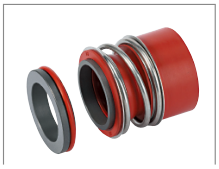
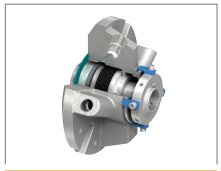
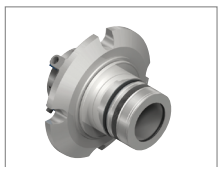
Component Seal

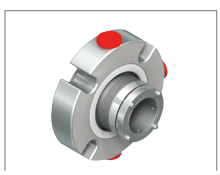


Dry Gas Seal

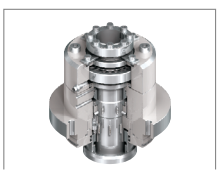
Metal Bellows Seal



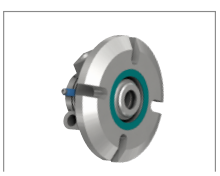


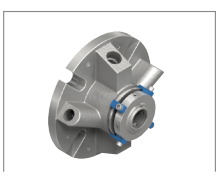


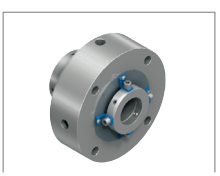
Mixer and Agitator Seal

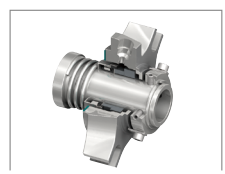


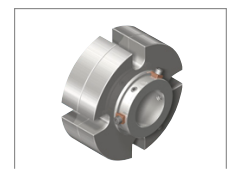
Single & Dual Cartridge Seal









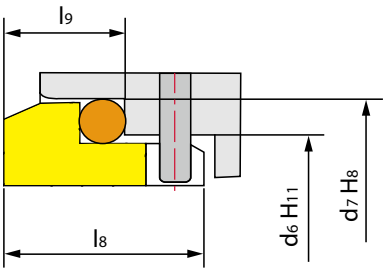


Seal Support System

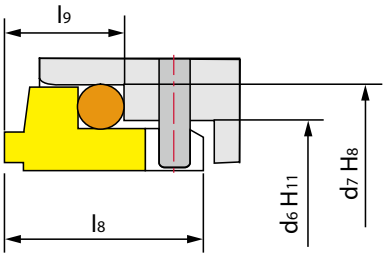
Sealing Parts

O.E.M Pump Seal

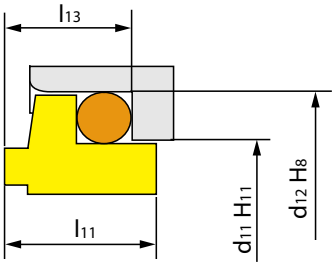
Stationary Seats



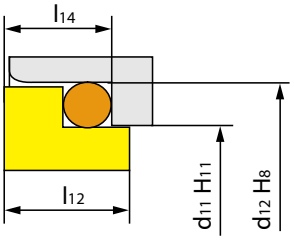
G9/DIN24960



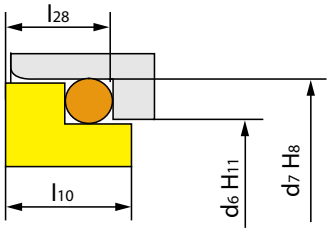
G9/DIN24960(Carbon)



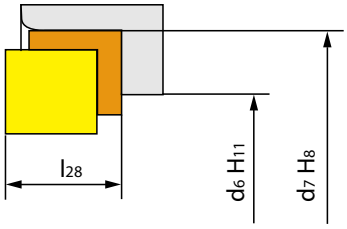
G13/DIN24250



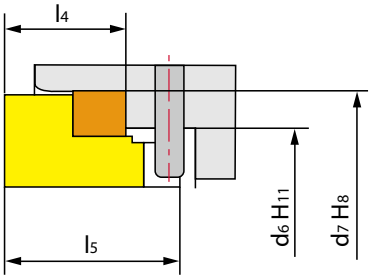
G4/DIN24250



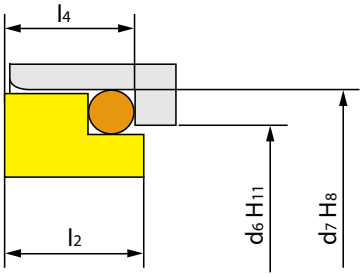
G6/DIN24960



G60/DIN24960

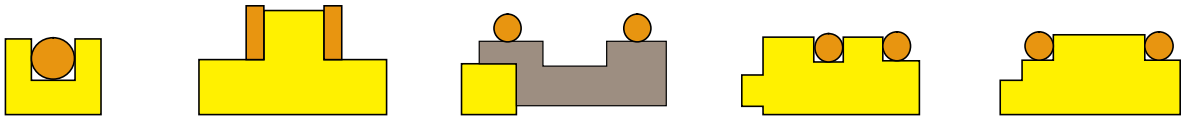


BP/DIN24960



BO/DIN24960

We supply stationary rings as follows ,moreover make special design according to customer's drawing or sample.



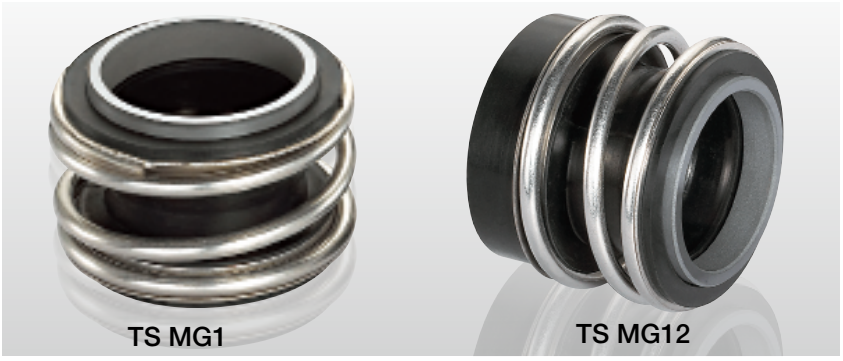
TYPE 4 V G15 B C

ISO9001

Stationary Seats Dimension Data (mm)

Type Shaft	d_6	d_7	G4 /G13		BO	BO/BP	BP	G4		G6/G60		G9		G13	
			d_{11}	d_{12}	l_2	l_4	l_5	l_{12}	l_{14}	l_{10}	l_{28}	l_8	l_9	l_{11}	l_{13}
10	17	21	15.5	19.2	\	\	\	7.5	6.6	7.5	6.6	17.5	10.0	9.0	7.1
12	19	23	17.5	21.6	\	\	\	6.5	5.6	7.5	6.6	17.5	10.0	10.0	7.6
14	21	25	20.5	24.6	12.8	12.0	18.5	6.5	5.6	7.5	6.6	17.5	10.0	10.0	7.6
15	\	\	20.5	24.6	\	12.0	\	7.5	6.6	7.5	\	17.5	10.0	11.0	8.6
16	23	27	22.0	28.0	12.8	12.0	18.5	8.5	7.5	7.5	6.6	17.5	10.0	11.5	9.0
18	27	33	24.0	30.0	14.5	13.5	20.5	9.0	8.0	8.5	7.5	19.5	11.5	12.5	10.0
20	29	35	29.5	35.0	14.5	13.5	20.5	8.5	7.5	8.5	7.5	19.5	11.5	12.5	9.5
22	31	37	29.5	35.0	14.5	13.5	20.5	8.5	7.5	8.5	7.5	19.5	11.5	12.5	9.5
24	33	39	32.0	38.0	14.3	13.3	20.3	8.5	7.5	8.5	7.5	19.5	11.5	12.5	9.5
25	34	40	32.0	38.0	14.0	13.0	20.0	8.5	7.5	8.5	7.5	19.5	11.5	12.5	9.5
26	\	\	34.0	40.0	\	\	\	9.0	8.0	8.5	7.5	19.5	11.5	13.0	10.0
28	37	43	36.0	42.0	13.5	12.5	19.5	10.0	9.0	8.5	7.5	19.5	11.5	14.0	11.0
30	39	45	39.2	45.0	13.0	12.0	19.0	11.5	10.5	8.5	7.5	19.5	11.5	14.0	11.0
32	42	48	42.2	48.0	13.0	12.0	19.0	11.5	10.5	8.5	7.5	19.5	11.5	14.0	11.0
33	42	48	44.2	50.0	13.0	12.0	19.0	12.0	10.5	8.5	7.5	19.5	11.5	14.5	11.5
35	44	50	46.2	52.0	13.0	12.0	19.0	12.0	11.0	8.5	7.5	19.5	11.5	14.5	11.5
38	49	56	49.2	55.0	14.0	13.0	20.0	11.3	10.3	10.0	9.0	22.0	14.0	14.5	11.5
40	51	58	52.2	58.0	14.0	13.0	20.0	11.8	10.8	10.0	9.0	22.0	14.0	14.5	11.5
42	\	\	53.3	62.0	14.0	13.0	\	13.2	12.0	10.0	9.0	22.0	14.0	17.0	14.3
43	54	61	53.3	62.0	14.0	13.0	20.0	13.2	12.0	10.0	9.0	22.0	14.0	17.0	14.3
45	56	63	55.3	64.0	14.0	13.0	20.0	12.8	11.6	10.0	9.0	22.0	14.0	17.0	14.3
48	59	66	59.7	68.4	14.0	13.0	20.0	12.8	11.6	10.0	9.0	22.0	14.0	17.0	14.3
50	62	70	60.8	69.3	14.5	13.5	20.5	12.8	11.6	10.5	9.5	23.0	15.0	17.0	14.3
53	65	73	63.8	72.3	14.5	13.5	20.5	13.5	12.3	12.0	11.0	23.0	15.0	17.0	14.3
55	67	75	66.5	75.4	14.5	13.5	20.5	14.5	13.3	12.0	11.0	23.0	15.0	18.0	15.3
58	70	78	69.5	78.4	14.2	13.5	20.5	14.5	13.3	12.0	11.0	23.0	15.0	18.0	15.3
60	72	80	71.5	80.4	14.2	13.5	20.5	14.5	13.3	12.0	11.0	23.0	15.0	18.0	15.3
63	75	83	74.5	83.4	14.2	13.5	20.5	14.2	13.3	12.0	11.0	23.0	15.0	18.0	15.3
65	77	85	76.5	85.4	14.2	13.5	20.5	14.2	13.0	12.0	11.0	23.0	15.0	18.0	15.3
68	81	90	82.7	91.5	14.2	13.5	20.5	14.9	13.7	12.5	11.3	26.0	18.0	19.0	16.0
70	83	92	83.0	92.0	15.2	14.5	21.5	14.2	13.0	12.5	11.3	26.0	18.0	18.0	15.3
75	88	97	90.2	99.0	15.2	14.5	21.5	15.2	14.0	12.5	11.3	26.0	18.0	18.0	15.3
80	95	105	95.2	104.0	15.7	15.0	22.0	16.2	15.0	13.0	12.0	26.2	18.2	19.0	16.3
85	100	110	100.2	109.0	15.7	15.0	22.0	16.0	14.8	15.0	14.0	26.2	18.2	19.0	16.3
90	105	115	105.2	114.0	15.7	15.0	22.0	16.0	14.8	15.0	14.0	26.2	18.2	19.0	16.3
95	110	120	111.6	120.3	15.7	15.0	22.0	17.0	15.8	15.0	14.0	25.2	17.2	20.0	17.3
100	115	125	114.5	123.3	15.7	15.0	22.0	17.0	15.8	15.0	14.0	25.2	17.2	20.0	17.3

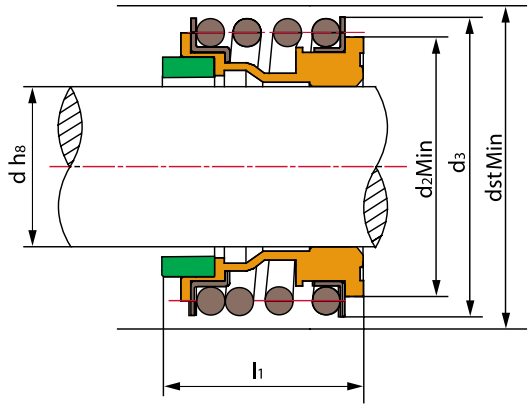
TS MG1(TSG) TS MG12(TSG2)

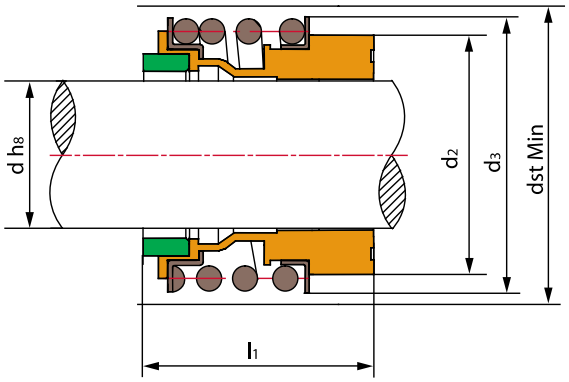


Operating Limits

Pressure: ≤1.2MPa
Speed: ≤10m/s
Temperature: -20˚C ~+120˚C

ISO9001





- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (Ceramic/SiC/TC)
- Secondary Seal (NBR/EPDM/VITON)
- Spring & Other Parts (SUS304/SUS316)

TS MG1

Seal size d(mm)	d	d_2	d_3	d_{st}	l_1
8	8	17.5	19.0	23	12.5
10	10	20.5	22.5	24	14.5
12	12	22.5	25.0	26	15.0
14	14	26.5	28.5	30	17.0
15	15	26.5	28.5	30	17.0
16	16	26.5	28.5	30	17.0
18	18	29.0	32.0	33	19.5
19	19	33.0	37.0	38	21.5
20	20	33.0	37.0	38	21.5
22	22	33.0	37.0	38	21.5
24	24	38.0	42.5	44	22.5
25	25	38.0	42.5	44	23.0
28	28	44.0	49.0	50	26.5
30	30	44.0	49.0	50	26.5
32	32	46.0	53.5	55	27.5
33	33	46.0	53.5	55	27.5
35	35	50.0	57.0	59	28.5
38	38	53.0	59.0	61	30.0
40	40	55.0	62.0	64	30.0
42	42	58.0	65.5	67	30.0
43	43	58.0	65.5	67	30.0
45	45	60.0	68.0	70	30.0
48	48	63.0	70.5	74	30.5
50	50	65.0	74.0	77	30.5
53	53	70.0	78.5	81	33.0
55	55	72.0	81.0	83	35.0
58	58	75.0	85.5	88	37.0
60	60	79.0	88.5	91	38.0
65	65	84.0	93.5	96	40.0
68	68	88.0	96.5	100	40.0
70	70	90.0	99.5	103	40.0
75	75	95.0	107.0	110	40.0
80	80	100.0	112.0	116	40.0
85	85	107.0	120.0	124	41.0
90	90	114.0	127.0	131	45.0
95	95	119.0	132.0	136	46.0
100	100	124.0	137.0	140	47.0

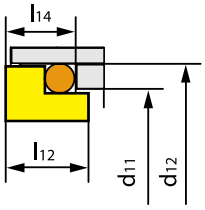
TS MG12

Seal size d(mm)	d	d_2	dst	d_3	l_1
10	10	20.5	24	22.5	25.9
12	12	22.5	26	25.0	25.9
14	14	26.5	30	28.5	28.4
16	16	26.5	30	28.5	28.4
18	18	29.0	33	32.0	30.0
20	20	33.0	38	37.0	30.0
22	22	33.0	38	37.0	30.0
24	24	38.0	44	42.5	32.5
25	25	38.0	44	42.5	32.5
28	28	44.0	50	49.0	35.0
30	30	44.0	50	49.0	35.0
32	32	46.0	55	53.5	35.0
33	33	46.0	55	53.5	35.0
35	35	50.0	59	57.0	35.0
38	38	53.0	61	59.0	36.0
40	40	55.0	64	62.0	36.0
43	43	58.0	67	65.5	36.0
45	45	60.0	70	68.0	36.0
48	48	63.0	74	70.5	36.0
50	50	65.0	77	74.0	38.0
53	53	70.0	81	78.5	36.5
55	55	72.0	83	81.0	36.5
58	58	75.0	88	85.5	41.5
60	60	79.0	91	88.5	41.5
65	65	84.0	96	93.5	41.5
68	68	88.0	100	96.5	41.2
70	70	90.0	103	99.5	48.7
75	75	95.0	110	107.0	48.7
80	80	100.0	116	112.0	48.0
85	85	107.0	124	120.0	46.0
90	90	114.0	131	127.0	51.0
95	95	119.0	136	132.0	51.0
100	100	124.0	140	137.0	51.0

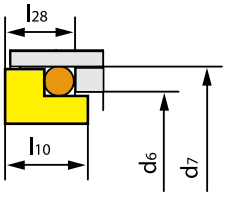
Stationary Seats

G4/G6

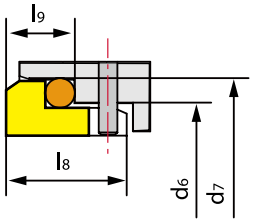
G60



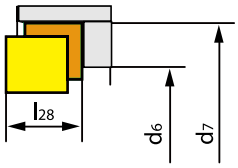
G4 (DIN24250)



G6 (DIN24960)

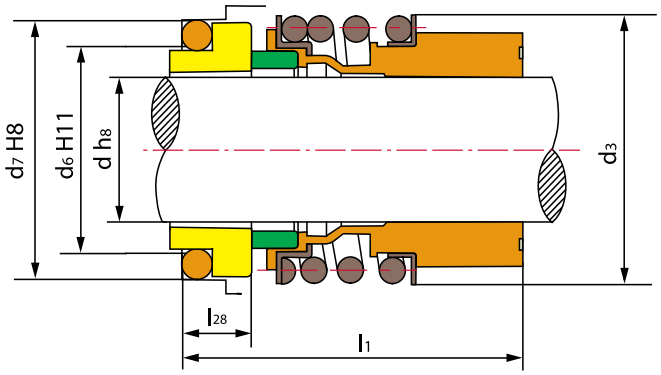


G9 (DIN24960)



G60 (DIN24960)

Seal size d(mm)	d_2	d_3	d_{st}	d_6	d_7	G4				G9		G6/G60	
						d_{11}	d_{12}	l_{12}	l_{14}	l_8	l_9	l_{10}	l_{28}
8	17.5	19.0	23	\	\	\	18.2	\	5.0	\	\	\	\
10	20.5	22.5	24	17	21.0	15.5	19.2	7.5	6.6	17.5	10.0	7.5	6.6
12	22.5	25.0	26	19	23.0	17.5	21.6	6.5	5.6	17.5	10.0	7.5	6.6
14	26.5	28.5	30	21	25.0	20.5	24.6	6.5	5.6	17.5	10.0	7.5	6.6
15	26.5	28.5	30	\	\	20.5	24.6	7.5	6.6	\	\	\	\
16	26.5	28.5	30	23	27.0	22.0	28.0	8.5	7.5	17.5	10.0	7.5	6.6
18	29.0	32.0	33	27	33.0	24.0	30.0	9.0	8.0	19.5	11.5	8.5	7.5
19	33.0	37.0	38	\	\	29.5	35.0	\	\	\	\	\	\
20	33.0	37.0	38	29	35.0	29.5	35.0	8.5	7.5	19.5	11.5	8.5	7.5
22	33.0	37.0	38	31	37.0	29.5	35.0	8.5	7.5	19.5	11.5	8.5	7.5
24	38.0	42.5	44	33	39.0	32.0	38.0	8.5	7.5	19.5	11.5	8.5	7.5
25	38.0	42.5	44	34	40.0	32.0	38.0	8.5	7.5	19.5	11.5	8.5	7.5
28	44.0	49.0	50	37	43.0	36.0	42.0	10.0	9.0	19.5	11.5	8.5	7.5
30	44.0	49.0	50	39	45.0	39.2	45.0	11.5	10.5	19.5	11.5	8.5	7.5
32	46.0	53.5	55	42	48.0	42.2	48.0	11.5	10.5	19.5	11.5	8.5	7.5
33	46.0	53.5	55	42	48.0	44.2	50.0	12.0	10.5	19.5	11.5	8.5	7.5
35	50.0	57.0	59	44	50.0	46.2	52.0	12.0	11.0	19.5	11.5	8.5	7.5
38	53.0	59.0	61	49	56.0	49.2	55.0	11.3	10.3	22.0	14.0	10.0	9.0
40	55.0	62.0	64	51	58.0	52.2	58.0	11.8	10.8	22.0	14.0	10.0	9.0
42	58.0	65.5	67	\	\	53.3	62.0	13.2	12.0	\	\	\	\
43	58.0	65.5	67	54	61.0	53.3	62.0	13.2	12.0	22.0	14.0	10.0	9.0
45	60.0	68.0	70	56	63.0	55.3	64.0	12.8	11.6	22.0	14.0	10.0	9.0
48	63.0	70.5	74	59	66.0	59.7	68.4	12.8	11.6	22.0	14.0	10.0	9.0
50	65.0	74.0	77	62	70.0	60.8	69.3	12.8	11.6	23.0	15.0	10.5	9.5
53	70.0	78.5	81	65	73.0	63.8	72.3	13.5	12.3	23.0	15.0	12.0	11.0
55	72.0	81.0	83	67	75.0	66.5	75.4	14.5	13.3	23.0	15.0	12.0	11.0
58	75.0	85.5	88	70	78.0	69.5	78.4	14.5	13.3	23.0	15.0	12.0	11.0
60	79.0	88.5	91	72	80.0	71.5	80.4	14.5	13.3	23.0	15.0	12.0	11.0
65	84.0	93.5	96	77	85.0	76.5	85.4	14.2	13.0	23.0	15.0	12.0	11.0
68	88.0	96.5	100	81	90.0	82.7	91.5	14.9	13.7	26.0	18.0	12.5	11.3
70	90.0	99.5	103	83	92.0	83.0	92.0	14.2	13.0	26.0	18.0	12.5	11.3
75	95.0	107.0	110	88	97.0	90.2	99.0	15.2	14.0	26.0	18.0	12.5	11.3
80	100.0	112.0	116	95	105.0	95.2	104.0	16.2	15.0	26.2	18.2	13.0	12.0
85	107.0	120.0	124	100	110.0	100.2	109.0	16.0	14.8	26.2	18.2	15.0	14.0
90	114.0	127.0	131	105	115.0	105.2	114.0	16.0	14.8	26.2	18.2	15.0	14.0
95	119.0	132.0	136	110	120.0	111.6	120.3	17.0	15.8	27.2	19.2	15.0	14.0
100	124.0	137.0	140	115	125.0	114.5	123.3	17.0	15.8	27.2	19.2	15.0	14.0



TS MG13

ISO9001

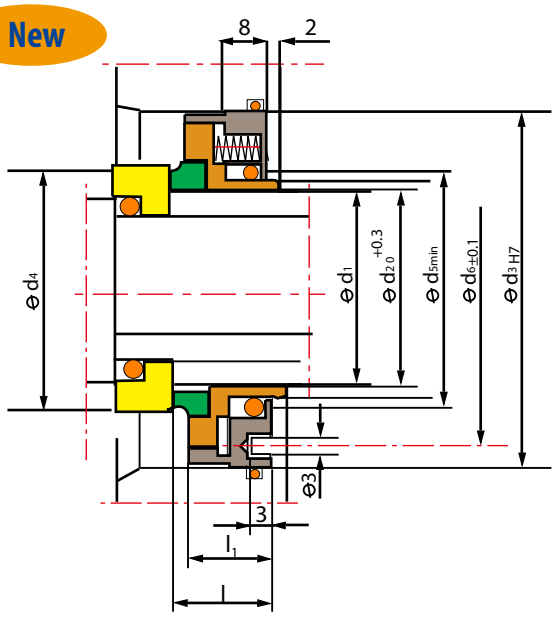
Operating Limits

Pressure: ≤1.2MPa
Speed: ≤10m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring(Carbon/SiC)
- Stationary Ring(Ceramic/SiC/TC)
- Secondary Seal(NBR/EPDM/VITON)
- Retainer(SUS304/SUS316)
- Spring(SUS304/SUS316)
- Spring Holder(SUS304/SUS316)

Seal size d(mm)	d_3	d_6	d_7	l_1	l_{28}
20	37.0	29	35	45	7.5
22	37.0	31	37	45	7.5
24	42.5	33	39	50	7.5
25	42.5	34	40	50	7.5
28	49.0	37	43	50	7.5
30	49.0	39	45	50	7.5
32	53.5	42	48	55	7.5
35	57.0	44	50	55	7.5
38	59.0	49	56	55	9.0
40	62.0	51	58	55	9.0
42	65.5	54	61	60	9.0
43	65.5	54	61	60	9.0
45	68.0	56	63	60	9.0
48	70.5	59	66	60	9.0
50	74.0	62	70	60	9.5
53	78.5	65	73	70	11.0

New



TB H10

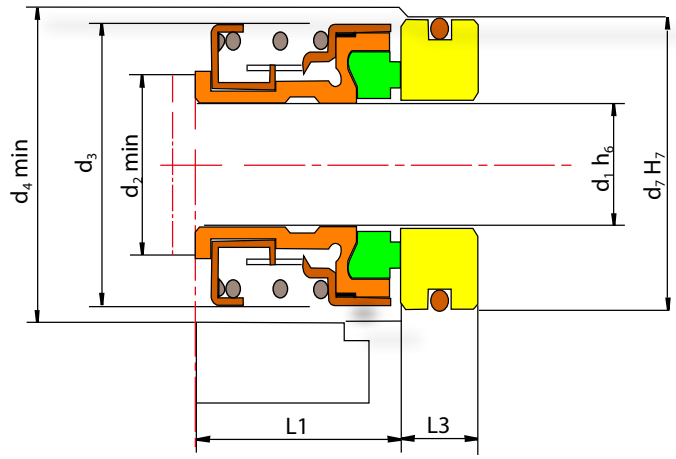
Balance design , Ultra short structure , Arbitrary rotation direction and high speed

Pressure: ≤2.5MPa
Speed: ≤35m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring(Graphite/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Kalrez)
- Spring & Other Parts(SUS304/SUS316)

d_1	d_2	d_3	d_4	d_5	d_6	$l_{0.5}$	l_1
15	16	42	22.6	21	34	17	15
18	19	45	25.6	24	37	17	15
20	21	48	27.6	26	40	17	15
22	23	50	29.6	28	42	17	15
25	26	52	32.8	31	44	17	15
28	29	55	35.8	34	47	17	15
30	31	58	37.8	36	50	17	15
32	33	60	39.8	38	52	17	15
35	36	62	42.8	41	54	17	15
38	39	65	45.9	44	57	17	15
40	41	68	47.9	46	60	17	15
42	43	72	49.9	48	64	17	15
45	46	75	52.9	51	67	17	15
48	49	80	55.9	54	72	17	15
50	51	80	58.2	56	72	17	15
52	53	82	60.2	58	74	17	15
55	56	85	63.2	61	77	17	15
58	59	90	66.7	64	82	17	15
60	61	90	68.7	66	82	17	15
65	66	95	73.7	71	87	19	16
68	69	100	76.7	74	92	19	16.5
70	71	100	78.7	76	92	19	16.5
75	76	108	83.7	81	100	19	16.5
80	81	112	88.7	86	104	19	16.5
85	86	118	93.7	91	110	19	16.5
90	91	122	99.5	96	114	19	16.5
95	96	128	104.5	101	120	19	16.5
100	101	132	109.5	106	124	19	16.5

New & Patent



ISO9001

TS 2115

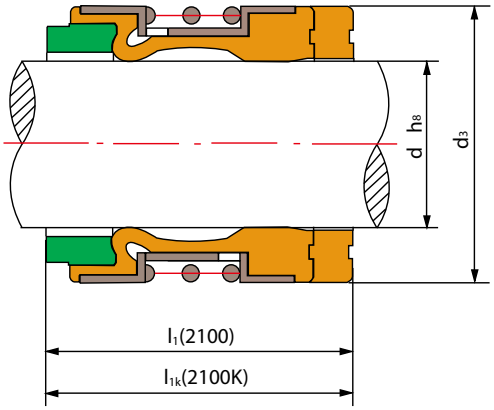
Upgrade JC 2100 , Resist high pressure, compact conformation excellent in small staffing house

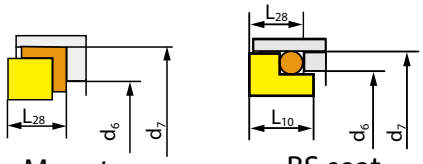
Operating Limits

Pressure: ≤4MPa
Speed: ≤15 m/s
Temperature: -30˚C ~ +150˚C

- Rotary Ring(Graphite/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(EPDM/VITON)
- Spring & Other Parts(SUS304/SUS316)

Model	d_1 (inches)	d_2	d_3	d_4	d_7	L_3	L_1
7/16"	11.1	14	23.2	25.0	30	8.7	18
1/2"	12.7	16.7	24.0	26.0	25.4	7.9	20.62
5/8"	15.875	19.4	27.0	28.0	31.75	10.3	22.23
3/4"	19.05	23.8	32.0	34.0	34.93	10.3	22.23
7/8"	22.225	27	36.0	38.0	38.1	10.3	23.8
1"	25.4	30	39.0	41.0	41.28	11.1	25.4
1 1/8"	28.575	33.5	42.0	44.0	44.45	11.1	26.97
1 1/4"	31.75	37	46.0	48.0	47.63	11.1	26.97
1 3/8"	34.925	40.5	49.5	51.0	50.8	11.1	28.58
1 1/2"	38.1	43.5	54.0	58.0	53.98	11.1	30.15
1 5/8"	41.275	47	56.5	60.0	60.33	12.7	34.93
1 3/4"	44.45	50.5	61.0	65.0	63.5	12.7	34.93
1 7/8"	47.625	54	64.0	68.0	66.68	12.7	38.1
2	50.8	57	67.5	70.0	69.85	12.7	38.1





M seat
(DIN24960)

BS seat
(DIN24960)

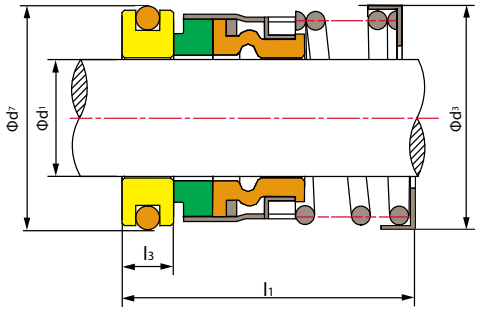
TS 2100

Operating Limits

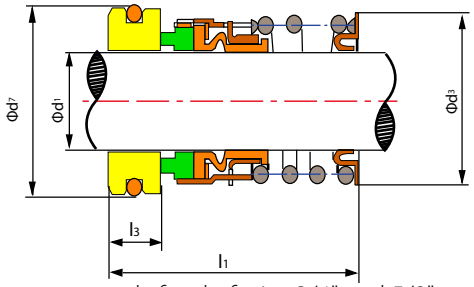
Pressure: ≤1.6MPa
Speed: ≤15 m/s
Temperature: -30˚C ~ +150˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(Ceramic/SiC/TC)
- Secondary Seal(NBR/EPDM/VITON)
- Spring & Other Parts(SUS304/SUS316)

Seal size d(mm)	d_3	d_6	d_7	2100	2100K	M seat	BS seat
				l_1	l_{1k}	l_{28}	l_{10}
10	20	17	21	15	27.5	5	6.0
12	22	19	23	15	26.5	6	6.8
14	24	21	25	15	29.0	6	6.8
15	25	22	26	15	29.0	6	6.8
16	26	23	27	15	29.0	6	6.8
18	32	27	33	20	31.5	6	7.0
20	34	29	35	20	31.5	6	7.0
22	36	31	37	20	31.5	6	7.0
24	38	33	39	20	34.0	6	7.0
25	39	34	40	20	34.0	6	7.0
28	42	37	43	26	36.5	6	7.0
30	44	39	45	26	35.5	7	8.0
32	46	42	48	26	35.5	7	8.0
33	47	42	48	26	35.5	7	8.0
35	49	44	50	26	34.5	8	9.0
38	54	49	56	30	37.0	8	9.0
40	56	51	58	30	37.0	8	9.0
43	59	54	61	30	37.0	8	9.0
45	61	56	63	30	37.0	8	9.0
48	64	59	66	30	35.0	10	11.0
50	66	62	70	30	37.5	10	11.0
53	69	65	73	30	37.5	10	11.0
55	71	67	75	30	37.5	10	11.0
60	80	72	80	33	40.5	12	12.7
65	85	77	85	33	40.5	12	12.7
70	90	83	92	33	48.0	12	12.7
75	99	88	97	40	48.0	12	12.7



for shaft sizes 1" to 2"



only for shaft size 3/4" and 5/8"

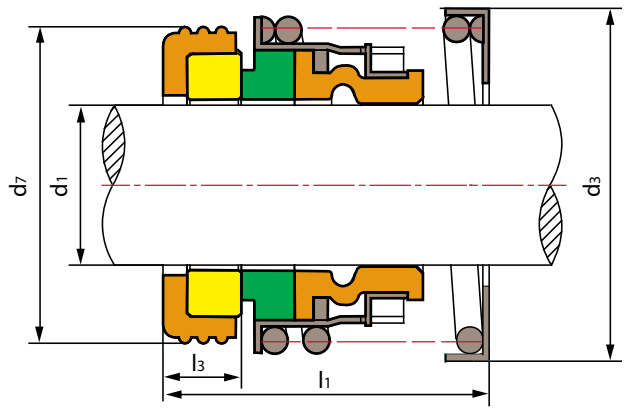
TS T1

Operating Limits

Pressure: ≤2.8MPa
Speed: ≤13 m/s
Temperature: -30˚C ~ +200˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(Ceramic/SiC/TC/SUS304)
- Secondary Ring(NBR/EPDM/VITON)
- Spring & Other Parts(SUS304/SUS316)

Model	d_1 (inches)	d_3	d_7	l_1	l_3
T1-5/8"	15.875	27.8	31.75	43.6	10.3
T1-3/4"	19.05	30.9	34.925	43.6	10.3
T1-1 "	25.400	38.1	41.275	50.77	11.1
T1-1 1/8"	28.575	41.5	44.450	52.40	11.1
T1-1 1/4"	31.750	46.0	47.625	52.40	11.1
T1-1 3/8"	34.925	47.6	50.800	53.90	11.1
T1-1 7/16"	36.500	50.8	53.975	53.90	11.1
T1-1 1/2"	38.100	50.8	53.975	53.90	11.1
T1-1 5/8"	41.275	57.2	60.325	63.50	12.7
T1-1 3/4"	44.450	60.5	63.500	63.50	12.7
T1-1 7/8"	47.625	63.5	66.675	66.70	12.7
T1-2"	50.800	66.7	69.850	66.70	12.7
T1-2 1/8"	53.975	71.4	76.200	74.60	14.3
T1-2 1/4"	57.150	74.6	79.375	74.60	14.3
T1-2 3/8"	60.325	77.8	82.550	77.80	14.3
T1-2 1/2"	63.500	81.0	85.725	77.80	14.3
T1-2 5/8"	66.675	85.7	85.725	85.75	15.9
T1-2 3/4"	69.850	88.9	88.900	85.75	15.9
T1-2 7/8"	73.025	92.0	95.250	88.90	15.9
T1-3"	76.200	95.2	98.425	88.90	15.9
T1-3 1/2"	88.9	111.1	111.1	99.18	19.8



Replace John Crane Type 2

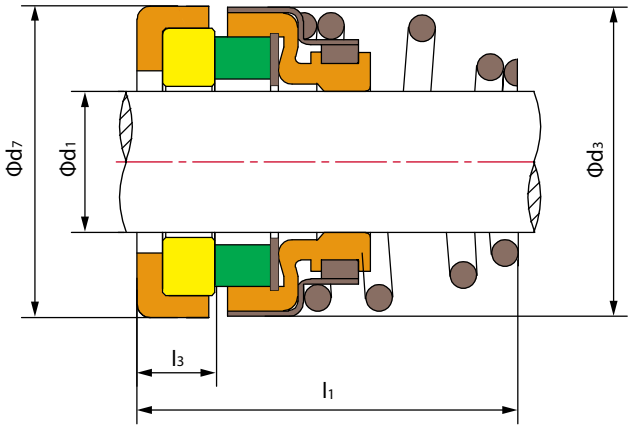
TS T2

Operating Limits

Pressure: ≤2.8MPa
Speed: ≤13 m/s
Temperature: -30˚C ~ +200˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(Ceramic/SiC/TC)
- Secondary Seal(NBR/EPDM/VITON)
- Spring & Other Parts(SUS304/SUS316)

