	60	57,5
75	95	96,3	104	100	45,5	43	88	97	4	14,5	2,5	7	9	60	57,5
80	104	101,1	109	104	45	43	95	105	4	15	3	7	9	60	58
85	109	107,7	114	111	45	43	100	110	4	15	3	7	9	60	58
90	114	112,7	119	116	50	43	105	115	4	15	3	7	9	65	58
95	119	117,7	124	121	50	43	110	120	4	15	3	7	9	65	58
100	124	122,7	129	126	50	43	115	125	4	15	3	7	9	65	58

Dimensions in inches

Shaft		Rotary part						Stationary part				Total length	
(")	mm	d ₃	d _{3T}	d ₄	d _{4T}	l ₃	l _{3T}	d ₆	d ₇	l ₄	l _{4T}	l ₁	l _{1T}
0,500	12,70	23,8	26,7	27	29	23,8	20,6	20,4	25,4	5,9	7,9	29,7	28,5
0,625	15,88	27	30,7	30,2	34	23,8	19	26,8	31,8	6,6	10,3	30,4	29,3
0,750	19,05	30,2	34	33,3	37	23,8	22,2	29,9	34,9	6,6	10,3	30,4	32,5
0,875	22,23	33,3	37,2	36,5	40	23,8	23,8	33,1	38,1	6,6	10,3	30,4	34,1
1,000	25,40	36,5	40,3	39,7	43	25,4	25,4	36,3	41,3	6,6	11,1	32	36,5
1,125	28,58	39,7	43,5	42,9	46	25,4	27	39,5	44,5	6,6	11,1	32	38,1
1,250	31,75	42,9	48,3	46	51	25,4	27	42,6	47,6	6,6	11,1	32	38,1
1,375	34,93	49,2	51,5	52,4	54	35	28,6	45,8	50,8	6,6	11,1	41,6	39,7
1,500	38,10	49,2	54,6	52,4	58	28,6	28,6	47,6	54	7,5	11,1	36,1	39,7
1,625	41,28	57,2	61	60,3	64	29,4	35	53,9	60,3	8,2	12,7	37,6	47,7
1,750	44,45	58,7	64,2	61,9	67	35	35	57,1	63,5	8,2	12,7	43,2	47,7
1,875	47,63	63,5	67,3	66,7	70	35	35	60,3	66,7	8,2	12,7	43,2	47,7
2,000	50,80	66,7	70,5	69,9	73	35	35	63,5	69,9	8,2	12,7	43,2	47,7
2,125	53,98	71,4	76,9	74,6	80	43	43	69,8	76,2	9,5	14,3	52,5	57,3
2,250	57,15	72,2	80	75,4	83	35	43	73	79,4	9,5	14,3	44,5	57,3
2,375	60,33	76,2	83,2	79,4	86	43	43	76,2	82,6	9,5	14,3	52,5	57,3
2,500	63,50	79,4	86,4	82,6	89	35	43	79,3	85,7	9,5	14,3	44,5	57,3
2,625	66,68	82,6	89,6	85,7	92	43	43	79,3	85,7	9,5	15,9	52,5	58,9
2,750	69,85	85,7	92,7	88,9	96	43	43	82,5	88,9	9,5	15,9	52,5	58,9
2,875	73,03	88,9	95,9	92,1	99	43	43	85,3	91,3	11,3	15,9	54,3	58,9
3,000	76,20	92,1	97,5	95,3	100	43	43	88,4	94,4	11,3	15,9	54,3	58,9
3,125	79,38	95,3	100,7	98,4	104	43	43	91,6	101,6	14,3	19,8	57,3	62,8
3,250	82,55	98,4	105,4	101,6	108	43	43	94,8	104,8	14,3	19,8	57,3	62,8
3,375	85,73	101,6	108,6	104,8	111	43	43	98	108	14,3	19,8	57,3	62,8
3,500	88,90	104,8	111,8	108	115	43	43	101,1	111,1	14,3	19,8	57,3	62,8
3,625	92,08	108	115	111,1	118	43	43	104,3	114,3	14,3	19,8	57,3	62,8
3,750	95,25	111,1	118,1	114,3	121	43	43	107,5	117,5	14,3	19,8	57,3	62,8
3,875	98,43	114,3	121,3	117,5	124	43	43	110,7	120,7	14,3	19,8	57,3	62,8
4,000	101,60	117,5	124,5	120,7	127	43	43	113,8	123,8	14,3	19,8	57,3	62,8

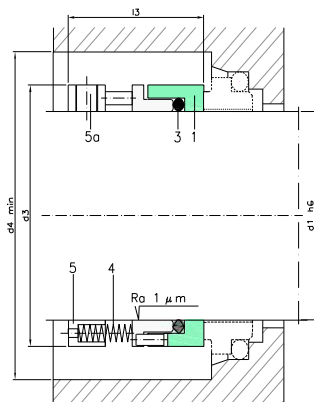
Dimensions subject to changes or modifications.

MSE22



COMPONENTS:

- 1 Rotating contact surface
- 3a O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws



SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction

OPERATING LIMITS:

$$d_1 = 20 \div 100 \text{ mm} \quad p = 12 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -40 \div +200^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

The contact surface of the rotating part can be detached, which makes this model extremely versatile as it is easy to exchange contact surfaces made of different materials.

DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part		
	d ₃	d ₄	l ₃
20	34	39	35
22	36	41	35
24	38	43	35
25	39	44	35
28	42	47	35
30	44	49	35
32	46	51	35
33	47	52	35
35	49	54	35
38	54	59	38
40	56	61	38
43	59	64	38
45	61	66	38
48	64	69	38
50	66	71	39
53	69	74	40
55	71	76	40
58	76	81	41
60	78	83	41
63	81	86	41
65	83	88	41
68	86	91	41
70	90	95	42
75	95	100	42
80	100	105	42
85	105	110	43
90	110	115	45
95	115	120	45
100	120	125	45

