

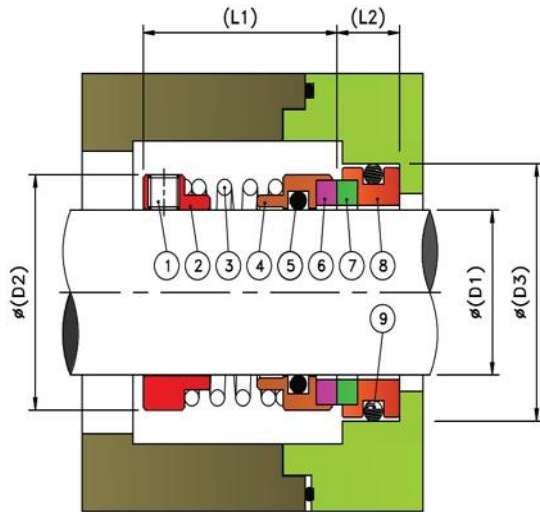
SEALTEC

MECHANICAL SEALS



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Part Names

1. Set Screws
2. Set Ring
3. Spring
4. Rotary Face Housing
5. O-Ring
6. Rotary Seal Face
7. Stationary Seal Face
8. Stationary Face Housing
9. O-Ring

Design Features

- Unbalanced
- Single Coil Spring
- Setting-length of spring can be held in position by built-in set ring and set

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 15 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

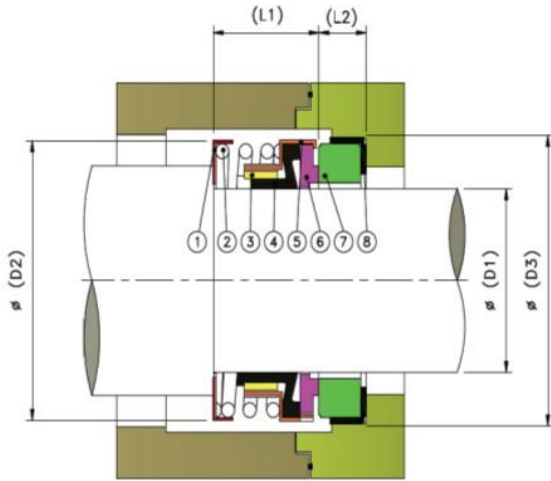
- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel
- * Other configuration of materials also available on request
- ** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.				
D1	D2	D3	L1	L2
20.0	30.0	34.0	30.0	11.0
22.0	31.6	35.0	32.0	11.0
24.0	34.7	35.0	35.0	11.0
25.0	34.7	35.0	35.0	12.0
28.0	40.0	43.0	37.5	12.0
30.0	41.0	45.0	37.5	12.0
32.0	44.0	48.0	39.0	12.0
33.0	45.0	49.0	39.0	12.0
35.0	48.0	50.0	40.0	12.0
38.0	52.0	54.0	42.0	12.0
40.0	54.0	58.0	45.0	12.0
42.0	55.0	59.0	46.0	12.0
43.0	56.0	59.0	46.0	12.0
45.0	57.0	60.0	46.0	12.0
48.0	62.0	66.0	48.0	12.0
50.0	63.5	65.0	49.0	12.0
52.0	65.5	67.0	49.0	12.0
53.0	66.5	68.0	49.0	12.0
55.0	69.8	73.0	56.0	12.0
58.0	73.0	75.0	56.0	12.0
60.0	75.0	80.0	56.0	12.0
62.0	77.0	80.0	56.0	12.0
63.0	78.0	80.0	56.0	12.0
65.0	81.5	85.0	64.0	13.0
68.0	84.5	88.0	64.0	13.0
70.0	86.5	90.0	64.0	13.0
75.0	91.5	95.0	64.0	13.0
80.0	96.5	100.0	64.0	13.0
85.0	101.5	105.0	72.0	15.0
90.0	106.5	110.0	72.0	15.0
95.0	111.5	115.0	72.0	15.0
100.0	116.5	120.0	72.0	15.0

* Inch size is available upon request.



Part Names

1. Spring Holder
2. Spring
3. Drive Ring
4. Rubber Bellows
5. Retainer
6. Rotary Seal Face
7. Stationary Seat
8. U-Cup

Design Features

- Unbalanced
- Single Coil Spring
- Rubber Bellows is designed incorporates in serveral functions, as seal face carrier, secondary sealing element, and drive collar.
- Independent of direction of rotation.

Operating Conditions

- Max. Operating Pressure : 7 kg/cm² *
 - Temperature Range : -20 to 100 °C *
 - Max. Rubbing Speed : 5 m/s
- * Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Silicon Carbide & Silicon Carbide

Secondary Seal

- **Nitrile Butadiene Rubber**
- Ethylene Propylenen Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

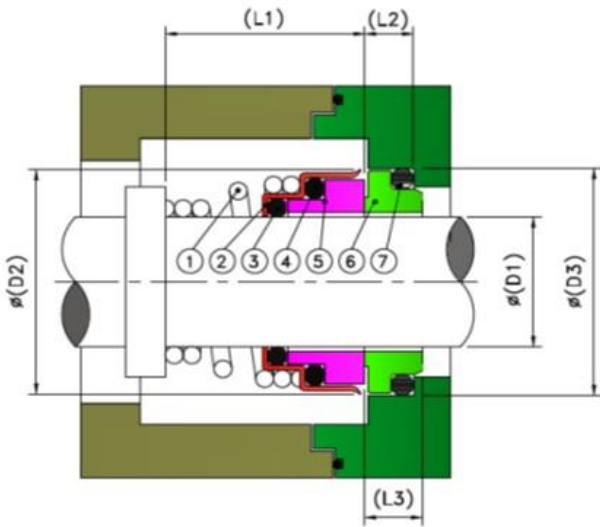
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	L1	L2
8.0	18.2	21.0	11.2	6.5
9.0	18.2	24.0	16.2	6.5
10.0	20.6	24.0	16.2	6.5
11.0	20.6	24.0	16.2	6.5
12.0	21.8	26.0	17.2	6.5
13.0	21.8	26.0	17.2	6.5
14.0	26.4	28.0	18.2	6.5
15.0	26.4	28.0	18.2	6.5
16.0	26.4	32.0	19.2	6.5
17.0	29.5	32.0	19.2	6.5
18.0	29.5	35.0	19.2	6.5
19.0	29.5	35.0	19.2	6.5
20.0	31.6	38.0	20.2	8.0
22.0	33.6	40.0	20.2	8.0
25.0	39.6	44.0	20.2	9.0
28.0	45.0	46.0	21.2	9.0
30.0	46.6	50.0	22.2	9.0
32.0	46.6	54.0	24.2	9.0
35.0	50.8	58.0	26.2	10.0
38.0	54.3	60.0	27.2	10.0
40.0	57.3	64.0	28.2	10.0
45.0	61.3	66.0	30.2	10.0
50.0	67.8	72.0	32.2	10.0
0.375"	20.7	22.2	22.2	6.5
0.500"	22.2	25.4	22.2	6.5
0.625"	26.4	31.8	23.8	7.5
0.750"	29.8	34.9	23.8	7.5
0.875"	33.8	38.1	25.4	7.5
1.000"	39.5	41.3	27.0	9.5
1.125"	43.0	44.5	28.6	9.5
1.250"	46.8	47.6	28.6	9.5
1.375"	51.2	50.8	30.2	9.5
1.500"	54.5	54.0	30.2	9.5
1.625"	57.5	60.3	36.5	11.1
1.750"	61.4	63.5	36.5	11.1
1.875"	63.6	66.7	39.7	11.1
2.000"	68.0	69.9	39.7	11.1

* Inch size is available upon request.



Part Names

1. Spring
2. Collar
3. O-Ring
4. O-Ring
5. Rotary Seal Face
6. Stationary Seat
7. O-Ring

Design Features

- Unbalanced
- Conical Single Coil Spring
- Non-clogging single coil spring for dependability.

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -20 to 120 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Ceramic & Carbon
- Silicon Carbide & Carbon
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

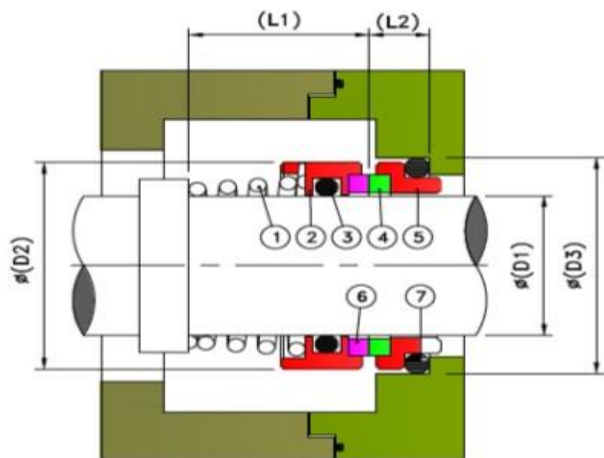
Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSIC or SSIC

Dimension in mm.					
D1	D2	D3	L1	L2	L3
10.0	20.0	18.1	15.0	5.5	7.0
10.0 (L)	20.0	21.0	15.0	7.0	8.5
11.0	22.0	20.6	18.0	5.5	7.0
12.0	22.0	20.6	18.0	5.5	7.0
12.0 (L)	22.0	23.0	18.0	7.0	8.5
13.0	25.0	23.1	22.0	6.0	7.5
14.0	25.0	23.1	22.0	6.0	7.5
14.0 (L)	25.0	25.0	22.0	7.0	8.5
15.0	29.0	26.9	22.0	7.0	9.2
16.0	29.0	26.9	23.0	7.0	9.2
16.0 (L)	29.0	27.0	23.0	7.0	8.5
17.0	29.0	26.9	23.0	7.0	9.2
18.0	33.0	30.9	24.0	8.0	10.0
18.0 (L)	33.0	33.0	24.0	10.0	12.0
19.0	33.0	30.9	25.0	8.0	10.0
20.0	33.0	30.9	25.0	8.0	10.0
20.0 (L)	33.0	35.0	25.0	10.0	12.0
21.0	38.0	35.4	25.0	8.0	10.0
22.0	38.0	35.4	25.0	8.0	10.0
22.0 (L)	38.0	37.0	25.0	10.0	12.0
23.0	38.0	35.4	27.0	8.0	10.0
24.0	38.0	35.4	27.0	8.0	10.0
24.0 (L)	38.0	39.0	27.0	10.0	12.0
25.0	40.0	38.2	27.0	8.5	10.0
25.0 (L)	40.0	40.0	27.0	10.0	12.0
28.0	46.0	43.3	29.0	9.0	11.0
28.0 (L)	46.0	43.0	29.0	10.0	12.0
29.0	46.0	43.3	30.0	9.0	11.0
30.0	46.0	43.3	30.0	9.0	11.0
30.0 (L)	46.0	45.0	30.0	10.0	12.0
32.0	46.0	43.3	30.0	9.0	11.0
32.0 (L)	46.0	48.0	30.0	10.0	11.5
33.0	48.0	53.5	39.0	11.5	13.0
33.0 (L)	48.0	48.0	39.0	10.0	11.5
35.0	50.0	53.5	39.0	11.5	13.0
35.0 (L)	50.0	50.0	39.0	10.0	11.5
38.0	56.0	60.5	39.0	11.5	13.0
38.0 (L)	56.0	58.0	42.2	13.0	15.0
40.0	58.0	60.5	39.0	11.5	13.0
40.0 (L)	58.0	58.0	42.2	13.0	15.0



Part Names

1. Spring
2. Rotary Face Housing
3. O-Ring
4. Stationary Seal Face
5. Stationary Face Housing
6. Rotary Seal Face
7. O-Ring

Design Features

- Unbalanced
- Single Coil Spring
- Shrink-fitted seal faces can be easily replaced with other materials.

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 15 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

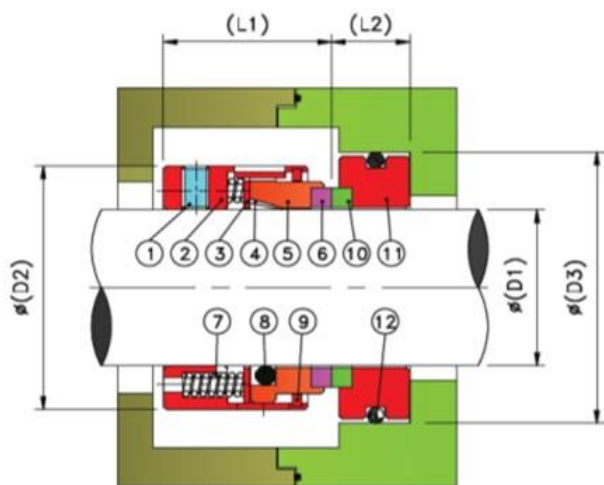
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSIC or SSIC

Dimension in mm.				
D1	D2	D3	L1	L2
20.0	31.0	35.0	22.0	10.0
22.0	33.0	35.0	22.0	10.0
24.0	35.0	38.0	23.5	10.0
25.0	36.0	38.0	26.5	10.0
28.0	41.0	42.0	26.5	11.0
30.0	43.0	45.0	26.5	11.0
32.0	46.0	48.0	28.5	11.0
33.0	47.0	49.0	28.5	11.0
35.0	49.0	52.0	28.5	11.5
38.0	53.0	55.0	33.5	11.5
40.0	56.0	58.0	36.5	11.5
42.0	58.0	61.0	38.5	13.5
43.0	59.0	61.0	38.5	13.5
45.0	61.0	64.0	39.5	14.5
48.0	64.0	66.0	45.0	14.5
50.0	66.0	69.0	45.0	14.5
52.0	68.0	69.0	45.0	14.5
53.0	71.0	75.4	47.0	15.5
55.0	71.0	75.4	49.0	15.5
58.0	76.0	78.4	55.0	15.5
60.0	78.0	80.4	55.0	15.5
62.0	80.0	80.4	55.0	15.5
63.0	81.0	80.4	55.0	15.5
65.0	84.0	85.4	55.0	15.5
68.0	88.0	91.5	55.0	18.0
70.0	90.0	92.0	57.0	18.0
75.0	98.0	99.0	62.0	18.0
80.0	100.0	104.0	62.0	18.0
85.0	105.0	109.0	62.0	18.0
90.0	110.0	114.0	62.0	18.0
95.0	115.0	119.0	62.0	18.0
100.0	120.0	124.0	62.0	18.0

* Inch size is available upon request.