Model	d_1 (inches)	d_3	d_7	l_1	l_3
T2-1"	25.400	46.00	41.275	36.50	11.10
T2-1 1/8"	28.575	49.20	44.450	38.10	11.10
T2-1 1/4"	31.750	52.40	47.625	38.10	11.10
T2-1 3/8"	34.925	57.20	50.800	39.70	11.10
T2-1 1/2"	38.100	60.30	53.975	39.70	11.10
T2-1 5/8"	41.275	69.00	60.325	47.63	12.70
T2-1 3/4"	44.450	69.90	63.500	47.63	12.70
T2-1 7/8"	47.625	73.00	66.675	50.80	12.70
T2-2"	50.800	76.20	69.850	50.80	12.70
T2-2 1/8"	53.975	82.50	76.200	57.15	14.30
T2-2 1/4"	57.150	85.70	79.375	57.15	14.30
T2-2 3/8"	60.325	88.90	82.550	60.30	14.30
T2-2 1/2"	63.500	94.00	85.725	60.30	14.30
T2-3"	76.200	107.95	98.425	68.28	15.90
T2-4"	101.600	141.28	123.830	78.57	19.84



ISO9001

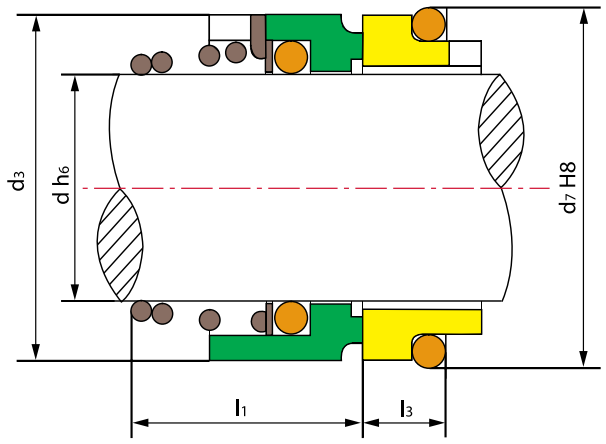
TS MG9

Operating Limits

Pressure: ≤1.0MPa
Speed: ≤10m/s
Temperature: -30˚C ~+180˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(Ceramic/SiC/TC)
- Secondary Seal(NBR/ VITON/EPDM)
- Spring & Other Parts(SUS304/SUS316)

Model	d_1	d_3	d_7	l_1	l_3
TSMG912-20	20	32	35	37.5	7.5
TSMG912-22	22	33.5	37	37.5	7.5
TSMG912-24	24	37	39	40	7.5
TSMG912-25	25	38	40	40	7.5
TSMG912-28	28	41	43	42.5	7.5
TSMG912-30	30	43	45	42.5	7.5
TSMG912-32	32	45	48	42.5	7.5
TSMG912-33	33	46	48	42.5	7.5
TSMG912-35	35	48	50	42.5	7.5
TSMG912-38	38	52.5	56	45	9
TSMG912-40	40	55.5	58	45	9
TSMG912-45	45	60.5	63	45	9
TSMG912-48	48	64	66	45	9
TSMG912-50	50	66	70	47.5	9.5
TSMG912-53	53	69	73	47.5	11
TSMG912-55	55	71	75	47.5	11
TSMG901-1 1/8"	28.575	41	44.45	52.37	11.1
TSMG901-1 3/8"	34.925	48	50.8	53.95	11.1
TSMG901-1 1/2"	38.1	52.5	54	53.95	11.1
TSMG901-1 3/4"	44.45	60.5	63.5	63.5	12.7



TS M2N

Operating Limits

Pressure: ≤1MPa
Speed: ≤15m/s
Temperature: -20˚C ~+180˚C

Design Features:

1 .Single seal
2.Unbalanced
3.Conical spring
4.Dependent on direction
5.To DIN 24960

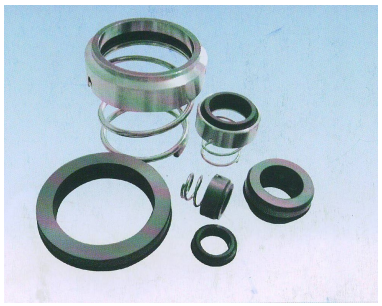
- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(99%Ceramic/SiC/TC)
- Secondary Seal (NBR/EPDM/VITON/PTFE)
- Spring & Other Parts (SUS304/SUS316)

Stationary Seats:
1.TS M2N seal equip with 'G9' seat(DIN24960)
2.Stationary seal alternative: 'G6'(DIN 24960) and 'G4' seats

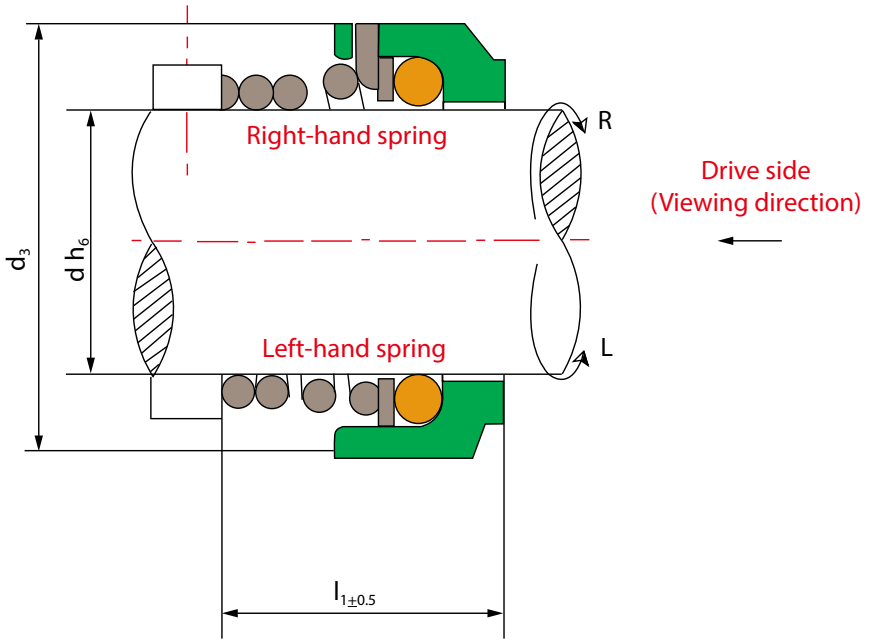
Seal size d(mm)	d_3	d_7	l_1	l_3
6	15	\	\	\
8	18	\	\	\
10	20	21	17.5	10.0
12	22	23	17.5	10.0
14	25	25	17.5	10.0
15	27	27	19.5	10.0
16	27	27	19.5	10.0
18	30	33	20.5	11.5
20	32	35	22.0	11.5

Seal size d(mm)	d_3	d_7	l_1	l_3
22	35	37	23.5	11.5
24	38	39	25.0	11.5
25	40	40	26.5	11.5
26	41	40	26.5	11.5
28	43	43	26.5	11.5
30	47	45	26.5	11.5
32	48	48	28.5	11.5
35	53	50	28.5	11.5
38	56	56	33.5	14.0

ISO9001



old TYPE

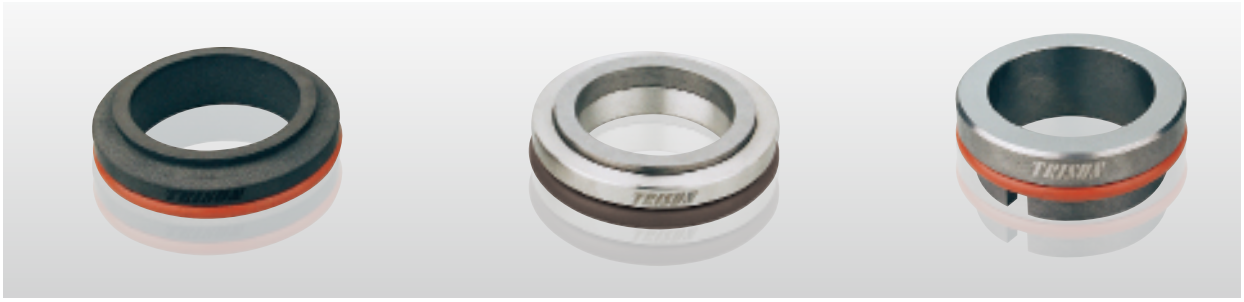


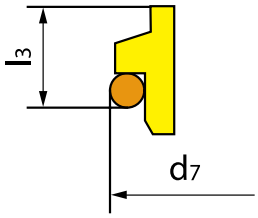
TS M3(TS551)

Operating Limits

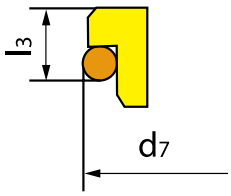
Pressure: ≤1MPa
Speed: ≤10m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring (SUS304/SiC/Carbon/TC)
- Stationary Ring (Carbon/SiC/TC)
- O-Ring (NBR/EPDM/VITON/PTFE)
- Retainer (SUS304/SUS316)
- Spring (SUS304/SUS316)

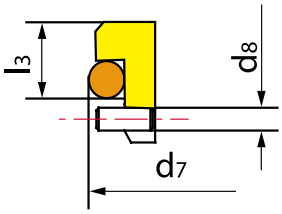




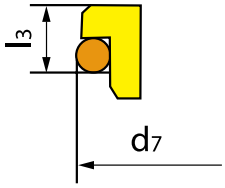
TS551A
BT



TS551B
G4
(DIN24250)

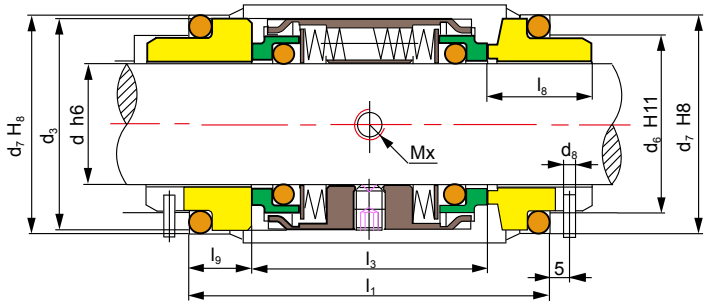


TS551C
G9
(DIN24960)



TS551D
G6
(DIN24960)

Seal size d(mm)	d3	BT			G4			G9				G6		
		d_7	l_1	l_3	d_7	l_1	l_3	d_7	d_8	l_1	l_3	d_7	l_1	l_3
8	18	17.1	15	5.5	19.2	11.9	7.0	\	\	\	\	\	\	\
10	19	18.1	15	5.5	19.2	15.5	6.6	21	3	15.5	10	21	15.5	6.6
11	20	20.6	18	5.5	\	\	\	\	\	\	\	\	\	\
12	21	20.6	18	55.0	21.6	16.0	5.6	23	3	16.0	10	23	16.0	6.6
13	22	23.0	22	6.0	\	\	\	\	\	\	\	\	\	\
14	23	23.1	22	6.0	24.6	16.5	5.6	25	3	16.5	10	25	16.5	6.6
15	24	26.9	22	7.0	24.6	18.0	6.6	\	\	\	\	\	\	\
16	26	26.9	23	7.0	28.0	18.0	7.5	27	3	18.0	10	27	18.0	6.6
17	26	26.9	23	7.0	\	\	\	\	\	\	\	\	\	\
18	29	30.9	24	8.0	30.0	19.5	8.0	33	3	19.5	11.5	33	19.5	7.5
19	31	30.9	25	8.0	35.0	22.0	7.5	\	\	\	\	\	\	\
20	31	30.9	25	8.0	35.0	22.0	7.5	35	3	22.0	11.5	35	22.0	7.5
22	33	35.4	25	8.0	35.0	21.5	7.5	37	3	21.5	11.5	37	21.5	7.5
23	36	35.4	27	8.0	\	\	\	\	\	\	\	\	\	\
24	35	35.4	27	8.0	38.0	23.5	7.5	39	3	23.5	11.5	39	23.5	7.5
25	36	38.2	27	8.5	38.0	26.5	7.5	40	3	26.5	11.5	40	26.5	7.5
26	37	38.2	27	8.5	40.0	26.5	8.0	\	\	\	\	\	\	\
28	40	43.3	29	9.0	42.0	26.5	9.0	43	3	26.5	11.5	43	26.5	7.5
30	43	43.3	30	9.0	45.0	26.5	10.5	45	3	26.5	11.5	45	26.5	7.5
32	46	43.3	30	9.0	48.0	28.5	10.5	48	3	28.5	11.5	48	28.5	7.5
33	47	53.5	39	11.5	\	\	\	\	\	28.5	\	\	28.5	\
34	48	53.5	39	11.5	\	\	\	\	\	\	\	\	\	\
35	49	53.5	39	11.5	52.0	28.5	11	50	3	28.5	11.5	50	28.5	7.5
36	50	53.5	39	11.5	\	\	\	\	\	\	\	\	\	\
38	53	60.5	39	11.5	55.0	33.5	10.3	56	4	33.5	14.0	56	33.5	9.0
40	56	60.5	39	11.5	58.0	36.0	10.8	58	4	36	14.0	58	36.0	9.0
42	59	60.5	39	11.5	62.0	38.5	12.0	\	\	\	\	\	\	\
43	59	60.5	39	11.5	62.0	38.5	12.0	61	4	38.5	14.0	61	38.5	9.0
44	60	65.5	41	11.5	\	\	\	\	\	\	\	\	\	\
45	61	65.5	41	11.5	64.0	39.5	11.6	63	4	39.5	14.0	63	39.5	9.0
48	64	65.5	41	11.5	68.4	46.0	11.6	66	4	46.0	14.0	66	46.0	9.0
50	66	72.5	45	11.5	69.3	45.0	11.6	70	4	45.0	15.0	70	45.0	9.5
53	69	\	\	\	\	\	\	73	4	47.0	15.0	70	47.0	9.5
55	71	72.5	47	11.5	75.4	49.0	13.3	75	4	49.0	15.0	75	49.0	11.0
58	76	\	\	\	78.4	55.0	13.3	78	4	55.0	15.0	78	55.0	11.0
60	78	79.3	49	11.5	80.4	55.0	13.3	80	4	55.0	15.0	80	55.0	11.0
63	83	\	\	\	\	\	\	83	4	55.0	15.0	83	55.0	11.0
65	84	84.5	51	11.5	85.4	55.0	13.0	85	4	55.0	15.0	85	55.0	11.0
68	88	\	\	\	91.5	55.0	13.7	90	4	55.0	18.0	90	55.0	11.3
70	90	89.5	51	11.5	92.0	57.0	13.0	92	4	57.0	18.0	92	57.0	11.3
75	98	94.5	57	11.5	99.0	62.0	14.0	97	4	62.0	18.0	97	62.0	11.3
80	100	99.5	59	11.5	104.0	61.8	15.0	105	4	61.8	18.2	105	61.8	12.0



ISO9001

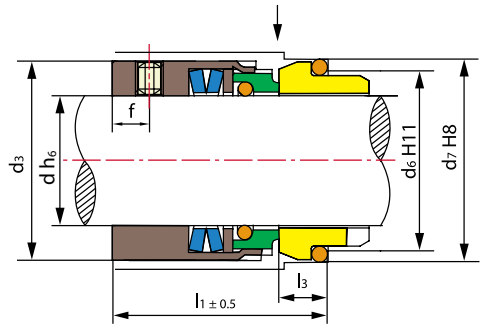
TS M74D

Operating Limits

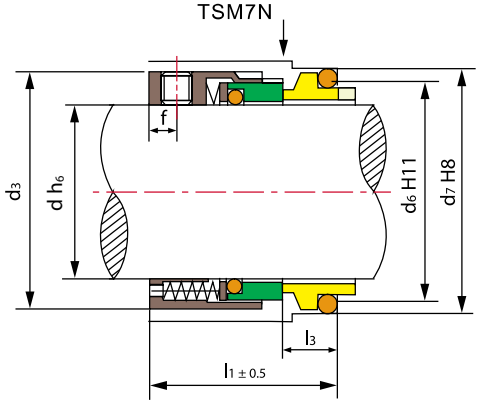
Pressure: ≤1.6MPa
Speed: ≤10m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(CARBON/SiC/TC)
- Secondary Seal (NBR/VITON/EPDM)
- Other Parts (SUS304/SUS316)

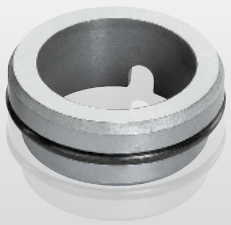
seal size d(mm)	d_3	d_6	d_7	d_8	l_1	l_3	l_8	l_9	Mx
18	33	27	33	3	61.0	38	19.5	11.5	M5
20	35	29	35	3	61.0	38	19.5	11.5	M5
22	37	31	37	3	61.0	38	19.5	11.5	M5
24	39	33	39	3	61.0	38	19.5	11.5	M5
25	40	34	40	3	61.0	38	19.5	11.5	M5
28	43	37	43	3	62.0	39	19.5	11.5	M6
30	45	39	45	3	62.0	39	19.5	11.5	M6
32	47	42	48	3	62.0	39	19.5	11.5	M6
33	48	42	48	3	62.0	39	19.5	11.5	M6
35	50	44	50	3	62.0	39	19.5	11.5	M6
38	55	49	56	4	69.0	41	22.0	14.0	M6
40	57	51	58	4	70.0	42	22.0	14.0	M6
43	60	54	61	4	70.0	42	22.0	14.0	M6
45	62	56	63	4	70.0	42	22.0	14.0	M6
48	65	59	66	4	70.0	42	22.0	14.0	M6
50	67	62	70	4	73.0	43	23.0	15.0	M6
53	70	65	73	4	73.0	43	23.0	15.0	M6
55	72	67	75	4	73.0	43	23.0	15.0	M8
58	79	70	78	4	86.0	56	23.0	15.0	M8
60	81	72	80	4	86.0	56	23.0	15.0	M8
63	84	75	83	4	85.0	55	23.0	15.0	M8
65	86	77	85	4	85.0	55	23.0	15.0	M8
68	89	81	90	4	91.0	55	26.0	18.0	M8
70	91	83	92	4	92.0	56	26.0	18.0	M8
75	99	88	97	4	92.0	56	26.0	18.0	M8
80	104	95	105	4	92.5	56	26.2	18.2	M8
85	109	100	110	4	92.5	56	26.2	18.2	M8
90	114	105	115	4	92.5	56	26.2	18.2	M8
95	119	110	120	4	90.5	56	25.2	17.2	M8
100	124	115	125	4	90.5	56	25.2	17.2	M8



TSM7N



TSM74



TS M7N TS M7N Wave Spring

TS M74TS M74
Multiple Spring

TS M74F
TS M74F With Pumping Screw

TS M7N TS M74

Operating Limits

Pressure: ≤1.6MPa
Speed: ≤20m/s
Temperature: -30˚C ~+200˚C

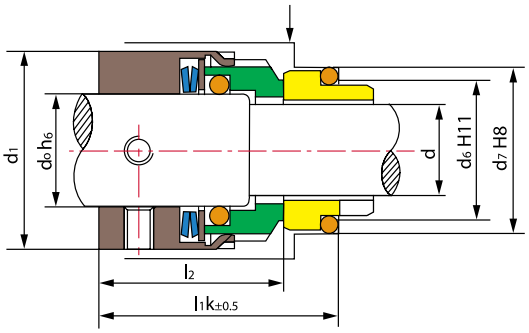
In this table, the seat is G9,G4,G6 and G13 seats are optional, pls. refer to our "stationary seats dimensional data list"

- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (Carbon/SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Parts(SUS304/SUS316)
- Spring(17-7PH/SUS304/SUS316)

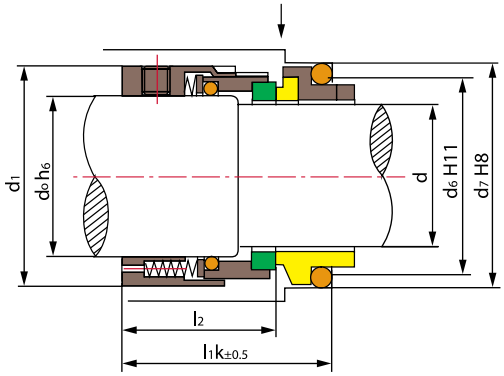
Seal size d(mm)	d_3	d_6	d_7	l_1	l_3
14	25	21	25	35.0	10.0
16	27	23	27	35.0	10.0
18	33	29	33	37.5	11.5
20	35	29	35	37.5	11.5
22	37	31	37	37.5	11.5
24	39	33	39	40.0	11.5
25	40	34	40	40.0	11.5
28	43	37	43	42.5	11.5
30	45	39	45	42.5	11.5
32	47	42	48	42.5	11.5
33	48	42	48	42.5	11.5
35	50	44	50	42.5	11.5
38	55	49	56	45.0	14.0
40	57	51	58	45.0	14.0
43	60	54	61	45.0	14.0
45	62	56	63	45.0	14.0

Seal size d(mm)	d_3	d_6	d_7	l_1	l_3
48	65	59	66	45.0	14.0
50	67	62	70	47.5	15.0
53	70	65	73	47.5	15.0
55	72	67	75	47.5	15.0
58	79	70	78	52.5	15.0
60	81	72	80	52.5	15.0
63	84	75	83	52.5	15.0
65	86	77	85	52.5	15.0
68	89	81	90	52.5	18.0
70	91	83	92	60.0	18.0
75	99	88	97	60.0	18.0
80	104	95	105	60.0	18.2
85	109	100	110	60.0	18.2
90	114	105	115	65.0	18.2
95	119	110	120	65.0	17.2
100	124	115	125	65.0	17.2

ISO9001



TS H7N



TS H75

TS H7N TS H75

TS H7N TS H7N Wave Spring

TS H75 TS H75 Multiple Spring

Operating Limits

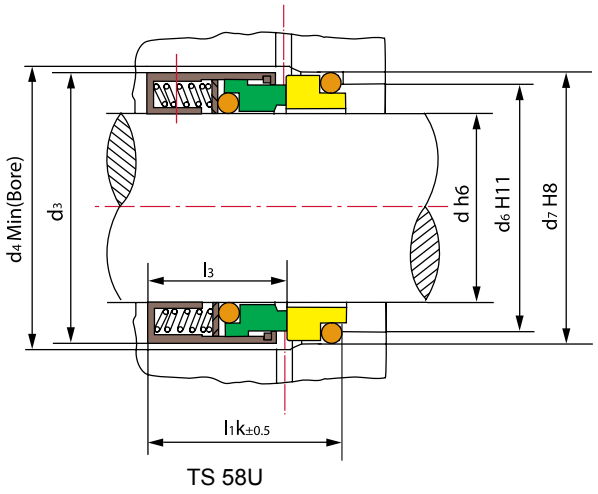
Pressure: ≤2.5MPa
Speed: ≤20m/s
Temperature: -20˚C ~+200˚C

- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (Carbon/SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Parts(SUS304/SUS316)
- Spring(17-7PH/SUS304/SUS316)

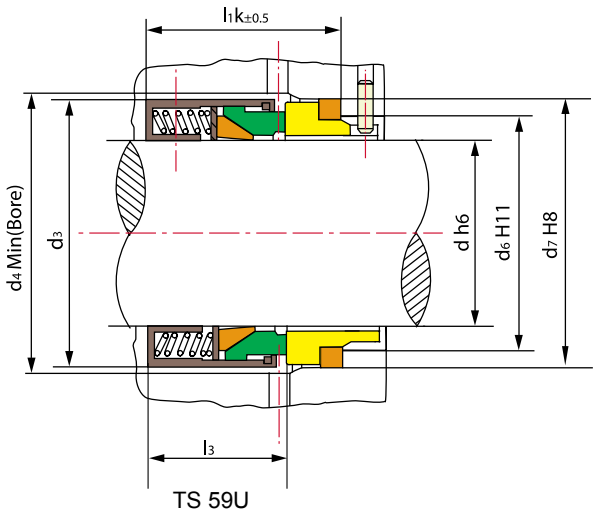
Seal size d(mm)	d_0	d_1	d_6	d_7	l_2	l_1k
25	30	45	34	40	36.0	47.5
28	33	48	37	43	38.5	50.0
30	35	50	39	45	38.5	50.0
33	38	55	42	48	38.5	50.0
35	40	57	44	50	38.5	50.0
38	43	60	49	56	38.5	52.5
40	45	62	51	58	38.5	52.5
43	48	65	54	61	38.5	52.5
45	50	67	56	63	38.5	52.5
48	53	70	59	66	38.5	52.5
50	55	72	62	70	42.5	57.5
53	58	79	65	73	42.5	57.5
55	60	81	67	75	42.5	57.5
60	65	86	72	80	47.5	62.5
65	70	91	77	85	47.5	62.5
70	75	99	83	92	52.0	70.0
75	80	104	88	97	52.0	70.0
80	85	109	95	105	51.8	70.0
85	90	114	100	110	56.8	75.0
90	95	119	105	115	56.8	75.0
95	100	124	110	120	57.8	75.0

TS 58U (With O Ring)

TS 59U (With Wedge Ring)



TS 58U



TS 59U

TS 58U TS 59U

Operating Limits

Pressure: ≤1.7MPa
Speed: ≤25m/s
Temperature: -20˚C ~+200˚C

Design Features:
Conform to ISO3069, DIN24960
and BS5257-1975 standards

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring(99%Ceramic/SiC/TC)
- Secondary Seal(VITON/PTFE/Encapsulated Ring)
- Spring & Other Parts (SUS304/SUS316)

Seal size d(mm)	d_3	d_4	l_1k	l_3	d_6	d_7
14	24	26	35.0	23.0	21	25
16	26	28	35.0	23.0	23	27
18	32	34	37.5	24.0	27	33
20	34	36	37.5	24.0	29	35
22	36	38	37.5	24.0	31	37
24	38	40	40.0	26.7	33	39
25	39	41	40.0	27.0	34	40
28	42	44	42.5	30.0	37	43
30	44	46	42.5	30.5	39	45
32	46	48	42.5	30.5	42	48
33	47	49	42.5	30.5	42	48

Seal size d(mm)	d_3	d_4	l_1k	l_3	d_6	d_7
35	49	51	42.5	30.5	44	50
38	54	58	45.0	32.0	49	56
40	56	60	45.0	32.0	51	58
43	59	63	45.0	32.0	54	61
45	61	65	45.0	32.0	56	63
48	64	68	45.0	32.0	59	66
50	66	70	47.5	34.0	62	70
53	69	73	47.5	34.0	65	73
55	71	75	47.5	34.0	67	75
58	78	83	52.5	39.0	70	78
60	80	85	52.5	39.0	72	80

Seal size d(mm)	d_3	d_4	l_1k	l_3	d_6	d_7
63	83	88	52.5	39.0	75	83
65	85	90	52.5	39.0	77	85
68	88	93	52.5	39.0	81	90
70	90	95	60.0	45.5	83	92
75	95	104	60.0	45.5	88	97
80	104	109	60.0	45.0	95	105
85	109	114	60.0	45.0	100	110
90	114	119	65.0	50.0	105	115
95	119	124	65.0	50.0	110	120
100	124	129	65.0	50.0	115	125

TS502

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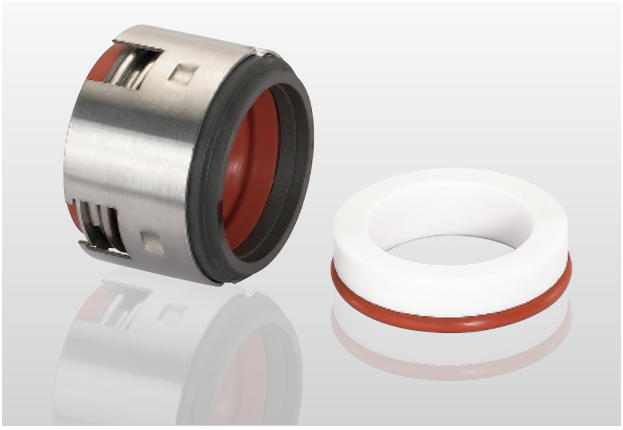
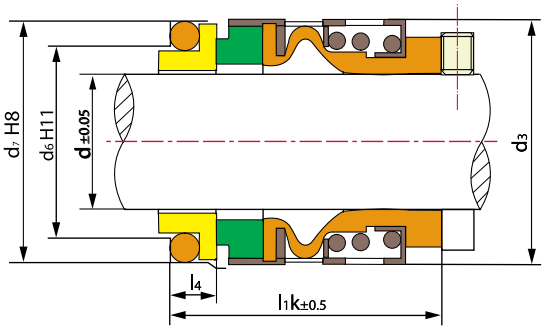
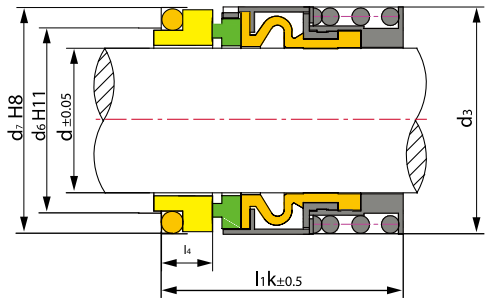
Operating Limits



ISO9001



TS 502-12~68

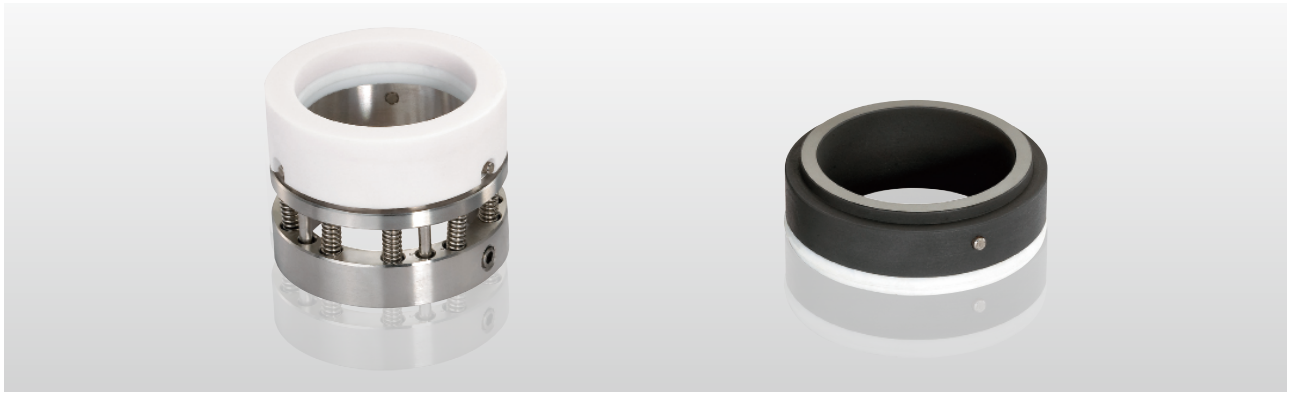


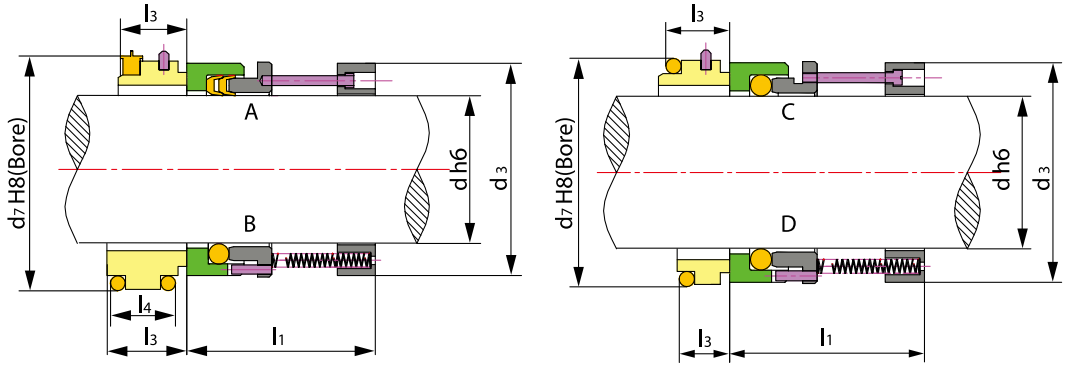
TS 502-70~100

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (99%Ceramic/SiC/TC)
- Secondary Seal(VITON/NBR/EPDM)
- Spring & Other Parts (SUS304/SUS316)

TS 502 seal equip with BO seat (DIN24960), Other seats can also be provided,such as BP, BC seat

Seal size d(mm)	d_3	d_6	d_7	l_1k	l_4
12	22.6	18.5	22.5	32.5	12.0
14	24	21	25	35.0	12.0
16	26	23	27	35.0	12.0
18	32	27	33	37.5	13.5
20	34	29	35	37.5	13.5
22	36	31	37	37.5	13.5
24	38	33	39	40.0	13.3
25	39	34	40	40.0	13.0
28	42	37	43	42.5	12.5
30	44	39	45	42.5	12.0
32	46	42	48	42.5	12.0
33	46	42	48	42.5	12.0
35	49	44	50	42.5	12.0
38	54	49	56	45.0	13.0
40	56	51	58	45.0	13.0
43	59	54	61	45.0	13.0
45	61	56	63	45.0	13.0
48	64	59	66	45.0	13.0
50	66	62	70	47.5	13.5
55	71	67	75	47.5	13.5
60	80	72	80	52.5	13.5
65	85	77	85	52.5	13.5
70	89	83	92	60.0	14.5
75	96	88	97	60.0	14.5
80	104	95	105	60.0	15.0
85	108	100	110	60.0	15.0
90	114	105	115	65.0	15.0
95	118	110	120	65.0	15.0
100	124	115	125	65.0	15.0





TS 57U

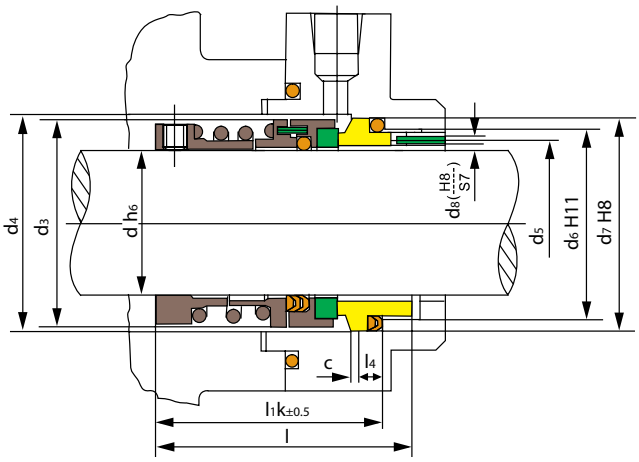
Operating Limits

Pressure: ≤1.2MPa
Speed: ≤20m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring (99%Ceramic/SiC/TC)
- Stationary Ring (Carbon/SiC)
- Secondary Seal(PTFE/VITON)
- Spring & Screw (SUS304/SUS316)
- Other Parts(SUS304/SUS316)
- Pin And Set Screw(SUS304/SUS316)

Seal size d(mm)	d	d_3	d_7	l_1	l_3	l_4	Type
25	25.0	39.0	50.0	34.0	19.5	\	C
28	28.0	45.0	54.0	30.2	28.0	21.3	B
35	35.0	52.0	64.0	32.5	28.0	21.3	B
40	40.0	57.0	70.0	32.0	28.0	21.3	B
55	55.0	73.0	75.0	30.0	16.5	\	D
60A	60.0	78.0	92.0	40.0	27.0	21.6	B
60B	60.0	78.0	92.0	44.0	27.0	21.6	B

Seal size (inches)	d	d_3	d_7	l_1	l_3	l_4	Type
11/4"	31.75	46.0	50.800	42.0	26.5	\	D
13/8"	34.925	49.2	53.975	35.7	20.8	\	C
15/8"	41.275	58.5	60.325	45.0	16.2	\	D
13/4"	44.450	60.0	62.000	44.0	20.5	\	A
17/8"	47.625	65.0	66.675	38.9	20.8	\	C
21/8"	53.975	71.2	71.400	43.0	20.8	\	A



TS 4U(TS L)

ISO9001

Operating Limits

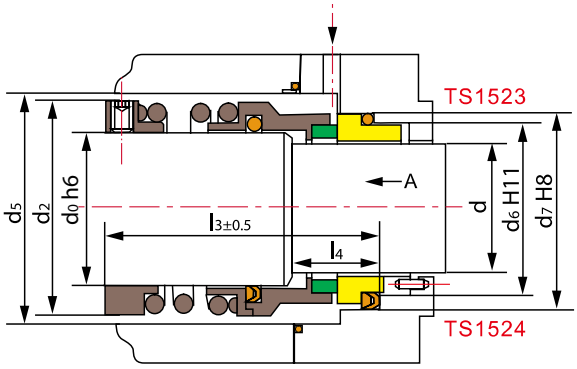
Pressure: 0~1MPa
Speed: ≤20m/s
Temperature: -20˚C ~+180˚C

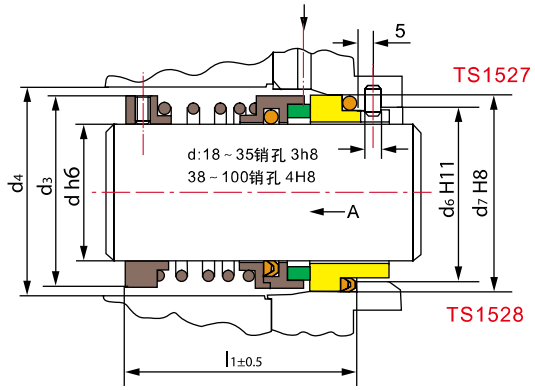
- Rotary Ring (SiC/TC)
- Stationary Ring (Carbon/SiC/TC)
- Secondary Seal(EPDM/VITON/PTFE)
- Spring & Other Parts(SUS304/SUS316)

Design Features:
Except the installation length, other dimensions conform to ISO3069 DIN24960 and GB6556 standards.