Dimensions in inches

Shaft	Rotary part		
	d ₃	d ₄	l ₃
1,00	25,40	39,70	41,28
1,13	28,58	42,85	41,28
1,19	30,15	44,45	41,28
1,25	31,75	46,02	41,28
1,38	34,93	49,20	41,28
1,44	36,50	50,80	41,28
1,50	38,10	52,37	41,28
1,63	41,28	58,72	44,45
1,75	44,45	60,33	44,45
1,88	47,63	65,07	44,45
2,00	50,80	68,25	44,45
2,13	53,98	71,42	44,45
2,25	57,15	74,60	44,45
2,38	60,33	77,77	44,45
2,50	63,50	80,95	44,45
2,63	66,68	84,12	44,45
2,75	69,85	87,30	44,45
2,88	73,03	90,47	44,45
3,00	76,20	93,65	44,45
3,13	79,38	101,60	44,45
3,25	82,55	104,78	44,45
3,38	85,73	107,95	44,45
3,50	88,90	111,13	44,45
3,63	92,08	114,30	44,45
3,75	95,25	117,48	46,02
3,88	98,43	120,65	46,02
4,00	101,60	123,83	46,02
4,25	107,95	130,18	52,37
4,50	114,30	136,53	52,37

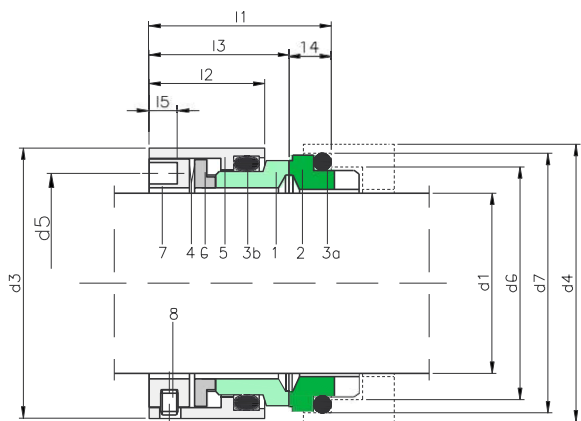
Dimensions subject to changes or modifications.

MSE26



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-ring
- 4 Spring
- 5 Metal frame
- 6 Ring
- 7 Metal frame
- 8 Setting clips



SECTORS:



CHARACTERISTICS:

- Equilibrado.
- Sistema rotación independiente
- Multimuelle
- External mounting.

OPERATING LIMITS:

$p= 50 \text{ kg/cm}^2$ $v= 50 \text{ m/s}$

$t= -20\div +140\text{oC}(*)$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are deined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Balanced mechanical seal with protected springs to prevent them from blocking when in contact with sticky or viscous luids.The O-ring on the shaft is static, thereby preventing “fretting” of the shaft.

DIMENSIONS CHART

Dimensions in mm

Shaft		Rotary part								
mm	d ₃	d ₄	d ₅	d ₆	d ₇	l ₁	l ₂	l ₃	l ₄	l ₅
40	65	64	52	53.5	59	48.5	30	39	9.5	5
50	75	77	61	63.5	72	54.5	33	42.2	12.3	5
53	80	80	64	66.5	75	55	33.5	42.7	12.3	5
55	85	85	68	71.5	80	60	36.5	47.2	12.8	5
60	90	90	74	76.5	85	61.5	38	48.7	12.8	5
65	95	95	78	81.5	90	62	38	49.2	12.8	5
80	115	119	98	102	110.5	63.5	38	50	13.5	5

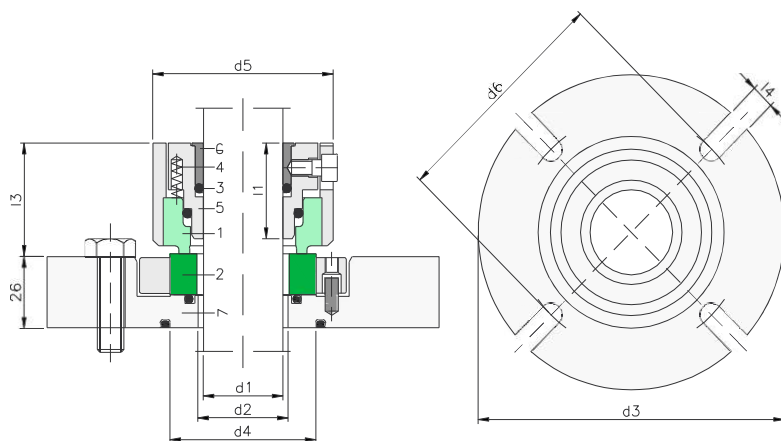
Dimensions subject to changes or modiiations.

MSE27



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 4 Springs
- 5 Metal frame
- 6 Sleeve
- 7 Flange



SECTORS:



CHARACTERISTICS:

- **Balanced.**
- System attached to the shaft by allen screws.
- **Not dependent on the rotation direction.**
- External mounting.

OPERATING LIMITS:

$$d_1 = 25 \div 160 \text{ mm} \quad p = \text{vacío } 6 \text{ kg/cm}^2$$

$$v = 2 \text{ m/s} \quad t = -20 \div +150^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

A multi-spring mechanical seal recommended for vertical stirrers with moderate speeds. The fixed part may have cooling/lubrication systems: lush and/or cooled large connection.

DIMENSIONS CHART

Dimensions in mm

Shaft		Rotary part				Stationary part				
(^o)	mm	l ₁	l ₃	d ₅	d ₂	d ₃	d ₄	d ₆ _{rot}	d ₆ _{stat}	l ₄
1,00	25	40,5	41,5	68	34	148	-	100	132	11
1,125	28	40,5	41,5	68	34	148	55	100	132	11
-	30	40,5	41,5	68	34	148	55	100	132	11
1,250	32	40,5	41,5	73	39	153	60	105	137	11
1,375	35	40,5	41,5	73	39	153	60	105	137	11
1,500	38	40,5	41,5	78	44	158	65	110	142	11
-	40	40,5	41,5	78	44	158	65	110	142	11
1,625	45	40,5	41,5	83	49	163	68	115	152	11
1,750	-	40,5	41,5	83	49	163	68	115	152	11
1,875	48	40,5	41,5	88	54	178	73	125	160	14
1,125	50	40,5	41,5	88	54	178	73	125	160	14
2,000	55	40,5	41,5	93	59	183	78	130	165	14
2,125	-	40,5	41,5	93	59	183	78	130	165	14
2,250	60	40,5	41,5	98	64	188	85	135	170	14
2,375	65	40,5	44,5	103	69	193	90	140	175	14
2,500	-	40,5	44,5	103	69	193	90	140	175	14
6,625	70	43,5	44,5	108	74	198	95	145	180	14
2,750	-	43,5	44,5	108	74	198	95	145	180	14
2.875	75	43,5	44,5	113	79	203	100	150	185	14