Part Names

- | | |
|------------------------|-----------------------------|
| 1. Set Screws | 7. Spring |
| 2. Rotary Housing | 8. O-Ring |
| 3. Thrust Ring | 9. Lock Washer |
| 4. Wedge | 10. Stationary Seal Face |
| 5. Rotary Face Housing | 11. Stationary Face Housing |
| 6. Rotary Seal Face | 12. O-Ring |

Design Features

- Unbalanced
- O-ring secondary seal (standard)
- PTFE Wedge-ring secondary seal (optional)
- Multiple-spring exert even closing force on seal faces
- PTFE Wedge-ring secondary seal (optional)
- Shrink-fitted seal face can be easily replaced with other materials.

Operating Conditions

- Max. Operating Pressure : 14 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 15 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

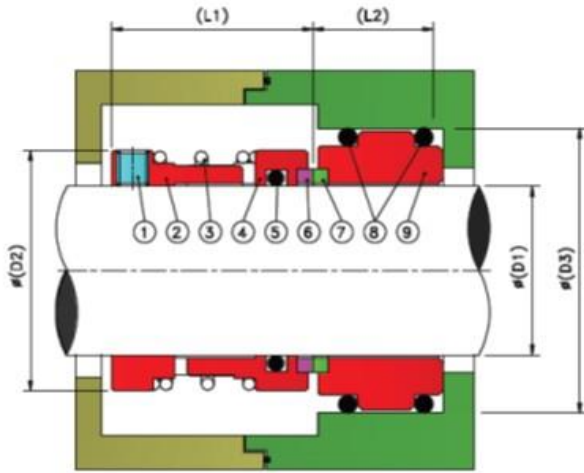
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	L1	L2
20.0	33.5	35.0	22.0	10.0
22.0	37.0	38.0	24.0	10.0
24.0	38.0	38.0	24.0	10.0
25.0	39.7	41.3	25.0	10.0
28.0	42.8	44.5	26.5	11.0
30.0	47.0	47.6	27.0	11.0
32.0	47.6	47.6	27.0	11.0
33.0	47.6	47.6	28.5	11.0
35.0	51.8	50.8	28.5	11.0
38.0	54.0	54.0	28.5	11.0
40.0	59.0	60.3	32.0	12.0
42.0	59.0	61.3	32.0	12.0
43.0	59.0	63.5	32.0	12.0
45.0	61.0	63.5	32.0	12.0
48.0	65.0	66.7	32.0	12.0
50.0	70.0	69.8	32.0	12.0
52.0	72.0	71.8	32.0	12.0
53.0	73.0	72.8	32.0	12.0
55.0	75.0	76.2	39.0	12.0
58.0	78.0	79.2	39.0	12.0
60.0	82.0	82.6	39.0	13.5
62.0	84.0	85.8	39.0	13.5
63.0	85.0	85.8	39.0	13.5
65.0	86.0	85.8	39.0	15.5
68.0	89.0	88.8	39.0	15.5
70.0	92.0	89.0	39.0	16.0
75.0	97.0	94.0	39.0	16.0
80.0	102.0	99.0	39.0	16.0
85.0	107.0	104.0	39.0	16.0
90.0	112.0	109.0	39.0	16.0
95.0	117.0	114.0	39.0	16.0
100.0	122.0	119.0	39.0	16.0

* Inch size is available upon request.



Part Names

1. Set Screws
2. Set Ring
3. Spring
4. Rotary Face Housing
5. O-Ring
6. Rotary Seal Face
7. Stationary Seal Face
8. O-Ring
9. Stationary Face Housing

Design Features

- Unbalanced
- Single Coil Spring
- Positive-drive rotary part are designed for protecting slip of o-ring on shaft.
- Setting-length of spring can be held in position by built-in set ring and set screws.

Operating Conditions

- Max. Operating Pressure : 12 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

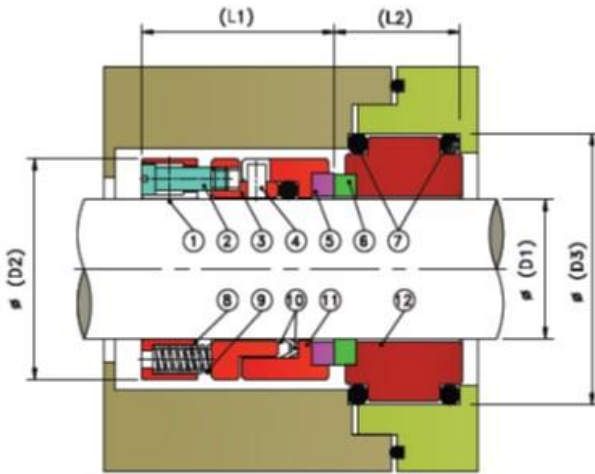
* Other configuration of materials also available on request

** Silicon Carbide can be RSiC or SiC

Dimension in mm.

D1	D2	D3	L1	L2
20.0	34.0	42.0	41.0	23.0
22.0	36.0	44.0	41.0	23.0
24.0	38.0	46.0	43.0	23.0
25.0	39.0	47.0	43.0	23.0
28.0	42.0	50.0	45.0	23.0
30.0	44.0	52.0	45.0	23.0
32.0	46.0	54.0	45.0	23.0
33.0	47.0	55.0	45.0	23.0
35.0	49.0	57.0	49.0	23.0
38.0	54.0	64.0	53.0	25.0
40.0	56.0	66.0	55.0	25.0
42.0	58.0	66.0	55.0	25.0
43.0	59.0	69.0	55.0	25.0
45.0	61.0	71.0	55.0	25.0
48.0	64.0	74.0	55.0	25.0
50.0	66.0	76.0	60.0	25.0
52.0	68.0	76.0	60.0	25.0
53.0	69.0	79.0	61.0	25.0
55.0	71.0	81.0	61.0	25.0
58.0	76.0	89.0	63.0	28.0
60.0	78.0	91.0	63.0	28.0
62.0	80.0	91.0	63.0	28.0
63.0	81.0	94.0	63.0	28.0
65.0	84.0	96.0	67.0	28.0
68.0	87.0	99.0	67.0	30.0
70.0	90.0	101.0	68.0	30.0
75.0	95.0	110.0	72.0	30.0
80.0	100.0	115.0	72.0	31.0
85.0	107.0	120.0	77.0	31.0
90.0	112.0	125.0	77.0	31.0
95.0	119.0	130.0	82.0	31.0
100.0	124.0	135.0	82.0	31.0

* Inch size is available upon request.



Part Names

- | | |
|-------------------------|-----------------------------|
| 1. Set Screw | 7. O-Ring |
| 2. Drive Pin | 8. Set Ring |
| 3. Compression Ring | 9. Spring |
| 4. Pin | 10. V-Ring |
| 5. Rotary Seal Face | 11. Rotary Face Housing |
| 6. Stationary Seal Face | 12. Stationary Face Housing |

Design Features

- Unbalanced
- Multiple-Spring
- PTFE V-ring secondary seal (optional)
- Positive-drive rotary part are designed for protecting slip of o-ring on shaft.
- Shrink-fitted seal faces can be easily replaced with other materials.

Operating Conditions

- Max. Operating Pressure : 15 kg/cm² *
 - Temperature Range : -20 to 180 °C *
 - Max. Rubbing Speed : 25 m/s
- * Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

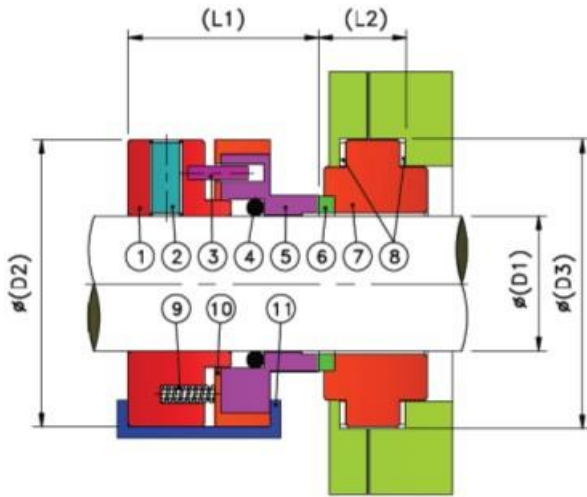
* Other configuration of materials also available on request

** Silicon Carbide can be RSiC or SSiC

Dimension in mm.

D1	D2	D3	L1	L2
20.0	34.0	44.0	38.0	21.0
22.0	36.0	44.0	38.0	21.0
24.0	38.0	46.0	40.0	23.0
25.0	40.0	48.0	40.0	23.0
28.0	42.0	50.0	40.0	23.0
30.0	44.0	52.0	40.0	23.0
32.0	46.0	54.0	40.0	23.0
33.0	47.0	54.0	40.0	23.0
35.0	49.0	57.0	40.0	23.0
38.0	54.0	64.0	42.0	25.0
40.0	56.0	66.0	42.0	25.0
42.0	58.0	66.0	42.0	25.0
43.0	59.0	69.0	43.0	25.0
45.0	61.0	71.0	43.0	25.0
48.0	64.0	74.0	43.0	25.0
50.0	66.0	76.0	44.0	25.0
52.0	68.0	76.0	44.0	25.0
53.0	69.0	79.0	44.0	25.0
55.0	71.0	81.0	44.0	25.0
58.0	76.0	89.0	46.0	28.0
60.0	78.0	91.0	46.0	28.0
62.0	80.0	91.0	46.0	28.0
63.0	81.0	94.0	46.0	28.0
65.0	84.0	96.0	46.0	28.0
68.0	87.0	99.0	46.0	30.0
70.0	90.0	101.0	46.0	30.0
75.0	95.0	110.0	46.0	30.0
80.0	100.0	115.0	46.0	31.0
85.0	107.0	120.0	46.0	31.0
90.0	112.0	125.0	49.0	31.0
95.0	119.0	130.0	49.0	31.0
100.0	124.0	135.0	49.0	31.0

* Inch size is available upon request.



Part Names

- | | |
|-------------------------|----------------------------|
| 1. Set Ring | 7. Stationary Face Housing |
| 2. Set Screw | 8. Gasket |
| 3. Pin | 9. Spring |
| 4. O-Ring | 10. Rotary Face Housing |
| 5. Rotary Seal Face | 11. Setter |
| 6. Stationary Seal Face | |

Design Features

- Balanced
- Outside Installation
- Multiple spring exert even closing force on the seal faces.
- Set ring is provided for suitable operating length of rotary seal setting-length.

Operating Conditions

- Max. Operating Pressure : 12 kg/cm² *
- Temperature Range : -30 to 180 °C *
- Max. Rubbing Speed : 25 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

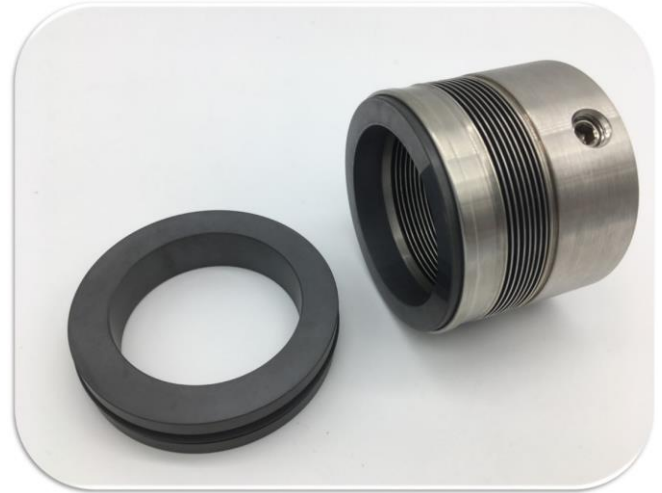
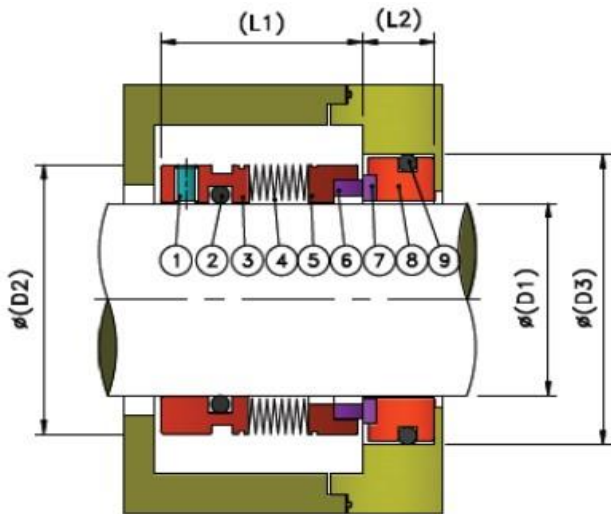
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	L1	L2
20.0	47.9	49.8	32.0	20.6
22.0	49.9	52.8	32.0	20.6
24.0	51.9	54.8	32.0	20.6
25.0	52.9	55.8	32.0	20.6
28.0	55.9	58.8	32.0	20.6
30.0	57.9	60.8	32.0	20.6
32.0	59.9	62.8	32.0	20.6
33.0	60.9	63.8	32.0	20.6
35.0	62.9	65.8	32.0	20.6
38.0	65.9	68.8	32.0	20.6
40.0	67.9	70.8	32.0	20.6
42.0	69.9	72.8	32.0	20.6
43.0	70.9	73.8	32.0	20.6
45.0	72.9	75.8	32.0	20.6
48.0	75.9	78.8	32.0	20.6
50.0	77.9	80.8	32.0	20.6
52.0	79.9	82.8	32.0	20.6
53.0	80.9	83.8	32.0	20.6
55.0	82.9	85.8	32.0	20.6
58.0	85.9	88.8	32.0	20.6
60.0	87.9	90.8	32.0	20.6
62.0	89.9	92.8	32.0	20.6
63.0	90.9	93.8	32.0	20.6
65.0	92.9	95.8	32.0	20.6
68.0	95.9	98.8	32.0	20.6
70.0	97.9	100.8	32.0	20.6
75.0	102.9	105.8	32.0	20.6
80.0	107.9	110.8	32.0	20.6
85.0	112.9	115.8	32.0	20.6
90.0	117.9	120.8	32.0	20.6
95.0	122.9	125.8	32.0	20.6
100.0	127.9	130.8	32.0	20.6

* Inch size is available upon request.