Seal size d(mm)	d_3	d_4 min	d_6	d_7	d_5	d_8	l (±0.5)	l_1 (±0.5)	l_4	c
18	32	34	27	33	23	3	52.0	45.0	5	2.0
20	34	36	29	35	25	3	52.0	45.0	5	2.0
22	36	38	31	37	27	3	53.0	46.0	5	2.0
24	38	40	33	39	29	3	56.0	49.0	5	2.0
25	39	41	34	40	30	3	56.0	49.0	5	2.0
28	42	44	37	43	33	3	56.5	49.5	5	2.0
30	44	46	39	45	35	3	57.0	50.0	5	2.0
32	46	48	42	48	38	3	58.5	51.5	5	2.0
33	47	49	42	48	38	3	58.5	51.5	5	2.0
35	49	51	44	50	40	3	58.5	51.5	5	2.0
38	54	58	49	56	44	4	62.0	55.0	6	2.0
40	56	60	51	58	46	4	62.0	55.0	6	2.0
43	59	63	54	61	49	4	65.0	58.0	6	2.0
45	61	65	56	63	51	4	65.0	58.0	6	2.0
48	64	68	59	66	54	4	66.0	59.0	6	2.0
50	66	70	62	70	57	4	67.0	60.0	6	2.5
53	69	73	65	73	60	4	71.5	64.5	6	2.5
55	71	75	67	75	62	4	73.5	66.5	6	2.5
58	78	83	70	78	65	4	76.5	69.5	6	2.5
60	80	85	72	80	67	4	76.5	69.5	6	2.5
63	83	88	75	83	70	4	78.5	71.5	6	2.5
65	85	90	77	85	72	4	81.5	74.5	6	2.5
68	88	93	81	90	75	4	82.5	75.5	7	2.5
70	90	95	83	92	77	4	86.5	79.5	7	2.5
75	99	104	88	97	82	4	87.0	80.0	7	2.5
80	104	109	95	105	88	4	90.5	83.5	7	3.0
85	109	114	100	110	93	4	90.5	83.5	7	3.0
90	114	119	105	115	98	4	92.5	85.5	7	3.0
95	119	124	110	120	103	4	93.5	86.5	7	3.0
100	124	129	115	125	108	4	93.5	86.5	7	3.0

TS 1500





Operating Limits

Pressure: 0~1MPa(TS1527,TS1528)
≤3MPa(TS1523,TS1524)
Speed: ≤15m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (Carbon/SiC/TC)
- Secondary Seal(EPDM/VITON/PTFE)
- Spring & Other Parts(SUS304/SUS316)

Design Features:

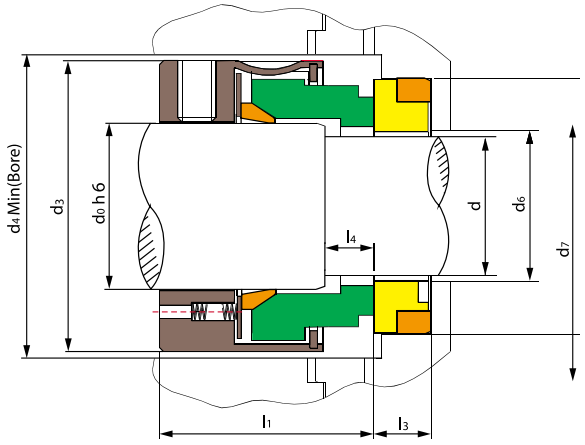
a. The Spring rotating direction is determined by the direction of the shaft rotation.The springs can be assorted into right-hand or left-hand.

b. Except the installation length, all other dimension conform to the ISO3069 and DIN24960 standards.

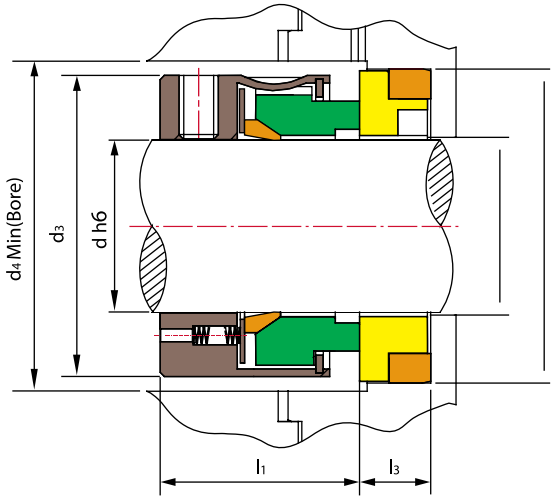
Seal size d(mm)	d_0	d_3	d_4 min	d_6	d_7	d_2	d_5 min	l_3	l_1	l_4
18	22	32	34	27	33	36	38	55	45	20
20	24	34	36	29	35	38	40	60	45	20
22	26	36	38	31	37	40	42	60	45	20
24	28	38	40	33	39	42	44	60	50	20
25	30	39	41	34	40	44	46	60	50	20
28	33	42	44	37	43	47	49	65	50	20
30	35	44	46	39	45	49	51	65	50	20
32	38	46	48	42	48	54	58	65	55	20
33	38	47	49	42	48	54	58	65	55	20
35	40	49	51	44	50	56	60	65	55	20
38	43	54	58	49	56	59	63	75	55	23
40	45	56	61	51	58	61	65	75	55	23
43	48	59	63	54	61	64	68	75	60	23
45	50	61	65	56	63	66	70	75	60	23
48	53	64	68	59	66	69	73	85	60	23

Seal size d(mm)	d_0	d_3	d_4 min	d_6	d_7	d_2	d_5 min	l_3	l_1	l_4
50	55	66	70	62	70	71	75	85	60	25
53	58	69	73	65	73	78	83	85	70	25
55	60	71	75	67	75	80	85	85	70	25
58	63	78	83	70	78	83	88	85	70	25
60	65	80	85	72	80	85	90	95	70	25
63	68	83	88	75	83	88	93	95	70	25
65	70	85	90	77	85	90	95	95	80	25
68	73	88	93	81	90	93	98	95	80	28
70	75	90	95	83	92	99	104	95	80	28
75	80	99	104	88	97	104	109	105	80	28
80	85	104	109	95	105	109	114	105	90	28
85	90	109	114	100	110	114	119	105	90	28
90	95	114	119	105	115	119	124	105	90	28
95	100	119	124	110	120	124	129	105	90	28
100	105	124	129	115	125	129	134	105	90	28

ISO9001



TS 109B



TS 109

TS 109B

TS 109

TS 109 (TS 109B)

Operating Limits

Pressure: ≤1.7MPa(TS109) /≤3.5MPa(TS109B)
Speed: ≤25m/s
Temperature: - 30˚C ~+200˚C

Stationary Seats:
1.TS 109/109B equip with "A" type stationary seats.
2.P and PP type stationary seats are available

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (99%Ceramic/SiC/TC)
- Secondary Seal(PTFE)
- Spring & Other Parts (SUS304/SUS316)

Structural Features：

1、 Use PTFE, resist corrosion, applies to chemical industry.

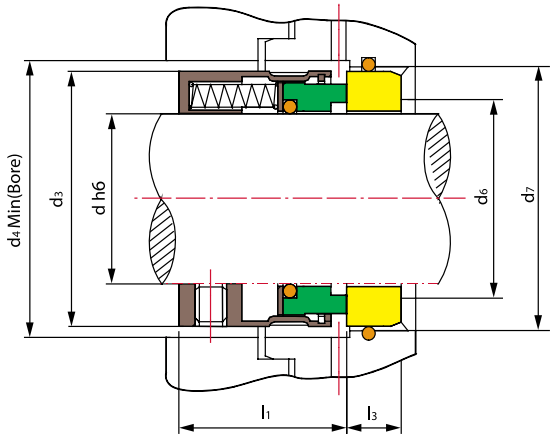
2、Applies to all kinds of rotating equipments, such as centrifugal pump ,mixer and agitatory crusher.

3、Mechanical drive,reduce attrition from shaft and sleeve, seal in two-way running .

4、TS109 Multi-spring and unbalanced type, TS109BMulti-spring and balanced type,meet API610 standard

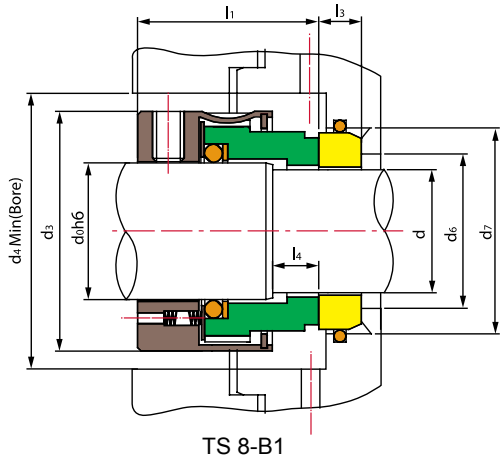
Seal size d(inches)	d	d_0	d_3	d_4	d_6	d_6	d_7	d_7	l_1	l_1	l_3	l_3	l_4
0.500	12.70	\	26.70	29	13.40	\	25.40	\	20.6	\	7.95	\	\
0.625	15.88	12.70	30.70	34	16.60	13.40	31.75	25.40	19	27	10.3	7.95	4.8
0.750	19.05	15.88	34.00	37	19.70	16.60	34.93	31.75	22.2	30	10.3	10.3	4.8
0.875	19.05	19.05	37.20	40	22.90	19.70	38.10	34.93	23.8	32	10.3	10.3	6.4
1.000	22.23	22.23	40.30	43	26.10	22.90	41.28	38.10	25.4	33	11.1	10.3	6.4
1.125	28.58	25.40	43.50	46	29.30	26.10	44.45	41.28	27	35	11.1	11.1	7.9
1.250	31.75	28.58	48.30	51	32.40	29.30	47.63	44.45	27	35	11.1	11.1	7.9
1.375	34.93	28.58	51.50	54	35.60	29.30	50.80	44.45	28.6	37	11.1	11.1	8.7
1.500	38.10	31.75	54.60	58	38.80	32.40	53.98	47.63	28.6	37	11.1	11.1	8.7
1.625	41.28	34.93	61.00	64	42.40	35.60	60.33	50.80	35	45	12.7	11.1	8.7
1.750	44.45	38.10	64.20	67	45.50	39.80	63.50	53.98	35	45	12.7	11.1	9.5
1.875	47.63	41.28	67.30	70	48.70	42.40	66.68	60.33	35	45	12.7	12.7	9.5
2.000	50.80	44.45	70.50	73	51.90	45.50	69.85	63.50	35	45	12.7	12.7	9.5
2.125	53.98	47.63	76.90	80	55.00	48.70	76.20	66.68	43	52	14.3	12.7	11.1
2.250	57.15	50.80	80.00	83	58.20	51.90	79.38	69.85	43	52	14.3	12.7	11.1
2.375	60.33	53.98	83.20	86	61.40	55.00	82.55	76.20	43	52	14.3	14.3	11.1
2.500	63.50	57.15	86.40	89	64.60	58.20	85.73	79.38	43	52	14.3	14.3	11.1
2.625	66.68	60.33	89.60	92	67.70	61.40	85.73	82.55	43	52	15.9	14.3	11.1
2.750	69.85	63.50	92.70	96	70.90	64.60	88.90	85.73	43	52	15.9	14.3	11.1
2.875	73.03	66.68	95.90	99	74.10	67.70	95.25	85.73	43	52	15.9	15.9	11.1
3.000	76.20	69.85	97.50	100	77.30	70.90	98.43	88.90	43	52	15.9	15.9	11.1
3.125	79.38	73.03	100.70	104	80.50	74.10	101.60	95.25	43	52	19.8	15.9	11.1
3.250	82.55	76.20	105.40	108	83.60	77.30	104.78	98.43	43	52	19.8	15.9	14.3
3.375	85.73	79.38	108.60	111	86.80	80.50	107.95	101.60	43	52	19.8	19.8	14.3
3.500	88.90	82.55	111.80	115	90.00	83.60	111.13	104.78	43	52	19.8	19.8	14.3
3.625	92.08	85.73	115.00	118	93.10	86.80	114.30	107.95	43	52	19.8	19.8	14.3
3.750	95.25	88.90	118.10	121	96.30	90.00	117.48	111.13	43	52	19.8	19.8	14.3
3.875	98.43	92.08	121.30	124	99.50	93.10	120.65	114.30	43	52	19.8	19.8	14.3
4.000	101.60	95.25	124.50	127	102.70	96.30	123.83	117.48	43	52	19.8	19.8	14.3
4.125	104.78	98.43	127.70	131	106.30	99.50	130.18	120.65	43	52	19.8	19.8	14.3
4.250	107.95	101.60	130.80	134	109.50	102.70	133.35	123.83	43	52	19.8	19.8	14.3
4.375	111.13	104.78	134.00	137	112.70	106.30	136.53	130.18	43	52	19.8	19.8	14.3
4.500	114.30	107.95	137.20	140	115.90	109.50	139.70	133.35	43	52	19.8	19.8	14.3
4.625	117.48	107.95	149.90	153	119.00	109.50	142.88	133.35	51	64	19.8	19.8	15.9
4.750	120.65	111.13	153.10	156	122.20	112.70	146.05	136.35	51	64	19.8	19.8	15.9
4.875	123.83	114.30	156.20	159	125.40	115.90	149.23	139.70	51	64	19.8	19.8	15.9
5.000	127.00	117.48	159.40	165	128.60	119.00	152.40	142.88	51	64	19.8	19.8	15.9
5.125	130.18	120.65	162.60	168	131.70	122.20	155.58	146.05	51	64	19.8	19.8	15.9
5.250	133.35	123.83	165.80	172	134.90	125.40	158.75	149.23	51	64	19.8	19.8	15.9
5.375	136.53	127.00	168.90	175	138.10	128.60	161.93	152.40	51	64	19.8	19.8	15.9
5.500	139.70	130.18	172.10	178	141.30	131.70	165.10	155.58	51	64	19.8	19.8	15.9
5.625	142.88	133.35	175.30	181	\	134.90	\	158.75	51	64	\	19.8	15.9
5.750	146.05	136.53	178.50	184	\	138.10	\	161.93	51	64	\	19.8	15.9
5.875	149.23	139.70	181.60	187	\	141.30	\	165.10	51	64	\	19.8	15.9
6.000	152.40	142.88	184.80	191	\	\	\	\	51	64	\	\	15.9

ISO9001



TS 8-1

TS 8-1



TS 8-B1

TS 8-B1

TS 8-1 (TS 8-B1)

Operating Limits

Pressure: ≤1.7MPa /≤5.0MPa
Speed: ≤25m/s
Temperature: -30˚C ~+200˚C

Stationary Seats:

1.TS 8-1/8-B1 equip with "P" type stationary seats.

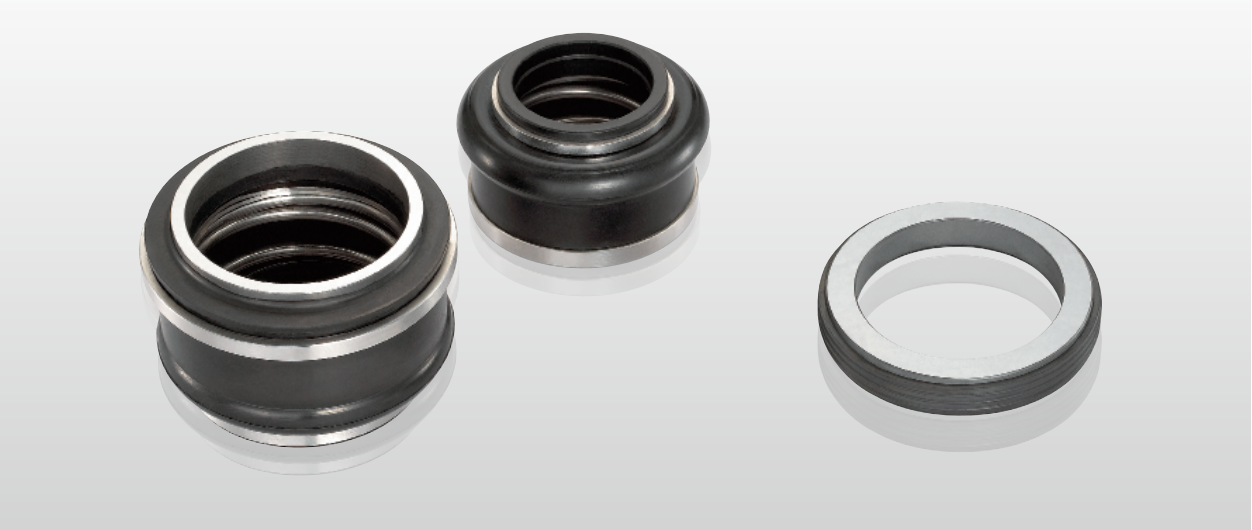
2.A,W and PP type stationary seats are available

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (99%Ceramic/SiC/TC)
- Secondary Seal (NBR/ VITON/Encapsulated Ring)
- Spring & Other Parts (SUS304/ SUS316)

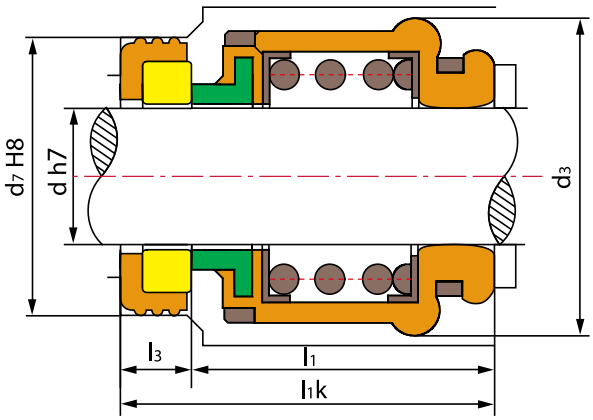
Structural Features：

1、Adopt O-ring, suitable for various fluids， rotary ring joint as a union by the snap ring.
2、Applies to all kinds of rotating equipment, such as centrifugal pump ,mixer and agitatory crusher.
3、Mechanical drive,reduce attrition from shaft and sleeve.
4、TS 8-1Multi-spring and unbalanced type, TS 8-B1Multi-spring and balanced type,meet API610 standard.

Seal size d(inches)	d	d_0	d_3	d_4	d_6	d_6	d_7	d_7	l_1	l_1	l_3	l_3	l_4
0.500	12.70	\	26.7	30	14.5	\	25.6	\	21	\	7.9	\	\
0.625	15.88	12.70	30.7	34	17.5	14.5	31.95	25.6	19	27	10.3	7.9	7.5
0.750	19.05	15.88	34.0	37	21	17.5	35.12	31.95	22.2	30	10.3	10.3	7.8
0.875	22.23	19.05	37.2	40	24	21	38.3	35.12	24	32	10.3	10.3	8
1.000	25.40	22.23	40.3	43	27.5	24	41.48	38.3	25	33	11.15	10.3	8
1.125	28.58	25.40	43.5	46	30.5	27.5	44.65	41.48	27	35	11.15	11.15	7.9
1.250	31.75	28.58	48.3	51	33.5	30.5	47.83	44.65	27	35	11.15	11.15	7.9
1.375	34.93	28.58	51.5	54	37	30.5	51	44.65	29	37	11.15	11.15	8.7
1.500	38.10	31.75	54.6	58	40	33.5	54.18	47.83	29	37	11.15	11.15	8.7
1.625	41.28	34.93	61.0	64	43.5	37.5	60.53	51	35	45	12.75	11.15	8.7
1.750	44.45	38.10	64.2	67	46.5	40	63.7	54.18	35	45	12.75	11.15	9.5
1.875	47.63	41.28	67.3	70	49.5	43.5	66.88	60.53	35	45	12.75	12.75	9.5
2.000	50.80	44.45	70.5	73	53	46.5	70.05	63.7	35	45	12.75	12.75	9.5
2.125	53.98	47.63	76.9	80	56	49.5	76.4	66.88	43	52	14.33	12.75	11.1
2.250	57.15	50.80	80.0	83	59	53	79.58	70.05	43	52	14.33	12.75	11.1
2.375	60.33	53.98	83.2	86	62.5	56	82.75	76.4	43	52	14.33	14.33	11.1
2.500	63.50	57.15	86.4	89	65.5	59	85.93	79.58	43	52	14.33	14.33	11.1
2.625	66.68	60.33	89.6	92	68.5	62.5	85.93	82.75	43	52	15.93	14.33	11.1
2.750	69.85	63.50	92.7	96	72	65.5	89.1	85.93	43	52	15.93	14.33	11.1
2.875	73.03	66.68	95.9	99	75	68.5	95.45	85.93	43	52	15.93	15.93	11.1
3.000	76.20	69.85	97.5	100	78.5	72	98.63	89.1	43	52	15.93	15.93	11.1
3.125	79.38	73.03	100.7	104	81.5	75	101.8	95.45	43	52	19.84	15.93	11.1
3.250	82.55	76.20	105.4	108	84.5	78.5	104.98	98.63	43	52	19.84	15.93	14.3
3.375	85.73	79.38	108.6	111	88	81.5	108.15	101.8	43	52	19.84	19.84	14.3
3.500	88.90	82.55	111.8	115	91	84.5	111.13	104.98	43	52	19.84	19.84	14.3
3.625	92.08	85.73	115.0	118	94	88	114.35	108.15	43	52	19.84	19.84	14.3
3.750	95.25	88.90	118.1	121	97.5	91	117.68	111.33	43	52	19.84	19.84	14.3
3.875	98.43	92.08	121.3	124	100.5	94	120.85	114.5	43	52	19.84	19.84	14.3
4.000	101.60	95.25	124.5	127	103.5	97.5	124.03	117.68	43	52	19.84	19.84	14.3
4.125	104.78	98.43	127.0	133.4	107	100.5	130.38	120.85	42.9	52.4	19.84	19.84	14.3
4.250	107.95	101.60	133.4	137	110	103.5	133.55	124.03	42.9	52.4	19.84	19.84	14.3
4.375	111.13	104.78	136.5	140	113.5	107	136.72	130.38	42.9	52.4	19.84	19.84	14.3
4.500	114.30	107.95	139.7	143	116.5	110	139.9	133.55	42.9	52.4	19.84	19.84	14.3
4.625	117.48	111.13	142.9	146	119.5	113.5	143.08	136.72	42.9	52.4	19.84	19.84	15.8
4.750	120.65	114.30	146.1	149.2	122.5	116.5	146.25	139.9	42.9	52.4	19.84	19.84	15.8
4.875	123.83	117.48	149.2	153	126	119.5	149.43	143.08	42.9	52.4	19.84	19.84	15.8
5.000	127.00	120.65	152.4	156	129	122.5	152.6	146.25	42.9	52.4	19.84	19.84	15.8
5.125	130.18	123.83	155.6	159	132	126	155.77	149.43	42.9	52.4	19.84	19.84	15.8
5.250	133.35	127.00	165.1	168	135.5	129	158.95	152.6	50.8	60.3	19.84	19.84	15.8
5.375	136.53	130.18	168.3	171	138.5	132	162.12	155.77	50.8	60.3	19.84	19.84	15.8
5.500	139.70	133.35	171.5	175	141.5	135.5	165.3	158.95	50.8	60.3	19.84	19.84	15.8
5.625	142.88	136.53	174.6	178	145	138.5	168.47	162.12	50.8	60.3	19.84	19.84	15.8
5.750	146.05	139.70	177.8	181	149	141.5	177.23	165.3	50.8	60.3	25.4	19.84	15.8
5.875	149.23	142.88	181.0	184	152.5	145	180.41	168.47	50.8	60.3	25.4	19.84	15.8
6.000	152.40	146.05	184.2	188	155.5	149	183.59	177.23	50.8	60.3	25.4	19.84	15.8



ISO9001



TS KB

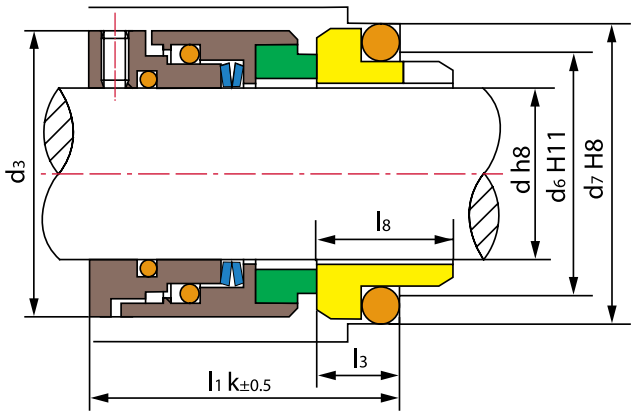
Operating Limits

Pressure: 0~1MPa
Speed: ≤13m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (Ceramic/SiC/TC)
- Secondary Seal (NBR/EPDM/VITON)
- Bellows(NBR/EPDM/VITON)
- Cup Gasket(NBR/EPDM/VITON)
- Other Parts (SUS304/SUS316)

Seal size d(mm)	d	d_3	d_7	l_1k	l_1	l_3
28	28	50.0	44	40.0	30.0	10.0
35	35	64.0	54	45.5	35.5	10.0
50	50	74.5	70	57.4	45.2	12.2

Seal size (inches)	d	d_3	d_7	l_1k	l_1	l_3
1 1/8"	28.575	50.0	44.450	41.1	30.0	11.1
1 1/2"	38.100	66.0	53.975	45.5	35.5	10.0
2"	50.800	75.5	69.850	58.2	45.2	13.0



TS HJ

Operating Limits

Pressure: ≤2.5MPa
Speed: ≤20m/s
Temperature: -20˚C ~+180˚C

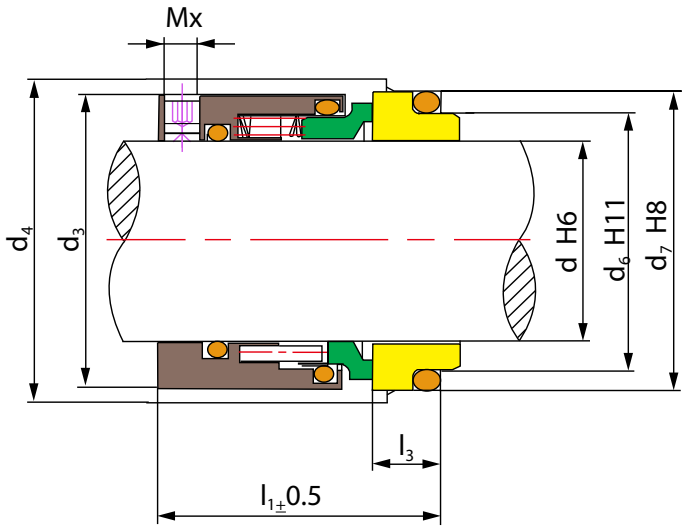
- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Parts(SUS304/SUS316)
- Wave Spring(17-7PH/SUS304/SUS316)

Medium: Liquid with solid particles and high viscosity, such as sugar refinery, paper and sewage industry.

Design Features:
a. Single face, balanced.
b. Conform to the DIN24960 and GB6556 standards.

Seal size d(mm)	d_3	d_6	d_7	l_8	l_1k	l_3
18	32	27	33	15.0	37.5	7
20	34	29	35	15.0	37.5	7
22	36	31	37	15.0	37.5	7
24	38	33	39	15.0	40.0	7
25	39	34	40	15.0	40.0	7
28	42	37	43	15.0	42.5	7
30	44	39	45	15.0	42.5	7
32	47	42	48	15.0	42.5	7
33	47	42	48	15.0	42.5	7
35	49	44	50	15.0	42.5	7
38	54	49	56	16.0	45.0	8
40	56	51	58	16.0	45.0	8
43	59	54	61	16.0	45.0	8
45	61	56	63	16.0	45.0	8
48	64	59	66	16.0	45.0	8

Seal size d(mm)	d_3	d_6	d_7	l_8	l_1k	l_3
50	66	62	70	17.0	47.5	9.5
53	69	65	73	17.0	47.5	9.5
55	71	67	75	17.0	47.5	9.5
58	78	70	78	18.0	52.5	10.5
60	80	72	80	18.0	52.5	10.5
63	83	75	83	18.0	52.5	10.5
65	85	77	85	18.0	52.5	10.5
68	88	81	90	18.5	52.5	11.0
70	90	83	92	19.0	60.0	11.5
75	99	88	97	19.0	60.0	11.5
80	104	95	105	19.0	60.0	11.5
85	109	100	110	19.0	60.0	11.5
90	114	105	115	20.5	65.0	13.0
95	119	110	120	20.5	65.0	13.0
100	124	115	125	20.5	65.0	13.0



TS 491

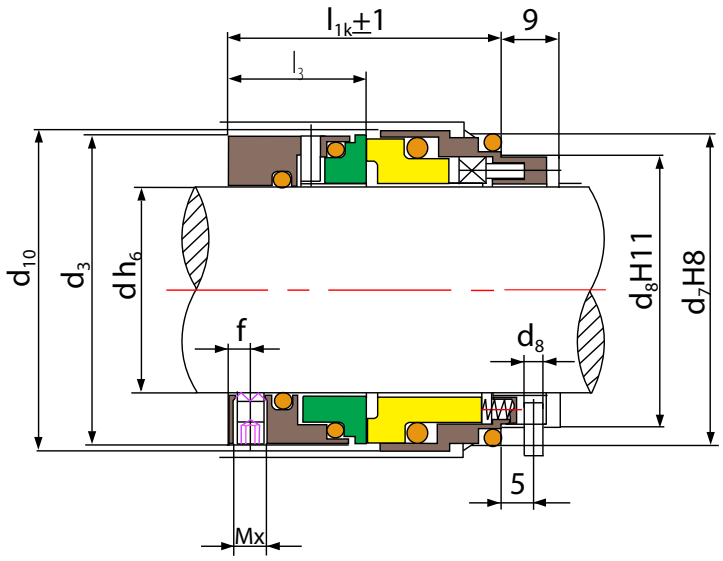
ISO9001

Operating Limits

Pressure: ≤1MPa
Speed: ≤10m/s
Temperature: -30˚C ~+180˚C

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (99%Ceramic/SiC/TC)
- Secondary Seal(NBR/VITON/EPDM)
- Spring&other parts(SUS316/Hastalloy-c)

seal size d(mm)	d_3	d_4	d_6	d_7	l_1	l_3	MX
16	29	31	23	27	35.0	5.0	4
18	32	34	27	33	37.5	7.5	4
20	34	36	29	35	37.5	7.5	4
22	36	38	31	37	37.5	7.5	4
24	38	40	33	39	37.5	7.5	4
25	39	41	34	40	37.5	7.5	4
28	42	44	37	43	42.5	7.5	5
30	44	46	39	45	42.5	7.5	5
32	46	48	42	48	42.5	7.5	5
33	47	49	42	48	42.5	7.5	5
35	49	51	44	50	42.5	7.5	5
38	54	58	49	56	44.0	9.0	5
40	56	60	51	58	44.0	9.0	5
43	59	63	54	61	44.0	9.0	5
45	61	65	56	63	44.0	9.0	5
48	64	68	59	66	44.0	9.0	5
50	66	70	62	70	44.5	9.5	5
53	69	73	65	73	46.0	11.0	5
55	71	75	67	75	46.0	11.0	5
60	80	85	72	80	46.0	11.0	5
65	85	90	77	85	46.0	11.0	5
68	88	93	81	90	46.3	11.3	5
70	90	95	83	92	46.3	11.3	5
75	99	104	88	97	59.3	11.3	6
80	104	109	95	105	60.0	12.0	6
85	109	114	100	110	60.0	12.0	6
90	114	119	105	115	62.0	14.0	6
100	124	129	115	125	62.0	14.0	6
110	134	139	125	135	62.0	14.0	6



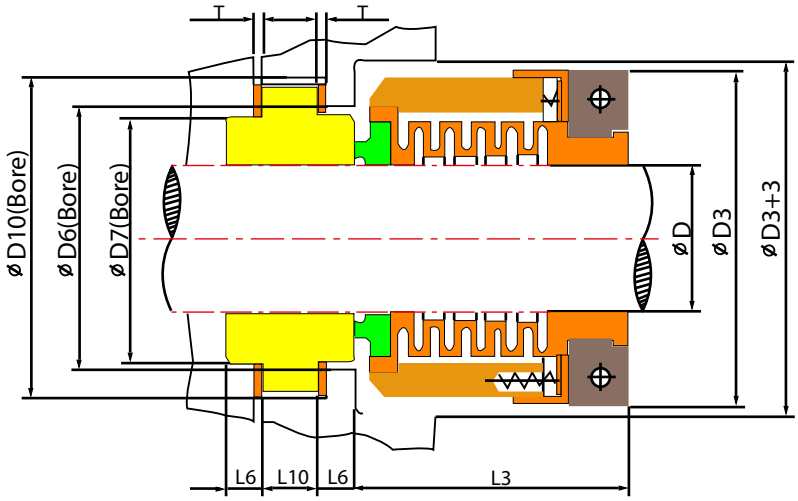
TS HRN

Operating Limits

Pressure: ≤2.5MPa
Speed: ≤20m/s
Temperature: -20˚C ~+180˚C

- Rotary Ring (SiC/TC)
- Stationary Ring (CARBON/SiC/TC)
- Secondary Seal(NBR/VITON/EPDM)
- Spring&other parts(SUS316/Hastalloy-c)

Seal size d(mm)	d_3	d_6	d_7	d_8	d_{10}	l_1k	l_3	f	Mx
18	33	27	33	3	34.7	37.5	19.5	3.0	4
20	35	29	35	3	36.7	37.5	19.5	3.0	4
22	37	31	37	3	38.7	37.5	19.5	3.0	4
24	39	33	39	3	40.7	40.0	20.5	3.5	5
25	40	34	40	3	41.7	40.0	20.5	3.5	5
28	43	37	43	3	44.7	42.5	21.5	3.5	5
30	45	39	45	3	46.7	42.5	21.5	3.5	5
32	48	42	48	3	49.7	42.5	21.5	3.5	5
33	48	42	48	3	49.7	42.5	21.5	3.5	5
35	50	44	50	3	51.7	42.5	21.5	3.5	5
38	56	49	56	4	57.7	45.0	24.0	4.0	6
40	58	51	58	4	59.7	45.0	24.0	4.0	6
43	61	54	61	4	62.7	45.0	24.0	4.0	6
45	63	56	63	4	64.7	45.0	24.0	4.0	6
48	66	59	66	4	67.7	45.0	24.0	4.0	6
50	70	62	70	4	71.7	47.5	25.0	4.0	6
53	73	65	73	4	74.7	47.5	25.0	4.0	6
55	75	67	75	4	76.7	47.5	25.0	4.0	6
58	78	70	78	4	80.5	52.5	28.0	4.0	6
60	80	72	80	4	82.5	52.5	28.0	4.0	6
63	83	75	83	4	85.5	52.5	28.0	4.0	6
65	85	77	85	4	87.5	52.5	28.0	4.0	6
68	90	81	90	4	92.5	52.5	28.0	4.0	6
70	92	83	92	4	94.5	60.0	34.0	6.0	8
75	97	88	97	4	100.5	60.0	34.0	6.0	8
80	105	95	105	4	108.5	60.0	34.0	6.0	8
85	110	100	110	4	113.5	60.0	34.0	6.0	8
90	115	105	115	4	118.5	65.0	39.0	10.0	8
95	120	110	120	4	123.5	65.0	39.0	10.0	8
100	125	115	125	4	128.5	65.0	39.0	10.0	8