Shaft		Rotary part				Stationary part					
(^o)	mm	l ₁	l ₃	d ₅	d ₂	d ₃	d ₄	d ₆ _{rot}	d ₆ _{stat}	l ₄	
3,000	80	43,5	44,5	118	84	208	105	155	190	14	
3,250	85	43,5	44,5	123	89	213	110	160	195	14	
3,500	90	43,5	44,5	128	94	218	115	165	200	14	
3,750	95	43,5	44,5	133	99	223	120	170	205	14	
	100	43,5	44,5	138	104	228	125	175	210	14	
4,000	105	43,5	44,5	143	109	233	130	180	215	14	
4,250	110	43,5	44,5	148	114	238	135	185	220	14	
4,500	115	43,5	44,5	153	119	243	140	196	243	18	
4,750	125	43,5	44,5	163	129	253	150	206	253	18	
5,000	140	43,5	44,5	178	144	267	165	221	273	18	
5,250	-	43,5	44,5	178	144	267	165	221	273	18	
5,500	-	43,5	44,5	178	144	267	165	221	273	18	
5,750	150	43,5	44,5	188	154	307	175	231	283	18	
6,000	160	43,5	44,5	198	164	317	185	241	283	18	
6,250	-	43,5	44,5	198	164	317	185	241	293	18	
				</							

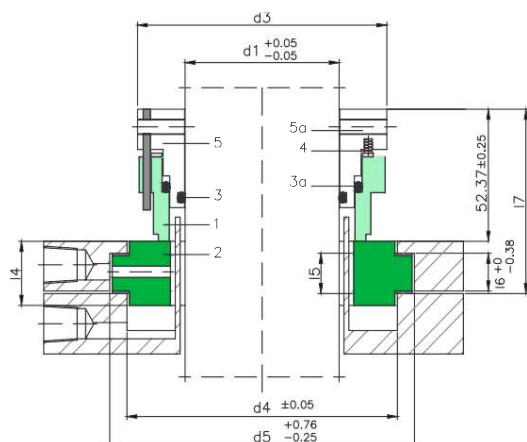
Dimensions subject to changes or modifications.

MSE28



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws



SECTORS:



CHARACTERISTICS:

- **Balanced.**
- System attached to the shaft by allen screws.
- **Not dependent on the rotation direction.**
- External mounting.

OPERATING LIMITS:

$$d_1 = 25 \div 175 \text{ mm} \quad p = 15 \text{ kg/cm}^2$$

$$v = 2 \text{ m/s} \quad t = -20 \div +200^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

It can be used in vertical agitators with moderate speeds without the need to apply auxiliary lubrication systems. Adapted to DEBRIS cleaning systems.