Part Names

1. Set Screw
2. O-Ring
3. Set Ring
4. Metal Bellows
5. Holder
6. Rotary Seal Face
7. Set Screw
8. Stationary Seat
9. O-Ring

Design Features

- Balanced
- Metal bellows exert even closing force on the seal faces. Therefore, it is suitable for high speed rotation.
- Shrink-fitted seal faces can be easily replaced with other materials.

Operating Conditions

- Max. Operating Pressure : 70 kg/cm² *
 - Temperature Range : -75 to 200 °C *
 - Max. Rubbing Speed : 25 m/s
- * Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

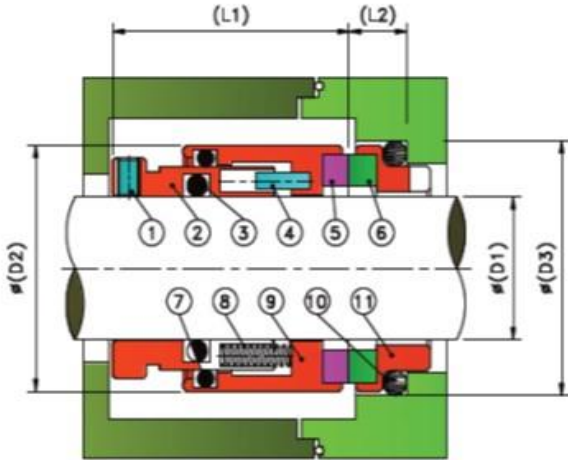
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.				
D1	D2	D3	L1	L2
24.0	38.1	40.5	30.0	10.3
25.0	39.0	40.5	30.0	10.3
28.0	42.0	47.6	32.5	12.0
30.0	44.0	50.8	32.5	12.0
32.0	46.0	50.8	32.5	12.0
33.0	47.0	54.0	32.5	12.0
35.0	49.2	53.9	32.5	11.9
38.0	52.4	57.1	34.0	11.9
40.0	55.6	60.4	34.0	12.0
43.0	58.7	63.5	34.0	12.0
45.0	58.7	63.5	34.0	12.0
48.0	61.9	66.7	34.0	12.0
50.0	65.1	69.9	34.5	12.0
53.0	68.3	73.1	34.5	13.5
55.0	71.0	76.2	34.5	13.5
58.0	74.6	79.4	39.5	13.5
60.0	74.6	79.4	39.5	13.5
63.0	81.0	82.6	39.5	13.5
65.0	84.1	92.1	39.5	15.9
68.0	87.3	95.3	37.5	15.9
70.0	87.3	95.3	45.0	15.9
75.0	95.3	101.6	45.0	15.9
80.0	98.4	114.3	44.5	19.9
85.0	104.8	117.5	44.5	19.9
90.0	108.0	123.9	49.5	19.9
95.0	114.3	127.0	49.5	19.9
100.0	120.7	133.4	49.5	19.9

* Inch size is available upon request.



Part Names

- | | |
|-------------------------|-----------------------------|
| 1. Set Screw | 7. O-Ring |
| 2. Set Ring | 8. Spring |
| 3. O-Ring | 9. Rotary Face Housing |
| 4. Pin | 10. O-Ring |
| 5. Rotary Seal Face | 11. Stationary Face Housing |
| 6. Stationary Seal Face | |

Design Features

- Balanced
- Springs are isolated from sealed liquid
- Setting-length is short
- Shrink-fitted seal faces can be easily replaced with other materials.

Operating Conditions

- Max. Operating Pressure : 12 kg/cm² *
- Temperature Range : -30 to 180 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

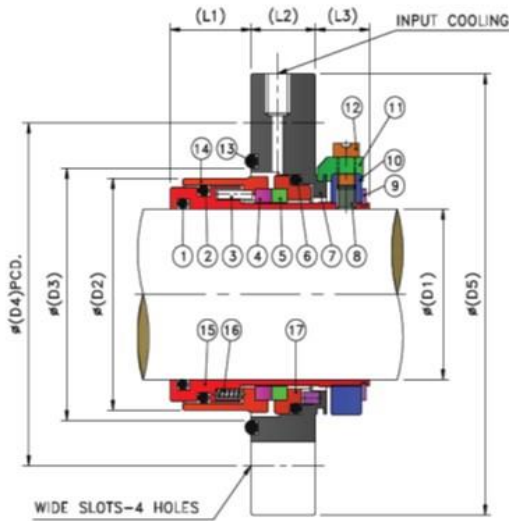
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSIC or SSIC

			Dimension in mm.	
D1	D2	D3	L1	L2
20.0	34.5	35.0	34.0	8.0
22.0	36.5	35.0	34.0	8.0
24.0	38.5	39.0	34.5	8.0
25.0	39.5	40.0	34.5	8.0
28.0	43.5	43.0	34.5	8.0
30.0	44.5	45.0	34.5	8.0
32.0	46.5	48.0	34.5	8.0
33.0	47.5	48.0	34.5	8.0
35.0	49.5	50.0	35.5	8.0
38.0	55.0	56.0	35.5	8.5
40.0	57.0	58.0	35.5	8.5
42.0	59.0	58.0	35.5	8.5
43.0	60.0	58.0	35.5	8.5
45.0	62.0	63.0	35.5	8.5
48.0	65.0	63.0	35.5	8.5
50.0	67.0	68.0	35.5	8.5
52.0	69.0	68.0	35.5	8.5
53.0	71.0	68.0	35.5	8.5
55.0	72.0	73.0	37.5	8.5
58.0	75.0	73.0	37.5	8.5
60.0	80.0	81.0	39.0	9.5
62.0	82.0	81.0	39.0	9.5
63.0	83.0	81.0	39.0	9.5
65.0	87.0	86.0	39.0	9.5
68.0	90.0	86.0	39.0	9.5
70.0	92.0	86.0	39.0	9.5
75.0	97.0	91.0	40.5	9.5
80.0	102.0	91.0	40.5	9.5
85.0	107.5	91.5	40.5	9.5
90.0	112.5	96.5	42.0	10.5
95.0	117.5	96.5	42.0	10.5
100.0	122.5	96.5	42.0	10.5

* Inch size is available upon request.



Part Names

- | | |
|-------------------------|-----------------------------|
| 1. O-Ring | 10. Set Ring |
| 2. O-Ring | 11. Setter |
| 3. Pin | 12. Screw |
| 4. Rotary Seal Face | 13. O-Ring |
| 5. Stationary Seal Face | 14. Rotary Face Housing |
| 6. O-Ring | 15. Sleeve |
| 7. Gland | 16. Spring |
| 8. set Screw | 17. Stationary Face Housing |
| 9. Lock Washer | |

Design Features

- Off-The-Shelf Availability
- Custom seals available in special alloys and sizes upon requests.
- Wide Temperature and Pressure Ranges.
- Cartridge design for precise, easy installation.
- Balanced design for wide range of services.

Operating Conditions

- Max. Operating Pressure : 20 kg/cm² *
- Temperature Range : -30 to 200 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

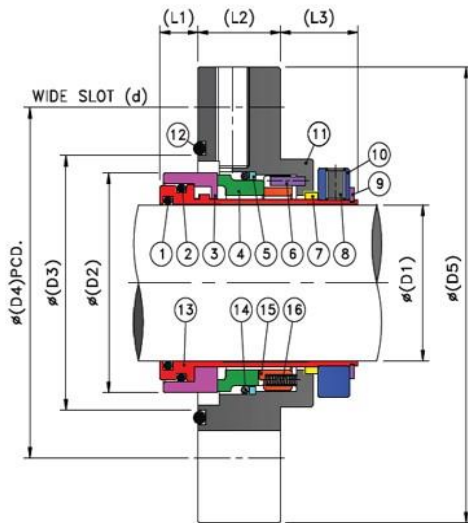
* Other configuration of materials also available on

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	36.0	40.5	62.5	86.0	18.5	20.5	17.0	11.0
22.0	38.0	42.5	64.5	88.0	18.5	20.5	17.0	11.0
24.0	40.0	44.5	66.5	90.0	19.0	20.5	17.0	11.0
25.0	43.0	46.0	67.5	95.0	19.0	20.5	17.0	11.0
28.0	46.0	48.5	70.5	95.0	19.0	20.5	17.0	11.0
30.0	46.0	51.0	75.0	101.0	19.0	20.5	17.0	11.0
32.0	48.0	55.0	77.5	101.0	19.0	20.5	17.0	11.0
33.0	49.0	55.0	78.5	101.0	19.0	20.5	17.0	11.0
35.0	51.5	57.0	78.0	101.0	21.5	20.5	17.0	11.0
38.0	55.0	60.0	83.0	114.0	24.5	20.5	17.0	11.0
40.0	56.0	62.0	86.0	121.0	24.5	20.5	17.0	14.0
42.0	58.0	62.0	88.0	121.0	24.5	20.5	17.0	14.0
43.0	60.0	65.0	93.5	122.0	26.0	20.5	17.0	14.0
45.0	62.5	67.0	93.5	135.0	26.0	20.5	17.0	14.0
48.0	65.0	70.0	96.0	137.0	26.0	20.5	17.0	14.0
50.0	67.5	73.0	100.0	137.0	26.0	20.5	17.0	14.0
52.0	69.5	73.0	102.0	137.0	26.0	20.5	17.0	14.0
53.0	70.5	73.0	103.0	137.0	26.0	20.5	17.0	14.0
55.0	75.0	83.0	114.0	152.0	26.0	20.5	17.0	14.0
58.0	78.0	83.0	117.0	152.0	26.0	20.5	17.0	14.0
60.0	80.0	87.0	117.0	152.0	26.0	20.5	17.0	17.0
62.0	82.0	87.0	119.0	152.0	26.0	20.5	17.0	17.0
63.0	83.0	87.0	119.0	152.0	26.0	20.5	17.0	17.0
65.0	85.0	92.0	119.0	152.0	26.0	20.5	17.0	17.0
68.0	88.0	92.0	122.0	152.0	26.0	20.5	17.0	17.0
70.0	90.0	92.0	125.0	152.0	26.0	20.5	17.0	17.0
75.0	95.0	97.0	130.0	160.0	27.5	21.5	18.0	17.0
80.0	100.0	97.0	135.0	160.0	27.5	21.5	18.0	17.0
85.0	105.0	99.0	140.0	160.0	27.5	21.5	18.0	17.0
90.0	110.0	99.0	145.0	160.0	27.5	21.5	18.0	17.0
95.0	115.0	99.0	150.0	160.0	27.5	21.5	18.0	17.0
100.0	120.0	99.0	155.0	160.0	27.5	21.5	18.0	17.0

* Inch size is available upon request.



Part Names

- | | |
|---------------------|----------------------|
| 1. Set Screw | 9. Lock Washer |
| 2. Rotary Housing | 10. Set Ring |
| 3. Wave Spring | 11. Gland |
| 4. O-Ring | 12. O-Ring |
| 5. Rotary Seal Face | 13. Sleeve |
| 6. Stationary Seat | 14. O-Ring |
| 7. O-Ring | 15. Compression Ring |
| 8. Thrust Ring | 16. Spring |

Design Features

- The balanced cartridge construction makes the suitable for a wide range of demanding applications.
- Due to the cartridge construction the seal can be easily installed.
- The springs of the seal are located in the stationary housing outside of the product.
- Premium-grade silicon carbide solid seal faces are excellent for high temperature ,high speed pumps and enduring abrasive fluid.
- Unique centralizing ring PTFE provided no setting clips to be removed or lost.
- No drive screw damage to shaft or sleeve.