10T is integral rotary face ,10R is insert rotary face

TS10T TS10R

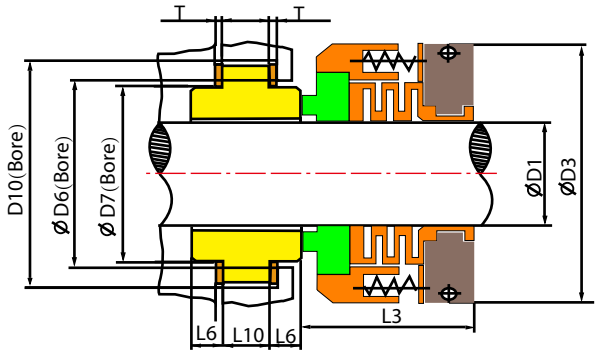
ISO9001

Operating Limits

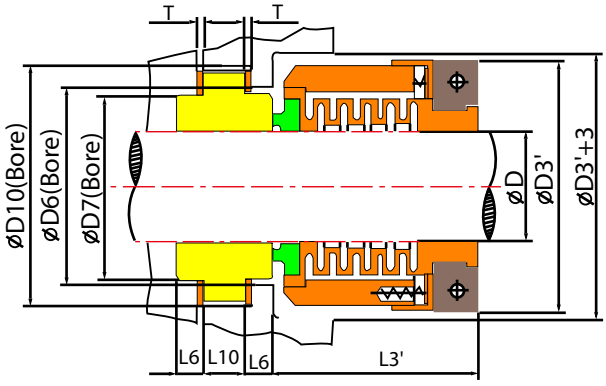
Pressure: ≤ 1.3MPa
Speed: ≤ 15m/s
Temperature: -35˚C ~+120˚C

- Rotary Ring (Filled PTFE/SiC)
- Stationary Ring (99%Ceramic/SiC)
- Secondary Seal(PTFE)
- Spring & Other Parts(SUS304/SUS316 /Titanium/Hastelloy-C)

D(mm)	D(in)	D3	D6	D7	D10	L3	L6	L10	T
16	0.750	54	37.5	36.51	48	31	4.8	8	0.8
18		54	37.5	36.51	48	31	4.8	8	0.8
20	0.875	57	40.5	39.69	51	31	4.8	8	0.8
22		57	40.5	39.69	51	31	4.8	8	0.8
24	1.000	61	43.5	42.86	54	33	4.8	8	0.8
25		61	43.5	42.86	54	33	4.8	8	0.8
28	1.125	67	51.5	50.8	61	36	5.5	9.5	1.6
30	1.250	70	55	53.98	68	37	6.4	9.5	1.6
32		70	55	53.98	68	37	6.4	9.5	1.6
33	1.375	73	58	57.15	71	38	6.4	9.5	1.6
35		73	58	57.15	71	38	6.4	9.5	1.6
38	1.500	76	64.5	63.5	77	38	6.4	9.5	1.6
40	1.625	80	67.5	66.68	80	40	6.4	9.5	1.6
43	1.750	83	71	69.85	83	40	6.4	9.5	1.6
45		83	71	69.85	83	40	6.4	9.5	1.6
	1.875	86	74	73.03	90	43	6.4	12.7	1.6
48	2.000	89	80	79.38	96	43	6.4	12.7	1.6
50		89	80	79.38	96	43	6.4	12.7	1.6
53	2.125	103	83.5	82.55	99	53	6.4	12.7	1.6
55	2.250	107	86.5	85.73	102	53	6.4	12.7	1.6
58	2.375	110	89.5	88.9	106	53	6.4	12.7	1.6
60		110	89.5	88.9	106	53	6.4	12.7	1.6
63	2.500	113	93	92.08	109	53	6.4	12.7	1.6
65	2.625	116	96	95.25	112	53	6.4	12.7	1.6
68	2.750	118	99	98.43	115	53	6.4	12.7	1.6
70		118	99	98.43	115	53	6.4	12.7	1.6
	2.875	122	102.5	101.6	118	53	6.4	12.7	1.6
75	3.000	126	104	103.17	120	53	6.4	12.7	1.6
80	3.250	150	115	114.3	131	73	6.4	12.7	1.6
85	3.500	156	121.5	120.65	137	73	6.4	12.7	1.6
90	3.750	163	128	127	144	73	6.4	12.7	1.6
95		163	128	127	144	73	6.4	12.7	1.6
100	4.000	169	137.5	136.53	153	73	6.4	12.7	1.6



TS20



TS20R

TS20 TS20R

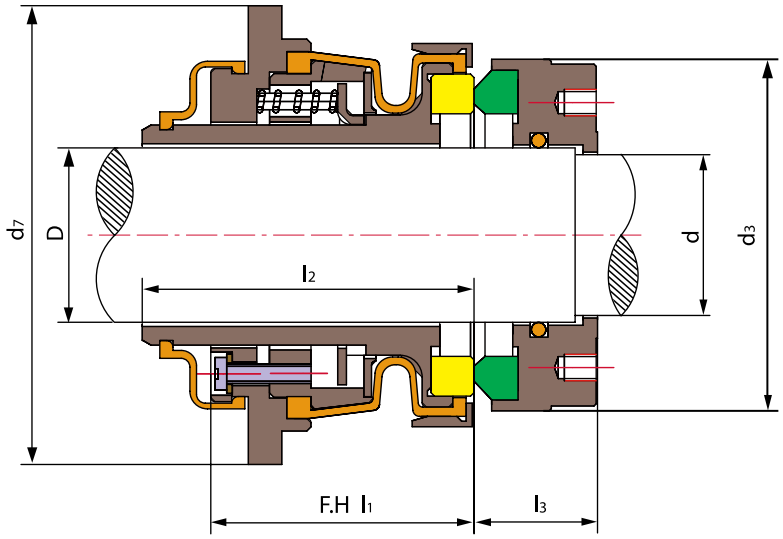
Operating Limits

Pressure: ≤ 1MPa
Speed: ≤ 13m/s
Temperature: -35˚C ~+120˚C

20 is integral rotary face ,20R is insert rotary face

- Rotary Ring (Filled PTFE/SiC)
- Stationary Ring (99%Ceramic/SiC)
- Secondary Seal(PTFE)
- Spring & Other Parts(SUS304/SUS316 /Titanium/Hastelloy-C)

Seal Size(Inches)	D1	D3	D6	D7	D10	L3	L6	L10	T	D3'	L3'
0.625	0.625	33.3				52.4					
0.750	0.750	36.5	37.5	36.51	48	52.4	4.8	8	0.8		
0.875	0.875	39.7	40.5	39.69	51	25.4	4.8	8	0.8	49.2	49.2
1.000	1.000	57.2	43.5	42.86	54	25.4	4.8	8	0.8	57.2	27.0
1.125	1.125	60.3	51.5	50.8	61	27.0	5.5	9.5	1.6	60.3	28.6
1.250	1.250	66.7	55	53.98	68	27.0	6.4	9.5	1.6	66.7	28.6
1.375	1.375	69.9	58	57.15	71	28.6	6.4	9.5	1.6	69.9	28.6
1.500	1.500	73.0	64.5	63.5	77	28.6	6.4	9.5	1.6	73.0	28.6
1.625	1.625	76.2	67.5	66.68	80	34.9	6.4	9.5	1.6	76.2	34.9
1.750	1.750	79.4	71	69.85	83	34.9	6.4	9.5	1.6	79.4	34.9
1.875	1.875	85.7	74	73.03	90	34.9	6.4	12.7	1.6	85.7	34.9
2.000	2.000	88.9	80	79.38	96	34.9	6.4	12.7	1.6	88.9	34.9
2.125	2.125	92.1	83.5	82.55	99	42.8	6.4	12.7	1.6	92.1	42.8
2.250	2.250	95.3	86.5	85.73	102	42.8	6.4	12.7	1.6	95.3	42.8
2.375	2.375	98.4	89.5	88.9	106	42.8	6.4	12.7	1.6	98.4	42.8
2.500	2.500	101.6	93	92.08	109	42.8	6.4	12.7	1.6	101.6	42.8
2.625	2.625	104.8	96	95.25	112	42.8	6.4	12.7	1.6	104.8	42.8
2.750	2.750	108.0	99	98.43	115	42.8	6.4	12.7	1.6	108.0	42.8
2.875	2.875	111.1	102.5	101.6	118	42.8	6.4	12.7	1.6	111.1	42.8
3.000	3.000	114.3	104	103.17	120	42.8	6.4	12.7	1.6	114.3	42.8
3.125	3.125	123.8				42.8			1.6	123.8	42.8
3.250	3.250	127.0	115	114.3	131	42.8	6.4	12.7	1.6	127.0	42.8
3.375	3.375	130.2				42.8			1.6	130.2	42.8
3.500	3.500	133.4	121.5	120.65	137	42.8	6.4	12.7	1.6	133.4	42.8
3.625	3.625	136.5				42.8			1.6	136.5	42.8
3.750	3.750	139.7	128	127	144	42.8	6.4	12.7	1.6	139.7	42.8
3.875	3.875	142.9				42.8			1.6	142.9	42.8
4.000	4.000	146.1	137.5	136.53	153	42.8	6.4	12.7	1.6	146.1	42.8



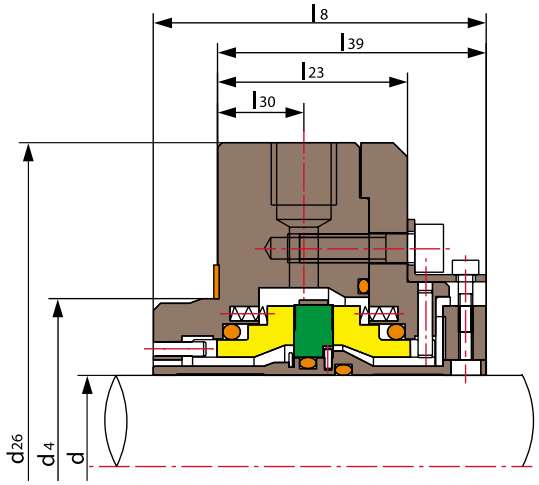
TS AP

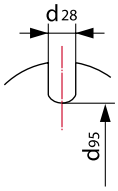
Operating Limits

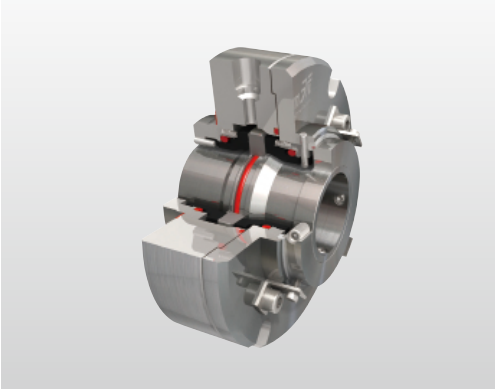
Pressure: ≤1.5MPa
Speed: ≤20m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (SiC/TC)
- Secondary Seal(NBR/VITON/EPDM)
- Spring & Other Parts(SUS304/SUS316)
- Screw(SUS304/SUS316)

Seal size D(mm)	d	d_3	d_7	l_1	l_2	l_3
35	25	70	100	68	76	27.8
45	38	80	110	68	76	27.8
50	40	85	115	68	76	28.0
60	50	95	125	68	76	30.6







TSDGS-J01

Operating Limits

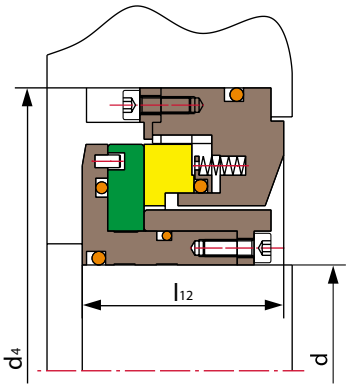
Pressure: ≤1.6MPa
Speed: ≤25m/s
Temperature: -20˚C ~+260˚C

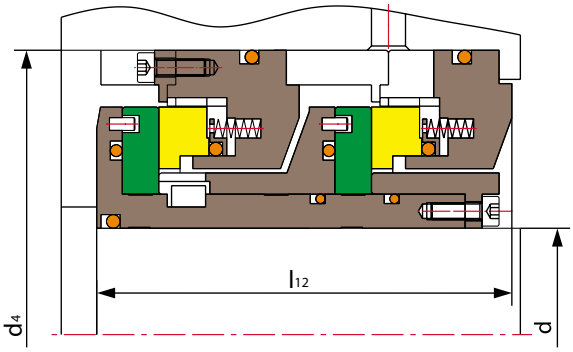
- Rotary Ring (SiC/TC)
- Stationary Ring (Carbon)
- Secondary Seal(VITON/Encapsulated Ring/PTFE/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

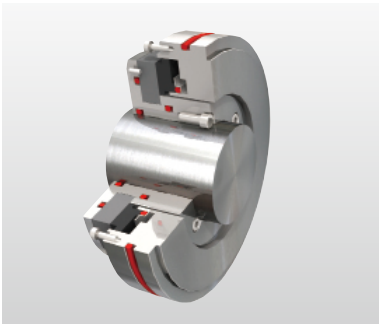
d (mm)	d_4 min	d_{26}	d_{28}	d_{95}	l_8	l_{23}	l_{30}	l_{39}
25	41	114	12	64.7	67.8	37.5	15.5	54.5
28	44	117	12	67.7	67.8	37.5	15.5	54.5
30	46	119	12	69.7	67.8	37.5	15.5	54.5
33	49	122	14	72.7	67.8	37.5	15.5	54.5
35	51	124	14	74.7	67.8	37.5	15.5	54.5
38	58	135	14	79.7	69.4	39.8	17.7	56.5
40	60	137	14	81.7	69.4	39.8	17.7	56.5
43	63	140	14	84.7	69.4	39.8	17.7	56.5
45	65	142	14	86.7	69.4	39.8	17.7	56.5
50	70	147	18	91.7	69.4	41.8	17.7	56.5
53	73	150	18	94.7	69.4	41.8	17.7	56.5
55	75	152	18	96.7	69.4	41.8	17.7	56.5
60	85	157	18	101.7	69.4	41.8	17.7	56.5
65	90	180	18	106.7	71.4	43.8	19.7	58.5
80	109	195	18	121.7	71.4	43.8	19.7	58.5
100	129	215	22	141.7	71.4	43.8	19.7	58.5

d (inches)	d_4 min	d_{26}	d_{28}	d_{95}	l_8	l_{23}	l_{30}	l_{39}
0.875	1.500	3.750	0.437	2.295	2.574	1.398	0.513	2.028
1.000	1.625	3.750	0.437	2.421	2.574	1.398	0.513	2.028
1.125	1.750	4.250	0.437	2.469	2.574	1.398	0.513	2.028
1.250	2.000	4.250	0.437	2.669	2.574	1.398	0.513	2.028
1.375*	2.125	4.250	0.437	2.795	2.574	1.398	0.513	2.028
1.375**	2.000	4.250	0.437	2.795	2.574	1.398	0.513	2.028
1.500	2.250	4.875	0.562	3.142	2.732	1.567	0.697	2.224
1.625	2.375	4.500	0.437	2.680	2.732	1.567	0.697	2.224
1.750	2.500	5.500	0.562	3.390	2.732	1.567	0.697	2.224
1.875	2.625	5.500	0.562	3.335	2.732	1.567	0.697	2.224
2.000	2.750	4.750	0.562	3.461	2.732	1.567	0.697	2.224
2.125	2.875	6.000	0.687	3.768	2.732	1.567	0.697	2.224
2.250	3.125	6.500	0.687	3.890	2.732	1.567	0.697	2.224
2.375	3.250	6.250	0.687	4.016	2.732	1.567	0.697	2.224
2.500	3.375	6.500	0.687	4.142	2.812	1.724	0.776	2.303
2.625	3.625	6.500	0.687	4.268	2.812	1.724	0.776	2.303
2.750	3.750	7.000	0.687	4.370	2.812	1.724	0.776	2.303
3.000	4.000	7.000	0.687	4.642	2.812	1.724	0.776	2.303
3.500	4.500	7.250	0.812	5.142	2.812	1.724	0.776	2.303
4.000	5.000	7.250	0.812	5.642	2.812	1.724	0.776	2.303

*Durco **Goulds







ISO9001& TS16949

TSDGS-J02

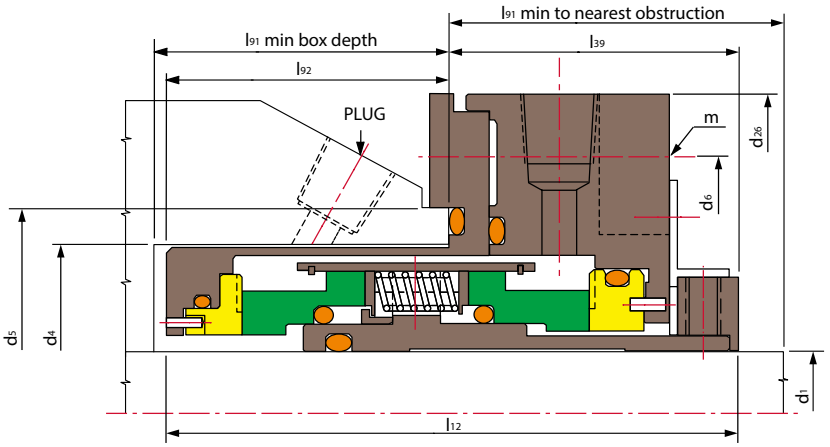
Operating Limits

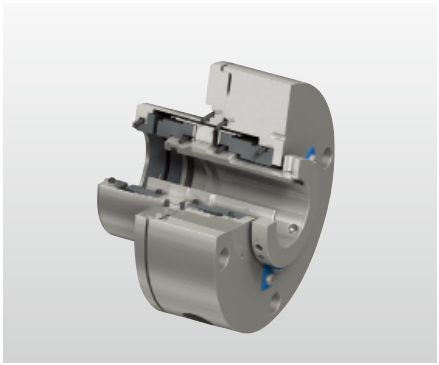
Pressure: ≤12.4MPa
Speed: ≤180m/s
Temperature: -20˚C ~260˚C

- Rotary Ring (SiC/TC)
- Stationary Ring (Carbon/SiC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

Seal size (mm)	d Shaft Range	d_4	l_{12} Single Min	l_{12} Tandem Min
56	25.4-29.0	104.8	46.4	99.2
62	29.0-34.9	111.9	46.8	99.2
68	35.0-41.3	119.5	47.2	99.6
75	41.3-46.8	126.2	47.2	99.6
81	46.8-53.2	133.7	47.6	100.0
87	53.2-59.5	140.9	48.4	100.4
94	59.5-65.1	148.0	48.8	100.8
100	65.1-71.4	155.2	48.8	100.8
106	41.5-77.0	162.3	49.2	101.2
113	77.0-82.9	169.4	50.0	101.6
119	83.0-88.9	177.0	50.0	101.6
125	88.9-94.8	183.7	50.8	102.8
132	94.9-101.2	191.3	51.6	104.4
138	101.2-107.1	198.4	52.0	104.8
144	107.2-113.1	205.6	52.8	106.3
151	113.1-119.0	212.7	53.6	108.0
156	119.1-123.4	217.9	54.8	109.5
162	123.4-129.8	225.4	55.1	110.7
168	129.8-135.7	232.6	55.5	111.5
175	135.7-141.7	239.7	56.3	112.3
181	141.7-147.6	246.8	57.2	114.3
187	147.7-153.6	254.0	57.9	115.9
194	153.6-159.9	261.1	58.7	117.5
200	159.9-165.9	268.7	59.5	119.0
206	165.9-171.8	277.8	59.9	119.5
213	171.9-177.4	285.3	60.7	121.0
219	177.4-183.3	292.1	61.5	122.2
225	183.4-189.7	299.6	62.3	123.8
232	189.7-195.7	306.8	63.1	125.4
238	195.7-201.6	313.9	63.5	126.2
244	201.6-207.5	321.1	64.3	127.8
251	207.6-213.5	328.2	65.1	129.4
257	213.5-219.9	335.4	65.5	130.2

Seal size (inches)	d Shaft Range	d_4	l_{12} Single Min	l_{12} Tandem Min
2.187	1.000-1.140	4.125	1.828	3.906
2.437	1.141-1.375	4.406	1.843	3.906
2.687	1.376-1.625	4.703	1.859	3.921
2.937	1.626-1.843	4.968	1.859	3.921
3.187	1.844-2.093	5.265	1.875	3.937
3.437	2.094-2.343	5.546	1.906	3.953
3.687	2.344-2.562	5.828	1.921	3.968
3.937	2.563-2.812	6.109	1.921	3.968
4.187	2.813-3.031	6.390	1.937	3.984
4.437	3.032-3.265	6.671	1.968	4.000
4.687	3.266-3.500	6.968	1.968	4.000
4.937	3.501-3.734	7.234	2.000	4.046
5.187	3.735-3.984	7.531	2.031	4.109
5.437	3.985-4.218	7.812	2.046	4.125
5.687	4.219-4.453	8.093	2.078	4.187
5.937	4.454-4.687	8.375	2.109	4.250
6.125	4.688-4.859	8.578	2.156	4.312
6.375	4.860-5.109	8.875	2.171	4.359
6.625	5.110-5.343	9.156	2.187	4.390
6.875	5.344-5.578	9.437	2.218	4.421
7.125	5.579-5.812	9.718	2.250	4.500
7.375	5.813-6.046	10.000	2.281	4.562
7.625	6.047-6.296	10.281	2.312	4.625
7.875	6.297-6.531	10.578	2.343	4.687
8.125	6.532-6.765	10.937	2.359	4.703
8.375	6.766-6.984	11.234	2.390	4.765
8.625	6.985-7.218	11.500	2.421	4.812
8.875	7.219-7.468	11.796	2.453	4.875
9.125	7.469-7.703	12.078	2.484	4.937
9.375	7.704-7.937	12.359	2.500	4.968
9.625	7.938-8.171	12.640	2.531	5.031
9.875	8.172-8.406	12.921	2.562	5.093
10.125	8.407-8.656	13.203	2.578	5.125





TSDGS-J03

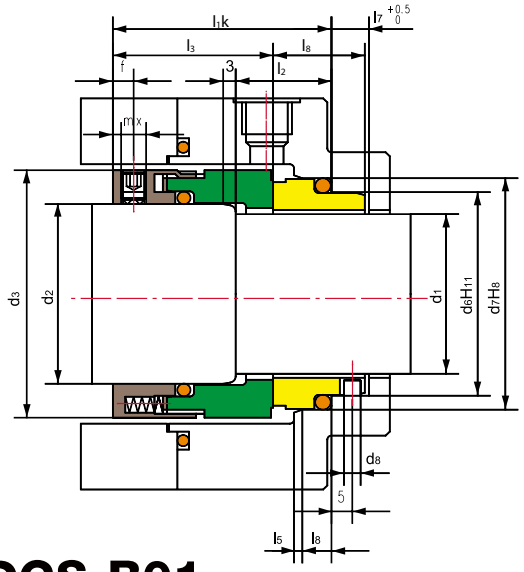
Operating Limits

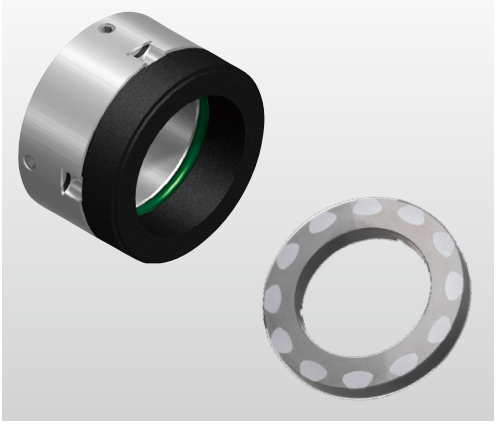
Pressure: ≤2.1MPa
Speed: ≤1450rpm
Temperature: -20˚C ~+260˚C

- Rotary Ring(Carbon)
- Stationary Ring(SIC / TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

seal size (inches)	d_1	d_4	d_{26}	l_{12}	l_{39}	l_{90}	l_{91}	l_{92}	d_5	m	d_6
1.125	28.58	66.68	114.30	109.52	57.15	58.72	56.37	52.37	79.38	M10	95.25
1.375	34.93	73.03	127.00	103.20	52.40	60.33	54.80	50.80	85.73	M10	101.60
1.500	38.10	76.20	139.70	103.20	50.80	60.33	56.40	52.40	95.20	M12	114.30
1.625	41.28	85.73	136.53	119.67	53.67	69.00	70.00	66.00	98.43	M10	112.70
1.750	44.45	88.90	165.10	119.93	65.96	71.42	57.97	53.97	110.24	M12	139.70
1.875	47.63	92.08	149.23	132.94	78.54	92.08	58.41	54.41	104.78	M12	127.00
2.000	50.80	95.25	146.05	116.65	64.28	65.07	56.37	52.37	111.13	M10	127.00
2.125	53.98	98.42	180.98	118.30	65.17	72.21	57.13	53.13	119.66	M16	152.40
2.375	60.33	107.95	180.98	117.04	55.5	64.29	65.49	61.49	133.35	M16	152.40
2.500	63.50	114.30	200.03	117.09	52.39	73.03	68.70	64.70	138.56	M16	171.45
2.625	66.68	117.48	177.80	117.05	52.35	103.17	68.70	64.70	130.18	M12	152.40
2.750	69.85	120.65	200.03	124.82	62.92	72.39	65.90	61.9	138.56	M16	171.45
3.000	76.20	127.00	203.20	124.99	67.84	121.44	61.15	57.15	146.05	M16	171.45
3.250	82.55	133.35	195.25	131.33	71.00	119.99	64.33	60.33	146.05	M16	165.00
3.500	88.90	142.88	210.34	142.44	82.11	133.35	64.33	60.33	158.75	M16	177.80
3.750	95.25	152.4	239.70	147.65	65.15	82.55	86.50	82.50	171.40	M16	209.55
4.000	101.6	158.75	248.00	157.47	113.17	127.00	48.30	44.30	185.00	M20	215.00

seal size (mm)	d_1	d_4	d_{26}	l_{12}	l_{39}	l_{90}	l_{91}	l_{92}	d_5	m	d_6
28	28	66.68	114.30	109.52	57.15	58.72	56.37	52.37	79.38	M10	95.25
35	35	73.03	127.00	103.20	52.40	60.33	54.80	50.80	85.73	M10	101.60
38	38	76.20	139.70	103.20	50.80	60.33	56.40	52.40	95.20	M12	114.30
40	40	85.73	136.53	119.67	53.67	69.00	70.00	66.00	98.43	M10	112.70
45	45	88.90	165.10	119.93	65.96	71.42	57.97	53.97	110.24	M12	139.70
48	48	92.08	149.23	132.94	78.54	92.08	58.41	54.41	104.78	M12	127.00
50	50	95.25	146.05	116.65	64.28	65.07	56.37	52.37	111.13	M10	127.00
55	55	98.42	180.98	118.30	65.17	72.21	57.13	53.13	119.66	M16	152.40
60	60	107.95	180.98	117.04	55.5	64.29	65.49	61.49	133.35	M16	152.40
63	63	114.30	200.03	117.09	52.39	73.03	68.70	64.70	138.56	M16	171.45
65	65	117.48	177.80	117.05	52.35	103.17	68.70	64.70	130.18	M12	152.40
70	70	120.65	200.03	124.82	62.92	72.39	65.90	61.9	138.56	M16	171.45
75	75	127.00	203.20	124.99	67.84	121.44	61.15	57.15	146.05	M16	171.45
80	80	133.35	195.25	131.33	71.00	119.99	64.33	60.33	146.05	M16	165.00
90	90	142.88	210.34	142.44	82.11	133.35	64.33	60.33	158.75	M16	177.80
95	95	152.4	239.70	147.65	65.15	82.55	86.50	82.50	171.40	M16	209.55
100	100	158.75	248.00	157.47	113.17	127.00	48.30	44.30	185.00	M20	215.00





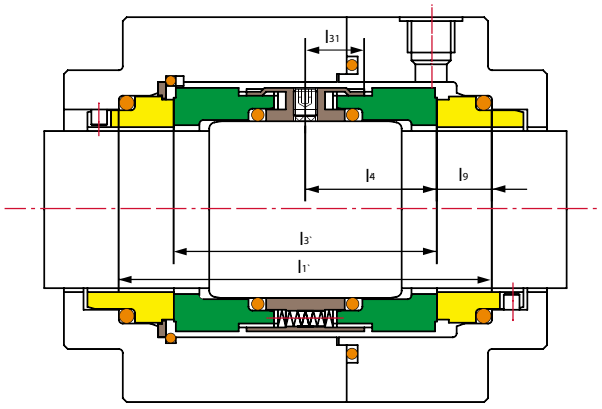
TSDGS-B01

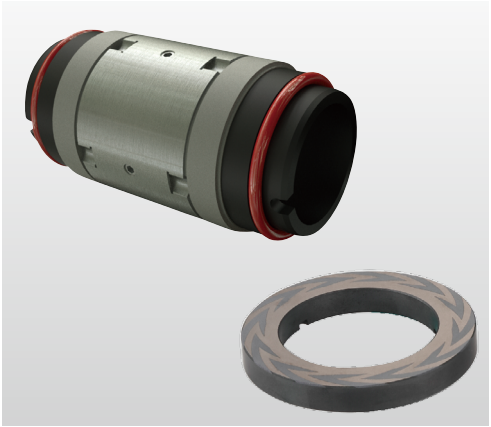
Operating Limits

Pressure: ≤2.5MPa
Speed: ≤25m/s
Temperature: -20˚C ~260˚C

- Rotary Ring(Carbon/SiC)
- Stationary Ring(SiC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

d_1 (mm)	d_2	d_3	d_6	d_7	d_8	l_1k	l_1'	l_2	l_3	l_3'	l_4	l_5	l_6	l_7	l_8	l_9	l_{31}	f	mx
28	33	48	37	43	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
30	35	50	39	45	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
32	38	55	42	48	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
33	38	55	42	48	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
35	40	57	44	50	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
38	43	60	49	56	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
40	45	62	51	58	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
43	48	65	54	61	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
45	50	67	56	63	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
48	53	70	59	66	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
50	55	72	62	70	4	57.5	99	25	42.5	69	34.5	2.5	6	9	23	15	16.5	5	M6
53	58	79	65	73	4	57.5	104	25	42.5	74	37	2.5	6	9	23	15	17	5	M6
55	60	81	67	75	4	57.5	106	25	42.5	76	38	2.5	6	9	23	15	17	5	M6
58	63	84	70	78	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
60	65	86	72	80	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
63	68	89	75	83	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
65	70	91	77	85	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
70	75	99	83	92	4	70	118	28	52	82	41	2.5	7	9	26	18	19	7	M8
75	80	104	88	97	4	70	120	28	52	84	42	2.5	7	9	26	18	19	7	M8
80	85	109	95	105	4	70	120	28	51.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
85	90	114	100	110	4	75	120	28	56.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
90	95	119	105	115	4	75	120	28	56.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
95	100	124	110	120	4	75	120	28	57.8	85.6	42.8	3	7	9	25.2	17.2	19	7	M8
100	105	129	115	125	4	75	120	28	57.8	85.6	42.8	2	7	9	25.2	17.2	19	7	M8
105	115	148	122.2	134.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
110	120	153	128.2	140.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
115	125	158	136.2	148.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
120	130	163	138.2	150.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
125	135	168	142.2	154.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8





TSDGS-B02

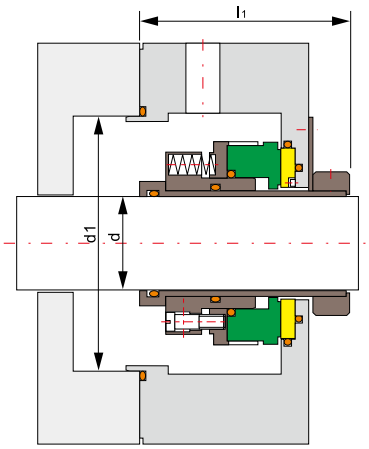
Operating Limits

Pressure: ≤2.3MPa
Speed: ≤25m/s
Temperature: -20˚C ~+260˚C

- Rotary Ring(Carbon/SiC)
- Stationary Ring(SiC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

Other dimensions are identical with the TSDGS-B01

d_1 (mm)	d_2	d_3	d_6	d_7	d_8	l_1k	l_1'	l_2	l_3	l_3'	l_4	l_5	l_6	l_7	l_8	l_9	l_{31}	f	mx
28	33	48	37	43	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
30	35	50	39	45	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
32	38	55	42	48	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
33	38	55	42	48	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
35	40	57	44	50	3	50	89	20	38.5	66	33	2	5	9	19.5	11.5	16.5	5	M6
38	43	60	49	56	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
40	45	62	51	58	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
43	48	65	54	61	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
45	50	67	56	63	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
48	53	70	59	66	4	52.5	95	23	38.5	67	33.5	2	6	9	22	14	16.5	5	M6
50	55	72	62	70	4	57.5	99	25	42.5	69	34.5	2.5	6	9	23	15	16.5	5	M6
53	58	79	65	73	4	57.5	104	25	42.5	74	37	2.5	6	9	23	15	17	5	M6
55	60	81	67	75	4	57.5	106	25	42.5	76	38	2.5	6	9	23	15	17	5	M6
58	63	84	70	78	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
60	65	86	72	80	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
63	68	89	75	83	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
65	70	91	77	85	4	62.5	112	25	47.5	82	41	2.5	6	9	23	15	19	7	M8
70	75	99	83	92	4	70	118	28	52	82	41	2.5	7	9	26	18	19	7	M8
75	80	104	88	97	4	70	120	28	52	84	42	2.5	7	9	26	18	19	7	M8
80	85	109	95	105	4	70	120	28	51.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
85	90	114	100	110	4	75	120	28	56.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
90	95	119	105	115	4	75	120	28	56.8	83.6	41.8	3	7	9	26.2	18.2	19	7	M8
95	100	124	110	120	4	75	120	28	57.8	85.6	42.8	3	7	9	25.2	17.2	19	7	M8
100	105	129	115	125	4	75	120	28	57.8	85.6	42.8	2	7	9	25.2	17.2	19	7	M8
105	115	148	122.2	134.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
110	120	153	128.2	140.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
115	125	158	136.2	148.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
120	130	163	138.2	150.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8
125	135	168	142.2	154.3	5	73	133	32	53	93	46.5	2	10	\	30	20	22.5	7	M8



TSDGS-FS01

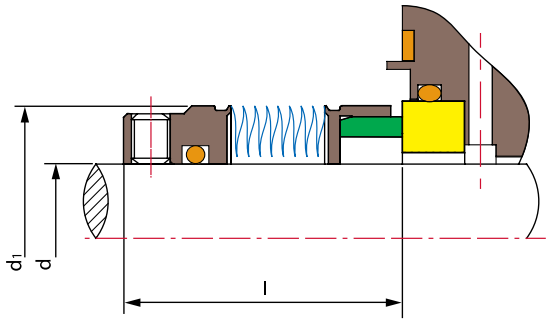
Operating Limits

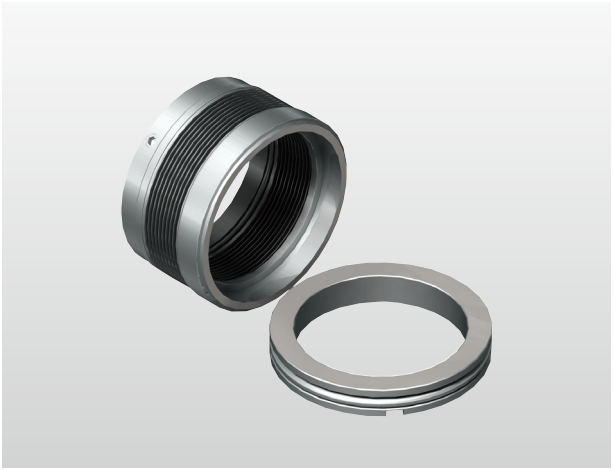
Pressure: ≤4.14MPa
Speed: ≤30.5m/s
Temperature: -40˚C ~204˚C