DIMENSIONS CHART

Dimensions in mm

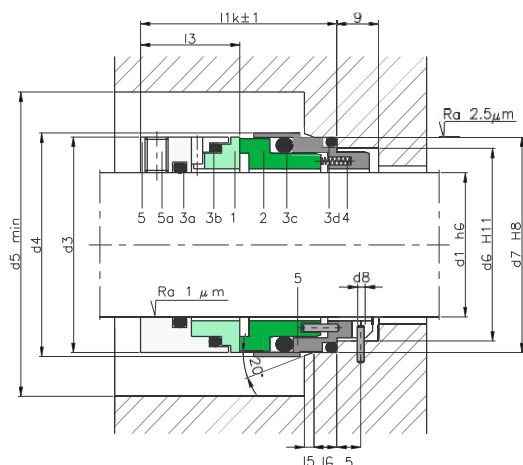
Dimensions in inches

Shaft	Rotary part	Stationary part							Shaft	Rotary part	Stationary part						
mm	d ₃	d ₄	d ₅	l ₄	l ₅	l ₆	l ₇		(")	mm	d ₃	d ₄	d ₅	l ₄	l ₅	l ₆	l ₇
25	63,5	47,6	57,9	20,6	12,7	11,9	69,0		1.00	25.40	63.50	47.63	57.94	20.62	12.70	11.89	69.04
28	66,6	50,8	61,1	20,6	12,7	11,9	69,0		1.13	28.58	66.68	50.80	61.11	20.62	12.70	11.89	69.04
30	69,8	53,9	67,5	22,2	12,7	11,9	69,0		1.25	31.75	69.85	53.98	67.46	20.62	12.70	11.89	69.85
32	69,8	53,9	67,5	22,2	12,7	11,9	69,0		1.38	34.93	73.03	57.15	70.64	20.62	12.70	11.89	69.85
33	73,0	57,1	70,6	22,2	12,7	11,9	69,0		1.50	38.10	76.20	63.50	76.99	20.62	12.70	11.89	69.85
35	73,0	57,1	70,6	22,2	12,7	11,9	69,0		1.63	41.28	79.38	66.68	80.16	20.62	12.70	11.89	69.85
38	76,2	63,5	77,0	22,2	12,7	11,9	69,0		1.75	44.45	82.55	69.85	83.34	20.62	12.70	11.89	73.03
40	79,3	66,6	80,2	22,2	12,7	11,9	69,0		1.88	47.63	85.73	73.03	89.69	25.40	15.88	11.89	73.03
43	82,5	69,8	83,3	22,2	12,7	11,9	69,0		2.00	50.80	88.90	79.38	98.32	25.40	15.88	11.89	73.03
45	85,7	73,0	89,7	25,4	15,9	15,1	73,0		2.13	53.98	92.08	79.38	99.21	25.40	15.88	15.06	73.03
50	88,9	79,3	96,0	25,4	15,9	15,1	73,0		2.25	57.15	95.25	85.73	102.39	25.40	15.88	15.06	73.03
53	92,0	79,3	99,2	25,4	15,9	15,1	73,0		2.38	60.33	98.43	88.90	105.56	25.40	15.88	15.06	73.03
55	95,2	85,7	102,4	25,4	15,9	15,1	73,0		2.50	63.50	101.60	92.08	108.74	25.40	15.88	15.06	73.03
58	98,4	88,9	105,6	25,4	15,9	15,1	73,0		2.63	66.68	104.78	95.25	111.91	25.40	15.88	15.06	73.03
60	98,4	88,9	105,6	25,4	15,9	15,1	73,0		2.75	69.85	107.95	98.43	115.09	25.40	15.88	15.06	73.03
63	101,6	92,0	108,7	25,4	15,9	15,1	73,0		2.88	73.03	111.13	101.60	118.26	25.40	15.88	15.06	73.03
65	104,7	95,2	111,9	25,4	15,9	15,1	73,0		3.00	76.20	114.30	104.78	119.84	25.40	15.88	15.06	73.03
68	107,9	98,4	115,1	25,4	15,9	15,1	73,0		3.13	79.38	117.48	107.95	124.61	25.40	15.88	15.06	73.03
70	107,9	98,4	115,1	25,4	15,9	15,1	73,0		3.25	82.55	120.65	111.13	127.79	25.40	15.88	15.06	73.03
75	114,3	103,3	119,8	25,4	15,9	15,1	73,0		3.38	85.73	123.83	114.30	130.96	25.40	15.88	15.06	73.03
80	120,6	111,1	127,8	25,4	15,9	15,1	73,0		3.50	88.90	127.00	117.48	134.14	25.40	15.88	15.06	73.03
85	123,9	114,3	131,1	25,4	15,9	15,1	73,0		3.63	92.08	130.18	120.65	137.31	25.40	15.88	15.06	73.03
90	130,2	120,7	137,3	25,4	15,9	15,1	73,0		3.75	95.25	133.35	123.83	140.49	25.40	15.88	15.06	73.03
95	133,3	123,8	140,5	25,4	15,9	15,1	73,0		3.88	98.43	136.53	127.00	143.66	25.40	15.88	15.06	73.03
100	139,7	133,3	150,0	25,4	15,9	15,1	73,0		4.00	101.60	139.70	130.18	150.01	25.40	15.88	15.06	73.03
105	142,9	136,5	153,2	25,4	15,9	15,1	73,0		4.13	104.78	142.88	133.35	153.19	25.40	15.88	15.06	73.03
110	149,2	142,8	159,5	25,4	15,9	15,1	73,0		4.25	107.95	146.05	136.53	156.36	25.40	15.88	15.06	73.03
115	155,5	149,2	165,9	25,4	15,9	15,1	73,0		4.38	111.13	149.23	139.70	159.54	25.40	15.88	15.06	73.03
									4.50	114.30	152.40	142.88	162.71	25.40	15.88	15.06	73.03

Dimensions subject to changes or modifications.



- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-rings
- 3b O-rings
- 3c O-rings
- 3d O-rings
- 4 Springs
- 5 Metal frame
- 5a Set screws



- **Balanced.**
- System attached to the shaft by allen screws
- **Not dependent on the rotation direction.**

$d_1 = 18 \div 100 \text{ mm}$ $p = 25 \text{ kg/cm}^2$

$v = 20 \text{ m/s}$ $t = -15 \div +200^\circ\text{C} (*)$

(*)The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

The fact that the springs are not in contact with the fluid makes this mechanical seal perfect for working with particle-laden fluids, as it prevents them from becoming blocked or obstructed. Its structure and design makes it ideal for vacuum operations without having to use a retaining ring. It can be used with a single, tandem-mounted (API52) or back-to back (API53) mounting system. The O-ring resting on the shaft is not affected by any axial movement (changes in pressure) and therefore produces no wear on the surface of the shaft. Seal compliant with standard EN 12756 (KU).

Dimensions in mm

Shaft	Rotary part					Stationary part					Total length
mm	d ₃	d ₄	l ₃	d ₅	d ₆	d ₇	d ₈	l ₅	l ₆	l _{ik}	
18	33	34.7	19.5	39.7	27	33	3	2.0	5	37.5	
20	35	36.7	19.5	41.7	29	35	3	2.0	5	37.5	
22	37	38.7	19.5	43.7	31	37	3	2.0	5	37.5	
24	39	40.7	20.5	45.7	33	39	3	2.0	5	40.0	
25	40	41.7	20.5	46.7	34	40	3	2.0	5	40.0	
28	43	44.7	21.5	49.7	37	43	3	2.0	5	42.5	
30	45	46.7	21.5	51.7	39	45	3	2.0	5	42.5	
32	48	49.7	21.5	54.7	42	48	3	2.0	5	42.5	
33	48	49.7	21.5	54.7	42	48	3	2.0	5	42.5	
35	50	51.7	21.5	56.7	44	50	3	2.0	5	42.5	
38	56	57.7	24.0	62.7	49	56	4	2.0	5	45.0	
40	58	59.7	24.0	64.7	51	58	4	2.0	5	45.0	
43	61	62.7	24.0	67.7	54	61	4	2.0	5	45.0	
45	63	64.7	24.0	69.7	56	63	4	2.0	5	45.0	
48	66	67.7	24.0	72.7	59	66	4	2.0	5	45.0	
50	70	71.7	25.0	76.7	62	70	4	2.5	6	47.5	
53	73	74.7	25.0	79.7	65	73	4	2.5	6	47.5	
55	75	76.7	25.0	81.7	67	75	4	2.5	6	47.5	
58	78	80.5	28.0	85.5	70	78	4	2.5	6	52.5	
60	80	82.5	28.0	87.5	72	80	4	2.5	6	52.5	
63	83	85.5	28.0	90.5	75	83	4	2.5	6	52.5	
65	85	87.5	28.0	92.5	77	85	4	2.5	6	52.5	
68	90	92.5	28.0	97.5	81	90	4	2.5	7	52.5	
70	92	94.5	34.0	99.5	83	92	4	2.5	7	60.0	
75	97	100.5	34.0	105.5	88	97	4	2.5	7	60.0	
80	105	108.5	34.0	113.5	95	105	4	3.0	7	60.0	
85	110	113.5	34.0	118.5	100	110	4	3.0	7	60.0	
90	115	118.5	39.0	123.5	105	115	4	3.0	7	65.0	
95	120	123.5	39.0	128.5	110	120	4	3.0	7	65.0	
100	125	128.5	39.0	133.5	115	125	4	3.0	7	65.0	

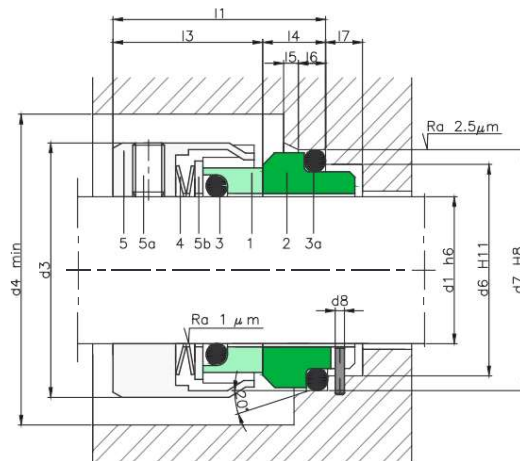
Dimensions subject to changes or modifications.