Operating Conditions

- Max. Operating Pressure : 30 kg/cm2 *
- Temperature Range : -40 to 200 °C *
- Max. Rubbing Speed : 20 m/s
- * Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

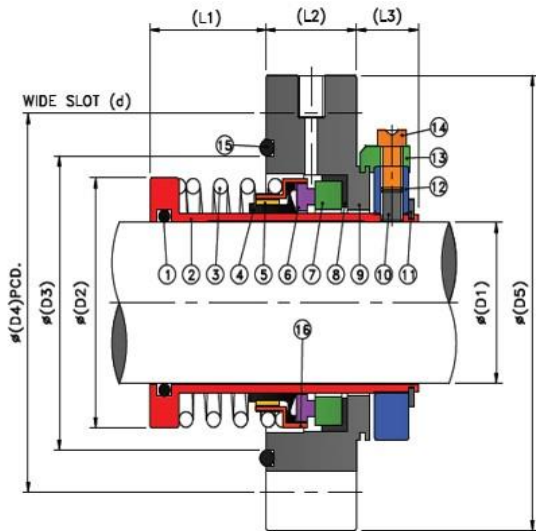
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	37.5	48.0	72.0	95.0	11.5	25.0	23.5	11.0
22.0	39.5	50.0	74.0	97.0	11.5	25.0	23.5	11.0
24.0	41.5	51.0	75.0	98.0	11.5	25.0	23.5	11.0
25.0	42.5	53.0	77.0	100.0	11.5	25.0	23.5	11.0
28.0	44.5	53.0	77.0	100.0	11.5	25.0	23.5	11.0
30.0	47.0	57.0	80.0	105.0	11.5	25.0	23.5	11.0
32.0	49.0	60.0	84.0	110.0	11.5	25.0	23.5	11.0
33.0	50.0	60.0	85.0	110.0	11.5	25.0	23.5	11.0
35.0	52.5	62.0	86.0	110.0	11.5	25.0	23.5	14.0
38.0	55.5	66.0	90.0	115.0	11.5	25.0	23.5	14.0
40.0	57.5	69.0	95.0	115.0	11.5	25.0	23.5	14.0
42.0	59.5	69.0	97.0	115.0	11.5	25.0	23.5	14.0
43.0	60.5	70.0	98.0	120.0	11.5	25.0	23.5	14.0
45.0	65.5	72.0	98.0	125.0	11.5	25.0	23.5	14.0
48.0	65.5	73.0	98.0	125.0	11.5	25.0	23.5	14.0
50.0	67.5	77.0	102.0	130.0	11.5	25.0	23.5	14.0
52.0	69.5	77.0	104.0	130.0	11.5	25.0	23.5	14.0
53.0	70.5	77.0	105.0	130.0	11.5	25.0	23.5	14.0
55.0	73.0	82.0	110.0	135.0	11.5	25.0	23.5	14.0
58.0	76.0	82.0	113.0	135.0	11.5	25.0	23.5	14.0
60.0	78.0	88.0	115.0	140.0	11.5	25.0	23.5	17.0
62.0	80.0	88.0	117.0	140.0	11.5	25.0	23.5	17.0
63.0	81.0	88.0	118.0	140.0	11.5	25.0	23.5	17.0
65.0	83.0	88.0	120.0	140.0	11.5	25.0	23.5	17.0
68.0	86.0	90.0	123.0	145.0	11.5	25.0	23.5	17.0
70.0	88.0	90.0	125.0	145.0	11.5	25.0	23.5	17.0
75.0	93.0	90.0	130.0	145.0	11.5	25.0	23.5	17.0
80.0	98.0	90.0	135.0	145.0	11.5	25.0	23.5	17.0
85.0	103.0	92.0	140.0	150.0	11.5	25.0	23.5	17.0
90.0	108.0	92.0	145.0	150.0	11.5	25.0	23.5	17.0
95.0	113.0	92.0	150.0	150.0	11.5	25.0	23.5	17.0
100.0	118.0	92.0	155.0	150.0	11.5	25.0	23.0	17.0

* Inch size is available upon request.



Part Names

- | | |
|---------------------|-----------------|
| 1. O-Ring | 9. Gland |
| 2. Sleeve | 10. Set Screws |
| 3. Spring | 11. Lock Washer |
| 4. Rubber Bellows | 12. Set Ring |
| 5. Drive Ring | 13. Setter |
| 6. Rotary Seal Face | 14. Screw |
| 7. Stationary Seat | 15. O-Ring |
| 8. U-Cup | 16. Retainer |

Design Features

- Due to the cartridge construction the seal can be easily installed.
- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run-out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.
- A flushing fluid injected into the seal chamber for clean seal faces.

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -20 to 100 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

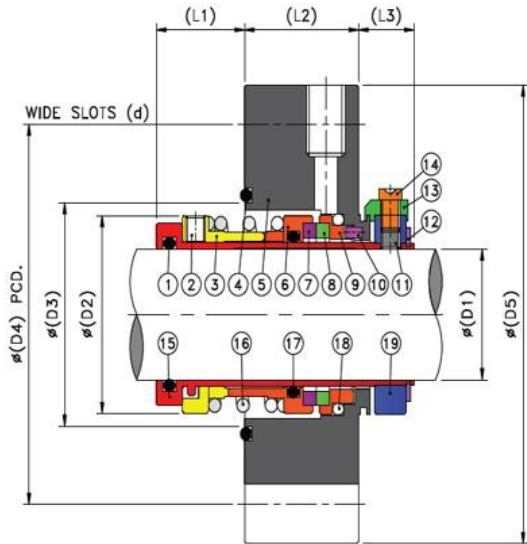
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	33.5	38.5	62.0	85.0	11.0	23.0	17.0	11.0
22.0	36.5	41.5	64.0	87.0	11.5	23.0	17.0	11.0
25.0	39.0	44.0	67.0	90.0	11.5	23.0	17.0	11.0
28.0	47.0	52.0	73.0	96.0	13.0	24.0	17.0	11.0
30.0	47.0	52.0	73.0	96.0	14.0	24.0	17.0	11.0
32.0	47.5	52.5	77.0	100.0	15.0	24.0	17.0	11.0
33.0	48.5	52.5	84.0	100.0	15.0	24.0	17.0	14.0
35.0	55.0	60.0	84.0	110.0	17.5	24.0	17.0	14.0
38.0	56.0	61.0	85.0	110.0	17.5	24.0	17.0	14.0
40.0	58.0	63.0	87.0	113.0	17.5	25.0	17.0	14.0
42.0	60.0	64.0	89.0	114.0	17.5	25.0	17.0	14.0
43.0	61.0	65.0	90.0	115.0	18.5	25.0	17.0	14.0
45.0	63.0	68.0	92.0	118.0	21.0	25.0	17.0	14.0
48.0	66.0	71.0	95.0	120.0	21.0	25.0	17.0	14.0
50.0	70.0	76.0	101.0	127.0	23.0	25.0	17.0	14.0
52.0	72.0	78.0	103.0	130.0	23.0	25.0	17.0	14.0
53.0	73.0	79.0	104.0	131.0	23.0	25.0	17.0	14.0
55.0	71.0	82.0	110.0	136.0	23.0	25.0	17.0	14.0
58.0	74.0	86.0	113.0	140.0	23.0	25.0	17.0	14.0
60.0	80.0	88.0	118.0	147.0	24.0	25.0	17.0	17.0
62.0	82.0	90.0	120.0	147.0	24.0	25.0	17.0	17.0
63.0	83.0	91.0	121.0	147.0	24.0	25.0	17.0	17.0
65.0	85.0	93.0	120.0	149.0	36.0	25.0	17.0	17.0
68.0	88.0	96.0	123.0	149.0	26.0	25.0	17.0	17.0
70.0	90.0	96.0	125.0	150.0	26.0	25.0	17.0	17.0
75.0	95.0	101.0	130.0	155.0	26.0	25.0	17.0	17.0
80.0	100.0	106.0	135.0	160.0	26.0	25.0	17.0	17.0
85.0	105.0	111.0	140.0	165.0	26.0	25.0	17.0	17.0
90.0	110.0	116.0	145.0	170.0	26.0	25.0	17.0	17.0
95.0	115.0	121.0	150.0	175.0	26.0	25.0	17.0	17.0
100.0	120.0	126.0	155.0	180.0	26.0	25.0	17.0	17.0

* Inch size is available upon request.



Part Names

- | | |
|----------------------------|-----------------|
| 1. O-Ring | 11. Set Screw |
| 2. Set Screw | 12. Lock Washer |
| 3. Set Ring | 13. Setter |
| 4. O-Ring | 14. Screw |
| 5. Gland | 15. O-Ring |
| 6. Rotary Face Housing | 16. Spring |
| 7. Rotary Seal Face | 17. O-Ring |
| 8. Stationary Seal Face | 18. O-Ring |
| 9. Stationary Face Housing | 19. Set Ring |
| 10. Pin | |

Design Features

- The balanced cartridge construction makes the suitable for a wide range of demanding applications.
- Due to the cartridge construction the seal can be easily installed.
- The springs of the seal are located in the stationary housing outside of the product.
- Premium grade silicon carbide solid seal faces are excellent for high temperature ,high speed pumps and enduring abrasive fluid.
- Unique centralizing ring PTFE provided no setting clips to be removed or lost.
- No drive screw damage to shaft or sleeve.

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -20 to 100 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

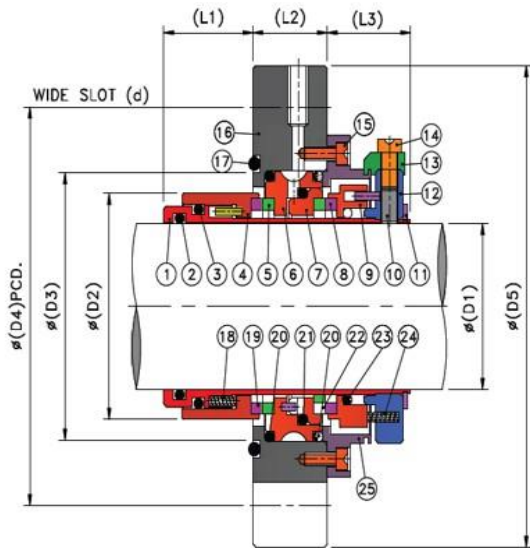
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	37.0	41.5	62.5	88.0	35.0	18.5	17.0	11.0
22.0	39.0	43.5	64.5	90.0	35.0	18.5	17.0	11.0
24.0	41.0	44.5	66.5	92.0	35.0	18.5	17.0	11.0
25.0	43.0	45.5	67.5	93.0	35.0	18.5	17.0	11.0
28.0	46.0	48.5	70.5	96.0	35.0	18.5	17.0	11.0
30.0	46.0	54.0	75.0	112.0	41.0	18.5	17.0	11.0
32.0	50.0	54.0	77.5	114.0	42.0	18.5	17.0	11.0
33.0	51.0	55.0	78.5	114.0	42.0	20.5	17.0	11.0
35.0	53.0	57.0	82.0	114.0	42.0	20.5	17.0	14.0
38.0	56.0	60.0	84.0	114.0	42.0	20.5	17.0	14.0
40.0	58.0	60.0	86.0	127.0	45.0	20.5	17.0	14.0
42.0	60.0	62.0	88.0	127.0	45.0	20.5	17.0	14.0
43.0	62.0	60.0	92.0	127.0	48.0	20.5	17.0	14.0
45.0	64.0	68.0	95.0	135.0	51.0	20.5	17.0	14.0
48.0	68.5	74.0	98.0	137.0	53.0	20.5	17.0	14.0
50.0	69.0	75.0	100.0	139.0	57.0	20.5	17.0	14.0
52.0	71.0	76.0	101.0	139.0	57.0	20.5	17.0	14.0
53.0	70.0	76.0	101.0	152.0	57.0	20.5	17.0	14.0
55.0	77.0	86.0	114.0	152.0	57.0	20.5	17.0	14.0
58.0	80.0	88.0	116.0	152.0	57.0	20.5	17.0	17.0
60.0	81.0	89.0	118.0	152.0	57.0	20.5	17.0	17.0
62.0	83.0	91.0	120.0	152.0	57.0	20.5	17.0	17.0
63.0	84.0	92.0	121.0	152.0	57.0	20.5	17.0	17.0
65.0	88.0	95.0	123.0	152.0	57.0	20.5	17.0	17.0
68.0	91.0	97.0	126.0	152.0	57.0	20.5	17.0	17.0
70.0	93.0	99.0	129.0	152.0	57.0	20.5	17.0	17.0
75.0	98.0	105.0	134.0	152.0	57.0	20.5	17.0	17.0
80.0	103.0	109.0	139.0	160.0	57.0	20.5	17.0	17.0
85.0	108.0	114.0	144.0	168.0	57.0	20.5	17.0	17.0
90.0	113.0	119.0	149.0	168.0	57.0	20.5	17.0	17.0
95.0	118.0	124.0	154.0	168.0	57.0	20.5	17.0	17.0
100.0	123.0	129.0	159.0	168.0	57.0	20.5	17.0	17.0

* Inch size is available upon request.