- Rotary ring(SiC/TC)
- Stationary ring(carbon)
- Secondary seal(Viton/FFKM)
- Other parts(SUS304/SUS316)

d (mm)	d_1	l_1
26.97	65.89	65.89
31.75	75.79	65.07
34.93	78.97	73.81
38.10	82.55	74.63
39.67	85.73	85.73
46.02	94.46	85.73
52.37	98.43	85.73
60.33	109.14	86.51
66.68	116.69	90.47
69.85	122.22	90.47
79.38	127.00	88.90
82.55	131.34	100.81
88.90	136.93	90.47
95.25	142.09	92.08
101.60	149.23	92.08
115.87	163.53	92.08
138.13	190.50	100.81
150.83	202.41	100.81

d (inches)	d_1	l_1
1.062	2.594	2.594
1.250	2.984	2.562
1.375	3.109	2.906
1.500	3.250	2.938
1.562	3.375	3.375
1.812	3.719	3.375
2.062	3.875	3.375
2.375	4.297	3.406
2.625	4.594	3.562
2.750	4.812	3.562
3.125	5.000	3.500
3.250	5.171	3.969
3.500	5.391	3.562
3.750	5.594	3.625
4.000	5.875	3.625
4.562	6.438	3.625
5.438	7.500	3.969
5.938	7.969	3.969





TSMB-J01(TS 676.670.680)

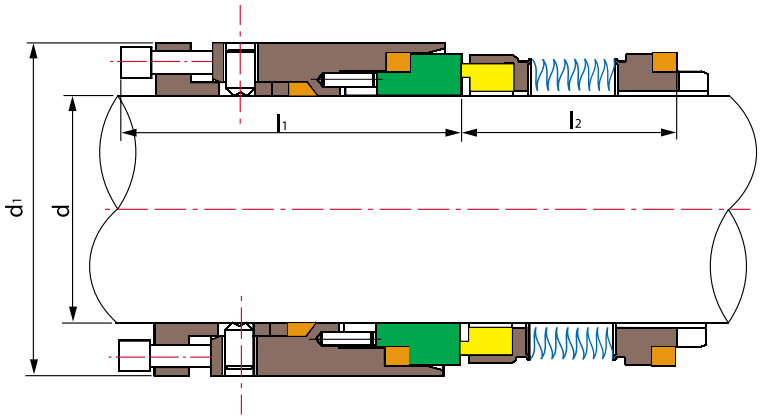
Operating Limits

Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -20˚C ~+200˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

Seal size d(inches)	d_1	l
0.750	1.312	1.250
0.875	1.437	1.250
0.937	1.500	1.250
1.000	1.562	1.250
1.125	1.687	1.250
1.250	1.812	1.312
1.375	1.937	1.437
1.500	2.062	1.437
1.625	2.187	1.437
1.750	2.312	1.437
1.875	2.437	1.500
2.000	2.562	1.500
2.125	2.687	1.500
2.250	2.812	1.562
2.375	2.937	1.562
2.500	3.187	1.562
2.625	3.312	1.625
2.750	3.437	1.625
2.875	3.625	1.687
3.000	3.750	1.687
3.125	3.875	1.750
3.250	4.000	1.750
3.375	4.125	1.750
3.500	4.250	1.875
3.625	4.375	1.875
3.750	4.500	1.875
3.875	4.625	1.875
4.000	4.750	1.875
4.250	5.187	1.903
4.500	5.437	1.903
4.750	5.687	1.903
5.000	5.937	1.903
5.250	6.213	1.903
5.500	6.463	1.903
5.750	6.714	1.903
6.000	6.964	1.903

Seal size d(mm)	d_1	l
18	32.0	27.5
20	33.3	27.5
22	36.0	27.5
24	38.1	30.0
25	39.0	30.0
28	42.0	32.5
30	44.0	32.5
32	46.0	32.5
33	47.0	32.5
35	49.2	32.5
38	52.4	34.0
40	55.6	34.0
43	58.7	34.0
45	58.7	34.0
48	61.9	34.0
50	65.1	34.5
53	68.3	34.5
55	71.0	34.5
60	74.6	39.5
65	84.1	39.5
70	87.3	45.0
75	95.3	45.0
80	98.4	44.5
85	104.8	44.5
90	108.0	49.5
95	114.3	49.5
100	120.7	49.5
105	131.7	48.3
110	138.1	48.3
115	144.5	48.3
120	144.5	48.3
125	150.8	48.3
130	157.8	48.3
140	170.5	48.3
150	176.9	48.3



TSMB-J04(TS 604)

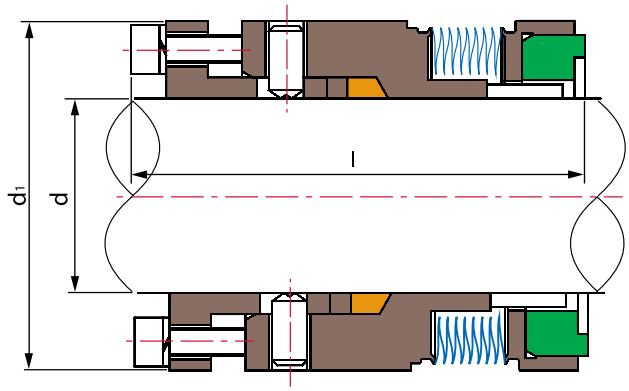
Operating Limits

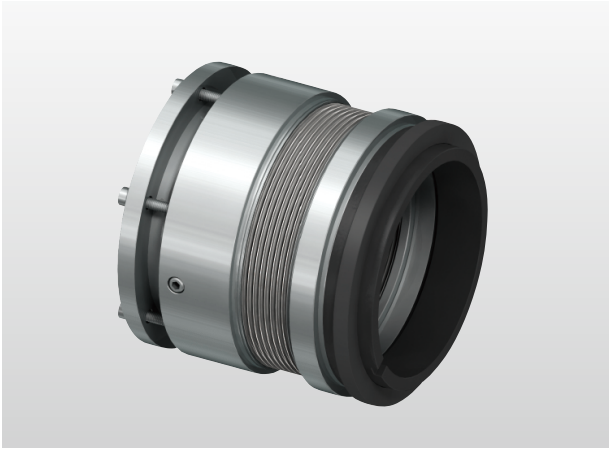
Pressure: ≤2MPa(single ply bellow)
≤6.9MPa(double ply bellow)
Speed: ≤25m/s
Temperature: -75˚C～+425˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/Carbon)
- Secondary Seal(Flexible Carbon)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

Shaft (inches)	d	d_1	l_1	l_2
1.000	1.000	1.937	1.969	1.138
1.125	1.125	2.062	1.969	1.138
1.250	1.250	2.187	1.969	1.138
1.375	1.375	2.312	1.938	1.138
1.500	1.500	2.562	2.063	1.191
1.625	1.625	2.562	2.060	1.222
1.750	1.750	2.687	2.060	1.254
1.875	1.875	2.812	2.062	1.254
2.000	2.000	2.937	2.060	1.285
2.125	2.125	3.187	2.182	1.316
2.250	2.250	3.312	2.218	1.384
2.375	2.375	3.437	2.186	1.379
2.500	2.500	3.562	2.184	1.410
2.625	2.625	3.687	2.250	1.443
2.750	2.750	3.937	2.250	1.608
2.875	2.875	4.062	2.281	1.608
3.000	3.000	4.187	2.250	1.608
3.125	3.125	4.312	2.250	1.608
3.250	3.250	4.437	2.219	1.608
3.375	3.375	4.562	2.282	1.608
3.500	3.500	4.687	2.373	1.650
3.625	3.625	4.812	2.375	1.650
3.750	3.750	4.937	2.375	1.650
3.875	3.875	5.062	2.375	1.650

Shaft (mm)	d	d_1	l_1	l_2
25.00	25	49.20	50.01	28.91
30.00	30	52.37	50.01	28.91
32.00	32	55.55	50.01	28.91
35.00	35	58.72	49.23	28.91
38.00	38	65.07	52.40	30.25
40.00	40	65.07	52.32	31.04
45.00	45	68.25	52.32	31.85
48.00	48	71.42	52.37	31.85
50.00	50	74.60	52.32	32.64
55.00	55	80.95	55.42	33.43
60.00	60	87.30	55.52	35.03
65.00	65	90.47	55.47	35.81
70.00	70	100.00	57.15	40.84
75.00	75	106.35	57.15	40.84
80.00	80	109.52	57.15	40.84
85.00	85	115.87	57.96	40.84
90.00	90	119.05	60.27	41.91
95.00	95	125.40	60.33	41.91
100.00	100	128.57	60.33	41.91





TSMB-J05(TS 606)

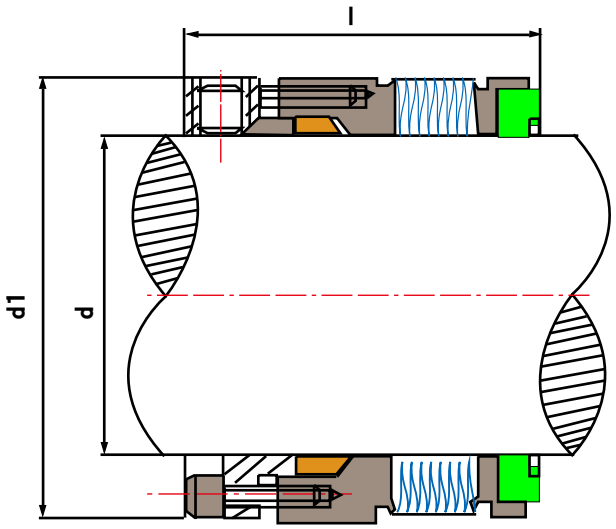
Operating Limits

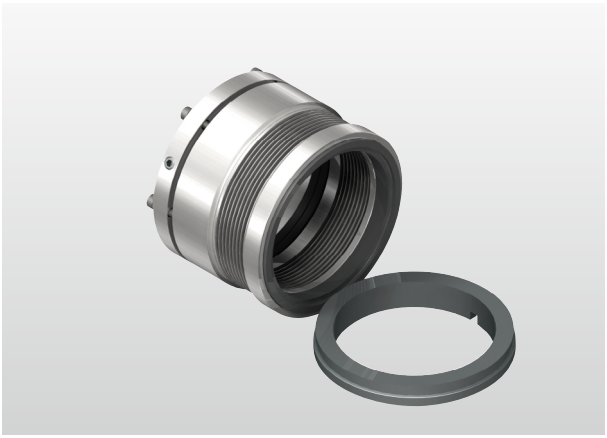
Pressure: ≤2MPa(single ply bellow)
≤6.9MPa(double ply bellow)
Speed: ≤25m/s
Temperature: -75˚C~+425˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(Flexible Graphite)
- Metal Bellows(SUS316L/AM350/Incone1718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

Shaft (inches)	d	d_1	l
0.750	0.750	1.625	2.312
0.875	0.875	1.750	3.343
1.000	1.000	1.875	2.343
1.125	1.125	2.000	2.375
1.250	1.250	2.125	2.375
1.375	1.375	2.250	2.468
1.500	1.500	2.375	2.500
1.625	1.625	2.500	2.500
1.750	1.750	2.625	2.531
1.875	1.875	2.750	2.531
2.000	2.000	2.875	2.562
2.125	2.125	3.000	2.562
2.250	2.250	3.250	2.750
2.375	2.375	3.375	2.781
2.500	2.500	3.500	2.781
2.625	2.625	3.687	2.875
2.750	2.750	3.812	3.000
2.875	2.875	4.000	3.000
3.000	3.000	4.125	3.000
3.125	3.125	4.250	3.000
3.250	3.250	4.375	3.000
3.375	3.375	4.500	3.000
3.500	3.500	4.625	3.000
3.625	3.625	4.750	3.000
3.750	3.750	4.875	3.000

Shaft (mm)	d	d_1	l
20	20	41.28	58.72
22	22	44.45	59.51
25	25	47.63	59.51
30	30	50.80	60.33
32	32	53.98	60.33
35	35	57.15	62.69
38	38	60.33	63.50
40	40	63.50	63.50
45	45	66.68	64.29
48	48	69.85	64.29
50	50	73.03	65.07
55	55	76.20	65.07
60	60	85.73	70.64
65	65	88.90	70.64
70	70	96.82	76.20
75	75	104.78	76.20
80	80	107.95	76.20
85	85	114.30	76.20
90	90	117.48	76.20
95	95	123.83	76.20
100	100	130.18	76.20





TSMB-J06(TS 609)

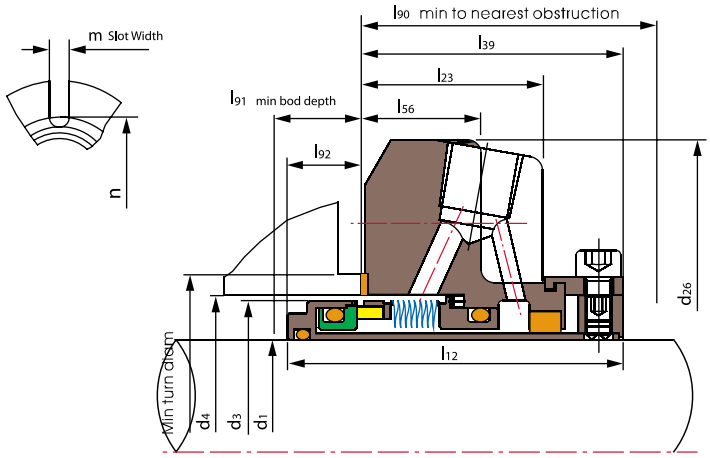
Operating Limits

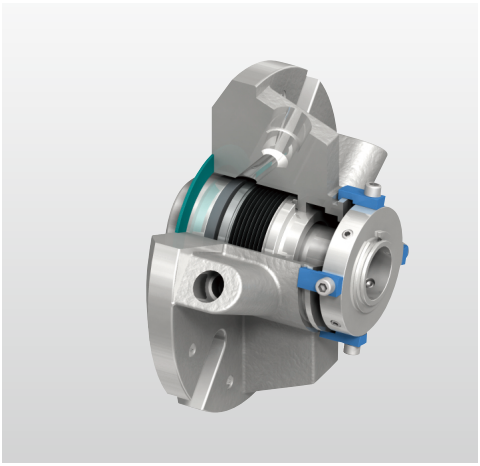
Pressure: ≤2MPa(single ply bellow)
≤6.9MPa(double ply bellow)
Speed: ≤25m/s
Temperature: -75˚C ~+425˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(Flexible Craphite)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

Shaft (inches)	d	d_1	l
1.000	1.000	1.625	1.531
1.125	1.125	1.750	1.562
1.250	1.250	1.875	1.593
1.375	1.375	2.000	1.593
1.500	1.500	2.125	1.593
1.625	1.625	2.250	1.593
1.750	1.750	2.375	1.625
1.875	1.875	2.500	1.625
2.000	2.000	2.625	1.656
2.125	2.125	2.750	1.656
2.250	2.250	2.875	1.719
2.375	2.375	3.000	1.719
2.500	2.500	3.250	1.750
2.625	2.625	3.375	1.781
2.750	2.750	3.500	1.781
2.875	2.875	3.687	1.875
3.000	3.000	3.812	1.875
3.125	3.125	4.000	1.875
3.250	3.250	4.125	1.875
3.375	3.375	4.250	1.875
3.500	3.500	4.375	1.875
3.625	3.625	4.500	1.875
3.750	3.750	4.625	1.875
3.875	3.875	4.750	1.875
4.000	4.000	4.875	1.875

Shaft (mm)	d	d_1	l
25	25	41.28	38.89
28	28	44.45	39.67
32	32	47.63	40.46
35	35	50.80	40.46
38	38	53.98	40.46
40	40	57.15	40.46
45	45	60.33	41.28
48	48	63.50	41.28
50	50	66.68	42.06
55	55	69.85	42.06
60	60	76.20	43.66
65	65	82.55	44.45
70	70	88.90	45.24
75	75	96.82	47.63
80	80	101.60	47.63
85	85	107.95	47.63
90	90	111.13	47.63
95	95	117.48	47.63
100	100	123.83	47.63





TSMB-J08

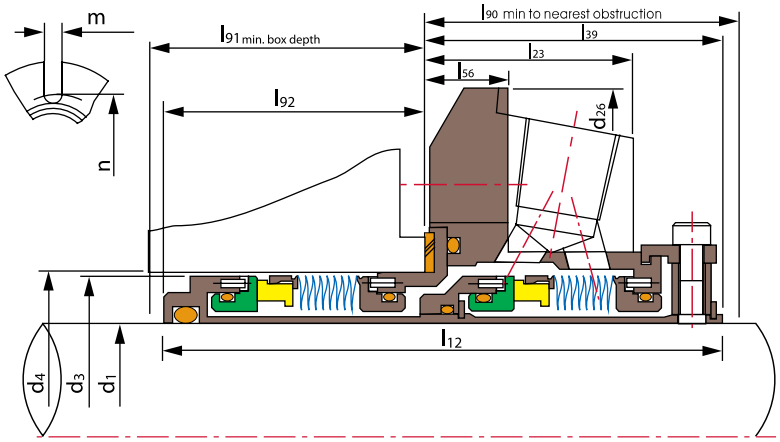
Operating Limits

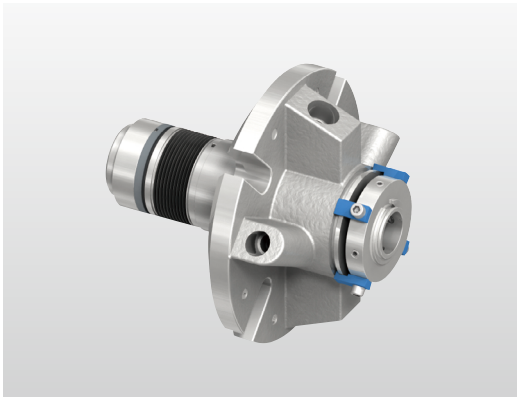
Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (inches)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
1.000	1.564	1.625	1.889	4.000	2.575	1.353	1.954	0.531	2.000	0.746	0.621	0.525	2.805
1.125	1.689	1.750	2.015	4.125	2.651	1.446	2.062	0.531	2.125	0.714	0.589	0.525	2.933
1.250	1.812	1.875	2.294	4.250	2.728	1.446	2.062	0.531	2.125	0.791	0.666	0.525	3.213
1.375	1.939	2.000	2.421	4.375	2.728	1.446	2.062	0.531	2.125	0.791	0.666	0.525	3.338
1.500	2.187	2.250	2.680	4.875	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.525	3.599
1.625	2.312	2.375	2.812	5.000	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.766
1.750	2.406	2.480	2.918	5.250	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.875
1.875	2.549	2.625	2.918	5.250	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.875
2.000	2.687	2.750	3.015	5.500	2.963	1.601	2.312	1.063	2.375	0.775	0.650	0.562	4.000
2.125	2.798	2.875	3.360	5.859	2.963	1.601	2.312	0.593	2.375	0.775	0.650	0.687	4.469
2.250	2.937	3.000	3.485	6.500	2.963	1.601	2.312	0.593	2.375	0.775	0.650	0.687	4.566
2.375	3.062	3.125	3.610	6.500	3.063	1.717	2.466	0.625	2.528	0.722	0.597	0.687	4.719
2.500	3.301	3.375	3.891	6.750	2.980	1.717	2.563	0.625	2.625	0.542	0.417	0.687	5.000
2.625	3.551	3.625	4.062	6.750	3.088	1.625	2.500	0.625	2.562	0.713	0.588	0.687	5.170
2.750	3.551	3.625	4.062	6.750	3.088	1.625	2.500	0.625	2.562	0.713	0.588	0.687	5.170
2.875	3.687	3.750	4.186	7.000	3.088	1.725	2.500	0.625	2.562	0.713	0.588	0.687	5.312
3.000	3.937	4.000	4.469	7.750	3.088	1.787	2.562	0.685	2.625	0.651	0.526	0.812	5.720

d_1(mm)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
24	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
25	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
28	42.9	44.5	51.2	104.8	67.3	36.7	52.4	13.5	54.0	18.1	15.0	13.3	74.5
30	44.5	46.1	56.5	108.0	65.1	36.7	52.4	13.5	54.0	15.9	12.7	13.3	79.9
32	46.0	47.6	58.3	108.0	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	81.6
33	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.8
35	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.8
38	55.5	57.2	68.1	123.8	69.7	37.8	54.0	15.1	55.5	18.9	15.7	13.3	91.4
40	58.7	60.3	71.4	127.0	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	95.7
43	61.1	63.0	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
45	61.1	63.0	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
48	65.1	66.7	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
50	68.3	70.0	76.6	139.7	75.3	40.7	58.7	27.0	60.3	19.7	16.5	14.3	101.6
53	71.4	73.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.5
55	72.9	75.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.5
58	74.6	76.2	88.5	165.1	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	116.0
60	77.8	79.4	91.7	165.1	77.8	43.6	62.6	15.9	64.2	18.3	15.2	17.4	119.9
63	84.1	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
65	84.1	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
68	90.5	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	17.4	131.3
70	90.5	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	17.4	131.3
75	100.0	101.6	113.5	196.9	78.4	45.4	65.1	17.4	66.7	16.5	13.4	20.6	145.3





TSMB-J09

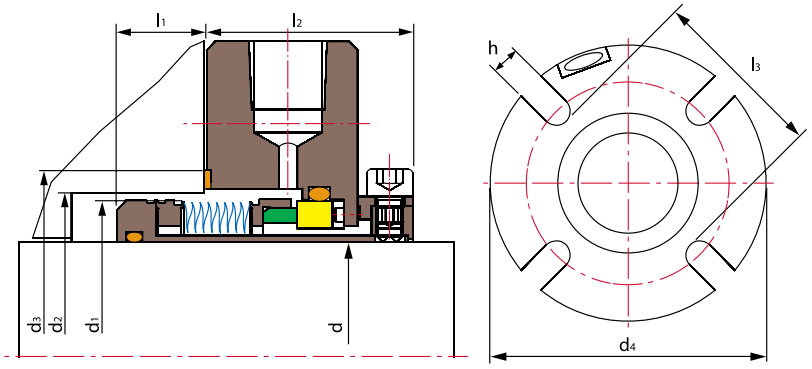
Operating Limits

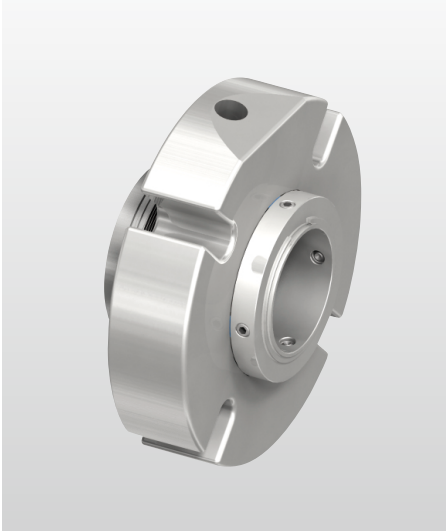
Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -29˚C ~+204˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (inches)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
1.000	1.564	1.625	1.889	4.000	3.705	1.353	1.954	0.531	2.000	1.876	1.751	0.525	2.805
1.125	1.689	1.750	2.015	4.125	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	2.933
1.250	1.812	1.875	2.294	4.250	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	3.213
1.375	1.939	2.000	2.421	4.375	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	3.338
1.500	2.187	2.250	2.680	4.875	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.525	3.599
1.625	2.312	2.375	2.812	5.000	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.766
1.750	2.420	2.480	2.918	5.250	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.875
1.875	2.562	2.625	2.918	5.250	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.875
2.000	2.687	2.750	3.015	5.500	4.355	1.601	2.312	1.063	2.375	2.167	2.042	0.562	4.000
2.125	2.812	2.875	3.360	5.859	4.355	1.601	2.312	0.593	2.375	2.167	2.042	0.687	4.469
2.250	2.937	3.000	3.485	6.500	4.355	1.601	2.312	0.593	2.375	2.167	2.042	0.687	4.566
2.375	3.062	3.125	3.610	6.500	4.545	1.717	2.466	0.625	2.528	2.204	2.079	0.687	4.719
2.500	3.312	3.375	3.891	6.750	4.545	1.717	2.563	0.625	2.625	2.107	1.982	0.687	5.000
2.625	3.562	3.625	4.062	6.750	4.594	1.625	2.500	0.625	2.562	2.219	2.094	0.687	5.170
2.750	3.562	3.625	4.062	6.750	4.594	1.625	2.500	0.625	2.562	2.219	2.094	0.687	5.170
2.875	3.687	3.750	4.186	7.000	4.594	1.725	2.500	0.625	2.562	2.219	2.094	0.687	5.312
3.000	3.937	4.000	4.469	7.750	4.594	1.787	2.562	0.685	2.625	2.157	2.032	0.812	5.720

d_1 (mm)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
24	39.7	41.3	48.0	101.6	94.1	34.4	49.6	13.5	50.8	47.7	44.5	13.3	71.2
25	39.7	41.3	48.0	101.6	94.1	34.4	49.6	13.5	50.8	47.7	44.5	13.3	71.2
28	42.9	44.5	51.2	104.8	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	74.5
30	44.8	46.1	56.5	108.0	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	79.9
32	46.0	47.6	58.3	108.0	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	81.6
33	49.3	50.8	61.5	111.1	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	84.8
35	49.3	50.8	61.5	111.1	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	84.8
38	55.6	57.2	68.1	123.8	101.5	37.8	54.0	15.1	55.5	50.7	47.5	13.3	91.4
40	58.7	60.3	71.4	127.0	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	95.7
43	61.5	63.0	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
45	61.5	63.0	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
48	65.1	66.7	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
50	68.3	70.0	76.6	139.7	110.6	40.7	58.7	27.0	60.3	55.0	51.9	14.3	101.6
53	71.4	73.0	85.3	148.8	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	113.5
55	73.0	75.0	85.3	148.8	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	113.5
58	74.6	76.2	88.5	165.1	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	116.0
60	77.8	79.4	91.7	165.1	115.4	43.6	62.6	15.9	64.2	56.0	52.8	17.4	119.9
63	84.1	85.7	98.8	171.5	115.4	43.6	65.1	15.9	66.7	53.5	50.3	17.4	127.0
65	84.1	85.7	98.8	171.5	115.4	43.6	65.1	15.9	66.7	53.5	50.3	17.4	127.0
68	90.5	92.1	103.2	171.5	116.7	41.3	63.5	15.9	65.1	56.4	53.2	17.4	131.3
70	90.5	92.1	103.2	171.5	116.7	41.3	63.5	15.9	65.1	56.4	53.2	17.4	131.3
75	100.0	101.6	113.5	196.9	116.7	45.4	65.1	17.4	66.7	54.8	51.6	20.6	145.3





TSMB-J13

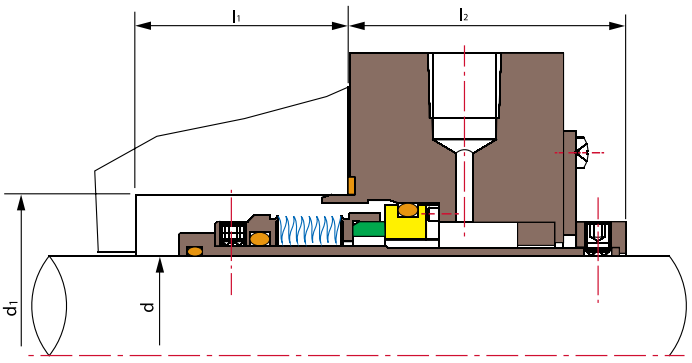
Operating Limits

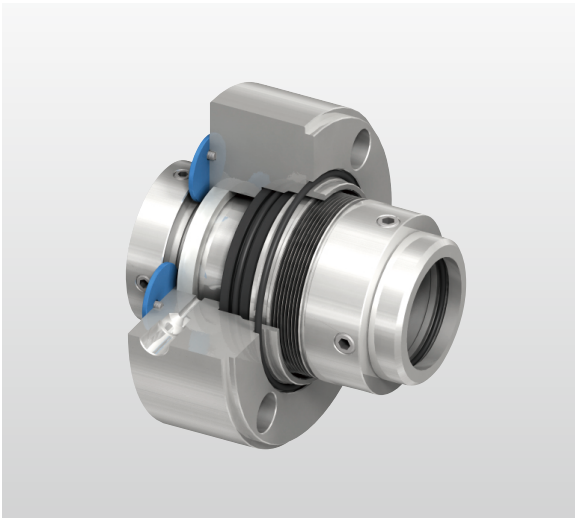
Pressure: ≤2MPa
Speed: ≤25m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_1	d_2	d_3	l_1	l_2	l_3	h	d_4
1.125	1.687	1.937	2.375	0.687	1.687	2.437	0.562	4.375
1.125	1.687	1.937	3.250	0.687	1.687	3.312	0.437	4.500
1.375	1.937	2.062	2.375	0.687	1.562	2.437	0.562	4.375
1.375	1.937	2.812	3.250	0.687	1.562	3.437	0.500	5.250
1.500	2.187	2.937	2.750	0.750	1.687	2.812	0.562	5.125
1.625	2.312	2.437	2.812	0.750	1.687	2.875	0.562	5.250
1.750	2.437	2.562	3.125	0.750	1.687	3.187	0.562	5.250
1.750	2.437	3.437	4.250	0.750	1.687	4.562	0.562	6.500
1.875	2.562	2.687	3.250	0.750	1.687	3.312	0.562	5.375
1.875	2.562	3.562	4.250	0.750	1.687	4.437	0.562	6.500
2.000	2.687	2.812	3.250	0.750	1.750	3.312	0.687	5.500
2.125	2.812	2.937	3.500	0.875	1.687	3.562	0.687	5.437
2.500	3.312	3.437	4.250	1.000	1.687	4.312	0.812	6.250
2.500	3.312	4.375	5.500	1.000	1.687	5.625	0.750	8.000
2.625	3.437	3.562	4.375	1.187	1.625	4.437	0.562	6.500
2.625	3.437	4.375	5.375	1.187	1.625	5.437	0.565	7.000
2.750	3.625	3.750	4.500	1.062	1.625	4.562	0.750	7.000
3.000	3.875	4.000	4.812	1.125	1.656	4.875	0.812	7.750
3.250	4.125	4.250	4.937	1.125	1.656	5.000	0.812	7.500
3.500	4.375	4.687	5.625	1.250	1.656	5.687	0.812	8.500

d (mm)	d_1	d_2	d_3	l_1	l_2	l_3	h	d_4
28	42.8	49.2	60.3	17.4	42.9	61.9	14.3	111.1
33	49.2	52.4	60.3	17.4	39.7	61.9	14.3	106.0
35	49.2	52.4	60.3	17.4	39.7	61.9	14.3	106.0
38	55.5	58.7	69.8	19.0	42.9	71.5	14.3	130.2
40	58.7	61.9	71.4	19.1	42.8	73.0	14.3	133.4
43	61.9	65.7	79.4	19.1	42.9	81.0	14.3	133.4
45	61.9	65.1	79.4	19.1	42.9	81.0	14.3	133.4
48	65.1	68.3	82.6	19.0	44.5	84.2	17.4	139.7
50	68.2	71.4	82.6	19.0	44.5	84.2	17.4	138.0
53	71.4	74.6	88.9	22.2	42.9	90.5	17.4	138.0
55	71.4	74.6	88.9	22.2	42.9	90.5	17.4	138.0
60	80.9	84.1	96.8	25.4	41.3	98.4	17.4	158.8
65	87.3	90.5	109.5	30.2	41.2	111.1	17.4	177.8
70	92.1	95.2	114.3	27.0	41.2	115.9	17.5	190.0
75	98.4	101.6	122.2	28.5	42.1	123.8	20.6	196.9
80	104.8	108.0	125.4	28.5	42.1	127.0	19.1	190.0
85	108.0	111.1	125.4	31.7	42.1	127.0	19.1	203.2
100	128.6	131.8	154.0	34.9	42.1	155.6	22.2	228.6





TSMB-FS02

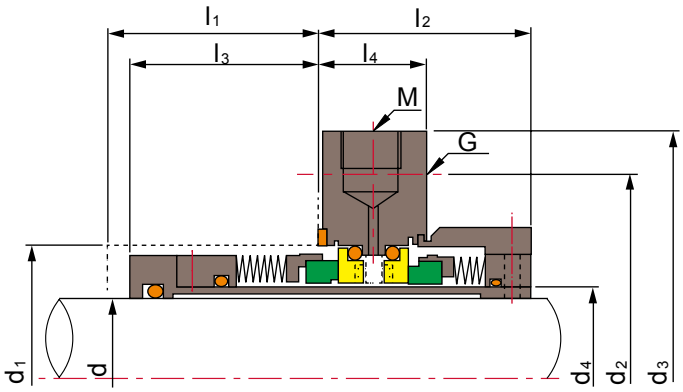
Operating Limits

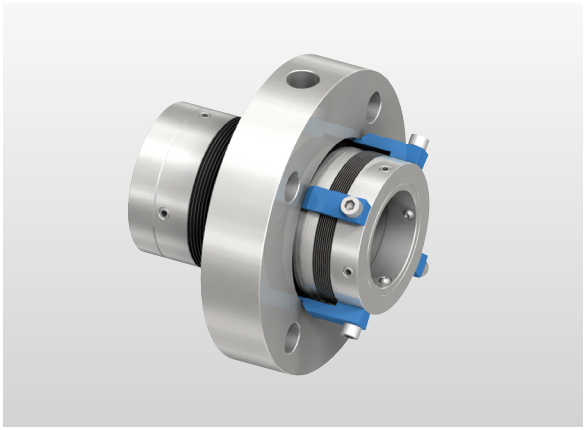
Pressure: ≤2.7MPa
Speed: ≤23m/s
Temperature: -30˚C ~+204˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (inches)	d	l_1	l_2
1.625	0.750	1.437	1.937
1.687	0.812	1.468	1.968
1.750	0.875	1.468	1.968
1.875	1.000	1.406	2.000
2.000	1.125	1.281	2.312
2.125	1.250	1.375	2.312
2.250	1.375	1.531	2.343
2.562	1.437	1.625	2.375
2.687	1.562	1.937	2.500
2.812	1.687	1.968	2.500
2.937	1.812	1.937	2.531
3.187	1.937	1.906	2.656
3.312	2.062	1.906	2.656
3.437	2.187	1.906	2.718
3.562	2.250	2.062	2.718
3.562	2.375	2.062	2.718
3.687	2.500	2.125	2.875
3.937	2.625	2.062	3.000
4.062	2.750	2.062	3.000
4.250	2.875	2.156	3.156
4.375	3.000	2.156	3.156
4.500	3.125	2.156	3.156
4.625	3.250	2.156	3.156
4.875	3.500	2.156	3.156
5.187	3.750	2.156	3.375
5.500	4.000	2.156	3.406
5.750	4.250	2.156	3.406
6.250	4.750	2.250	3.406

d_1	d (mm)	l_1	l_2
19.0	41.3	28.6	30.2
20.6	42.8	29.4	50.0
22.2	44.4	29.4	30.2
25.4	47.6	27.8	30.2
28.6	50.8	24.6	34.9
31.8	54.0	26.2	34.9
34.9	57.1	30.2	34.9
36.5	65.1	32.5	34.9
39.7	68.3	34.1	34.9
42.9	71.4	34.9	34.9
46.0	74.8	34.1	34.9
49.2	81.0	33.3	34.9
52.4	84.1	33.3	34.9
55.6	87.3	33.3	34.9
57.1	90.5	37.3	34.9
60.3	90.5	37.3	34.9
63.5	93.7	38.9	34.9
66.7	100.0	38.1	38.1
69.9	103.2	38.1	38.1
73.0	107.9	39.7	42.9
76.2	111.1	39.7	42.9
79.4	114.3	39.7	42.9
82.5	117.5	39.7	42.9
88.9	123.8	39.7	42.9
95.3	131.8	39.7	42.9
101.6	139.7	39.7	86.5
107.9	146.1	39.7	43.7
120.6	158.8	39.7	43.7