MSEW10



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Spring
- 5 Metal frame
- 5a Set screws
- 5b Ring



Tolerance: d_1 14...25 mm $\pm$ 1.0; 28...63 mm $\pm$ 1.5; $>$ 65 mm $\pm$ 2.0

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$$d_1 = 14 \div 150 \text{ mm} \quad p = 10 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -15 \div +200^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Recommended for working with sticky fluids and fluids laden with particles and fibres. Unlike the multispring models, the wave spring model cannot be blocked or obstructed and its open leaf design produces a self-cleaning effect.

Standard L9 type stationary part.

Seal compliant with standard EN 12756 (KU).

Available with a pumping ring on the casing-to reduce the temperature between the contact surfaces and facilitate the barrier fluid movement in the case of double mounting (reference MSEWS10-F).

Contact surface kits supplied available.

DIMENSIONS CHART

Dimensions in mm

Shaft	Rotary part				Stationary part							Total length
mm	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂	d ₁₃	l ₁
14	25	30	25.0	21	25	3	10.0	1.5	4	8.5		35.0
16	27	32	25.0	23	27	3	10.0	1.5	4	8.5		35.0
18	33	38	26.0	27	33	3	11.5	2.0	4	9.0		37.5
20	35	40	26.0	29	35	3	11.5	2.0	5	9.0		37.5
22	37	42	26.0	31	37	3	11.5	2.0	5	9.0		37.5
24	39	44	28.5	33	39	3	11.5	2.0	5	9.0		40.0
25	40	45	28.5	34	40	3	11.5	2.0	5	9.0		40.0
28	43	48	31.0	37	43	3	11.5	2.0	5	9.0		42.5
30	45	50	31.0	39	45	3	11.5	2.0	5	9.0		42.5
32	47	52	31.0	42	48	3	11.5	2.0	5	9.0		42.5
33	48	53	31.0	42	48	3	11.5	2.0	5	9.0		42.5
35	50	55	31.0	44	50	3	11.5	2.0	5	9.0		42.5
38	55	60	31.0	49	56	4	14.0	2.0	6	9.0		45.0
40	57	62	31.0	51	58	4	14.0	2.0	6	9.0		45.0
43	60	65	31.0	54	61	4	14.0	2.0	6	9.0		45.0
45	62	67	31.0	56	63	4	14.0	2.0	6	9.0		45.0
48	65	70	31.0	59	66	4	14.0	2.0	6	9.0		45.0
50	67	72	32.5	62	70	4	15.0	2.5	6	9.0		47.5
53	70	75	32.5	65	73	4	15.0	2.5	6	9.0		47.5
55	72	77	32.5	67	75	4	15.0	2.5	6	9.0		47.5
58	79	84	37.5	70	78	4	15.0	2.5	6	9.0		52.5
60	81	86	37.5	72	80	4	15.0	2.5	6	9.0		52.5
63	84	89	37.5	75	83	4	15.0	2.5	6	9.0		52.5
65	86	91	37.5	77	85	4	15.0	2.5	6	9.0		52.5
68	89	94	34.5	81	90	4	18.0	2.5	7	9.0		52.5
70	91	96	42.0	83	92	4	18.0	2.5	7	9.0		60.0
75	99	104	42.0	88	97	4	18.0	2.5	7	9.0		60.0
80	104	109	41.8	95	105	4	18.2	3.0	7	9.0		60.0
85	109	114	41.8	100	110	4	18.2	3.0	7	9.0		60.0
90	114	119	46.8	105	115	4	18.2	3.0	7	9.0		65.0
95	119	124	47.8	110	120	4	17.2	3.0	7	9.0		65.0
100	124	129	47.8	115	125	4	17.2	3.0	7	9.0		65.0

Dimensions subject to changes or modifications.

Shaft	Rotary part				Stationary part							Total length
mm	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂	d ₁₃	l ₁
105	138	143	47	122.2	134.3	5	20	2	10	--		67
110	143	148	47	128.2	140.3	5	20	2	10	--		67
115	148	153	47	136.2	148.3	5	20	2	10	--		67
120	153	158	47	138.2	150.3	5	20	2	10	--		67
125	158	163	47	142.2	154.3	5	20	2	10	--		67
130	163	168	47	146.2	158.3	5	20	2	10	--		67
135	168	173	47	152.2	164.3	5	20	2	10	--		67
140	173	178	47	156.2	168.3	5	20	2	10	--		67
145	178	183	47	161.2	173.3	5	20	2	10	--		67
150	183	189	47	168.2	180.3	5	22	2	10	--		69

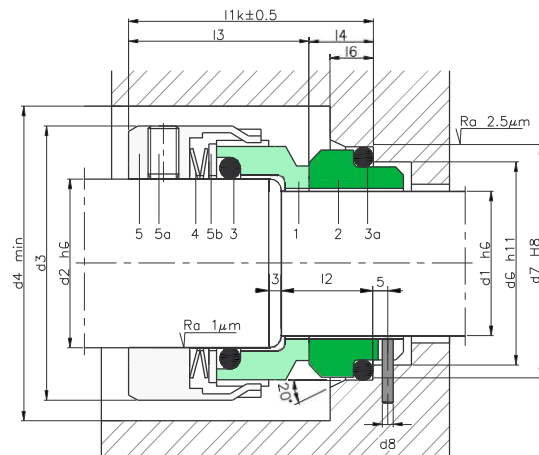
Multispring design manufacture for d₁ > 100 mm.