Part Names

- | | |
|---------------------------------|-------------------------------|
| 1. Sleeve | 14. Screw |
| 2. O-Ring | 15. Screw |
| 3. O-Ring | 16. Gland |
| 4. Rotary Face Housing Int. | 17. O-Ring |
| 5. Stationary Seal Face Int. | 18. Spring |
| 6. Stationary Face Housing Int. | 19. Rotary Seal Face Int. |
| 7. Stationary Face Housing Ext. | 20. O-Ring |
| 8. Rotary Seal Face Ext. | 21. O-Ring |
| 9. Rotary Face Housing Ext. | 22. Stationary Seal Face Ext. |
| 10. Set Screw | 23. O-Ring |
| 11. Lock Washer | 24. Spring |
| 12. Set Ring | 25. Gland Ring |
| 13. Setter | |

Design Features

- Off-The-Shelf Availability
- Custom seals available in special alloys upon request.
- Wide temperature and pressure ranges.
- Double balanced for wide range of operating conditions.
- Easy Installation

Operating Conditions

- Max. Operating Pressure : 20 kg/cm² *
- Temperature Range : -30 to 200 °C *
- Max. Rubbing Speed : 25 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Silicon Carbide & Silicon Carbide (Inboard)
- Silicon Carbide & Silicon Carbide (Outboard)

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

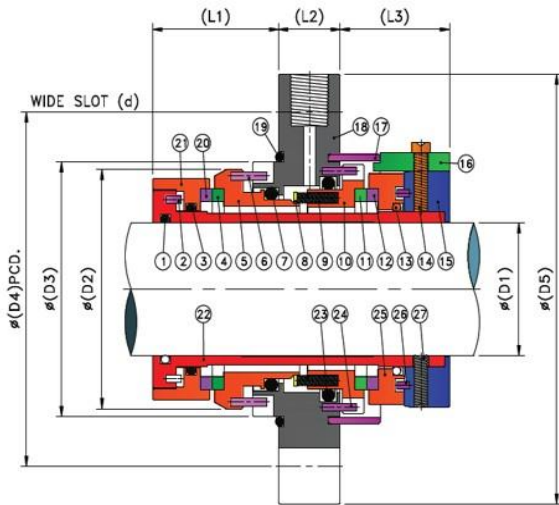
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	37.0	43.0	77.0	90.0	22.0	21.0	26.0	11.0
22.0	39.0	45.0	79.0	99.0	27.0	21.0	26.0	11.0
24.0	41.0	47.0	81.0	99.0	27.0	21.0	26.0	11.0
25.0	42.0	48.0	82.0	100.0	27.0	21.0	26.0	11.0
28.0	45.0	51.0	85.0	101.6	27.0	21.0	26.0	11.0
30.0	48.0	53.0	89.5	112.0	27.0	21.0	26.0	11.0
32.0	50.0	55.0	91.5	115.0	27.0	21.0	26.0	11.0
33.0	51.0	56.0	92.5	116.0	27.0	21.0	26.0	11.0
35.0	54.0	60.0	102.0	123.0	27.0	21.0	28.0	11.0
38.0	56.0	62.0	105.0	127.0	27.0	23.0	28.0	11.0
40.0	58.0	65.0	112.5	137.0	27.0	24.0	28.0	14.0
42.0	60.0	67.0	114.5	139.0	27.0	24.0	28.0	14.0
43.0	61.0	68.0	115.5	140.0	27.0	24.0	28.0	14.0
45.0	63.0	70.0	124.0	145.0	27.0	26.5	31.0	14.0
48.0	66.0	73.0	124.0	145.0	27.0	26.5	31.0	14.0
50.0	68.0	75.0	124.0	145.0	27.0	26.5	31.0	14.0
52.0	70.0	77.0	126.0	147.0	27.0	26.5	31.0	14.0
53.0	71.0	78.0	127.0	148.0	27.0	26.5	31.0	14.0
55.0	73.0	80.0	130.0	152.0	27.0	26.5	31.0	14.0
58.0	76.0	83.0	133.0	155.0	27.0	26.5	31.0	14.0
60.0	79.0	85.0	135.0	160.0	30.0	26.5	31.0	14.0
62.0	81.0	87.0	137.0	162.0	30.0	26.5	31.0	14.0
63.0	82.0	88.0	138.0	163.0	30.0	26.5	31.0	14.0
65.0	86.0	89.0	140.0	165.0	30.0	26.5	31.0	14.0
68.0	89.0	95.0	143.0	168.0	30.0	26.5	31.0	14.0
70.0	91.0	97.0	145.0	170.0	30.0	26.5	31.0	17.0
75.0	96.0	102.0	150.0	175.0	30.0	26.5	31.0	17.0
80.0	101.0	107.0	155.0	180.0	30.0	26.5	31.0	17.0
85.0	106.0	112.0	160.0	185.0	30.0	26.5	31.0	17.0
90.0	111.0	117.0	165.0	190.0	30.0	26.5	31.0	17.0
95.0	116.0	122.0	170.0	195.0	30.0	26.5	31.0	17.0
100.0	121.0	127.0	175.0	200.0	30.0	26.5	31.0	17.0

* Inch size is available upon request.



Part Names

1. O-Ring	15. Set Ring
2. Pin	16. Setter
3. O-Ring	17. Gland Ring
4. Stationary Seal Face Int.	18. Gland
5. Stationary Face Housing	19. O-Ring
6. Pin	20. Rotary Seal Face Int.
7. O-Ring	21. Rotary Face Housing Int.
8. Thrust Ring	22. Sleeve
9. Spring	23. O-Ring
10. Stationary Face Housing Ext.	24. Pin
11. Stationary Seal Face Int.	25. Rotary Face Housing Ext.
12. Rotary Seal Face Ext.	26. Pin
13. O-Ring	27. Set Screw
14. Screw	

Design Features

- Due to the cartridge construction the seal can be easily installed.
- The balanced cartridge construction makes the suitable for a wide range of demanding applications.
- A double balanced design is used to allow operation with pressurized or non-pressurized barrier fluid.
- The springs are isolated from the product to prevent clogging and corrosion.

Operating Conditions

- Max. Operating Pressure : 10 kg/cm² *
- Temperature Range : -40 to 180 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Silicon Carbide & Silicon Carbide (Inboard)
- Silicon Carbide & Silicon Carbide (Outboard)

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

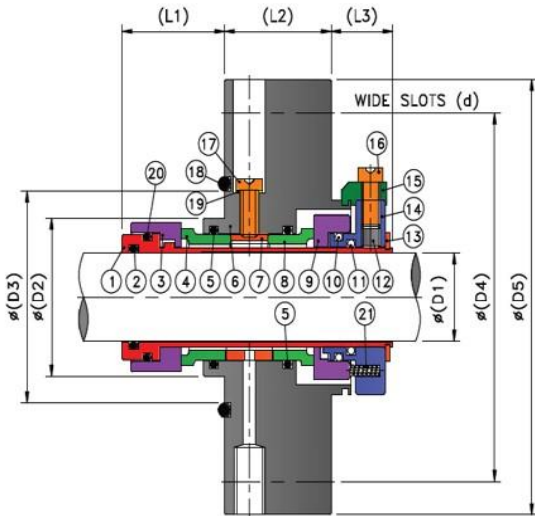
* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	55.0	60.0	81.0	104.0	40.5	21.0	42.0	11.0
22.0	57.0	62.0	84.0	107.0	40.5	23.0	43.0	11.0
24.0	59.0	64.0	86.0	109.0	40.5	23.0	43.0	11.0
25.0	60.0	65.0	87.0	110.0	40.5	23.0	43.0	11.0
28.0	63.0	68.0	90.0	113.0	41.5	23.0	43.0	11.0
30.0	65.0	71.0	92.0	115.0	41.5	23.0	43.0	11.0
32.0	67.0	73.0	96.0	119.0	41.5	23.0	43.0	11.0
33.0	68.0	74.0	97.0	120.0	41.5	23.0	43.0	11.0
35.0	70.0	76.0	102.0	128.0	41.5	23.0	43.0	11.0
38.0	73.0	79.0	105.0	131.0	41.5	23.0	43.0	14.0
40.0	75.0	81.0	110.0	133.0	41.5	23.0	43.0	14.0
42.0	77.0	83.0	110.0	135.0	41.5	23.0	43.0	14.0
43.0	78.0	84.0	110.0	136.0	41.5	23.0	43.0	14.0
45.0	80.0	86.0	112.0	138.0	53.0	26.0	47.0	14.0
48.0	83.0	89.0	115.0	141.0	53.0	26.0	47.0	14.0
50.0	85.0	91.0	117.0	143.0	53.0	26.0	47.0	14.0
52.0	87.0	93.0	119.0	145.0	53.0	26.0	47.0	14.0
53.0	88.0	94.0	120.0	146.0	53.0	26.0	47.0	14.0
55.0	90.0	96.0	122.0	148.0	53.0	26.0	47.0	14.0
58.0	93.0	99.0	125.0	156.0	53.0	26.0	47.0	17.0
60.0	95.0	101.0	127.0	159.0	53.0	26.0	47.0	17.0
62.0	97.0	103.0	129.0	161.0	53.0	26.0	47.0	17.0
63.0	98.0	104.0	130.0	162.0	53.0	26.0	47.0	17.0
65.0	100.0	106.0	132.0	164.0	53.0	26.0	47.0	17.0
68.0	103.0	109.0	135.0	167.0	53.0	26.0	47.0	17.0
70.0	105.0	111.0	137.0	169.0	53.0	26.0	47.0	17.0
75.0	110.0	116.0	142.0	174.0	53.0	26.0	47.0	17.0
80.0	115.0	120.0	147.0	179.0	53.0	26.0	47.0	17.0
85.0	120.0	126.0	152.0	184.0	53.0	26.0	47.0	17.0
90.0	125.0	131.0	157.0	189.0	53.0	26.0	47.0	17.0
95.0	130.0	136.0	162.0	194.0	53.0	26.0	47.0	17.0
100.0	135.0	141.0	167.0	199.0	53.0	26.0	47.0	17.0

* Inch size is available upon request.



Part Names

- | | |
|--------------------------|-----------------|
| 1. Sleeve | 12. Set Screw |
| 2. O-Ring | 13. Lock Washer |
| 3. Rotary Seal Face Int. | 14. Set Ring |
| 4. Stationary Seat Int. | 15. Setter |
| 5. O-Ring | 16. Screw |
| 6. Gland | 17. Screw |
| 7. Compression Ring | 18. O-Ring |
| 8. Stationary Seat Ext. | 19. Gasket |
| 9. Rotary Seal Ext. | 20. O-Ring |
| 10. O-Ring | 21. Spring |
| 11. O-Ring | |

Design Features

- The balanced cartridge construction makes the suitable for a wide range of demanding applications.
- Due to the cartridge construction the seal can be easily installed.
- The springs of the seal are located in the stationary housing outside of the product.
- Premium grade silicon carbide solid seal faces are excellent for high temperature ,high speed pumps and enduring abrasive fluid.
- No drive screw damage to shaft or sleeve.

Operating Conditions

- Max. Operating Pressure : 40 kg/cm² *
- Temperature Range : -40 to 200 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Silicon Carbide
- Carbon & Tungsten Carbide
- Silicon Carbide & Silicon Carbide
- Tungsten Carbide & Tungsten Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylenen Rubber
- Fluorocarbon Rubber

Metal Parts

- 316 Stainless Steel

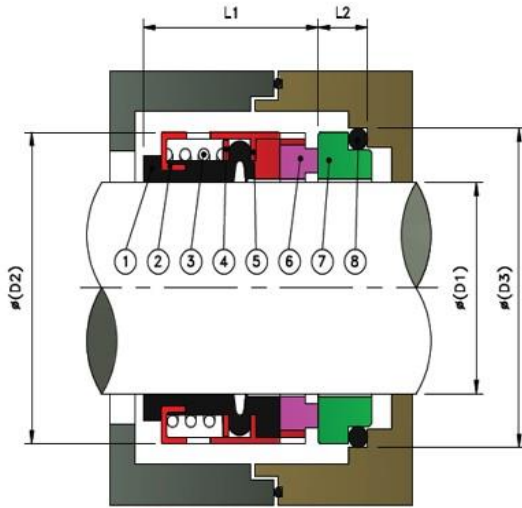
* Other configuration of materials also available on request

** Silicon Carbide can be RSiC or SSiC

Dimension in mm.

D1	D2	D3	D4	D5	L1	L2	L3	d
20.0	42.0	47.0	68.0	99.0	28.0	29.0	26.5	12.0
22.0	44.0	49.0	70.0	101.0	28.0	29.0	26.5	12.0
24.0	46.0	51.0	72.0	103.0	28.0	29.0	26.5	12.0
25.0	47.0	52.0	73.0	104.0	28.0	29.0	26.5	12.0
28.0	49.0	54.0	73.0	104.0	28.0	29.0	26.5	12.0
30.0	51.0	57.0	78.0	104.0	28.0	29.0	26.5	12.0
32.0	53.5	59.5	80.0	104.0	28.0	29.0	26.5	12.0
33.0	54.5	60.5	83.0	113.0	28.0	29.0	26.5	14.0
35.0	57.0	63.0	82.0	111.0	28.0	29.0	26.5	14.0
38.0	60.0	66.0	87.0	114.0	28.0	29.0	26.5	14.0
40.0	62.0	68.0	92.0	127.0	28.0	29.0	26.5	14.0
42.0	64.0	70.0	93.0	127.0	28.0	29.0	26.5	14.0
43.0	65.0	71.0	93.0	127.0	28.0	29.0	26.5	14.0
45.0	67.0	73.0	97.0	139.0	28.0	29.0	26.5	14.0
48.0	70.0	76.0	98.0	139.0	28.0	29.0	26.5	14.0
50.0	72.5	78.5	102.0	139.0	28.0	29.0	26.5	14.0
52.0	74.5	80.5	104.0	141.0	28.0	29.0	26.5	14.0
53.0	75.5	80.5	105.0	142.0	28.0	29.0	26.5	14.0
55.0	78.0	84.0	110.0	152.0	28.0	29.0	26.5	18.0
58.0	81.0	87.0	113.0	152.0	28.0	29.0	26.5	18.0
60.0	82.0	88.0	120.0	152.0	28.0	29.0	26.5	18.0
62.0	84.0	90.0	122.0	154.0	28.0	29.0	26.5	18.0
63.0	85.0	91.0	123.0	155.0	28.0	29.0	26.5	18.0
65.0	86.5	92.5	131.0	164.0	28.0	29.0	26.5	18.0
68.0	89.5	95.5	134.0	167.0	28.0	29.0	26.5	18.0
70.0	92.0	98.0	141.0	196.0	28.0	29.0	26.5	18.0
75.0	97.5	103.5	147.0	202.0	28.0	29.0	26.5	18.0
80.0	102.5	108.5	154.0	203.0	28.0	29.0	26.5	18.0
85.0	107.5	113.5	161.0	211.0	28.0	29.0	26.5	22.0
90.0	111.5	117.5	168.0	214.0	28.0	29.0	26.5	22.0
95.0	118.0	124.0	170.0	221.0	28.0	29.0	26.5	22.0
100.0	122.5	128.5	177.0	228.0	28.0	29.0	26.5	22.0

* Inch size is available upon request.