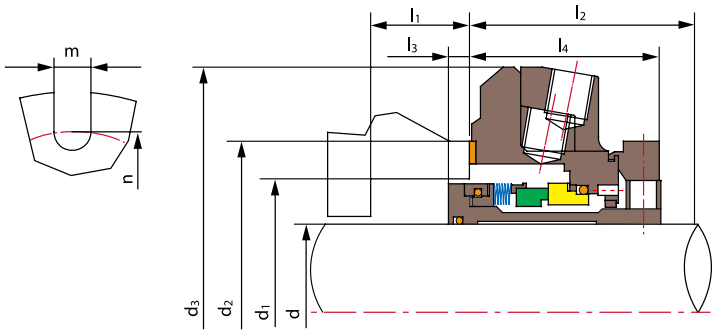
TSMB-FS07

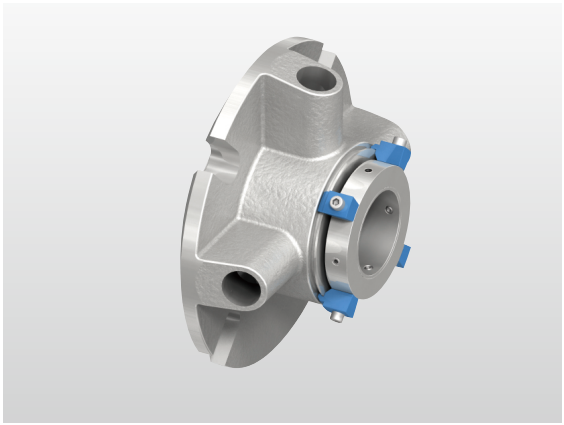
Operating Limits

Pressure: ≤2MPa
Speed: ≤25m/s
Temperature: -30˚C ~+204˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_4 (inches)	d	d_1		l_1	l_3	l_2	l_4	G	d_2	d_3	M
		min	max	min				max	min		
1.125	1.000	1.750	1.875	1.780	1.690	2.000	1.020	0.375	2.750	3.750	3/8
*1.250	1.125	1.750	2.000	1.780	1.690	2.000	1.020	0.500	3.000	3.880	3/8
1.375	1.250	2.000	2.125	1.970	1.880	2.000	1.020	0.500	3.120	4.250	3/8
*1.500	1.375	2.000	2.250	1.970	1.880	2.000	1.020	0.375	3.250	4.250	3/8
1.625	1.500	2.250	2.500	1.970	1.880	2.000	1.020	0.375	3.750	4.750	3/8
1.750	1.625	2.375	2.625	1.970	1.880	2.000	1.020	0.500	3.750	4.750	3/8
1.875	1.750	2.500	2.750	1.970	1.880	2.000	1.020	0.500	3.750	5.000	3/8
2.000	1.875	2.625	2.875	1.970	1.880	2.000	1.020	0.500	3.880	5.000	3/8
2.125	2.000	2.750	3.000	1.970	1.880	2.000	1.020	0.625	4.120	5.120	3/8
2.250	2.125	2.875	3.250	1.970	1.880	2.000	1.020	0.625	4.380	6.000	3/8
2.375	2.250	3.000	3.375	1.970	1.880	2.000	1.020	0.625	4.620	6.500	3/8
2.500	2.375	3.250	3.625	2.160	2.060	2.090	1.110	0.625	5.000	6.380	3/8
2.625	2.500	3.375	3.750	2.160	2.060	2.090	1.110	0.625	5.000	6.620	3/8
2.750	2.625	3.500	3.875	2.160	2.060	2.090	1.110	0.750	5.750	7.250	3/8
2.875	2.750	3.750	\	2.160	2.060	2.620	1.580	As Required			3/4
**3.000	2.750	3.875	\	2.160	2.060	2.620	1.580				3/4
3.000	2.875	3.875	\	2.160	2.060	2.620	1.580				3/4
**3.125	2.875	4.000	\	2.160	2.060	2.620	1.580				3/4
3.125	3.000	4.000	\	2.160	2.060	2.620	1.580				3/4
**3.250	3.000	4.125	\	2.160	2.060	2.620	1.580				3/4
3.375	3.125	4.250	\	2.160	2.060	2.620	1.580				3/4
3.500	3.250	4.375	\	2.280	2.190	2.750	1.710				3/4
3.625	3.375	4.500	\	2.280	2.190	2.750	1.710				3/4
3.750	3.500	4.625	\	2.280	2.190	2.750	1.710				3/4
3.875	3.625	4.750	\	2.280	2.190	2.750	1.710				3/4
4.000	3.750	4.875	\	2.280	2.190	2.750	1.710				3/4
4.125	3.875	5.000	\	2.280	2.190	2.750	1.710				3/4





ISO9001& TS16949

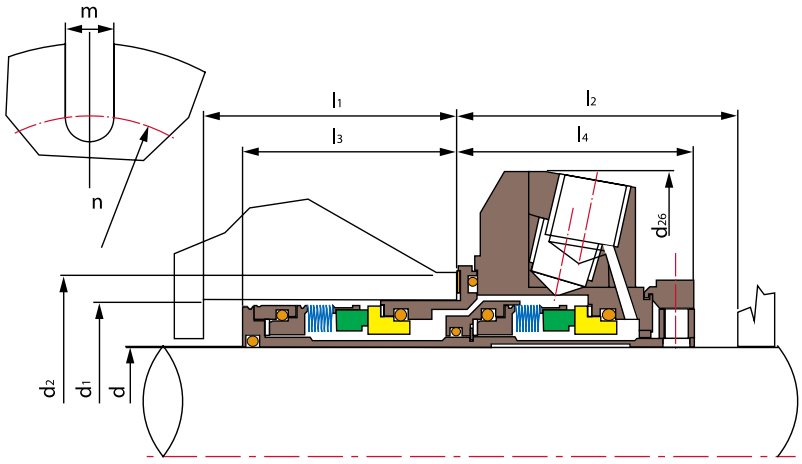
TSMB-FS08

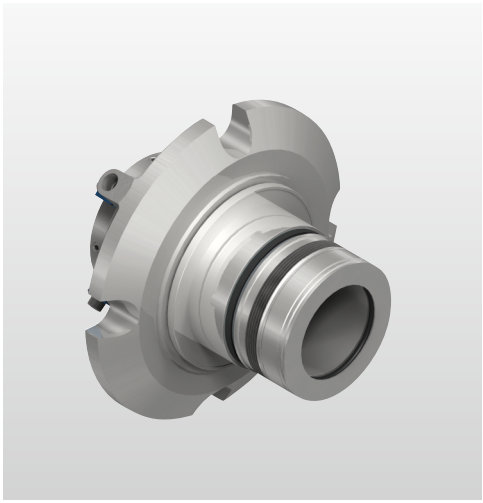
Operating Limits

Pressure: ≤2MPa
Speed: ≤23m/s
Temperature: -40˚C ~+220˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_1		d_2	d_3	l_3	l_1	l_4	l_2	n	m
	min	max				min				
1.000	1.625	1.875	2.115	3.69~3.75	0.212	0.274	1.913	1.975	2.750	0.440
1.125	1.750	2.000	2.240	3.69~3.75	0.212	0.274	1.913	1.975	2.875	0.440
1.250	1.890	2.245	2.495	4.19~4.25	0.212	0.274	1.913	1.975	3.125	0.562
1.375	2.000	2.375	2.615	3.94~4.00	0.212	0.264	1.913	1.975	3.250	0.440
1.437	2.250	2.688	2.775	4.72~4.78	0.222	0.284	1.973	2.035	3.750	0.560
1.500	2.250	2.525	2.775	4.69~4.75	0.202	0.264	1.973	2.035	3.750	0.560
1.625	2.375	2.780	3.030	4.69~4.75	0.202	0.264	1.973	2.035	3.750	0.560
1.750	2.500	2.875	3.150	4.94~5.00	0.202	0.264	1.973	2.035	3.875	0.560
1.875	2.625	2.875	3.150	4.94~5.00	0.202	0.264	1.973	2.035	3.875	0.560
1.937	2.690	2.920	\	\	0.207	0.269	1.973	2.035	\	\
2.000	2.750	3.030	3.280	5.00~5.12	0.202	0.264	1.973	2.035	1.120	0.688
2.125	2.875	3.125	3.430	5.94~6.00	0.202	0.264	1.973	2.035	4.250	0.750
2.250	3.000	3.280	\	\	0.206	0.268	1.973	2.035	\	\
2.375	3.125	3.687	3.975	6.32~6.38	0.202	0.264	1.973	2.035	4.875	0.750
2.437	3.375	3.450	\	6.32~6.38	0.233	0.295	1.942	2.004	4.875	0.750
2.500	3.375	3.687	3.975	6.32~6.38	0.202	0.264	1.973	2.035	4.875	0.750
2.625	3.625	4.312	4.615	7.19~7.25	0.204	0.266	2.726	2.788	5.625	0.880
2.750	3.750	4.312	4.615	7.19~7.25	0.204	0.266	2.726	2.788	5.625	0.880





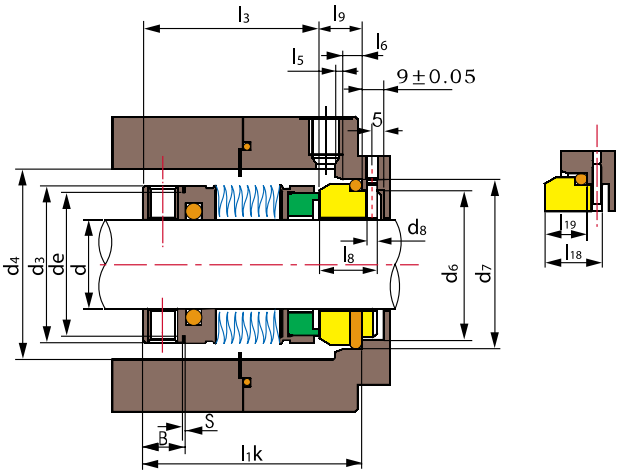
TSMB-FS09

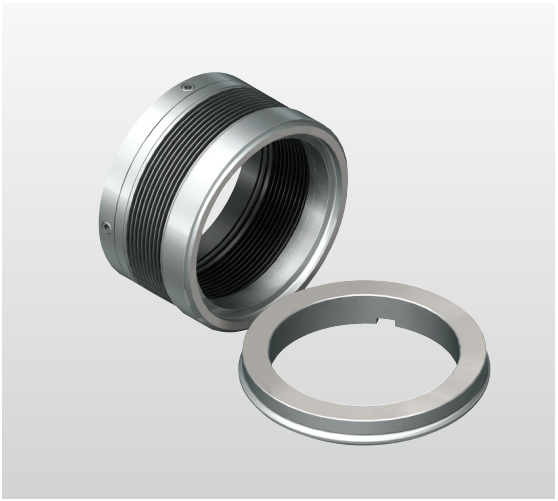
Operating Limits

Pressure: < 2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_1		d_2	d_{26}	l_3	l_1	l_4	l_2	n	m
	min	max								
1.000	1.625	1.875	2.115	3.69~3.75	1.838	1.900	2.062	2.124	2.750	0.440
1.125	1.750	2.000	2.240	3.69~3.75	1.838	1.900	2.062	2.124	2.875	0.440
1.250	1.890	2.245	2.495	4.19~4.25	1.838	1.900	2.062	2.124	3.125	0.562
1.375	2.000	2.375	2.615	3.94~4.00	1.838	1.900	2.062	2.124	3.250	0.440
1.437	2.250	2.688	2.775	4.72~4.78	1.903	1.965	2.122	2.184	3.750	0.560
1.500	2.250	2.525	2.775	4.69~4.75	1.903	1.965	2.122	2.184	3.750	0.560
1.625	2.375	2.780	3.030	4.69~4.75	1.903	1.965	2.122	2.184	3.750	0.560
1.750	2.500	2.875	3.150	4.94~5.00	1.903	1.965	2.122	2.184	3.875	0.560
1.875	2.625	2.875	3.150	4.94~5.00	1.903	1.965	2.122	2.184	3.875	0.560
1.937	2.690	2.920	\	\	1.903	1.965	2.122	2.184	\	\
2.000	2.750	3.030	3.280	5.00~5.12	1.903	1.965	2.122	2.184	4.120	0.688
2.125	2.875	3.125	3.430	5.94~6.00	1.903	1.965	2.122	2.184	4.250	0.750
2.250	3.000	3.280	\	\	1.903	1.965	2.122	2.184	\	\
2.375	3.125	3.687	3.975	6.32~6.38	1.903	1.965	2.122	2.184	4.875	0.750
2.437	3.375	3.450	\	6.32~6.38	1.934	1.996	2.091	2.153	4.875	0.750
2.500	3.375	3.687	3.975	6.32~6.38	1.903	1.965	2.122	2.184	4.875	0.750
2.625	3.625	4.312	4.615	7.19~7.25	2.429	2.491	2.906	2.968	5.625	0.880
2.750	3.750	4.312	4.615	7.19~7.25	2.429	2.491	2.906	2.968	5.625	0.880





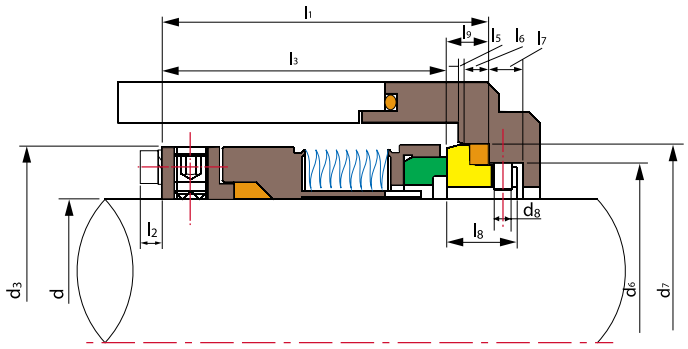
TSMB-B01

Operating Limits

Pressure: ≤2.5 MPa
Speed: ≤20m/s
Temperature: -40˚C ~+220˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	d_3	d_6	d_7	d_8	d_e	d_4	l_1k	l_3	l_5	l_6	l_8	l_9	l_{18}	l_{19}	S	B
16	30.0	23	27	3	25.0	38	42.5	32.5	1.5	4	17.5	10.0	\	\	1.6	9.0
18	32.0	27	33	3	28.0	39	37.5	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
20	33.5	29	35	3	29.5	41	37.5	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
22	36.5	31	37	3	32.0	44	37.5	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
24	39.0	33	39	3	34.5	47	40.0	28.5	2.0	5	19.5	11.5	15.0	7.0	1.6	8.2
25	39.6	34	40	3	35.5	48	40.0	28.5	2.0	5	19.5	11.5	15.0	7.0	1.6	8.5
28	42.8	37	43	3	38.5	51	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.0
30	45.0	39	45	3	40.5	53	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	8.5
32	46.0	42	48	3	42.0	55	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.2
33	48.0	42	48	3	43.0	56	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.2
35	49.2	44	50	3	45.5	58	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.5
38	52.3	49	56	4	48.0	61	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
40	55.5	51	58	4	50.0	64	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
43	57.5	54	61	4	53.0	67	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
45	58.7	56	63	4	55.0	69	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.5
48	61.9	59	66	4	58.0	72	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
50	65.0	62	70	4	60.5	74	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.5
53	68.2	65	73	4	64.0	77	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.5
55	70.0	67	75	4	65.5	80	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.0
58	71.7	70	78	4	67.0	83	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
60	74.6	72	80	4	69.5	85	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
63	79.0	75	83	4	72.5	88	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
65	84.1	77	85	4	78.0	95	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
68	87.3	81	90	4	82.0	96	52.5	34.5	2.5	7	26.0	18.0	18.5	11.0	1.6	10.0
70	87.3	83	92	4	81.0	96	60.0	42.0	2.5	7	26.0	18.0	19.0	11.5	3.0	17.0
75	95.0	88	97	4	87.0	104	60.0	42.0	2.5	7	26.0	18.0	19.0	11.5	3.0	16.0
80	98.4	95	105	4	91.0	109	60.0	41.8	3.0	7	26.2	18.2	18.2	11.5	3.0	16.0
85	104.7	100	110	4	96.0	114	60.0	41.8	3.0	7	26.2	18.2	18.2	11.5	3.0	16.0
90	111.0	105	115	4	103.0	119	65.0	46.8	3.0	7	26.2	18.2	18.2	13.0	3.0	21.0
95	114.0	110	120	4	106.0	124	65.0	47.8	3.0	7	25.2	17.2	20.5	13.0	3.0	21.0
100	117.4	115	125	4	111.0	129	65.0	47.8	3.0	7	25.2	17.2	20.5	13.0	3.0	20.0



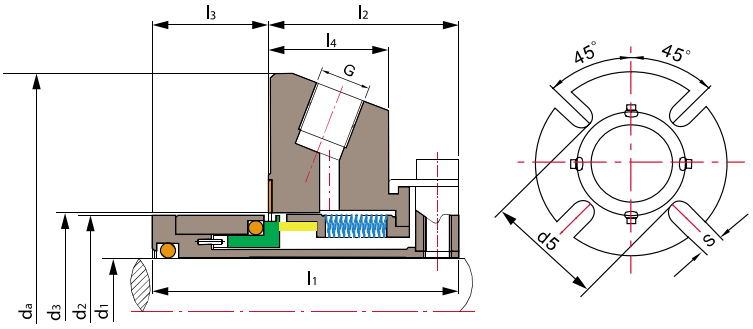
TSMB-B04

Operating Limits

Pressure: ≤2.5MPa
Speed: ≤20m/s
Temperature: -100˚C ~+400˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(Flexible Craphite)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	d_3	d_6	d_7	d_8	l_1	l_3	l_5	l_6	l_7	l_8	l_9	l_2
16	38	29.0	35.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
18	40	31.0	37.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
20	42	34.0	40.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
22	44	37.0	43.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
24	46	37.0	43.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
25	47	39.0	45.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
28	50	42.0	48.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
30	52	44.0	50.0	3	58.0	46.5	2.0	5	9	19.5	11.5	5
32	54	49.0	56.0	4	60.5	46.5	2.0	6	9	22.0	14.0	5
33	55	49.0	56.0	4	60.5	46.5	2.0	6	9	22.0	14.0	5
35	57	51.0	58.0	4	60.5	46.5	2.0	6	9	22.0	14.0	5
38	60	54.0	61.0	4	60.5	46.5	2.0	6	9	22.0	14.0	5
40	66	56.0	63.0	4	61.5	47.5	2.0	6	9	22.0	14.0	6
43	69	59.0	66.0	4	61.5	47.5	2.0	6	9	22.0	14.0	6
45	71	62.0	70.0	4	62.5	47.5	2.5	6	9	23.0	15.0	6
48	74	65.0	73.0	4	62.5	47.5	2.5	6	9	23.0	15.0	6
50	76	67.0	75.0	4	62.5	47.5	2.5	6	9	23.0	15.0	6
53	79	70.0	78.0	4	62.5	47.5	2.5	6	9	23.0	15.0	6
55	81	72.0	80.0	4	62.5	47.5	2.5	6	9	23.0	15.0	6
58	85	75.0	83.0	4	68.0	53.0	2.5	6	9	23.0	15.0	6
60	87	77.0	85.0	4	68.0	53.0	2.5	6	9	23.0	15.0	6
63	90	81.0	90.0	4	71.0	53.0	2.5	7	9	26.0	18.0	6
65	92	83.0	92.0	4	71.0	53.0	2.5	7	9	26.0	18.0	6
68	95	88.0	97.0	4	71.0	53.0	2.5	7	9	26.0	18.0	6
70	97	88.0	97.0	4	71.0	53.0	2.5	7	9	26.0	18.0	6
75	102	95.0	105.0	4	71.0	52.8	3.0	7	9	26.2	18.2	6
80	107	100.0	110.0	4	71.0	52.8	3.0	7	9	26.2	18.2	6
85	112	105.0	115.0	4	71.0	52.8	3.0	7	9	26.2	18.2	6
90	117	110.0	120.0	4	71.0	53.8	3.0	7	9	25.2	17.2	6
95	122	115.0	125.0	4	71.0	53.8	3.0	7	9	25.2	17.2	6
100	127	122.2	134.3	5	74.0	54.0	3.0	9	11	30.0	20.0	6



Replace Burgmann MTEX

TSMB-B07(TS 700)

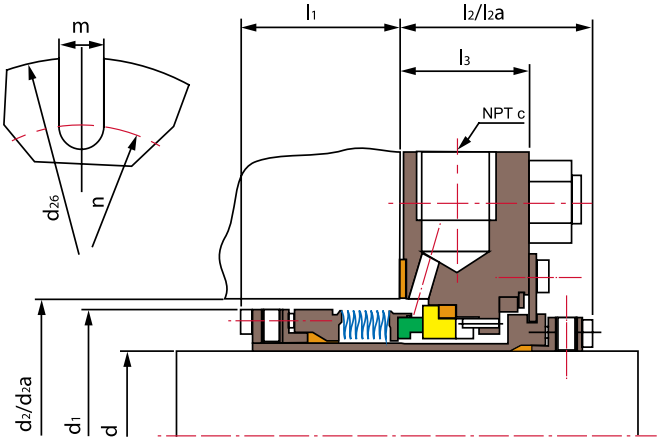
Operating Limits

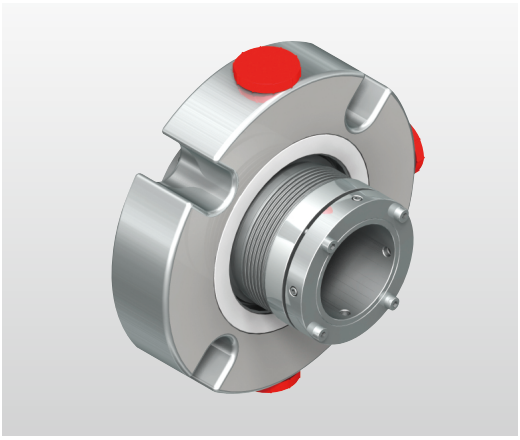
Pressure: ≤2MPa
Speed: ≤25m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(Carbon/SiC/TC)
- Secondary Seal(VITON/PTFE/Encapsulated Ring)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium)
- Other Parts(300 Series Stainless Steel)

Seal size d(mm)	d_1	d_2	d_3		d_a	l_1	l_2	l_3	l_4	S	G (Inches)	d_5
			min	max								
25	25	43.0	44.0	51.0	105	67	42.4	24.6	25.4	14	1/4"	62
28	28	46.0	47.0	52.0	105	67	42.4	24.6	25.4	14	1/4"	62
30	30	48.0	49.0	56.0	105	67	42.4	24.6	25.4	14	1/4"	65
32	32	49.8	51.0	57.0	110	67	42.4	24.6	25.4	14	1/4"	67
33	33	49.8	51.0	57.0	110	67	42.4	24.6	25.4	14	1/4"	67
35	35	53.0	54.0	61.5	113	67	42.4	24.6	25.4	14	1/4"	71
38	38	56.0	57.0	66.0	123	67	42.4	24.6	25.4	14	1/4"	76
40	40	58.0	59.0	68.0	123	67	42.4	24.6	25.4	16	3/8"	76
42	42	60.5	61.5	69.5	133	67	42.4	24.6	25.4	16	3/8"	80
43	43	60.5	61.5	70.5	133	67	42.4	24.6	25.4	16	3/8"	80
45	45	62.5	64.0	73.0	138	67	42.4	24.6	25.4	16	3/8"	83
48	48	65.6	67.0	75.0	138	67	42.4	24.6	25.4	16	3/8"	85
50	50	68.0	69.0	78.0	148	67	42.4	24.6	25.4	16	3/8"	88
53	53	72.0	73.0	83.0	148	67	42.4	24.6	25.4	18	3/8"	98
55	55	73.0	74.0	87.0	148	67	42.4	24.6	25.4	18	3/8"	97
60	60	78.0	79.0	91.0	157	67	42.4	24.6	25.4	18	3/8"	102
65	65	83.0	84.5	98.5	163	67	42.4	24.6	25.4	18	3/8"	109
70	70	93.0	95.0	108.0	178	67	42.4	24.6	25.4	18	3/8"	118
75	75	100.0	101.6	118.0	190	84	57.4	26.6	28.0	18	3/8"	129
80	80	106.4	108.0	124.0	195	84	57.4	26.6	28.0	18	3/8"	135
85	85	109.5	111.1	128.0	198	84	57.4	26.6	28.0	22	3/8"	139
90	90	115.9	117.5	135.0	205	84	57.4	26.6	28.0	22	3/8"	145
95	95	119.1	120.7	138.0	208	84	57.4	26.6	28.0	22	3/8"	148
100	100	125.4	127.0	144.0	218	84	57.4	26.6	28.0	22	3/8"	154

For detailed information,please contact us,We can also produce the special metal bellow cartridge seal according to customer's requirement.





TSMB-C02

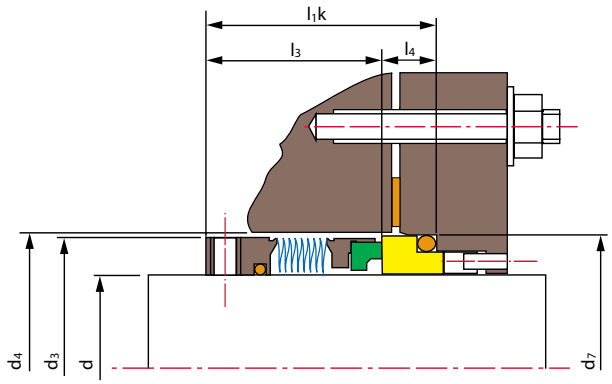
Operating Limits

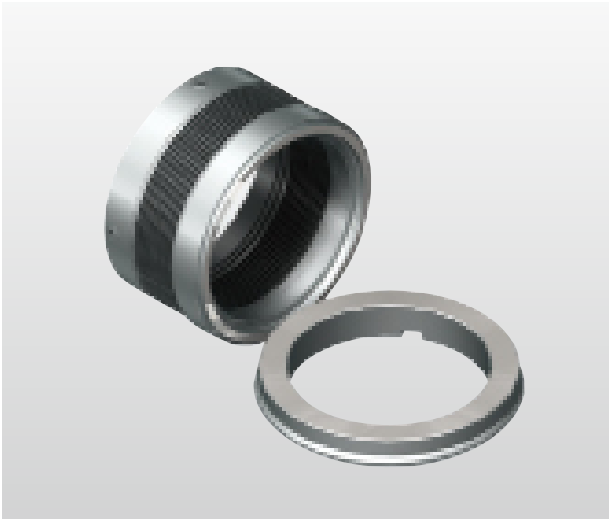
Pressure: ≤2MPa
Speed: ≤20m/s
Temperature: -73˚C～+427˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(Flexible Carbon)
- Metal Bellows(SUS316L/AM350/Inconel718 /Titanium/Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_{26}	d_2	d_{2a}	d_1	l_1	l_2	l_{2a}	n			m	l_3	c
	max	min	min	max	min	max	max	3/8"	1/2"	5/8"	max	max	
1.125	4.250	2.000	2.250	1.940	1.640	1.920	2.050	3.120	3.240	\	0.500	1.260	3/8
1.125	4.250	1.880	2.130	0.810	1.580	1.920	2.050	2.870	\	\	0.440	1.260	3/8
1.250	4.500	2.250	2.380	2.170	1.680	1.920	2.050	3.190	3.310	\	0.500	1.260	3/8
1.375	4.750	2.380	2.630	2.300	1.680	1.990	2.110	3.490	3.620	\	0.560	1.320	3/8
1.375	4.250	2.130	2.380	2.060	1.640	1.920	2.050	3.240	\	\	0.440	1.260	3/8
1.500	5.250	2.500	2.750	2.420	1.680	1.990	2.110	3.620	3.740	\	0.560	1.320	1/2
1.625	5.500	2.630	2.880	2.550	1.680	1.990	2.110	3.740	3.870	\	0.560	1.320	1/2
1.750	5.750	2.750	3.000	2.670	1.680	1.990	2.110	3.870	3.990	\	0.560	1.320	1/2
1.875	6.000	2.880	3.250	2.800	1.800	2.050	2.170	4.120	4.240	\	0.560	1.380	1/2
2.000	6.250	3.000	3.380	2.920	1.800	2.050	2.170	4.240	4.370	4.490	0.690	1.380	1/2
2.125	6.250	3.130	3.500	3.050	1.800	2.050	2.170	4.370	4.490	4.620	0.690	1.380	1/2
2.250	6.500	3.250	3.630	3.190	1.800	2.050	2.170	4.490	4.620	4.740	0.690	1.380	1/2
2.375	6.500	3.380	3.630	3.310	1.800	2.110	2.240	4.490	4.620	4.740	0.690	1.450	1/2
2.500	6.500	3.500	3.750	3.440	1.800	2.110	2.240	4.620	4.740	4.870	0.690	1.450	1/2
2.625	6.750	3.750	4.000	3.630	1.830	2.110	2.240	4.870	4.990	5.120	0.690	1.450	1/2

d (mm)	d_{26}	d_2	d_{2a}	d_1	l_1	l_2	l_{2a}	n			m	l_3	c
	max	min	min	max	min	max	max	10mm	12mm	16mm	max	max	
25	108	48	54	46	42	49	52	76	78	\	13	32	3/8
30	108	51	57	49	42	49	52	79	82	\	13	32	3/8
32	114	57	60	55	43	49	52	81	99	\	13	32	3/8
35	121	60	67	58	43	50	54	89	92	\	14	34	3/8
38	133	64	70	61	43	50	54	92	95	\	14	34	1/2
40	140	67	73	65	43	50	54	95	98	\	14	34	1/2
42	140	67	73	65	43	50	54	95	98	\	14	34	1/2
45	146	70	76	68	43	50	54	98	101	\	14	34	1/2
50	159	76	80	74	46	52	55	108	111	114	18	35	1/2
55	159	79	89	77	46	52	55	111	114	117	18	35	1/2
60	165	86	92	84	46	54	57	114	117	120	18	37	1/2
65	165	89	95	87	46	54	57	117	120	123	18	37	1/2





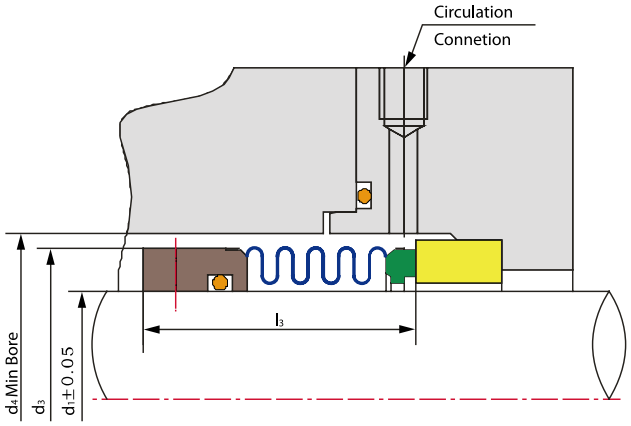
TSMB-A01

Operating Limits

Pressure: ≤2MPa
Speed: ≤20m/s
Temperature: -30˚C ~+204˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Metal Bellow(SUS316L/AM350/Inconel718/ Titanium/Hastelly-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	l_3	l_1k	l_4	d_7	d_3	d_4
24	29.9	40.0	10.1	39	38	40
25	29.9	40.0	10.1	40	39	41
28	32.4	42.5	10.1	43	42	44
30	32.4	42.5	10.1	45	44	46
32	32.4	42.5	10.1	48	46	48
33	32.4	42.5	10.1	48	47	49
35	32.4	42.5	10.1	50	49	51
38	33.9	45.0	11.1	56	54	58
40	33.9	45.0	11.1	58	56	60
43	33.9	45.0	11.1	61	59	63
45	33.9	45.0	11.1	63	61	65
48	33.9	45.0	11.1	66	64	68
50	34.4	47.5	13.1	70	66	70
53	34.4	47.5	13.1	73	69	73
55	34.4	47.5	13.1	75	71	75
58	38.9	52.5	13.6	78	78	83
60	38.9	52.5	13.6	80	80	85
63	38.9	52.5	13.6	83	83	88
65	38.9	52.5	13.6	85	85	90
68	37.4	52.5	15.1	90	88	93
70	44.9	60.0	15.1	92	90	95
75	44.9	60.0	15.1	97	99	104
80	44.2	60.0	15.8	105	104	109
85	44.2	60.0	15.8	110	109	114
90	49.2	65.0	15.8	115	114	119
95	49.2	65.0	15.8	120	119	124
100	49.2	65.0	15.8	125	124	129

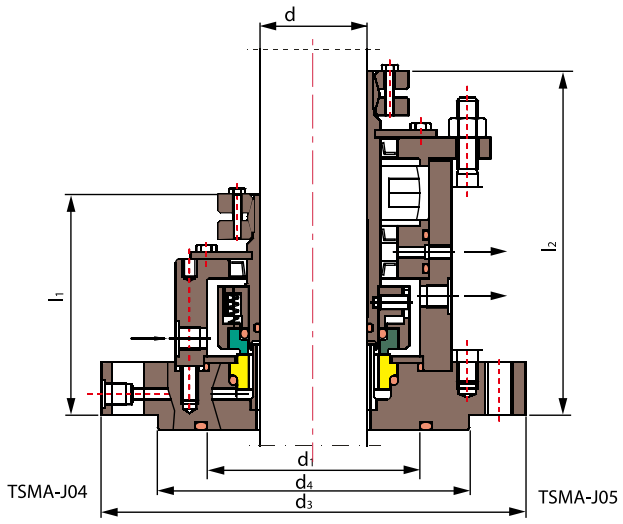


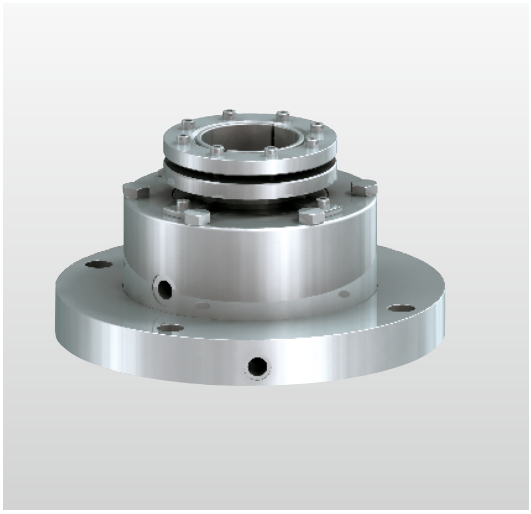
TSMB-PZ02

- Rotary Ring(Carbon/SiC/SSiC/TC)
- Stationary Ring(Carbon/SiC/SSiC)
- Expand Metal Bellows(SUS304/SUS316/AM350/ Inconel718/Titanium/ Hastelloy-C/Alloy-20)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

seal size (inches)	d_1	d_3	d_4	l_3
0.750	19.05	31.00	34.90	31.50
0.875	22.23	36.00	38.10	37.00
1.000	25.40	39.00	41.30	37.50
1.125	28.58	42.00	44.50	38.00
1.250	31.75	46.00	47.60	43.00
1.375	34.93	48.50	50.80	43.00
1.500	38.10	51.50	57.20	42.00
1.625	41.28	58.40	60.30	47.00
1.750	44.45	58.40	63.50	47.00
1.875	47.63	63.70	66.70	46.50
2.000	50.80	63.70	69.90	46.50
2.125	53.98	69.00	73.00	56.50
2.250	57.15	73.30	76.20	56.50
2.375	60.33	76.70	79.40	56.50
2.500	63.50	79.40	82.60	56.50
2.625	66.68	83.00	85.70	66.50
2.750	69.85	87.80	96.00	65.50
2.875	73.02	94.00	99.00	65.50
3.000	76.20	94.00	100.00	65.50
3.125	79.37	100.60	104.00	75.00
3.250	82.55	100.60	108.00	75.00
3.375	85.72	106.00	111.00	75.00
3.500	88.90	110.30	115.00	75.00
3.625	92.07	114.90	118.00	75.00
3.750	95.25	114.90	121.00	75.00
3.875	98.42	121.30	124.00	75.00
4.000	101.60	121.30	127.00	75.00

seal size (mm)	d_1	d_3	d_4	l_3
18	18	31.0	34	31.5
20	20	31.0	36	31.5
22	22	31.0	38	31.5
24	24	36.0	40	36.7
25	25	36.0	41	37.0
28	28	39.0	44	37.5
30	30	42.0	46	38.0
32	32	46.0	48	43.0
33	33	46.0	49	43.0
35	35	48.5	51	43.0
38	38	51.5	58	42.0
40	40	54.0	60	42.0
43	43	58.4	63	47.0
45	45	58.4	65	47.0
48	48	63.7	68	47.0
50	50	63.7	70	46.5
53	53	69.0	73	56.5
55	55	71.0	75	56.5
58	58	73.3	83	56.5
60	60	76.7	85	56.5
63	63	79.4	88	56.5
65	65	83.0	90	66.5
68	68	87.8	93	66.5
70	70	87.8	95	65.5
75	75	94.0	104	65.5
80	80	100.6	109	75.0
85	85	106.0	114	75.0
90	90	110.3	119	75.0
95	95	114.9	124	75.0
100	100	121.3	129	75.0