MSEW10B



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Spring
- 5 Metal frame
- 5a Set screws
- 5b Ring



SECTORS:



CHARACTERISTICS:

- **Balanced.**
- System attached to the shaft by allen screws.
- **Not dependent on the rotation direction.**

OPERATING LIMITS:

$$d_1 = 14 \div 100 \text{ mm} \quad p = 25 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -50 \div +220^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

The balanced contact surface design allows the mechanical seal to be used in applications with high pressures without suffering premature wear. Recommended for working with sticky fluids and fluids laden with particles and fibres. Unlike the multispring models, the wave spring model cannot be blocked or obstructed and its open leaf design produces a self-cleaning effect. Standard L9 type fixed stationary part, standardised seal, compliant with EN 12756 (KB).

The casing can incorporate a pumping ring to reduce the temperature between the contact surfaces and facilitate the barrier fluid movement in the case of double mounting (reference M1SEWS10B-F)

DIMENSIONS CHART

Dimensions in mm

Shaft		Rotary part			Stationary part						Total length
d ₁	d ₂	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₂	l ₄	l ₆	l _{IK}
14	18	33	37	32.5	21	25	3	18	10.0	9	42.5
16	20	35	39	32.5	23	27	3	18	10.0	9	42.5
18	22	37	41	33.5	27	33	3	20	11.5	9	45.0
20	24	39	43	33.5	29	35	3	20	11.5	9	45.0
22	26	41	45	33.5	31	37	3	20	11.5	9	45.0
24	28	43	47	36.0	33	39	3	20	11.5	9	47.5
25	30	45	49	36.0	34	40	3	20	11.5	9	47.5
28	33	48	52	38.5	37	43	3	20	11.5	9	50.0
30	35	50	54	38.5	39	45	3	20	11.5	9	50.0
32	38	55	59	38.5	42	48	3	20	11.5	9	50.0
33	38	55	59	38.5	42	48	3	20	11.5	9	50.0
35	40	57	61	38.5	44	50	3	20	11.5	9	50.0
38	43	60	64	38.5	49	56	4	23	14.0	10	52.5
40	45	62	66	38.5	51	58	4	23	14.0	10	52.5
43	48	65	69	38.5	54	61	4	23	14.0	10	52.5
45	50	67	71	38.5	56	63	4	23	14.0	10	52.5
48	53	70	74	38.5	59	66	4	23	14.0	10	52.5
50	55	72	76	42.5	62	70	4	25	15.0	11	57.5
53	58	79	83	42.5	65	73	4	25	15.0	11	57.5
55	60	81	85	42.5	67	75	4	25	15.0	11	57.5
58	63	84	88	47.5	70	78	4	25	15.0	11	62.5
60	65	86	90	47.5	72	80	4	25	15.0	11	62.5
63	68	89	93	47.5	77	83	4	25	15.0	11	62.5
65	70	91	95	47.5	75	85	4	25	15.0	11	62.5
70	75	99	103	52.0	83	92	4	28	18.0	12	70.0
75	80	104	108	52.0	88	97	4	28	18.0	12	70.0
80	85	109	113	51.8	95	105	4	28	18.2	13	70.0
85	90	114	118	56.8	100	110	4	28	18.2	13	75.0
90	95	119	123	56.8	105	115	4	28	18.2	13	75.0
95	100	124	128	57.8	110	120	4	28	17.2	13	75.0
100	105	129	133	57.8	115	125	4	28	17.2	13	75.0

Dimensions subject to changes or modifications.

MSEW12



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Spring
- 5 Set screws
- 5a Metal frame

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$$d_f = 20 \div 100 \text{ mm} \quad p = 10 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -15 \div +200^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Its mounting dimensions make it a perfect seal for installing in small spaces. The wave spring is not blocked or obstructed when working with fluids laden with particles and fibres, or viscous fluids. Standard LI DIN stationary part.

DIMENSIONS CHART

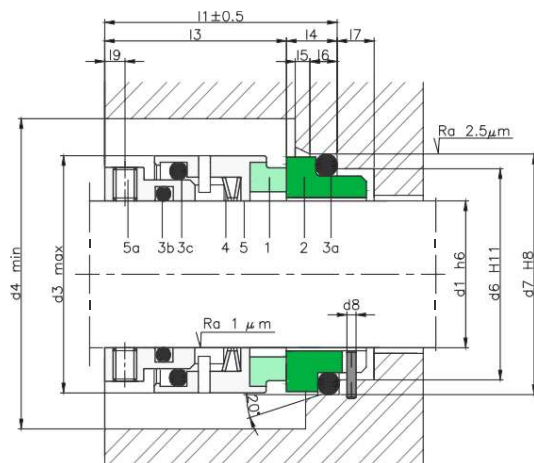
Dimensions in mm

Shaft	Rotary part				Stationary part					Total length
mm	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₁
20	31	36	20.5	29	35	3	10.0	2.0	5	30.5
22	33	38	20.5	31	37	3	10.0	2.0	5	30.5
24	36	41	22.5	33	39	3	10.0	2.0	5	32.5
25	39	44	23.5	34	40	3	10.0	2.0	5	33.5
28	42	47	23.5	37	43	3	10.0	2.0	5	33.5
30	44	49	24.5	39	45	3	10.0	2.0	5	34.5
32	46	51	24.5	42	48	3	10.0	2.0	5	34.5
33	47	52	24.5	42	48	3	10.0	2.0	5	34.5
35	49	54	24.5	44	50	3	10.0	2.0	5	34.5
38	53	58	27.0	49	56	4	11.0	2.0	6	38.0
40	55	60	28.0	51	58	4	11.0	2.0	6	39.0
43	58	63	28.0	54	61	4	11.0	2.0	6	39.0
45	60	65	28.0	56	63	4	11.0	2.0	6	39.0
48	63	68	28.0	59	66	4	11.0	2.0	6	39.0
50	66	71	27.0	62	70	4	13.0	2.5	6	39.0
53	69	74	27.0	65	73	4	13.0	2.5	6	39.0
55	71	76	27.0	67	75	4	13.0	2.5	6	39.0
58	77	82	29.0	70	78	4	13.0	2.5	6	42.0
60	79	84	29.0	72	80	4	13.0	2.5	6	42.0
63	82	87	32.0	75	83	4	13.0	2.5	6	45.0
65	84	89	32.0	77	85	4	13.0	2.5	6	45.0
68	87	92	33.5	81	90	4	15.0	2.5	7	48.5
70	89	94	32.0	83	92	4	15.0	2.5	7	47.0
75	94	99	32.0	88	97	4	15.0	2.5	7	47.0
80	100	105	32.5	95	105	4	15.5	3.0	7	48.0
85	105	110	32.5	100	110	4	15.5	3.0	7	48.0
90	112	117	38.5	105	115	4	15.5	3.0	7	54.0
95	117	122	38.5	110	120	4	15.5	3.0	7	54.0
100	122	127	38.5	115	125	4	15.5	3.0	7	54.0

Dimensions subject to changes or modifications.



- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-rings
- 3b O-rings
- 3c O-rings
- 4 Spring
- 5 Metal frame
- 5a Set screws



- **Balanced.**
- System attached to the shaft by allen screws.
- **Not dependent on the rotation direction.**

$d_1 = 18 \div 100 \text{ mm}$ $p = 35 \text{ kg/cm}^2$
 $v = 20 \text{ m/s}$ $t = -15 \div +200^\circ\text{C}$

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

The wave spring is protected from the fluid. Ideal for using in cleaning processes since the possibility of particles adhering to the seal is considerably reduced.

Internally balanced, with no need for a stepped shaft (MSEWS10B). Suitable for working in applications with high pressures. The O-ring resting on the shaft does not cause wear as there is no axial movement (changes in pressure).

Seal compliant with standard EN 12756 (KU). Standard L16 type stationary part (MSEWS30).

DIMENSIONS CHART

Shaft	Rotary part							Stationary part							Total length	
mm	d ₃	d ₄	l ₃	l _{3A}	l ₉	d ₆	d ₇	d ₈	l ₄	l _{4A}	l ₅	l ₆	l ₇	l ₁		
18	32	34	30.5	28.5	3.0	27	33	3	7.0	9.0	2.0	4	8.5	37.5		
20	34	36	30.5	28.5	3.0	29	35	3	7.0	9.0	2.0	5	8.5	37.5		
22	36	38	30.5	28.5	3.0	31	37	3	7.0	9.0	2.0	5	9.0	37.5		
24	38	40	33.0	31.0	3.5	33	39	3	7.0	9.0	2.0	5	9.0	40.0		
25	39	41	33.0	31.0	3.5	34	40	3	7.0	9.0	2.0	5	9.0	40.0		
28	42	44	35.5	33.0	3.5	37	43	3	7.0	9.5	2.0	5	9.0	42.5		
30	44	46	35.5	33.0	3.5	39	45	3	7.0	9.5	2.0	5	9.0	42.5		
32	47	48	35.5	33.0	3.5	42	48	3	7.0	9.5	2.0	5	9.0	42.5		
33	47	49	35.5	33.0	3.5	42	48	3	7.0	9.5	2.0	5	9.0	42.5		
35	49	51	35.5	33.0	3.5	44	50	3	7.0	9.5	2.0	5	9.0	42.5		
38	54	58	37.0	34.5	4.0	49	56	4	8.0	10.5	2.0	6	9.0	45.0		
40	56	60	37.0	34.5	4.0	51	58	4	8.0	10.5	2.0	6	9.0	45.0		
43	59	63	37.0	34.5	4.0	54	61	4	8.0	10.5	2.0	6	9.0	45.0		
45	61	65	37.0	34.5	4.0	56	63	4	8.0	10.5	2.0	6	9.0	45.0		
48	64	68	37.0	34.5	4.0	59	66	4	8.0	10.5	2.0	6	9.0	45.0		
50	66	70	38.0	35.5	4.5	62	70	4	9.5	12.0	2.5	6	9.0	47.5		
53	69	73	38.0	35.5	4.5	65	73	4	9.5	12.0	2.5	6	9.0	47.5		
55	71	75	38.0	35.5	4.5	67	75	4	9.5	12.0	2.5	6	9.0	47.5		
58	78	83	42.0	39.5	4.5	70	78	4	10.5	13.0	2.5	6	9.0	52.5		
60	80	85	42.0	39.5	4.5	72	80	4	10.5	13.0	2.5	6	9.0	52.5		
63	83	88	42.0	39.5	4.5	75	83	4	10.5	13.0	2.5	6	9.0	52.5		
65	85	90	42.0	39.5	4.5	77	85	4	10.5	13.0	2.5	6	9.0	52.5		
68	88	93	41.5	39.0	4.5	81	90	4	11.0	13.5	2.5	7	9.0	52.5		
70	90	95	48.5	46.0	5.0	83	92	4	11.5	14.0	2.5	7	9.0	60.0		
75	99	104	48.5	46.0	5.5	88	97	4	11.5	14.0	2.5	7	9.0	60.0		
80	104	109	48.5	46.0	5.5	95	105	4	11.5	14.0	3.0	7	9.0	60.0		
85	109	114	48.5	46.0	5.5	100	110	4	11.5	14.0	3.0	7	9.0	60.0		
90	114	119	52.0	49.5	5.5	105	115	4	13.0	15.5	3.0	7	9.0	65.0		
95	119	124	52.0	49.5	5.5	110	120	4	13.0	15.5	3.0	7	9.0	65.0		
100	124	129	52.0	49.5	5.5	115	125	4	13.0	15.5	3.0	7	9.0	65.0		

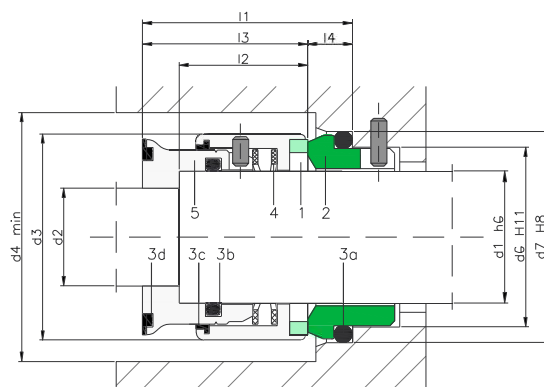
22

MSEW3 I



COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-rings
- 3b O-rings
- 3c Elastomeric cup
- 3d Elastomeric cup
- 4 Springs
- 5 Metal frame



SECTORS:



CHARACTERISTICS:

- **Balanced.**
- Shaft fixing system **WITHOUT** screws.
- **Sentido rotación independiente.**

OPERATING LIMITS:

$$d_1 = 20 \div 35 \text{ mm} \quad p = 35 \text{ kg/cm}^2$$

$$v = 20 \text{ m/} \quad t = -40 \div +150^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

A wave spring mechanical seal in which the spring is isolated and protected from the product. Its hygienic design reduces the likelihood of traces of product being deposited on its surface, thereby eliminating the risk of contamination.