Part Names

1. Rubber Bellows
2. Spring Holder
3. Spring
4. Thrust Ring
5. Rotary Housing
6. Rotary Seal Face
7. Stationary Seat
8. O-Ring

Design Features

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run-out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.

Operating Conditions

- Max. Operating Pressure : 40 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 13 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

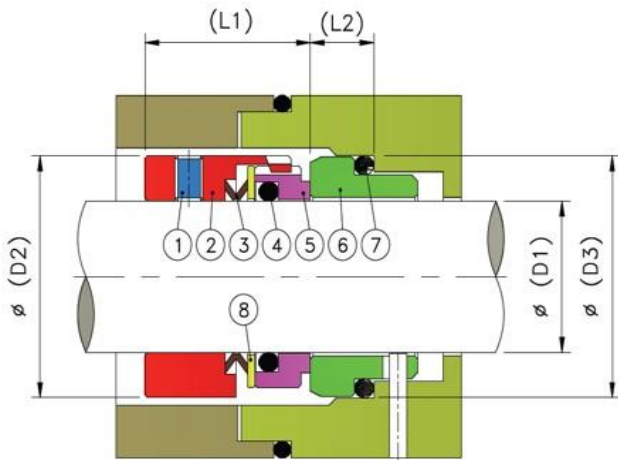
Dimension in mm.

D1	D2	D3	L1	L2
14.0	24.0	25.0	23.0	12.0
16.0	26.0	27.0	23.0	12.0
18.0	32.0	33.0	24.0	13.5
20.0	34.0	35.0	24.0	13.5
22.0	36.0	37.0	24.0	13.5
24.0	38.0	39.0	26.7	13.3
25.0	39.0	40.0	27.0	13.0
28.0	42.0	43.0	30.0	12.5
30.0	44.0	45.0	30.5	12.0
32.0	46.0	48.0	30.5	12.0
33.0	47.0	48.0	30.5	12.0
35.0	49.0	50.0	30.5	12.0
38.0	54.0	56.0	32.0	13.0
40.0	56.0	58.0	32.0	13.0
43.0	59.0	61.0	32.0	13.0
45.0	61.0	63.0	32.0	13.0
48.0	64.0	66.0	32.0	13.0
50.0	66.0	70.0	34.0	13.5
53.0	69.0	73.0	34.0	13.5
55.0	71.0	75.0	34.0	13.5
58.0	78.0	78.0	39.0	13.5
60.0	80.0	80.0	39.0	13.5
63.0	83.0	83.0	39.0	13.5
65.0	85.0	85.0	39.0	13.5
68.0	88.0	90.0	39.0	13.5
70.0	89.0	92.0	45.5	14.5
75.0	96.0	97.0	45.5	14.5
80.0	104.0	105.0	45.0	15.0
85.0	108.0	110.0	45.0	15.0
90.0	114.0	115.0	50.0	15.0
95.0	118.0	120.0	50.0	15.0
100.0	124.0	125.0	50.0	15.0

* Inch size is available upon request.



Type M7N



Part Names

1. Set Screw
2. Rotary Housing
3. Wave Spring
4. O-Ring
5. Rotary Seal Face
6. Stationary Seat
7. O-Ring
8. Thrust Ring

Design Features

- The wave spring designed for install in the shallow seal chamber.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.
- Premium grade silicon carbide solid seal faces are excellent for high temperature, high speed pumps and enduring abrasive fluids.

Operating Conditions

- Max. Operating Pressure : 16 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 20 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

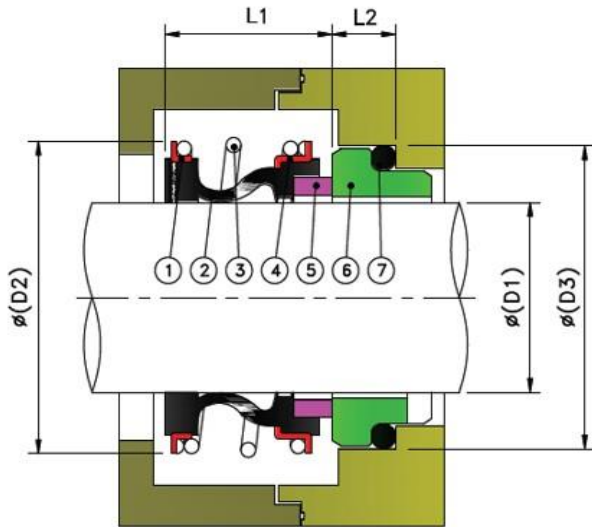
Dimension in mm.

D1	D2	D3	L1	L2
14.0	25.0	25.0	25.0	10.0
16.0	27.0	27.0	25.0	10.0
18.0	33.0	33.0	26.0	11.5
20.0	35.0	35.0	26.0	11.5
22.0	37.0	37.0	26.0	11.5
24.0	39.0	39.0	28.5	11.5
25.0	40.0	40.0	28.5	11.5
28.0	43.0	43.0	31.0	11.5
30.0	45.0	45.0	31.0	11.5
32.0	47.0	48.0	31.0	11.5
33.0	48.0	48.0	31.0	11.5
35.0	50.0	50.0	31.0	11.5
38.0	55.0	56.0	31.0	14.0
40.0	57.0	58.0	31.0	14.0
43.0	60.0	61.0	31.0	14.0
45.0	62.0	63.0	31.0	14.0
48.0	65.0	66.0	31.0	14.0
50.0	67.0	70.0	32.5	15.0
53.0	70.0	73.0	32.5	15.0
55.0	72.0	75.0	32.5	15.0
58.0	79.0	78.0	37.5	15.0
60.0	81.0	80.0	37.5	15.0
63.0	84.0	83.0	37.5	15.0
65.0	86.0	85.0	37.5	15.0
68.0	89.0	90.0	34.5	18.0
70.0	91.0	92.0	42.0	18.0
75.0	99.0	97.0	42.0	18.0
80.0	104.0	105.0	41.8	18.2
85.0	109.0	110.0	41.8	18.2
90.0	114.0	115.0	46.8	18.2
95.0	119.0	120.0	47.8	17.2
100.0	124.0	125.0	47.8	17.2

* Inch size is available upon request.



Type MG1



Part Names

1. L-Ring Lower
2. Rubber Bellows
3. Spring
4. L-Ring Upper
5. Rotary Seal Face
6. Stationary Seat
7. O-Ring

Design Features

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.

Operating Conditions

- Max. Operating Pressure : 12 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

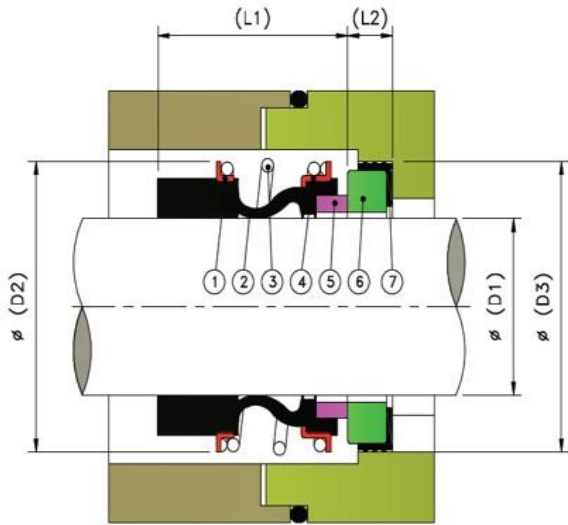
- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSIC or SSIC

Dimension in mm.				
D1	D2	D3	L1	L2
10.0	22.5	21.0	14.5	6.6
12.0	25.0	23.0	15.0	6.6
14.0	28.5	25.0	17.0	6.6
15.0	28.5	-	17.0	-
16.0	28.5	27.0	17.0	6.6
18.0	32.0	33.0	19.5	7.5
19.0	37.0	-	21.5	-
20.0	37.0	35.0	21.5	7.5
22.0	37.0	37.0	21.5	7.5
24.0	42.5	39.0	22.5	7.5
25.0	42.5	40.0	23.0	7.5
28.0	49.0	43.0	26.5	7.5
30.0	49.0	45.0	26.5	7.5
32.0	53.5	48.0	27.5	7.5
33.0	53.5	48.0	27.5	7.5
35.0	57.0	50.0	28.5	7.5
38.0	59.0	56.0	30.0	9.0
40.0	62.0	58.0	30.0	9.0
42.0	65.5	-	30.0	-
43.0	65.5	61.0	30.0	9.0
45.0	68.0	63.0	30.0	9.0
48.0	70.5	66.0	30.5	9.0
50.0	74.0	70.0	30.5	9.5
53.0	78.5	73.0	33.0	11.0
55.0	81.0	73.0	35.0	11.0
58.0	85.5	78.0	37.0	11.0
60.0	88.5	80.0	38.0	11.0
65.0	93.5	85.0	40.0	11.0
68.0	96.5	90.0	40.0	11.3
70.0	99.5	92.0	40.0	11.3
75.0	107.0	97.0	40.0	11.3
80.0	112.0	105.0	40.0	12.0
85.0	120.0	110.0	41.0	14.0
90.0	127.0	116.0	45.0	14.0
95.0	132.0	120.0	46.0	14.0
100.0	137.0	125.0	47.0	14.0

* Inch size is available upon request.



Part Names

1. L-Ring Lower
2. Rubber Bellows
3. Spring
4. L-Ring Upper
5. Rotary Seal Face
6. Stationary Seat
7. O-Ring

Design Features

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.

Operating Conditions

- Max. Operating Pressure : 12 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.

D1	D2	D3	L1	L2
10.0	22.5	17.0	25.9	6.6
12.0	25.0	19.0	25.9	6.6
14.0	28.5	21.0	28.4	6.6
15.0	28.5	-	28.4	-
16.0	28.5	23.0	28.4	6.6
18.0	32.0	27.0	30.0	7.5
19.0	37.0	-	30.0	-
20.0	37.0	29.0	30.0	7.5
22.0	37.0	31.0	30.0	7.5
24.0	42.5	33.0	32.5	7.5
25.0	42.5	34.0	32.5	7.5
28.0	49.0	37.0	35.0	7.5
30.0	49.0	39.0	35.0	7.5
32.0	53.5	42.0	35.0	7.5
33.0	53.5	42.0	35.0	7.5
35.0	57.0	44.0	35.0	7.5
38.0	59.0	49.0	36.0	9.0
40.0	62.0	51.0	36.0	9.0
42.0	65.5	-	36.0	-
43.0	65.5	54.0	36.0	9.0
45.0	68.0	56.0	36.0	9.0
48.0	70.5	59.0	36.0	9.0
50.0	74.0	62.0	38.0	9.5
53.0	78.5	65.0	36.5	11.0
55.0	81.0	67.0	36.5	11.0
58.0	85.5	70.0	41.5	11.0
60.0	88.5	72.0	41.5	11.0
65.0	93.5	77.0	41.5	11.0
68.0	96.5	81.0	41.2	11.3
70.0	99.5	83.0	48.7	11.3
75.0	107.0	88.0	48.7	11.3
80.0	112.0	95.0	48.0	12.0
85.0	120.0	100.0	46.0	14.0
90.0	127.0	105.0	51.0	14.0
95.0	132.0	110.0	51.0	14.0
100.0	137.0	115.0	51.0	14.0

* Inch size is available upon request.



1. L-Ring Lower
2. Rubber Bellows
3. Spring
4. L-Ring Upper
5. Rotary Seal Face
6. Stationary Seat
7. O-Ring

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.

- Max. Operating Pressure : 12 kg/cm² *
 - Temperature Range : -20 to 180 °C *
 - Max. Rubbing Speed : 10 m/s
- * Depend on combination of materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

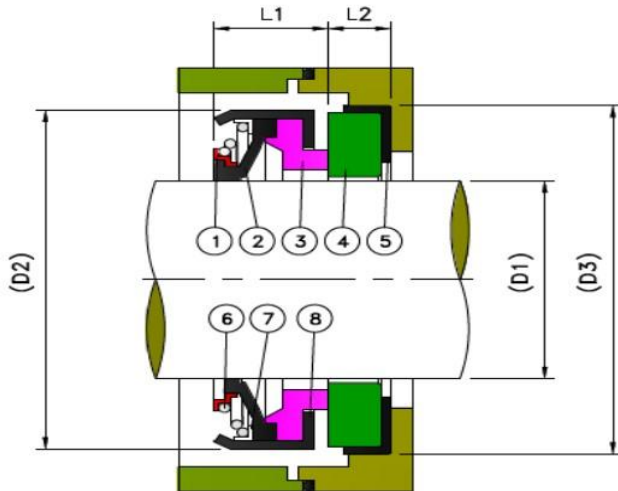
** Silicon Carbide can be RBSiC or SSiC

			Dimension in mm.	
D1	D2	D3	L1	L2
10.0	22.5	21.0	33.4	6.6
12.0	25.0	23.0	33.4	6.6
14.0	28.5	25.0	33.4	6.6
15.0	28.5	-	33.4	-
16.0	28.5	27.0	33.4	6.6
18.0	32.0	33.0	37.5	7.5
19.0	37.0	-	37.5	-
20.0	37.0	35.0	37.5	7.5
22.0	37.0	37.0	37.5	7.5
24.0	42.5	39.0	42.5	7.5
25.0	42.5	40.0	42.5	7.5
28.0	49.0	43.0	42.5	7.5
30.0	49.0	45.0	42.5	7.5
32.0	53.5	48.0	47.5	7.5
33.0	53.5	48.0	47.5	7.5
35.0	57.0	50.0	47.5	7.5
38.0	59.0	56.0	46.0	9.0
40.0	62.0	58.0	46.0	9.0
42.0	65.5	-	51.0	-
43.0	65.5	61.0	51.0	9.0
45.0	68.0	63.0	51.0	9.0
48.0	70.5	66.0	51.0	9.0
50.0	74.0	70.0	50.5	9.5
53.0	78.5	73.0	59.0	11.0
55.0	81.0	73.0	59.0	11.0
58.0	85.5	78.0	59.0	11.0
60.0	88.5	80.0	59.0	11.0
65.0	93.5	85.0	69.0	11.0
68.0	96.5	90.0	68.7	11.3
70.0	99.5	92.0	68.7	11.3
75.0	107.0	97.0	68.7	11.3
80.0	112.0	105.0	78.0	12.0
85.0	120.0	110.0	76.0	14.0
90.0	127.0	116.0	76.0	14.0
95.0	132.0	120.0	76.0	14.0
100.0	137.0	125.0	76.0	14.0

* Inch size is available upon request.