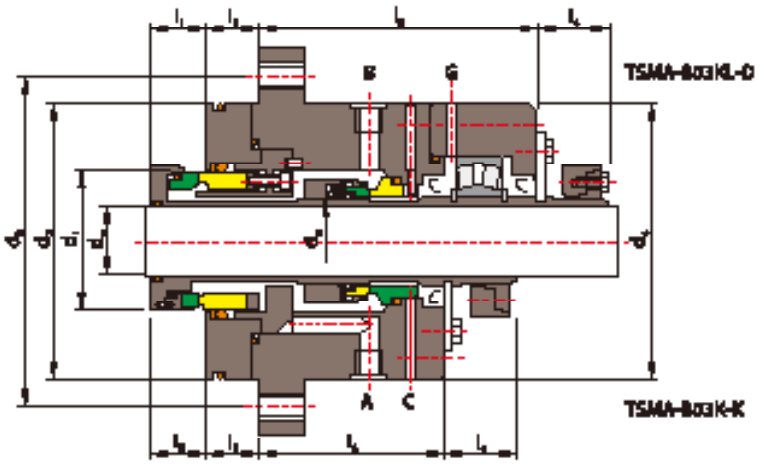
TSMA-J04 TSMA-J05

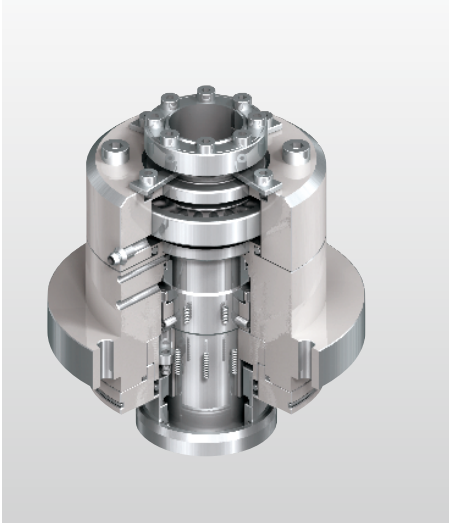
Operating Limits

Pressure: ≤0.6MPa
Speed: ≤1000rpm
Temperature: -60˚C ~+260˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/Ceramic/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	d_1	d_3	d_4	l_1	l_2
40	91	175	110	115	165
50	107	240	176	115	175
60	120	240	176	125	195
80	149	275	204	140	215
100	174	305	234	140	230
125	199	330	260	160	255
140	218	395	313	170	275
160	237	395	313	170	275
180	263	445	364	190	300
200	288	445	364	190	320
220	326	505	422	200	335





TSMA-B03

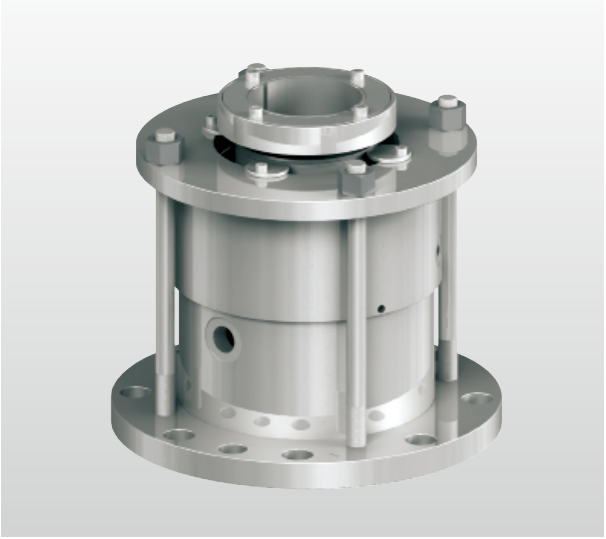
Operating Limits

Pressure: ≤1.4MPa/≤2.3MPa
Speed: ≤10m/s/≤20m/s
Temperature: -30˚C ~+200˚C /-20˚C ~+300˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring/KALREZ)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

dn (mm)	dw	d_1	d_2	d_3	d_4	l_1	l_2	l_3	l_4	l_5	l_6	A,B	C
30	20	52	117	140	118	35	30	114	30	22	75	G3/8	G1/8
35	25	58	124	150	128	35	30	127	30	22	85	G3/8	G1/8
40	30	62	134	165	138	35	30	129	30	24	87	G3/8	G1/8
45	35	68	140	175	148	35	30	130	30	24	87	G3/8	G1/8
50	40	75	145	175	148	35	30	133	34	26	90	G3/8	G1/8
55	45	82.7	150	175	148	35	30	135	34	26	90	G3/8	G1/8
60	50	85	160	185	158	41	30	150	34	30	105	G3/8	G1/8
65	50	90	170	195	168	41	30	160	34	30	105	G3/8	G1/8
70	55	95	175	205	178	41	30	160	34	30	105	G3/8	G1/8
75	60	100	180	205	178	41	30	160	34	30	105	G3/8	G1/8
80	65	110	190	220	188	41	40	190	44	30	105	G3/8	G1/8
85	70	115	195	230	198	41	40	190	44	30	105	G3/8	G1/8
90	75	120	200	230	198	41	40	190	44	30	105	G3/8	G1/8
95	80	127	205	235	203	41	40	190	44	30	105	G3/8	G1/8
100	80	130	210	240	208	41	40	190	44	30	105	G3/8	G1/8
105	85	135	215	250	218	41	40	190	44	30	105	G1/2	G1/4
110	90	140	230	260	228	41	40	190	44	31	110	G1/2	G1/4
115	95	145	235	270	238	41	40	190	44	31	110	G1/2	G1/4
120	100	150	240	270	238	42	40	200	50	31	120	G1/2	G1/4
130	110	160	255	290	258	42	40	200	50	31	120	G1/2	G1/4
140	120	172	265	305	268	43	50	220	50	41	130	G1/2	G1/4
150	130	185	275	315	278	43	50	220	50	41	130	G1/2	G1/4
160	140	195	290	335	298	43	50	220	50	41	130	G1/2	G1/4
170	150	205	300	335	323	47	50	220	50	45	130	G1/2	G1/4
180	160	220	330	355	358	47	50	250	50	45	140	G1/2	G1/4
190	170	230	345	375	358	47	50	250	55	45	140	G1/2	G1/4
200	180	240	365	395	378	47	50	250	55	45	140	G1/2	G1/4
210	190	260	385	415	378	50	50	250	55	45	140	G1/2	G1/4
220	190	270	395	425	388	50	50	250	55	45	140	G1/2	G1/4
230	200	280	395	425	388	50	50	300	55	45	160	G1/2	G1/4

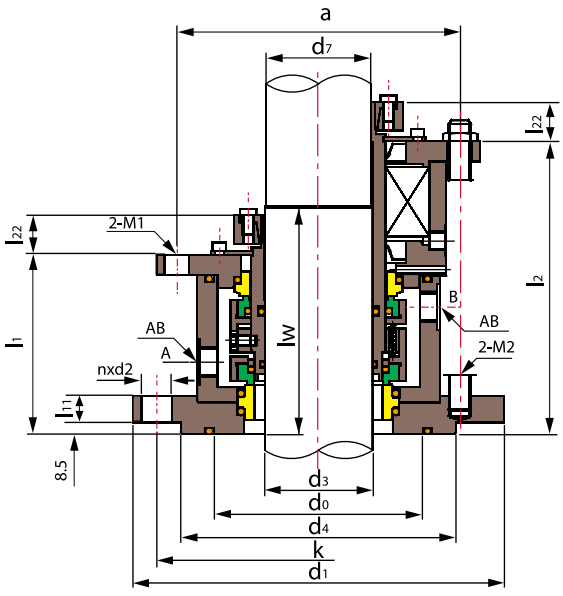
TSMA-B04



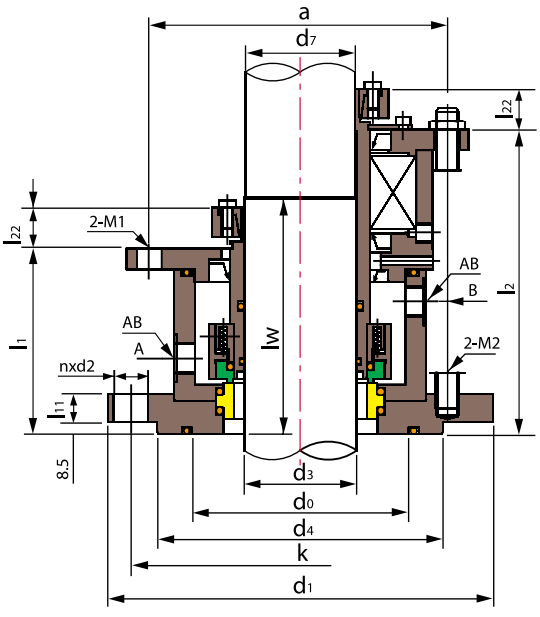
Operating Limits

Pressure: ≤0.6MPa/≤1.6MPa
Speed: ≤2m/s/≤5m/s
Temperature: -30˚C ~+200˚C /-80˚C ~+250˚C

ISO9001& TS16949



TS MA-B04K-D TS MA-B04KL-D



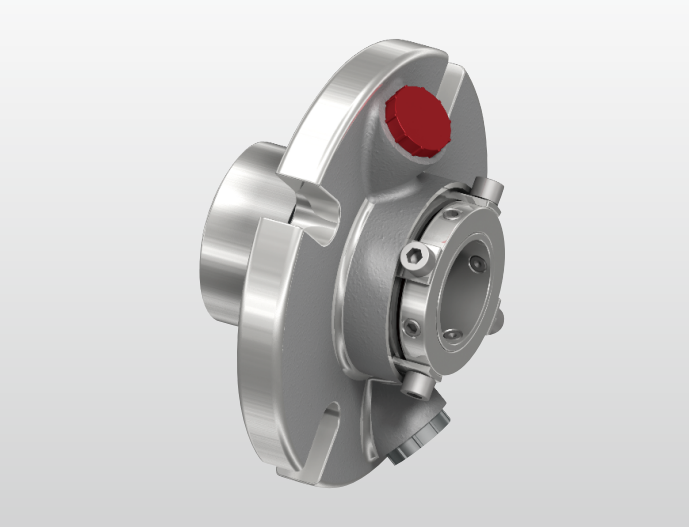
TS MA-B04K TS MA-B04KL

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC/Ceramic)
- Secondary Seal(VITON/Encapsulated Ring)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_3[1] (mm)	d_7[1]	d_1	n x d_2	d_4	d_0	k	l_1	l_2	l_w[2]	l_{11}	l_{22}	a	M_1	M_2	A,B
40	38	175	4x18	110	90	145	110.5	159.5	143	15	28	122	M12	M16	G3/8
50	48	240	8x18	176	135	210	114.5	174.5	148	17	28	157	M12	M16	G3/8
60	58	240	8x18	176	135	210	119.0	181.5	158	17	28	168	M12	M16	G3/8
80	78	275	8x22	204	155	240	133.0	217.5	168	20	34	203	M16	M20	G1/2
100	98	305	8x22	234	190	270	137.5	218.5	178	20	34	228	M16	M20	G1/2
125	120	330	8x22	260	215	295	138.5	233.5	203	20	40	268	M20	M20	G1/2
140	135	395	12x22	313	250	350	152.5	250.5	208	20	40	285	M20	M20	G1/2
160	150	395	12x22	313	265	350	161.0	253.0	213	25	40	297	M20	M20	G1/2
180	170	445	12x22	364	310	400	166.0	263.5	233	25	45	332	M24	M20	G1/2
200	190	445	12x22	364	310	400	171.0	271.0	243	25	45	352	M24	M20	G1/2
220	210	505	16x22	422	340	460	\	\	263	25	\	\	M24	M20	G1/2

1)shaft diameters D3 and D7 to DIN 28154
2)shaft step to DIN 28154

TSMA-A03

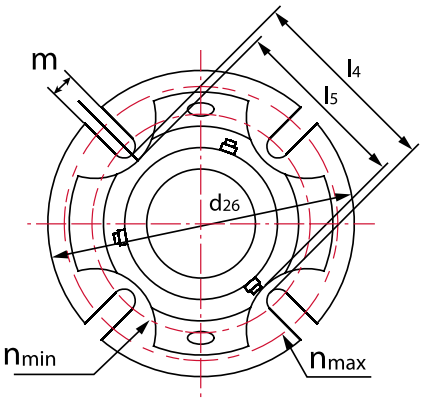


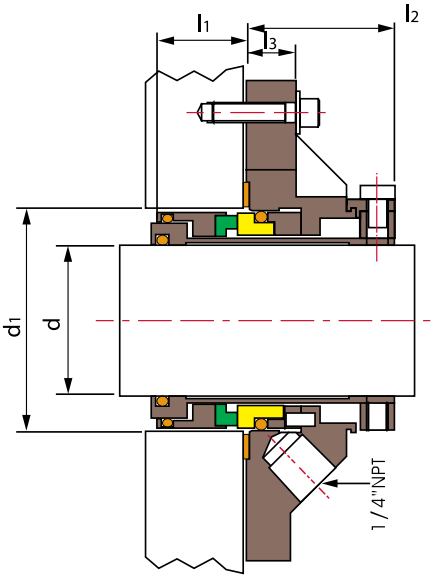
Operating Limits

Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -30˚C~+220˚C

d (inches)	d_{26}	l_4	l_5	l_3	d_1			n		m	l_1	l_2	K
					min	mint	max	min	max	max			max
1.000	4.125	2.125	1.937	0.519	1.625	1.665	1.937	2.687	3.562	1/2	1.125	1.590	0.040
1.125	4.250	2.250	2.063	0.519	1.750	1.790	2.062	2.812	3.687	1/2	1.125	1.590	0.040
1.250	4.375	2.375	2.187	0.519	1.875	1.915	2.187	2.937	3.812	1/2	1.125	1.590	0.040
1.375	4.375	2.500	2.312	0.519	2.000	2.040	2.250	3.062	3.812	1/2	1.125	1.590	0.040
1.500	5.000	2.812	2.562	0.644	2.250	2.290	2.375	3.375	4.437	1/2	1.125	1.752	0.040
1.625	5.000	2.812	2.562	0.644	2.375	2.415	2.500	3.375	4.437	1/2	1.125	1.752	0.040
1.750	5.500	3.187	2.812	0.644	2.500	2.540	2.750	3.750	4.937	1/2	1.125	1.752	0.040
1.875	5.500	3.187	2.812	0.644	2.625	2.665	2.875	3.750	4.937	1/2	1.125	1.752	0.040
2.000	6.000	3.562	3.063	0.644	2.750	2.790	3.000	4.125	5.437	1/2	1.125	1.752	0.040
2.000-AC	5.250	3.450	3.035	0.644	2.750	2.790	3.000	4.000	4.750	1/2	1.125	1.752	0.040
2.125	6.000	3.562	3.063	0.644	2.875	2.915	3.125	4.125	5.437	1/2	1.125	1.752	0.040
2.250	6.500	3.812	3.312	0.644	3.000	3.040	3.250	4.500	5.812	5/8	1.125	1.752	0.040
2.375	6.500	3.812	3.312	0.644	3.125	3.165	3.375	4.500	5.812	5/8	1.125	1.752	0.040
2.500	7.000	4.312	3.812	0.769	3.375	3.435	3.625	5.000	6.312	5/8	1.250	1.877	0.060
2.625	7.000	4.312	3.812	0.769	3.500	3.560	3.750	5.000	6.312	5/8	1.250	1.877	0.060
2.750	7.000	4.312	3.812	0.769	3.625	3.685	3.875	5.000	6.312	5/8	1.250	1.877	0.060
2.875	7.500	4.937	4.250	0.769	3.750	3.810	4.125	5.625	6.812	5/8	1.250	1.877	0.060
3.000	7.500	4.937	4.250	0.769	3.875	3.935	4.250	5.625	6.812	5/8	1.250	1.877	0.060
3.125	7.500	4.937	4.250	0.769	4.000	4.060	4.375	5.625	6.812	5/8	1.250	1.877	0.060
3.250	8.000	5.312	4.625	0.769	4.125	4.185	4.500	6.125	7.187	3/4	1.250	1.877	0.060
3.375	8.000	5.312	4.625	0.769	4.250	4.310	4.625	6.125	7.187	3/4	1.250	1.877	0.060
3.500	8.000	5.312	4.625	0.769	4.375	4.435	4.750	6.125	7.187	3/4	1.250	1.877	0.060
3.625	8.500	5.937	5.000	0.769	4.500	4.560	5.000	6.750	7.687	3/4	1.250	1.877	0.060
3.750	8.500	5.937	5.000	0.769	4.625	4.685	5.125	6.750	7.687	3/4	1.250	1.877	0.060
3.875	8.500	5.937	5.000	0.769	4.750	4.810	5.250	6.750	7.687	3/4	1.250	1.877	0.060
4.000	9.000	6.625	5.375	0.769	4.875	4.935	5.500	7.437	8.187	3/4	1.250	1.877	0.060
4.125	9.000	6.625	5.375	0.769	5.125	5.185	5.875	7.437	8.187	3/4	1.250	1.877	0.060
4.250	9.000	6.625	5.375	0.769	5.125	5.185	5.875	7.437	8.187	3/4	1.250	1.877	0.060
4.375	9.500	7.000	5.750	0.769	5.375	5.435	6.250	7.812	8.687	3/4	1.250	1.877	0.060
4.500	9.500	7.000	5.750	0.769	5.375	5.435	6.250	7.812	8.687	3/4	1.250	1.877	0.060
4.625	10.000	7.345	6.125	0.769	5.625	5.685	6.625	8.312	9.062	7/8	1.250	1.877	0.060
4.750	10.000	7.345	6.125	0.769	5.625	5.685	6.625	8.312	9.062	7/8	1.250	1.877	0.060
4.875	10.000	7.345	6.125	0.769	5.875	5.935	6.625	8.312	9.062	7/8	1.250	1.877	0.060
5.000	10.000	7.345	6.125	0.769	5.875	5.935	6.625	8.312	9.062	7/8	1.250	1.877	0.060

TSMA-A03

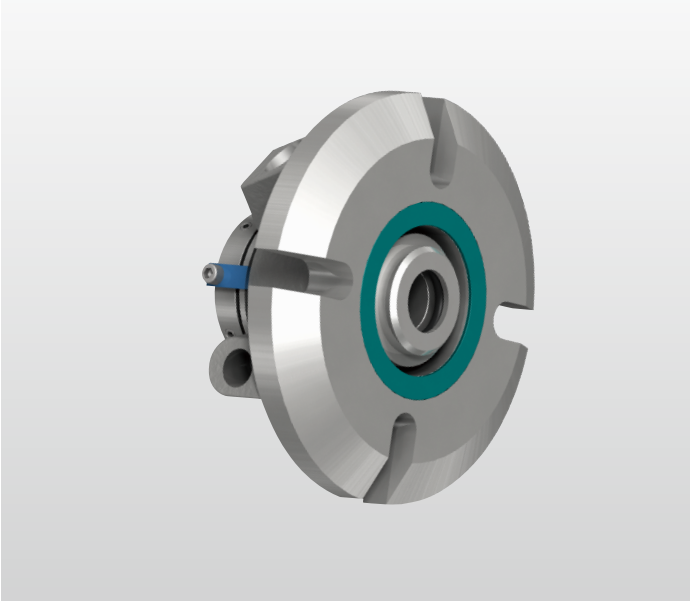




- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	d_{26}	l_4	l_5	l_3	d_1			n		l_1	l_2	K
					min	mint	max	min	max			max
24	104.8	54.0	49.2	13.2	40.0	41.0	46.0	67.0	90.5	28.6	40.5	1.0
25	104.8	54.0	49.2	13.2	41.0	42.0	49.0	67.0	90.5	28.6	40.5	1.0
28	108.0	57.2	52.4	13.2	44.0	45.0	52.3	70.3	93.6	28.6	40.5	1.0
30	111.0	60.4	55.6	13.2	46.0	47.0	55.5	73.5	96.8	28.6	40.5	1.0
32	111.0	60.4	55.6	13.2	48.0	49.0	55.5	73.5	96.8	28.6	40.5	1.0
33	111.0	60.4	55.6	13.2	49.0	50.0	55.5	73.5	96.8	28.6	40.5	1.0
35	111.0	63.5	58.8	13.2	51.0	52.0	57.5	76.6	96.8	28.6	40.5	1.0
38	127.0	71.5	65.0	16.4	57.2	58.2	60.4	85.7	114.3	28.6	44.5	1.0
40	127.0	71.5	65.0	16.4	58.0	59.0	60.4	85.7	114.3	28.6	44.5	1.0
43	139.7	81.0	71.4	16.4	61.0	62.0	69.9	95.3	127.0	28.6	44.5	1.0
45	139.7	81.0	71.4	16.4	63.5	64.5	69.9	95.3	127.0	28.6	44.5	1.0
48	139.7	81.0	71.4	16.4	66.7	67.7	73.0	95.3	127.0	28.6	44.5	1.0
50	152.4	90.5	77.8	16.4	68.0	69.0	76.2	104.8	139.7	28.6	44.5	1.0
53	152.4	90.5	77.8	16.4	71.0	72.0	76.2	104.8	139.7	28.6	44.5	1.0
55	165.1	96.8	84.1	16.4	74.0	75.0	82.5	114.3	149.2	28.6	44.5	1.0
58	165.1	96.8	84.1	16.4	76.2	77.2	82.5	114.3	149.2	28.6	44.5	1.0
60	165.1	96.8	84.1	16.4	79.4	80.4	85.7	114.3	149.2	28.6	44.5	1.0
63	177.8	109.5	96.8	19.6	85.8	87.3	92.1	127.0	160.3	31.8	47.7	1.5
65	177.8	109.5	96.8	19.6	88.9	90.4	95.3	127.0	160.3	31.8	47.7	1.5
68	177.8	109.5	96.8	19.6	92.1	93.6	98.4	127.0	160.3	31.8	47.7	1.5
70	177.8	109.5	96.8	19.6	92.1	93.6	98.4	127.0	160.3	31.8	47.7	1.5
75	190.5	125.4	108.0	19.6	98.5	100.0	108.0	142.9	173.0	31.8	47.7	1.5
80	190.5	125.4	108.0	19.6	101.6	103.1	111.1	142.9	173.0	31.8	47.7	1.5
85	203.2	135.0	117.5	19.6	108.0	109.5	117.5	155.6	182.5	31.8	47.7	1.5
90	215.9	150.8	127.0	19.6	114.3	115.8	127.0	171.5	195.2	31.8	47.7	1.5
95	215.9	150.8	127.0	19.6	117.5	119.0	130.2	171.5	195.2	31.8	47.7	1.5
100	228.6	168.3	136.5	19.6	123.9	125.4	139.7	188.9	208.0	31.8	47.7	1.5
105	228.6	168.3	136.5	19.6	130.1	131.6	149.2	188.9	208.0	31.8	47.7	1.5
110	241.3	177.8	146.1	19.6	136.5	138.0	158.8	198.4	220.6	31.8	47.7	1.5
115	254.0	186.6	155.8	19.6	142.9	144.4	168.3	211.1	230.2	31.8	47.7	1.5
120	254.0	186.6	155.8	19.6	142.9	144.4	168.3	211.1	230.2	31.8	47.7	1.5
125	254.0	186.6	155.8	19.6	149.2	150.7	168.3	211.1	230.2	31.8	47.7	1.5

TSSC-J01



Operating Limits

Pressure: <2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)

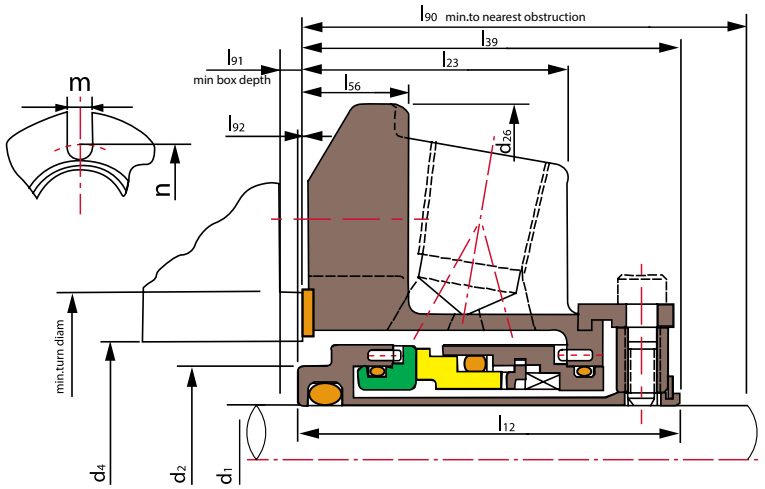
Speed: ≤25m/s

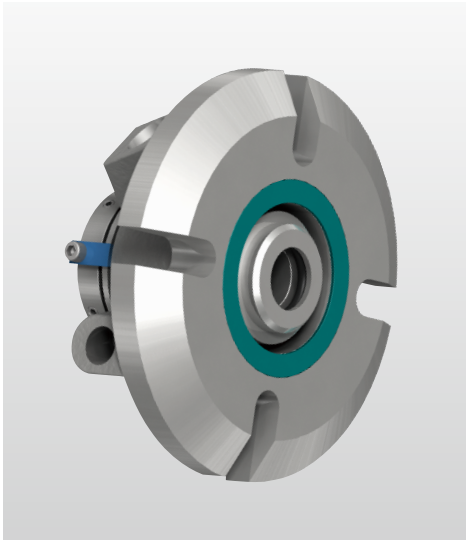
Temperature: -30˚C ~+205˚C

d_1 (mm)	d_2	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
25	34.9	36.7	48.0	101.6	50.5	34.4	49.6	13.5	50.8	4.0	0.9	13.3	71.2
28	38.1	\	51.2	104.8	52.4	36.7	52.4	13.5	54.0	3.2	\	13.3	74.5
30	40.0	\	56.5	108.0	52.4	36.7	52.4	13.5	54.0	3.2	\	13.3	79.9
32	41.3	\	58.3	108.0	52.4	36.7	52.4	13.5	54.0	3.2	\	13.3	81.6
33	44.5	\	61.5	111.1	52.4	36.7	52.4	13.5	54.0	3.2	\	13.3	84.8
35	44.5	\	61.5	111.1	52.4	36.7	52.4	13.5	54.0	3.2	\	13.3	84.8
38	49.2	51.0	68.1	123.8	54.8	37.8	54.0	15.1	55.5	4.0	0.8	13.3	91.4
40	52.4	54.2	71.4	127.0	54.8	37.8	54.0	15.1	55.5	4.0	0.8	14.3	95.7
43	55.1	56.9	74.1	133.4	54.8	37.8	54.0	15.1	55.5	4.0	0.8	14.3	98.4
45	55.1	56.9	74.1	133.4	54.8	37.8	54.0	15.1	55.5	4.0	0.8	14.3	98.4
48	58.7	60.5	74.1	133.4	54.8	37.8	54.0	15.1	55.5	4.0	0.8	14.3	98.4
50	61.9	63.7	76.6	139.7	60.3	40.7	58.7	27.0	60.3	4.7	1.6	14.3	101.6
53	65.1	66.9	85.3	148.8	60.3	40.7	58.7	15.1	60.3	4.7	1.6	17.4	113.5
55	66.7	75.0	85.3	148.8	60.3	40.7	58.7	15.1	60.3	4.7	1.6	17.4	113.5
58	68.2	70.0	88.5	165.1	60.3	40.7	58.7	15.1	60.3	4.7	1.6	17.4	116.0
60	71.4	73.2	91.7	165.1	63.1	43.6	62.6	15.9	64.2	3.6	1.6	17.4	119.9
63	77.8	\	98.8	171.5	63.1	43.6	65.1	15.9	66.7	3.2	0.5	17.4	127.0
65	77.8	\	98.8	171.5	63.1	43.6	65.1	15.9	66.7	3.2	\	17.4	127.0
68	84.1	\	103.2	171.5	63.5	41.3	63.5	15.9	65.1	3.2	\	17.4	131.3
70	84.1	\	103.2	171.5	63.5	41.3	63.5	15.9	65.1	3.2	\	17.4	131.3
75	92.1	\	113.5	196.9	63.5	45.4	65.1	17.4	66.7	3.2	1.36	20.6	145.3
80	95.3	97.9	116.8	196.9	65.1	40.5	63.8	\	66.9	4.5	\	20.6	148.4
85	101.6	104.8	123.2	206.4	65.1	40.5	65.1	\	68.3	3.2	\	20.1	154.8
90	107.1	110.3	129.5	212.7	65.1	40.5	65.1	\	68.3	3.2	\	17.4	158.8
95	110.3	113.5	132.1	222.3	65.1	40.5	65.1	\	68.3	3.2	\	17.4	172.0
100	116.7	119.8	139.7	228.6	65.1	40.5	65.1	\	68.3	3.2	\	20.6	171.7
105	119.8	123.0	142.9	228.6	65.1	40.5	65.1	\	68.3	3.2	\	20.6	174.9
110	129.4	132.5	152.4	241.3	65.1	40.5	65.1	\	68.3	3.2	\	20.6	184.4
115	129.4	132.5	152.4	241.3	65.1	40.5	65.1	\	68.3	3.2	\	20.6	184.4
120	135.7	138.9	160.4	263.5	65.1	40.5	65.1	\	68.3	3.2	\	20.6	192.4
125	148.4	151.6	184.4	304.8	75.0	44.4	77.3	\	80.5	3.2	\	20.6	254.0
130	154.8	157.9	190.8	311.2	75.0	44.4	77.3	\	80.5	3.2	\	20.6	260.4
135	161.1	164.3	203.2	322.3	75.0	44.4	77.3	\	80.5	3.2	\	23.8	266.7
140	161.1	164.3	203.2	322.3	75.0	44.4	77.3	\	80.5	3.2	\	23.8	266.7

TSSC-J01

ISO9001& TS16949

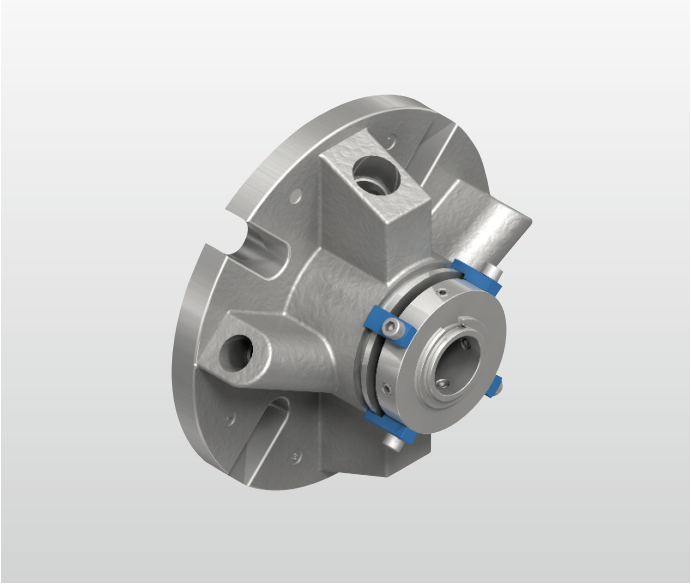




- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (inches)	d_2	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
1.000	1.375	1.445	1.889	4.000	1.989	1.353	1.954	0.531	2.000	0.160	0.035	0.525	2.805
1.125	1.500	*	2.015	4.125	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	2.933
1.250	1.625	*	2.294	4.250	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	3.213
1.375	1.750	*	2.421	4.375	2.062	1.446	2.062	0.531	2.125	0.125	*	0.525	3.338
1.500	1.937	2.007	2.680	4.875	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.525	3.599
1.625	2.062	2.132	2.812	5.000	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.766
1.750	2.170	2.240	2.918	5.250	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.875
1.875	2.312	2.382	2.918	5.250	2.156	1.487	2.125	0.593	2.187	0.156	0.031	0.562	3.875
2.000	2.437	2.507	3.015	5.500	2.375	1.601	2.312	1.063	2.375	0.187	0.062	0.562	4.000
2.125	2.562	2.632	3.360	5.859	2.375	1.601	2.312	0.593	2.375	0.187	0.062	0.687	4.469
2.250	2.687	2.757	3.485	6.500	2.375	1.601	2.312	0.593	2.375	0.187	0.062	0.687	4.566
2.375	2.812	2.882	3.610	6.500	2.484	1.717	2.466	0.625	2.528	0.143	0.018	0.687	4.719
2.500	3.062	*	3.891	6.750	2.484	1.717	2.562	0.625	2.625	0.125	*	0.687	5.000
2.625	3.312	*	4.062	6.750	2.500	1.625	2.500	0.625	2.562	0.125	*	0.687	5.170
2.750	3.312	*	4.062	6.750	2.500	1.625	2.500	0.625	2.562	0.125	*	0.687	5.170
2.875	3.375	*	4.186	7.000	2.500	1.725	2.500	0.625	2.562	0.125	*	0.687	5.312
3.000	3.625	*	4.469	7.750	2.500	1.787	2.562	0.685	2.625	0.125	*	0.812	5.720
3.125	3.750	3.853	4.600	7.875	2.562	1.593	2.562	**	2.687	0.125	*	0.812	5.845
3.250	3.750	3.853	4.600	7.437	2.562	1.593	2.510	**	2.635	0.177	0.052	0.812	5.845
3.375	4.000	4.125	4.850	8.125	2.562	1.593	2.562	**	2.687	0.125	*	0.812	6.095
3.500	4.125	4.250	4.975	8.250	2.562	1.593	2.562	**	2.687	0.125	*	0.812	6.220
3.625	4.218	4.343	5.100	8.375	2.562	1.593	2.562	**	2.687	0.125	*	0.687	6.250
3.750	4.343	4.468	5.199	8.750	2.562	1.593	2.562	**	2.687	0.125	*	0.687	6.770
3.875	4.468	4.593	5.375	8.750	2.562	1.593	2.562	**	2.687	0.125	*	0.812	6.636
4.000	4.593	4.718	5.500	9.000	2.562	1.593	2.562	**	2.687	0.125	*	0.812	6.761
4.125	4.718	4.843	5.625	9.000	2.562	1.593	2.562	**	2.687	0.125	*	0.812	6.886
4.250	4.843	4.968	5.750	9.250	2.562	1.593	2.562	**	2.687	0.125	*	0.812	7.011
4.500	5.093	5.218	6.000	9.500	2.562	1.593	2.562	**	2.687	0.125	*	0.812	7.261
4.750	5.343	5.468	6.313	10.375	2.562	1.593	2.562	**	2.687	0.125	*	0.812	7.574
5.000	5.843	5.968	7.260	12.000	2.953	1.749	3.043	**	3.168	0.125	*	0.812	10.000
5.250	6.093	6.218	7.510	12.250	2.953	1.749	3.043	**	3.168	0.125	*	0.812	10.250
5.500	6.343	6.468	8.000	12.687	2.953	1.749	3.043	**	3.168	0.125	*	0.937	10.500