DIMENSIONS CHART

Dimension in mm

Shaft	Rotary part					Stationary part			Total length
mm	d ₂	d ₃	l ₄	l ₂	l ₃	d ₆	d ₇	l ₄	l ₁
20	13.5	34	39	23	29	29	35	8.5	37.5
25	18.5	39	44	24.5	31.5	34	40	8.5	40
35	22.5	49	54	26	34	44	50	8.5	42.5

Dimensions subject to changes or modifications.



- TYPELWS70



- **Unbalanced.**
- System attached to the shaft by Allen screws.
- **Not dependent on the rotation direction.**

$d_1 = 15.8 \div 100 \text{ mm}$ $p = 10 \text{ kg/cm}^2$

$v = 15 \text{ m/s}$ $t = -15 \div +200^\circ\text{C} (*)$

(*)The temperature resistance depends on the material of the secondary seals used.

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

This mechanical seal is designed for internal and external mounting. Its small mounting size makes it ideal for using in lobe pumps. The wave spring cannot be blocked or obstructed when working with fluids laden with particles, sticky or viscous fluids.

The fact that the rotating part of the mechanical seal is made of stainless steel (the most habitual combination) makes it a resistant, robust seal.

DIMENSIONS CHART

Dimensions in mm

(mm)				LWS70			LWS71						
d ₃	d ₄	l ₃		d ₇	l ₄	l ₁	d ₆	d ₇	d ₈	l ₄	l ₆	l ₁	
15.8	27	30	19.1	28.5	6.3	25.4	-	-	-	-	-	-	
16	27	31	19.1	28.5	6.3	25.4	21	27	3	8.6	7	27.7	
18	29	33	19.1	-	-	-	27	33	3	10	9	29.1	
19.1	30	33	19.1	31.7	6.3	25.4	-	-	-	-	-	-	
20	32	36	19.1	-	-	-	29	35	3	10	9	29.1	
22	34	38	19.1	-	-	-	31	37	3	10	9	29.1	
24	34	38	19.1	35.4	7.6	26.7	33	39	3	10	9	29.1	
25	35	39	19.1	-	-	-	34	40	3	10	9	29.1	
28	40	44	19.1	42	7.6	26.7	37	43	3	10	9	29.1	
28.6	39.5	42.5	19.1	41.2	7.6	26.7	-	-	-	-	-	-	
30	41	45	19.1	42.7	7.6	26.7	39	45	3	10	9	29.1	
31.7	42.4	45.4	19.1	44.2	7.6	26.7	-	-	-	-	-	-	
32	43	47	19.1	44.4	7.6	26.7	42	48	3	10	9	29.1	
33	44	48	19.1	-	-	-	42	48	3	10	9	29.1	
35	46	50	19.1	47.6	7.6	26.7	44	50	3	10	9	29.1	
38	52	56	21.1	53.9	8.1	29.2	49	56	4	11	10	32.1	
40	55	59	21.1	-	-	-	51	58	4	11	10	32.1	
43	58	62	21.1	-	-	-	54	61	4	11	10	32.1	
44.4	58.2	61.2	21.1	60.3	8.1	29.2	-	-	-	-	-	-	
45	60	64	21.1	-	-	-	56	63	4	11	10	32.1	
47.6	61.4	64.4	21.1	63.5	8.1	29.2	-	-	-	-	-	-	
48	62	66	21.1	-	-	-	59	66	4	11	10	32.1	
50	62	66	21.1	63.9	8.1	29.2	62	70	4	13	11	34.1	
50.8	64.6	67.6	22.1	66.6	9.6	31.7	-	-	-	-	-	-	
53	71	75	22.1	-	-	-	65	73	4	13	11	35.1	
53.9	71	74	22.1	73	9.6	31.7	-	-	-	-	-	-	
54	71	74	22.1	73.9	9.6	31.7	-	-	-	-	-	-	
54.6	72	75	22.1	75	9.6	31.7	-	-	-	-	-	-	
55	72	76	22.1	75	9.6	31.7	67	75	4	13	11	35.1	
58	78	82	25.8	-	-	-	70	78	4	13	11	38.8	
60	79	83	25.8	-	-	-	72	80	4	13	11	38.8	
63	79.3	82.3	25.8	83	9.1	34.9	75	83	4	13	11	38.8	
63.5	79.3	82.3	25.8	88.9	9.1	34.9	-	-	-	-	-	-	
65	87	91	25.8	-	-	-	77	85	4	13	11	38.8	
68	89	93	25.8	-	-	-	81	90	4	15.3	12	41.1	
69.8	88.9	91.9	25.8	95.2	9.1	34.9	-	-	-	-	-	-	
70	89	93	25.8	-	-	-	83	92	4	15.3	12	41.1	
73	94	97	25.8	98.4	9.1	34.9	-	-	-	-	-	-	
75	96	100	25.8	100.4	9.1	34.9	88	97	4	15.3	12	41.1	
76.2	96.9	99.9	25.8	101.6	9.1	34.9	-	-	-	-	-	-	
80	101	105	25.8	104	9.1	34.9	95	105	4	15.7	13	41.5	
85	108	112	25.8	-	-	-	100	110	4	15.7	13	41.5	
90	113	117	25.8	-	-	-	105	115	4	15.7	13	41.5	
95	116	120	25.8	125	9.1	34.9	110	120	4	15.7	13	41.5	
100	121	125	25.8	130	9.1	34.9	115	125	4	15.7	13	41.5	

Dimensions subject to changes or modifications.