Type B01



Part Names

1. L-Ring Lower
2. Rubber Bellows
3. Rotary Seal Face
4. Stationary Seat
5. U-Cup
6. Spring
7. Setter
8. Set-Screw

Design Features

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run-out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.
- Short axial installation length.
- Unbalanced

Operating Conditions

- Max. Operating Pressure : 6 kg/cm² *
- Temperature Range : -20 to 120 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

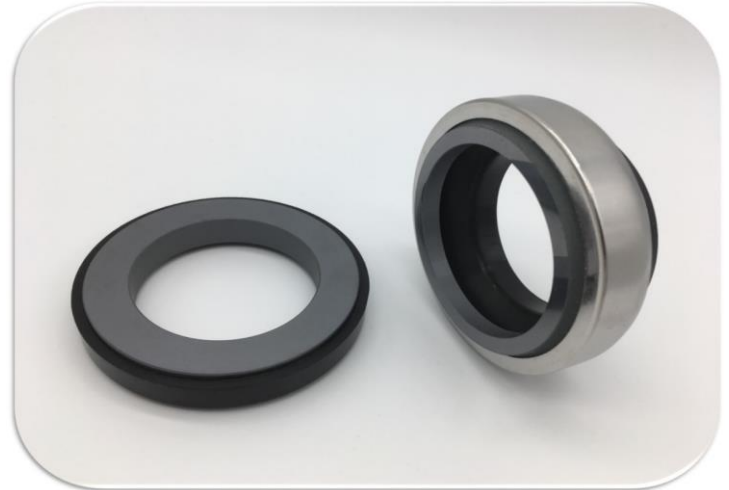
- Nitrile Butadiene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

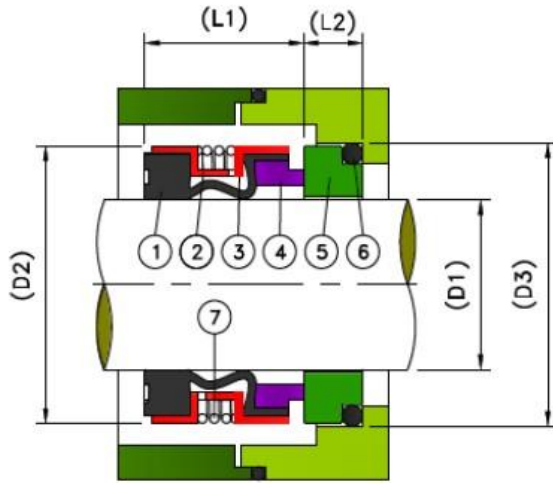
** Silicon Carbide can be RBSiC or SSiC



Model	Dimension in mm.				
	D1	D2	D3	L1	L2
6.0	6.0	18.0	18.0	14.0	4.0
8S	8.0	18.0	22.0	15.0	4.0
8M	8.0	20.0	22.0	15.0	5.5
8A	8.0	20.0	26.0	15.0	4.0
8L	8.0	24.0	26.0	15.0	5.5
10.0	10.0	24.0	26.0	21.0	8.0
11.0	11.0	24.0	26.0	21.0	8.0
12.0	12.0	24.0	26.0	21.0	8.0
12A	12.0	24.0	25.0	21.0	8.0
13.0	13.0	24.0	26.0	19.5	8.0
13A	13.0	24.0	26.0	19.5	5.5
13L	13.0	28.0	28.0	21.0	8.0
13H	13.0	32.0	29.5	30.5	8.0
14.0	14.0	28.0	28.0	21.0	8.0
14A	14.0	28.0	28.5	21.0	8.0
14L	14.0	32.0	29.5	21.0	8.0
15S	15.0	28.0	28.5	21.0	8.0
15A	15.0	28.0	30.0	21.0	8.0
15M	15.0	32.0	29.5	21.0	8.0
15B	15.0	32.0	30.0	21.0	8.0
15L	15.0	39.0	38.0	21.0	8.0
16S	16.0	28.0	29.5	21.0	8.0
16A	16.0	28.0	30.0	21.0	8.0
16M	16.0	32.0	29.5	21.0	8.0
16L	16.0	39.0	38.0	21.0	8.0
16H	16.0	32.0	30.0	21.0	10.0
17.0	17.0	39.0	42.0	21.0	8.0
18.0	18.0	39.0	42.0	21.0	8.0
19.0	19.0	39.0	42.0	21.0	8.0
20.0	20.0	39.0	42.0	21.0	8.0
20L	20.0	42.0	45.0	23.0	10.0
22S	22.0	36.0	45.0	26.5	10.0
22L	22.0	42.0	45.0	23.0	10.0
23.0	23.0	47.0	50.0	23.5	10.0
24.0	24.0	47.0	50.0	23.5	10.0
25.0	25.0	42.0	50.0	23.5	10.0
25L	25.0	47.0	50.0	23.5	10.0
26.0	26.0	47.0	50.0	23.5	10.0
27.0	27.0	47.0	50.0	23.5	10.0
28.0	28.0	54.0	57.0	25.0	10.0
30.0	30.0	54.0	57.0	25.0	10.0
32.0	32.0	54.0	57.0	25.0	10.0
35.0	35.0	60.0	63.0	26.0	10.0
38.0	38.0	65.0	68.0	30.0	12.0
40.0	40.0	65.0	68.0	30.0	12.0
45.0	45.0	70.0	73.0	32.0	12.0
50.0	50.0	85.0	88.0	38.0	15.0
55.0	55.0	85.0	88.0	38.0	15.0
60.0	60.0	105.0	110.0	45.0	15.0



Type 2100



Part Names

1. Rubber Bellows
2. Drive Ring
3. Retainer
4. Rotary Seal Face
5. Stationary Seat
6. O-Ring
7. Spring

Design Features

- The elastomer bellows seal designed for self-aligning feature compensates for excessive shaft end play and run-out.
- Non-clogging single coil spring for dependability.
- Independent of shaft rotating direction.

Operating Conditions

- Max. Operating Pressure : 20 kg/cm² *
- Temperature Range : -20 to 180 °C *
- Max. Rubbing Speed : 15 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Carbon & Ceramic
- Carbon & Silicon Carbide
- Silicon Carbide & Silicon Carbide

Secondary Seal

- Nitrile Butadiene Rubber
- Ethylene Propylene Rubber
- Fluorocarbon Rubber

Metal Parts

- 304 Stainless Steel
- 316 Stainless Steel

* Other configuration of materials also available on request

** Silicon Carbide can be RBSiC or SSiC

Dimension in mm.				
D1	D2	D3	L1	L2
10.0	20.0	21.0	15.0	5.0
12.0	22.0	23.0	15.0	6.0
14.0	24.0	25.0	15.0	6.0
15.0	25.0	26.0	15.0	6.0
16.0	26.0	27.0	15.0	6.0
18.0	32.0	33.0	20.0	6.0
20.0	34.0	35.0	20.0	6.0
22.0	36.0	37.0	20.0	6.0
24.0	38.0	39.0	20.0	6.0
25.0	39.0	40.0	20.0	6.0
28.0	42.0	43.0	26.0	6.0
30.0	44.0	45.0	26.0	7.0
32.0	46.0	48.0	26.0	7.0
33.0	47.0	48.0	26.0	7.0
35.0	49.0	50.0	26.0	8.0
38.0	54.0	56.0	30.0	8.0
40.0	56.0	58.0	30.0	8.0
43.0	59.0	61.0	30.0	8.0
45.0	61.0	63.0	30.0	8.0
48.0	64.0	66.0	30.0	10.0
50.0	66.0	70.0	30.0	10.0
53.0	69.0	73.0	30.0	10.0
55.0	71.0	75.0	30.0	10.0
58.0	78.0	78.0	33.0	10.0
60.0	80.0	80.0	33.0	12.0
63.0	83.0	83.0	33.0	12.0
65.0	85.0	85.0	33.0	12.0
68.0	88.0	90.0	33.0	12.0
70.0	90.0	92.0	33.0	12.0
75.0	99.0	97.0	40.0	12.0
80.0	104.0	105.0	40.0	12.5
85.0	109.0	110.0	40.0	12.5
90.0	114.0	115.0	40.0	12.5
95.0	119.0	120.0	40.0	12.5
100.0	124.0	125.0	40.0	12.5

* Inch size is available upon request.



Design Features

- Balanced
- Due to the cartridge construction the seal can be easily installed.
- Excellent for high-viscosity, dirt-and fibre-containing liquids because the spring is located on the atmospheric side.
- Independent of direction of rotation.

Operating Conditions

- Max. Operating Pressure : 15 kg/cm² *
- Temperature Range : -30 to 120 °C *
- Max. Rubbing Speed : 10 m/s

* Depend on combination of materials

Standard Materials

Primary Seal

- Silicon Carbide & Silicon Carbide

Secondary Seal

- Fluorocarbon rubber

Metal Parts

- 304 Stainless Steel

* Other configuration of materials also available on request

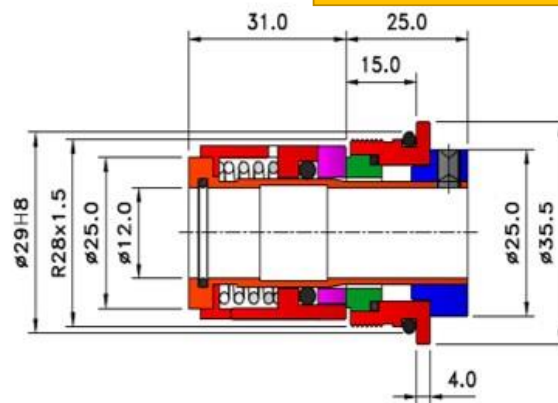
** Silicon Carbide can be RBSiC or SSiC

Mechanical Seals used for Vertical multistage centrifugal Pump " Groundfos "

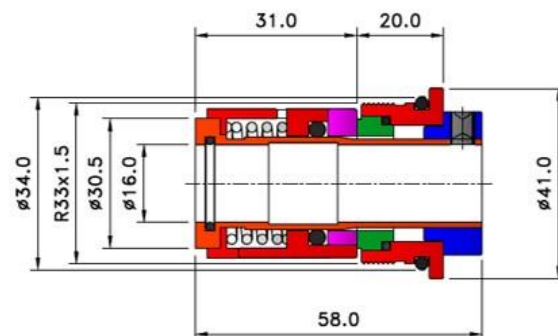
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CRN1 : 3,5,10,15,20,32,45,64,90

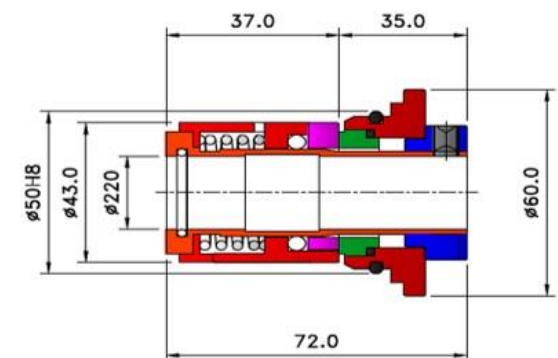
For Size 12 mm.



For Size 16 mm.



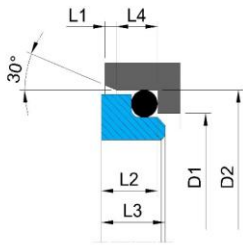
For Size 22 mm.



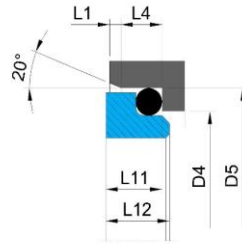


Seat in Metric

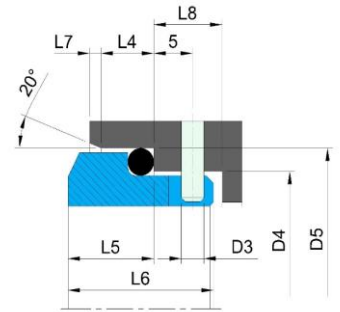
Seat G4



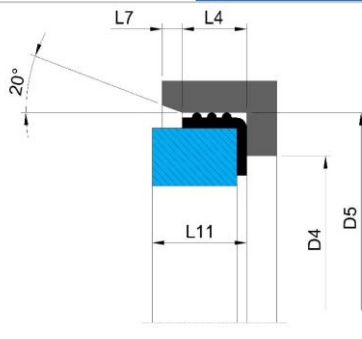
Seat G6



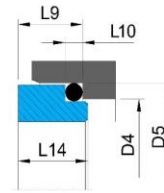
Seat G9



Seat G60



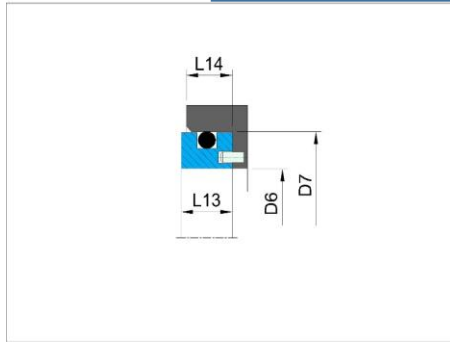
Seat BO



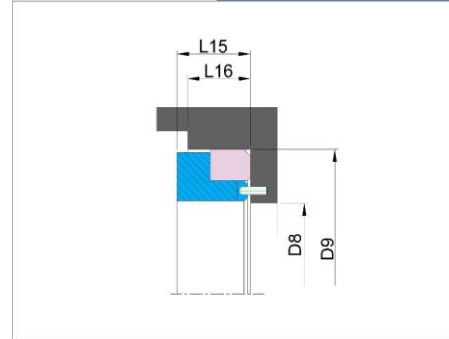
Dimension in mm.																		
Size	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L14
10.0	15.5	19.2	3.0	17.0	21.0	1.2	6.6	7.5	3.80	10.0	17.5	1.5	8.5	-	-	6.6	7.5	-
12.0	17.5	21.6	3.0	19.0	23.0	1.2	5.6	6.5	3.80	10.0	17.5	1.5	8.5	-	-	6.6	7.5	-
14.0	20.5	24.6	3.0	21.0	25.0	1.2	5.6	6.5	3.80	10.0	17.5	1.5	8.5	12.0	4.0	6.6	7.5	12.8
15.0	20.5	24.6	-	-	-	1.2	6.6	7.5	3.80	-	-	-	-	-	-	-	-	-
16.0	22.0	28.0	3.0	23.0	27.0	1.5	7.5	8.5	5.00	10.0	17.5	1.5	8.5	12.0	4.0	6.6	7.5	12.8
18.0	24.0	30.0	3.0	27.0	33.0	1.5	8.0	9.0	5.00	11.5	19.5	2.0	9.0	13.5	5.0	7.5	8.5	14.5
20.0	29.5	35.0	3.0	29.0	35.0	1.5	7.5	8.5	5.00	11.5	19.5	2.0	9.0	13.5	5.0	7.5	8.5	14.5
22.0	29.5	35.0	3.0	31.0	37.0	1.5	7.5	8.5	5.00	11.5	19.5	2.0	9.0	13.5	5.0	7.5	8.5	14.5
24.0	32.0	38.0	3.0	33.0	39.0	1.5	7.5	8.5	5.00	11.5	19.5	2.0	9.0	13.3	5.0	7.5	8.5	14.3
25.0	32.0	38.0	3.0	34.0	40.0	1.5	7.5	8.5	5.00	11.5	19.5	2.0	9.0	13.0	5.0	7.5	8.5	14.0
28.0	36.0	42.0	3.0	37.0	43.0	1.5	9.0	10.0	5.00	11.5	19.5	2.0	9.0	12.5	5.0	7.5	8.5	13.5
30.0	39.2	45.0	3.0	39.0	45.0	1.5	10.5	11.5	5.00	11.5	19.5	2.0	9.0	12.0	5.0	7.5	8.5	13.0
32.0	42.2	48.0	3.0	42.0	48.0	1.5	10.5	11.5	5.00	11.5	19.5	2.0	9.0	12.0	5.0	7.5	8.5	13.0
33.0	44.2	50.0	3.0	42.0	48.0	1.5	11.0	12.0	5.00	11.5	19.5	2.0	9.0	12.0	5.0	7.5	8.5	13.0
35.0	46.2	52.0	3.0	44.0	50.0	1.5	11.0	12.0	5.00	11.5	19.5	2.0	9.0	12.0	5.0	7.5	8.5	13.0
38.0	49.2	55.0	4.0	49.0	56.0	1.5	10.3	11.3	5.00	14.0	22.0	2.0	9.0	13.0	6.0	9.0	10.0	14.0
40.0	52.2	58.0	4.0	51.0	58.0	1.5	10.8	11.8	5.00	14.0	22.0	2.0	9.0	13.0	6.0	9.0	10.0	14.0
42.0	53.3	62.0	-	-	-	2.0	12.0	13.2	6.00	-	-	-	-	-	-	-	-	-
43.0	53.3	62.0	4.0	54.0	61.0	2.0	12.0	13.2	6.00	14.0	22.0	2.0	9.0	13.0	6.0	9.0	10.0	14.0
45.0	55.3	64.0	4.0	56.0	63.0	2.0	11.6	12.8	6.00	14.0	22.0	2.0	9.0	13.0	6.0	9.0	10.0	14.0
48.0	59.7	68.4	4.0	59.0	66.0	2.0	11.6	12.8	6.00	14.0	22.0	2.0	9.0	13.0	6.0	9.0	10.0	14.0
50.0	60.8	69.3	4.0	62.0	70.0	2.0	11.6	12.8	6.00	15.0	23.0	2.5	9.0	13.5	6.0	9.5	10.0	14.5
53.0	63.8	72.3	4.0	65.0	73.0	2.0	12.3	13.5	6.00	15.0	23.0	2.5	9.0	13.5	6.0	11.0	10.5	14.5
55.0	66.5	75.4	4.0	67.0	75.0	2.0	13.3	14.5	6.00	15.0	23.0	2.5	9.0	13.5	6.0	11.0	12.0	14.5
58.0	69.5	78.4	4.0	70.0	78.0	2.0	13.3	14.5	6.00	15.0	23.0	2.5	9.0	13.5	6.0	11.0	12.0	14.2
60.0	71.5	80.4	4.0	72.0	80.0	2.0	13.3	14.5	6.00	15.0	23.0	2.5	9.0	13.5	6.0	11.0	12.0	14.2
63.0	-	-	-	-	-	-	-	-	-	-	-	-	-	13.5	6.0	-	-	14.2
65.0	76.5	85.4	4.0	77.0	85.0	2.0	13.0	14.2	6.00	15.0	23.0	2.5	9.0	13.5	6.0	11.0	12.0	14.2
68.0	82.7	91.5	4.0	81.0	90.0	2.0	13.7	14.9	6.00	18.0	26.0	2.5	9.0	13.5	7.0	11.3	12.5	14.2
70.0	83.0	92.0	4.0	83.0	92.0	2.0	13.0	14.2	6.00	18.0	26.0	2.5	9.0	14.5	7.0	11.3	12.5	15.2
75.0	90.2	99.0	4.0	88.0	97.0	2.0	14.0	15.2	6.00	18.0	26.0	2.5	9.0	14.5	7.0	11.3	12.5	15.2
80.0	95.2	104.0	4.0	95.0	105.0	2.0	15.0	16.2	6.00	18.2	26.2	3.0	9.0	15.0	7.0	12.0	13.0	15.7
85.0	100.2	109.0	4.0	100.0	110.0	2.0	14.8	16.0	6.00	18.2	26.2	3.0	9.0	15.0	7.0	14.0	15.0	15.7
90.0	105.2	114.0	4.0	105.0	115.0	2.0	14.8	16.0	6.00	18.2	26.2	3.0	9.0	15.0	7.0	14.0	15.0	15.7
95.0	111.6	120.3	4.0	110.0	120.0	2.0	15.8	17.0	6.00	17.2	25.2	3.0	9.0	15.0	7.0	14.0	15.0	15.7
100.0	114.5	123.3	4.0	115.0	125.0	2.0	15.8	17.0	6.00	17.2	25.2	3.0	9.0	15.0	7.0	14.0	15.0	15.7



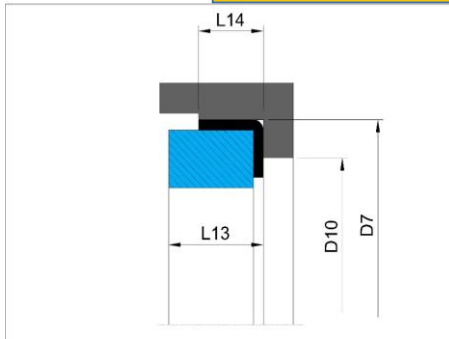
Seat W



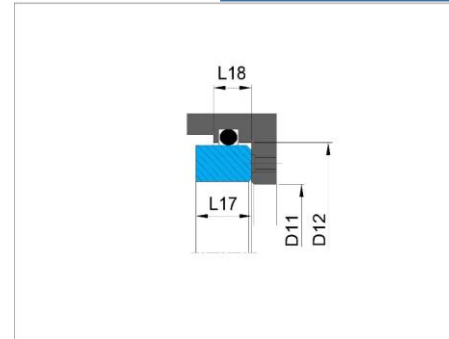
Seat A



Seat N



Seat P



Dimension in mm.													
Size	D6	D7	D8	D9	D10	D11	D12	L13	L14	L15	L16	L17	L18
0.375"	11.00	24.60	-	-	12.00	-	-	8.70	7.10	-	-	-	-
0.500"	13.50	27.80	13.40	25.40	15.00	14.50	25.60	8.70	7.10	7.95	6.35	7.90	6.75
0.625"	15.87	30.95	16.60	31.75	18.00	17.50	31.95	10.30	8.70	10.30	8.75	10.30	6.75
0.750"	17.00	34.15	19.70	34.93	22.00	21.00	35.12	10.30	8.70	10.30	8.75	10.30	6.75
0.875"	23.00	37.30	22.90	38.10	25.00	24.00	38.30	10.30	8.70	11.10	8.75	10.30	6.75
1.000"	26.50	40.50	26.10	41.28	28.00	27.50	41.48	10.30	8.70	11.10	9.50	11.15	6.75
1.125"	29.50	47.65	29.30	44.45	32.00	30.50	44.65	11.90	10.30	11.10	9.50	11.15	6.75
1.250"	32.50	50.80	32.40	47.63	35.00	33.50	47.83	11.90	10.30	11.10	9.50	11.15	6.75
1.375"	36.50	54.00	35.60	50.80	38.00	37.00	51.00	11.90	10.30	11.10	9.50	11.15	6.75
1.500"	39.50	57.15	38.80	53.98	41.00	40.00	54.18	11.90	10.30	11.10	9.50	11.15	6.75
1.625"	42.50	60.35	42.40	60.33	48.00	43.50	60.53	11.90	10.30	12.70	11.00	12.75	6.75
1.750"	46.00	63.50	45.50	63.50	51.00	46.50	63.70	11.90	10.30	12.70	11.00	12.75	6.75
1.875"	49.00	66.70	48.70	66.68	54.00	49.50	66.88	11.90	10.30	12.70	11.00	12.75	6.75
2.000"	52.00	69.85	51.90	69.85	57.00	53.00	70.05	13.50	11.90	12.70	11.00	12.75	6.75
2.125"	55.50	73.05	55.00	76.20	60.00	56.00	76.40	13.50	11.90	14.30	12.70	14.33	6.75
2.250"	58.50	76.20	58.20	79.38	64.00	59.00	79.58	13.50	11.90	14.30	12.70	14.33	6.75
2.375"	61.50	79.40	61.40	82.55	67.00	62.50	82.75	13.50	11.90	14.30	12.70	14.33	6.75
2.500"	65.00	82.55	64.60	85.73	70.00	65.50	85.93	13.50	11.90	14.30	12.70	14.33	6.75
2.625"	68.00	92.10	67.70	85.73	77.00	68.50	85.93	15.90	14.30	15.90	14.30	15.93	6.75
2.750"	71.00	95.25	70.90	88.90	80.00	72.00	89.10	15.90	14.30	15.90	14.30	15.93	6.75
2.875"	74.50	98.45	74.10	95.25	-	75.00	95.45	15.90	14.30	15.90	14.30	15.93	6.75
3.000"	77.50	101.60	77.30	98.43	-	78.50	98.63	15.90	14.30	15.90	14.30	15.93	6.75
3.125"	80.50	111.15	80.50	101.68	-	81.50	101.80	19.90	18.30	19.80	16.70	19.84	6.75
3.250"	84.00	114.30	83.60	104.78	-	84.50	104.98	19.90	18.30	19.80	16.70	19.84	6.75
3.375"	87.00	117.50	86.80	107.95	-	88.00	108.15	19.90	18.30	19.80	16.70	19.84	6.75
3.500"	90.50	120.65	90.00	111.13	-	91.00	111.33	19.90	18.30	19.80	16.70	19.84	6.75
3.625"	93.50	123.85	93.10	114.30	-	94.00	114.50	19.90	18.30	19.80	16.70	19.84	6.75
3.750"	96.50	127.00	96.30	117.48	-	97.50	117.68	19.90	18.30	19.80	16.70	19.84	6.75
3.875"	100.00	130.20	99.50	120.65	-	100.50	120.85	19.90	18.30	19.80	16.70	19.84	6.75
4.000"	103.00	133.35	102.70	123.83	-	103.50	124.03	19.90	18.30	19.80	16.70	19.84	6.75



Email: thanapoom@sealtecgroup.com

Tel: +66 2713-1000

Mobile: +66 82445-2230

<http://www.sealtecgroup.com>