TSSC-J02

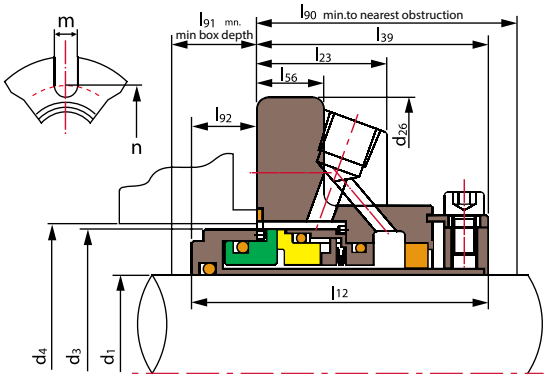


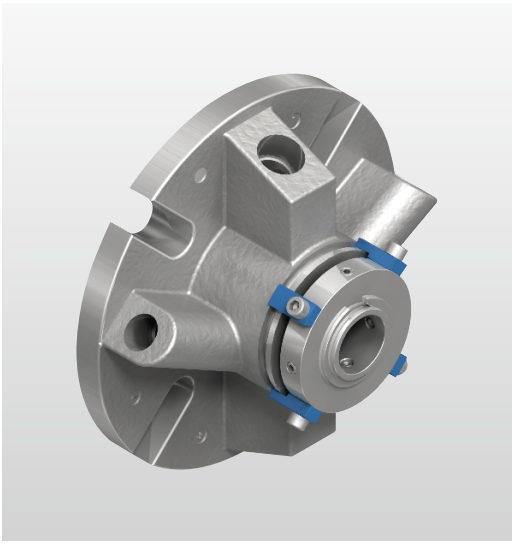
Operating Limits

Pressure: <2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

d_1 (mm)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
24	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
25	39.7	41.3	48.0	101.6	65.4	34.4	49.6	13.5	50.8	18.9	15.8	13.3	71.2
28	42.9	44.5	51.2	104.8	67.3	36.7	52.4	13.5	54.0	18.1	15.0	13.3	74.5
30	44.5	46.1	56.5	108.0	65.1	36.7	52.4	13.5	54.0	15.9	12.7	13.3	79.9
32	46.0	47.6	58.3	108.0	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	81.6
33	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.8
35	49.3	50.8	61.5	111.1	69.3	36.7	52.4	13.5	54.0	20.1	16.9	13.3	84.8
38	55.5	57.2	68.1	123.8	69.7	37.8	54.0	15.1	55.5	18.9	15.7	13.3	91.4
40	58.7	60.3	71.4	127.0	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	95.7
43	61.1	63.0	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
45	61.1	63.0	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
48	64.7	66.7	74.1	133.4	69.7	37.8	54.0	15.1	55.5	18.9	15.7	14.3	98.4
50	67.9	70.0	76.6	139.7	75.3	40.7	58.7	27.0	60.3	19.7	16.5	14.3	101.6
53	71.1	73.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.5
55	72.9	75.0	85.3	148.8	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	113.5
58	74.2	76.2	88.5	165.1	75.3	40.7	58.7	15.1	60.3	19.7	16.5	17.4	116.0
60	77.4	79.4	91.7	165.1	77.8	43.6	62.6	15.9	64.2	18.3	15.2	17.4	119.9
63	83.8	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
65	83.8	85.7	98.8	171.5	75.7	43.6	65.1	15.9	66.7	13.8	10.6	17.4	127.0
68	90.2	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	17.4	131.3
70	90.2	92.1	103.2	171.5	78.4	41.3	63.5	15.9	65.1	18.1	14.9	20.6	131.3
75	98.1	99.9	113.5	196.9	78.4	45.4	65.1	17.4	66.7	16.5	13.4	20.6	145.3
80	102.2	104.8	116.8	189.0	80.2	40.5	63.8	\	66.9	18.0	14.8	20.6	148.5
85	107.9	111.1	123.2	206.4	80.2	40.5	65.1	\	68.3	18.3	15.1	17.4	154.8
90	114.3	117.5	129.5	212.7	80.2	40.5	65.1	\	68.3	18.3	15.1	17.4	158.8
95	117.5	120.0	132.1	222.3	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	172.0
100	123.8	127.0	139.7	228.6	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	171.7
105	127.0	130.2	142.9	228.6	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	174.9
110	136.5	139.7	152.4	241.3	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	184.4
115	136.5	139.7	152.4	241.3	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	184.4
120	142.9	146.1	160.4	263.5	80.2	40.5	65.1	\	68.3	18.3	15.1	20.6	192.4
125	155.6	158.8	184.4	304.8	91.7	91.4	77.3	\	80.5	17.6	14.4	20.6	254.0
130	161.9	165.1	190.8	311.2	91.7	91.4	77.3	\	80.5	17.6	14.4	20.6	260.4
135	168.3	171.5	203.2	322.3	91.7	91.4	77.3	\	80.5	17.6	14.4	23.8	266.7
140	168.3	171.5	203.2	322.3	91.7	91.4	77.3	\	80.5	17.6	14.4	23.8	266.7

TSSC-J02

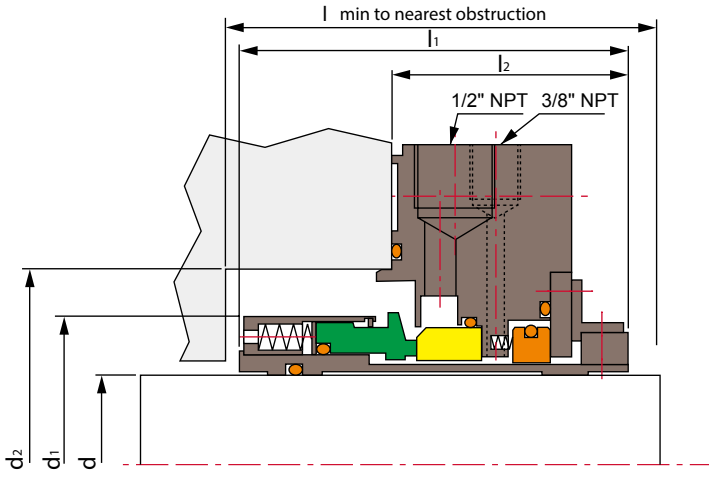


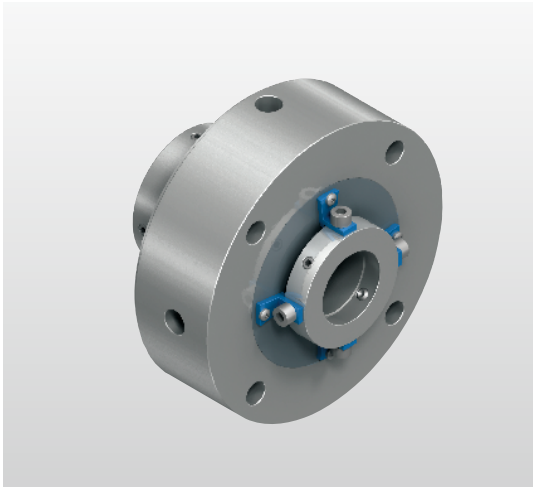


ISO9001& TS16949

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (inches)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
1.000	1.564	1.625	1.889	4.000	2.575	1.353	1.954	0.531	2.000	0.746	0.621	0.525	2.805
1.125	1.689	1.750	2.015	4.125	2.651	1.446	2.062	0.531	2.125	0.714	0.589	0.525	2.933
1.250	1.812	1.875	2.294	4.250	2.728	1.446	2.062	0.531	2.125	0.791	0.666	0.525	3.213
1.375	1.939	2.000	2.421	4.375	2.728	1.446	2.062	0.531	2.125	0.791	0.666	0.525	3.338
1.500	2.187	2.250	2.680	4.875	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.525	3.599
1.625	2.312	2.375	2.812	5.000	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.766
1.750	2.406	2.480	2.918	5.250	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.875
1.875	2.549	2.625	2.918	5.250	2.744	1.487	2.125	0.593	2.187	0.744	0.619	0.562	3.875
2.000	2.673	2.750	3.015	5.500	2.963	1.601	2.312	1.032	2.375	0.775	0.650	0.562	4.000
2.125	2.798	2.875	3.360	5.859	2.963	1.601	2.313	0.593	2.375	0.775	0.650	0.687	4.469
2.250	2.923	3.000	3.485	6.500	2.963	1.601	2.313	0.593	2.375	0.775	0.650	0.687	4.566
2.375	3.048	3.125	3.610	6.500	3.063	1.717	2.466	0.625	2.528	0.722	0.597	0.687	4.719
2.500	3.301	3.375	3.891	6.750	2.980	1.717	2.563	0.625	2.625	0.542	0.417	0.687	5.000
2.625	3.551	3.625	4.062	6.750	3.088	1.625	2.500	0.625	2.562	0.713	0.588	0.687	5.170
2.750	3.551	3.625	4.062	6.750	3.088	1.625	2.500	0.625	2.562	0.713	0.588	0.687	5.170
2.875	3.614	3.687	4.186	7.000	3.088	1.725	2.500	0.625	2.562	0.713	0.588	0.687	5.312
3.000	3.864	3.934	4.469	7.750	3.088	1.787	2.562	0.685	2.625	0.651	0.526	0.812	5.720
3.125	4.022	4.125	4.600	7.875	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	5.845
3.250	4.022	4.125	4.600	7.437	3.093	1.593	2.510	*	2.635	0.708	0.583	0.812	5.845
3.375	4.246	4.375	4.850	8.125	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	6.095
3.500	4.371	4.500	4.975	8.250	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	6.220
3.625	4.500	4.625	5.100	8.375	3.156	1.593	2.562	*	2.687	0.719	0.594	0.687	6.250
3.750	4.625	4.724	5.199	8.750	3.156	1.593	2.562	*	2.687	0.719	0.594	0.687	6.770
3.875	4.750	4.875	5.375	8.750	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	6.636
4.000	4.875	5.000	5.500	9.000	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	6.761
4.125	5.000	5.125	5.625	9.000	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	6.886
4.250	5.125	5.250	5.750	9.250	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	7.011
4.500	5.375	5.500	6.000	9.500	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	7.261
4.750	5.625	5.750	6.313	10.375	3.156	1.593	2.562	*	2.687	0.719	0.594	0.812	7.574
5.000	6.125	6.250	7.260	12.000	3.609	1.749	3.043	*	3.168	0.691	0.566	0.812	10.000
5.250	6.375	6.500	7.510	12.250	3.609	1.749	3.043	*	3.168	0.691	0.566	0.812	10.250
5.500	6.625	6.750	8.000	12.687	3.609	1.749	3.043	*	3.168	0.691	0.566	0.937	10.500





TSSC-J08

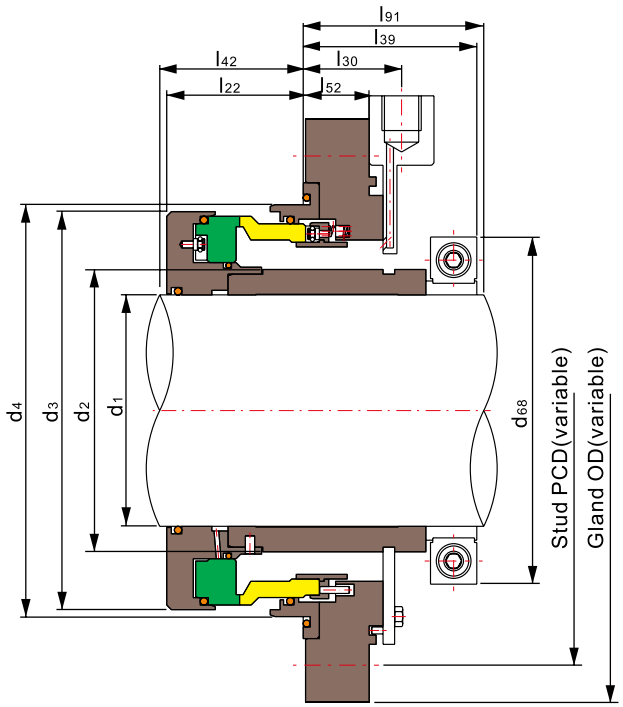
Operating Limits

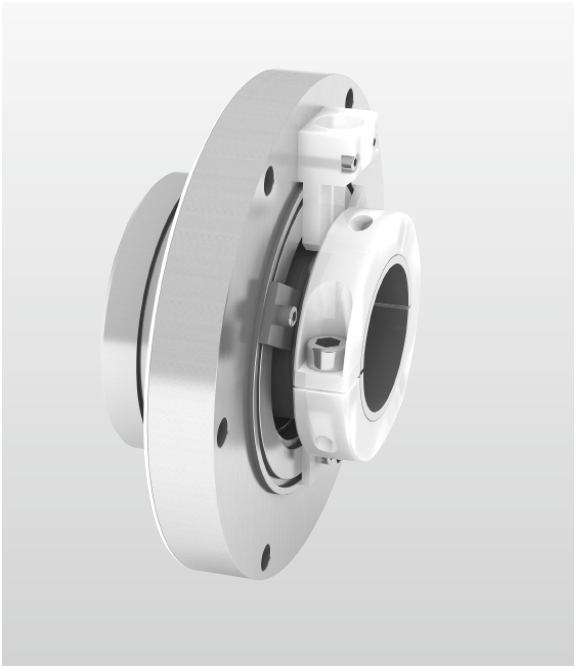
Pressure: ≤6.9MPa
Speed: ≤25m/s
Temperature: -40˚C ~+260˚C

Rotary Ring(SiC/Carbon/TC)
Stationary Ring(SiC/TC)
Secondary Seal(Encapsulated Ring/EPDM)
Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d(inches)	d_1	d_2	l_1	l_2	l
1.000	2.125	2.500	3.812	2.562	5.750
1.125	2.375	2.750	4.125	2.562	5.750
1.250	2.500	2.875	4.125	2.562	5.750
1.375	2.625	3.000	4.125	2.562	5.750
1.500	2.750	3.125	4.125	2.562	5.750
1.625	3.000	3.375	4.437	2.562	5.750
1.750	3.125	3.500	4.437	2.562	5.750
1.875	3.250	3.625	4.437	2.562	5.750
2.000	3.375	3.750	4.437	2.562	6.500
2.125	3.500	3.875	4.437	2.562	6.500
2.250	3.625	4.000	4.437	2.625	6.500
2.375	3.750	4.125	4.500	2.625	6.500
2.500	3.812	4.187	4.500	2.625	6.500
2.625	3.937	4.312	4.500	2.625	6.500
2.750	4.125	4.500	4.500	2.781	6.500
2.875	4.250	4.625	4.656	2.781	6.500
3.000	4.375	4.750	4.656	2.781	6.500
3.125	4.500	4.875	4.656	2.781	7.000
3.250	4.625	5.000	4.656	2.781	7.000
3.375	4.750	5.125	4.656	2.781	7.000
3.500	4.875	5.250	4.656	2.781	7.000
3.625	5.125	5.500	4.656	2.781	7.000
3.750	5.250	5.625	4.656	2.781	7.000
3.875	5.375	5.750	4.656	2.781	7.000
4.000	5.500	5.875	4.656	2.781	7.000
4.125	5.625	6.000	4.656	2.781	7.000
4.250	5.750	6.125	4.656	2.781	7.000

ISO9001& TS16949





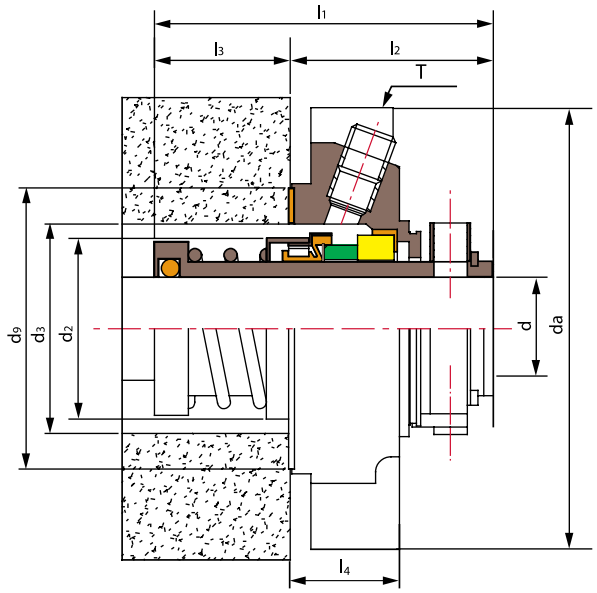
TSSC-J09

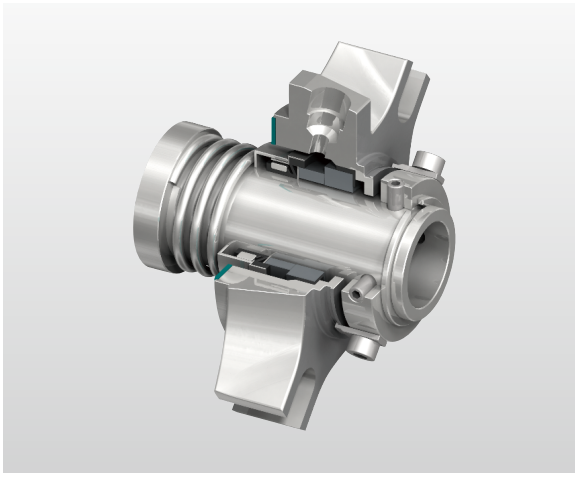
Operating Limits

Pressure: ≤3MPa
Speed: ≤20m/s
Temperature: -80˚C ~+200˚C (water quench)

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC)
- Secondary Seal(VITON/AFLAS/Kalrez)
- Other Parts(C-276/Duplex/316)

d_1 (mm)	d_2	d_3	d_4	d_{68}	l_{22}	l_{30}	l_{39}	l_{42}	l_{52}	l_{91}
30	35	67	73	73	32.5	34	54.5	35.5	20	57.5
41.3	47	85	91	89	32.5	37	60.5	35.5	23	63.5
48	54	90	96	93	34.5	40	63.5	37.5	26	66.5
55	62	100	106	104	34.5	40	63.5	37.5	26	66.5
70	78	119	125	121	40.5	40	63.5	43.5	26	66.5
76.2	85	130	136	135	47.5	41	66.5	50.5	27	69.5
86	96	138.5	144.5	141	45.5	41	66.5	48.5	27	69.5
92	102	148	154	147	45.5	41	66.5	48.5	27	69.5
112	122	172	178	186	59	42.5	75	62	28.5	78
124	134	187	193	195	59	42.5	75	62	28.5	78
140	152	205	211	215	59	42.5	75	62	28.5	78
158	170	225	231	235	60.5	46	78.5	63.5	32	81.5
165.1	178	240	246	245	60	46.5	79	63	32.5	82
194	208	266	272	280	60	46.5	79	63	32.5	82
200	215	275	281	285	67.4	49.5	82	70.4	35.5	85
220	234	288	294	295	69.3	49.5	82	72.3	35.5	85





TSSC-B02

Operating Limits

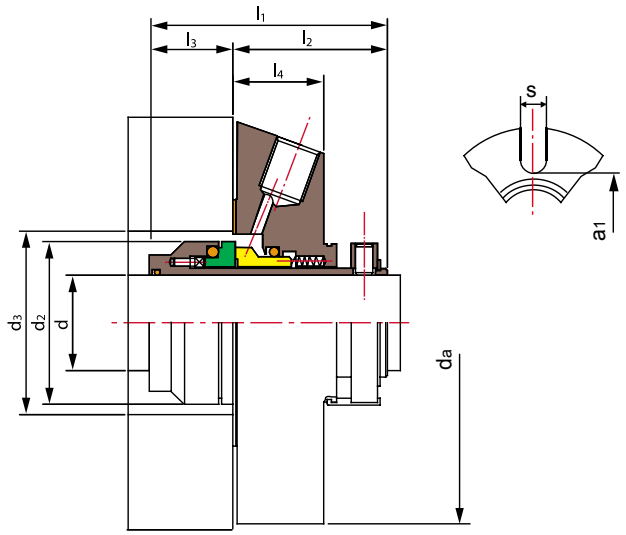
Pressure: ≤1.2MPa
Speed: ≤10m/s
Temperature: -20˚C ~+90˚C

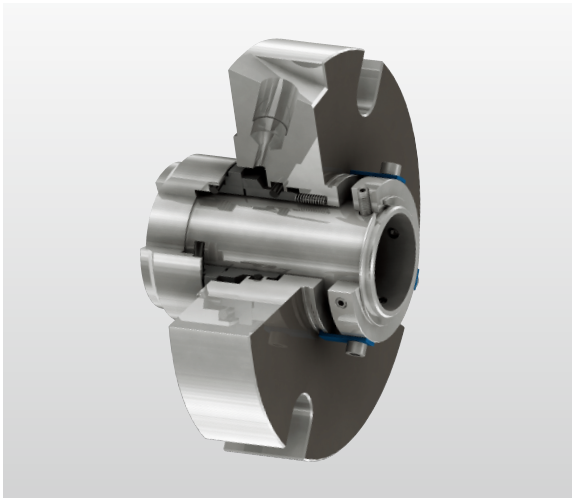
- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/Ceramic/TC/)
- Secondary Seal(VITON/Encapsulated Ring/ NBR/EPDM)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_2	d_3		d_9	d_a	l_1	l_2	l_3	l_4	T
		min	max							
1.000	1.512	1.634	2.000	2.362	4.134	2.579	1.614	0.965	0.906	1/4NPT
1.125	1.669	1.750	2.050	2.362	4.134	2.677	1.634	1.043	0.906	1/4NPT
1.250	1.772	1.890	2.250	2.559	4.331	2.736	1.654	1.083	0.906	1/4NPT
1.375	1.933	2.000	2.420	2.677	4.213	2.854	1.732	1.122	1.024	1/4NPT
1.500	2.020	2.146	2.625	2.874	4.843	2.854	1.732	1.122	1.024	1/4NPT
1.750	2.354	2.480	2.812	3.110	5.118	3.012	1.752	1.260	1.024	1/4NPT
1.875	2.433	2.559	2.940	3.228	5.118	3.071	1.772	1.299	1.024	1/4NPT
2.000	2.551	2.677	3.190	3.346	5.827	3.169	1.850	1.319	1.102	3/8NPT
2.125	2.795	2.875	3.437	3.740	5.512	3.287	1.850	1.437	1.102	3/8NPT
2.250	2.874	2.992	3.560	3.780	6.181	3.287	1.850	1.437	1.102	3/8NPT
2.375	3.012	3.110	3.590	3.937	6.181	3.366	1.850	1.516	1.102	3/8NPT
2.500	3.209	3.287	3.800	4.173	6.693	3.465	1.909	1.555	1.102	3/8NPT
2.625	3.268	3.374	3.937	4.252	6.378	3.465	1.909	1.555	1.102	3/8NPT

d (mm)	d_2	d_3		d_9	d_a	l_1	l_2	l_3	l_4	T
		min	max							
25	38.4	41.5	51.0	60	105	65.5	41.0	24.5	23	1/4NPT
28	42.4	44.5	52.0	60	105	68.0	41.5	26.5	23	1/4NPT
30	42.4	45.5	56.0	63	105	68.0	41.5	26.5	23	1/4NPT
33	45.0	48.0	57.0	65	110	69.5	42.0	27.5	23	1/4NPT
35	49.1	50.8	61.5	68	107	72.5	44.0	28.5	26	1/4NPT
38	51.3	54.5	66.0	73	123	72.5	44.0	28.5	26	1/4NPT
40	54.3	57.5	68.0	75	123	75.5	44.5	31.0	26	1/4NPT
43	56.3	59.5	70.5	78	133	76.5	44.5	32.0	26	1/4NPT
45	59.8	63.0	73.0	79	130	76.5	44.5	32.0	26	1/4NPT
48	61.8	65.0	75.0	82	130	78.0	45.0	33.0	26	1/4NPT
50	64.8	68.0	78.0	85	148	80.5	47.0	33.5	28	3/8NPT
53	66.8	70.0	87.0	95	148	81.5	47.0	34.5	28	3/8NPT
55	71.0	73.0	83.0	90	148	83.5	47.0	36.5	28	3/8NPT
60	76.5	79.0	91.0	100	157	85.5	47.0	38.5	28	3/8NPT
65	83.0	85.7	98.5	108	162	88.0	48.5	39.5	28	3/8NPT
70	88.0	94.0	108.0	116	178	92.0	48.5	43.5	28	3/8NPT
75	93.4	98.4	118.0	125	190	93.5	49.0	44.5	28	3/8NPT

ISO9001& TS16949





TSSC-B03

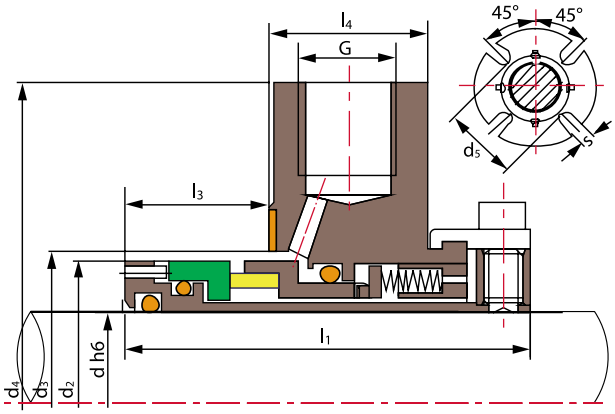
Operating Limits

Pressure: ≤2.5MPa
Speed: ≤16m/s
Temperature: -40˚C ~+220˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC/Carbon)
- Secondary Seal(VITON/Encapsulated Ring/ NBR/EPDM)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_2	d_3		l_1	l_2	l_3	l_4	d_a	a_1	s
		min	max							
1.000	1.693	1.750	2.000	2.640	1.669	0.969	1.000	4.134	2.440	0.520
1.125	1.811	1.875	2.050	2.640	1.669	0.969	1.000	4.134	2.440	0.520
1.250	1.960	2.000	2.250	2.640	1.669	0.969	1.000	4.330	2.640	0.520
1.375	2.086	2.125	2.420	2.640	1.669	0.969	1.000	4.449	2.750	0.520
1.500	2.200	2.250	2.625	2.640	1.669	0.969	1.000	4.842	2.950	0.520
1.625	2.340	2.375	2.700	2.640	1.669	0.969	1.000	4.842	3.030	0.599
1.750	2.460	2.500	2.812	2.640	1.669	0.969	1.000	5.433	3.190	0.599
1.875	2.582	2.625	2.940	2.640	1.669	0.969	1.000	5.433	3.190	0.599
2.000	2.677	2.750	3.190	2.640	1.669	0.969	1.000	5.827	3.430	0.599
2.125	2.834	2.875	3.437	2.640	1.669	0.969	1.000	5.827	3.820	0.709
2.250	2.960	3.000	3.560	2.640	1.669	0.969	1.000	6.181	3.940	0.709
2.375	3.070	3.125	3.590	2.640	1.669	0.969	1.000	6.181	4.020	0.709
2.500	3.212	3.250	3.800	2.640	1.669	0.969	1.000	6.417	4.170	0.709
2.625	3.338	3.375	3.937	2.640	1.669	0.969	1.000	6.417	4.290	0.709
2.750	3.660	3.750	4.250	2.640	1.669	0.969	1.000	7.008	4.650	0.709
2.875	3.811	3.875	4.567	3.307	2.260	1.047	1.000	7.480	5.079	0.709
3.000	3.937	4.000	4.646	3.307	2.260	1.047	1.102	7.480	5.079	0.709
3.125	4.063	4.125	4.764	3.307	2.260	1.047	1.102	7.677	5.315	0.709
3.250	4.189	4.250	4.882	3.307	2.260	1.047	1.102	7.677	5.315	0.709
3.375	4.311	4.374	5.039	3.307	2.260	1.047	1.102	7.795	5.472	0.866
3.500	4.437	4.500	5.157	3.307	2.260	1.047	1.102	7.795	5.591	0.866
3.625	4.563	4.625	5.315	3.307	2.260	1.047	1.102	8.071	5.709	0.866
3.750	4.689	4.750	4.433	3.307	2.260	1.047	1.102	8.189	5.827	0.866
4.000	4.937	5.000	5.669	3.307	2.260	1.047	1.102	8.583	6.063	0.866

d (mm)	d_2	d_3		l_1	l_2	l_3	l_4	d_a	a_1	s
		min	max							
25	43.0	44.0	51.5	67	42.4	24.6	25.4	105	62	13.2
28	46.0	47.0	52.0	67	42.4	24.6	25.4	105	62	13.2
30	48.0	49.0	56.0	67	42.4	24.6	25.4	105	65	13.2
32	49.8	51.0	57.0	67	42.4	24.6	25.4	110	67	13.2
33	49.8	51.0	57.0	67	42.4	24.6	25.4	110	67	13.2
35	53.0	54.0	61.5	67	42.4	24.6	25.4	113	70	13.2
38	56.0	57.0	66.0	67	42.4	24.6	25.4	123	75	13.2
40	58.0	59.0	68.0	67	42.4	24.6	25.4	123	75	14.2
42	60.5	61.5	69.0	67	42.4	24.6	25.4	133	80	14.2
43	60.5	61.5	70.5	67	42.4	24.6	25.4	133	80	14.2
45	62.5	64.0	73.0	67	42.4	24.6	25.4	138	81	14.2
48	65.6	67.0	75.0	67	42.4	24.6	25.4	138	84	14.2
50	68.0	69.0	78.0	67	42.4	24.6	25.4	148	87	14.2
53	72.0	73.0	87.0	67	42.4	24.6	25.4	148	97	18
55	73.0	74.0	83.0	67	42.4	24.6	25.4	148	90	18
60	78.0	79.0	91.0	67	42.4	24.6	25.4	157	102	18
65	84.8	85.7	98.5	67	42.4	24.6	25.4	163	109	18
70	93.0	95.0	108.0	67	42.4	24.6	25.4	178	118	18
75	100.0	101.6	118.0	84	57.4	26.6	28.0	190	129	18
80	106.4	108.0	124.0	84	57.4	26.6	28.0	195	135	18
85	109.5	111.1	128.0	84	57.4	26.6	28.0	198	139	22
90	115.9	117.5	135.0	84	57.4	26.6	28.0	205	145	22
95	119.1	120.7	138.0	84	57.4	26.6	28.0	208	148	22
100	125.4	127.0	144.0	84	57.4	26.6	28.0	218	154	22



Cartex-SE
Replace Burgmann Cartex-SE

TSSC-B04(TS K1)

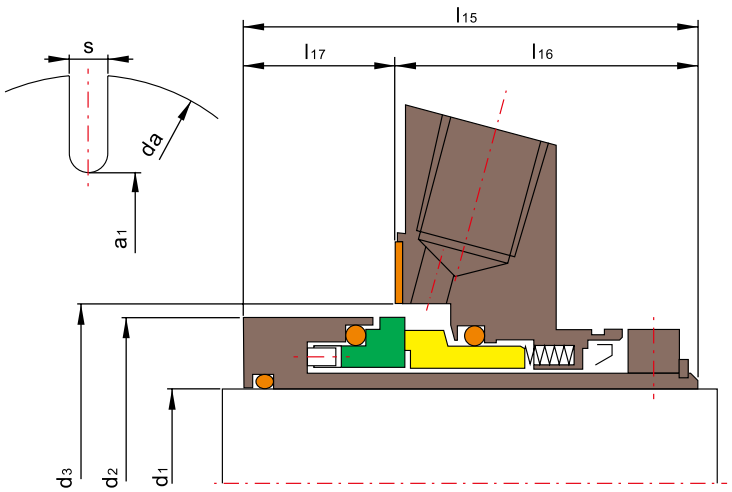
Operating Limits

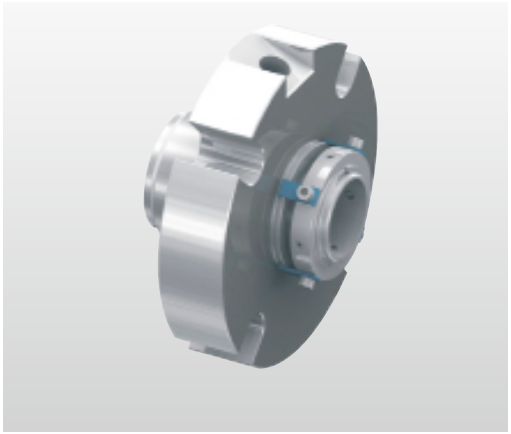
Pressure: ≤2.5MPa
Speed: ≤16m/s
Temperature: -40˚C ~+220˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC/Carbon)
- Secondary Seal(VITON/Encapsulated Ring/ NBR/EPDM)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

Seal size d(mm)	d_2	d_3		d_4	l_1	l_3	l_4	d_5	S	G (Inches)
		min	max							
25	43.0	44.0	51.0	105	67	24.6	25.4	62	14	1/4"
28	46.0	47.0	52.0	105	67	24.6	25.4	62	14	1/4"
30	48.0	49.0	56.0	105	67	24.6	25.4	65	14	1/4"
33	50.0	51.0	57.0	110	67	24.6	25.4	67	14	1/4"
35	53.0	54.0	61.0	113	67	24.6	25.4	70	14	1/4"
38	56.0	57.0	66.0	123	67	24.6	25.4	75	14	3/8"
40	58.0	59.0	68.0	123	67	24.6	25.4	75	16	3/8"
43	60.0	61.5	70.5	133	67	24.6	25.4	80	16	3/8"
45	62.5	64.0	73.0	138	67	24.6	25.4	81	16	3/8"
48	65.5	67.0	75.0	138	67	24.6	25.4	84	16	3/8"
50	68.0	69.0	78.0	148	67	24.6	25.4	87	16	3/8"
55	73.0	74.0	83.0	148	67	24.6	25.4	90	18	3/8"
60	78.0	79.0	91.0	157	67	24.6	25.4	102	18	3/8"
65	83.0	84.5	98.5	163	67	24.6	25.4	109	18	3/8"
70	93.0	95.0	108 .0	178	67	24.6	25.4	118	18	3/8"
75	100.0	101.6	118 .0	190	84	26.6	28.0	129	18	3/8"
80	106.4	108.0	124 .0	195	84	26.6	28.0	135	18	3/8"
85	109.5	111.1	128 .0	198	84	26.6	28.0	139	22	3/8"
90	115.9	117.5	135.0	205	84	26.6	28.0	145	22	3/8"
95	119.1	120.7	138.0	208	84	26.6	28.0	148	22	3/8"
100	125.4	127.0	144.0	218	84	26.6	28.0	154	22	3/8"

For detailed information,please contact us,We can also produce the special Single cartridge seal according to customer's requirement.





TSSC-B05

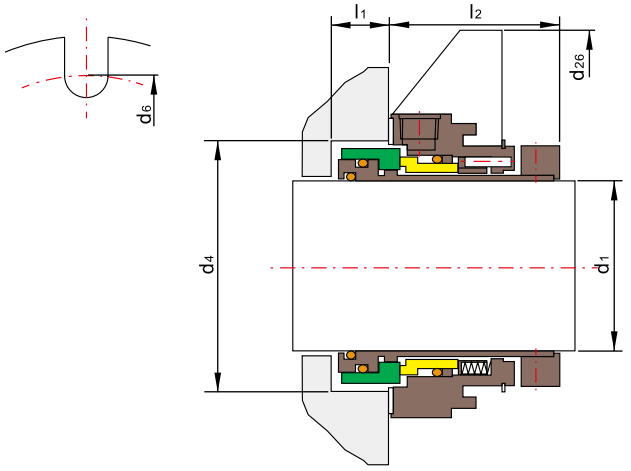
Operating Limits

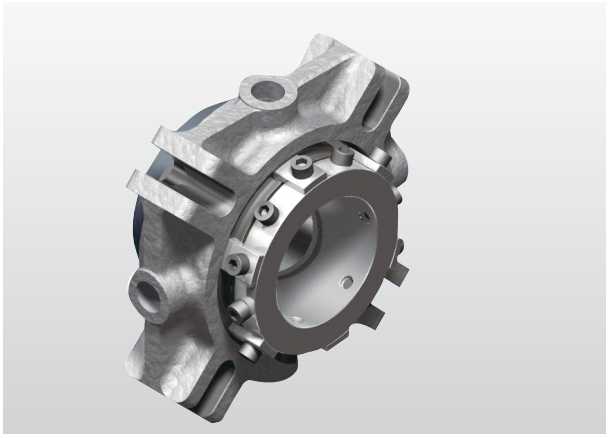
Pressure: ≤2.5MPa
Speed: ≤16m/s
Temperature: -40˚C ~220˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC/Carbon)
- Secondary Seal(VITON/AFLAS/Kalrez)
- Other Parts(C-276/Duplex/316)

d_1 (mm)	d_2	d_3 min	d_3 max	l_{15}	l_{16}	l_{17}	a_1	d_a	s
25.0	43.0	44.0	51.5	79.5	53.4	26.1	62.0	105.0	13.2
28.0	46.0	47.0	52.0	79.5	53.4	26.1	62.0	105.0	13.2
30.0	48.0	49.0	56.0	79.5	53.4	26.1	65.0	105.0	13.2
32.0	49.8	51.0	57.0	79.5	53.4	26.1	67.0	108.0	13.2
33.0	49.8	51.0	57.0	79.5	53.4	26.1	67.0	108.0	13.2
35.0	53.0	54.0	61.5	79.5	53.4	26.1	70.0	113.0	13.2
38.0	56.0	57.0	66.0	79.5	53.4	26.1	75.0	123.0	13.2
40.0	58.0	59.0	68.0	79.5	53.4	26.1	75.0	123.0	14.2
42.0	60.5	61.5	69.5	79.5	53.4	26.1	80.0	133.0	14.2
43.0	60.5	61.5	70.5	79.5	53.4	26.1	80.0	133.0	14.2
45.0	62.5	64.0	73.0	79.5	53.4	26.1	81.0	138.0	14.2
48.0	65.6	67.0	75.0	79.5	53.4	26.1	84.0	138.0	14.2
50.0	68.0	69.0	78.0	79.5	53.4	26.1	87.0	148.0	14.2
53.0	72.0	73.0	87.0	79.5	53.4	26.1	97.0	148.0	18.0
55.0	73.0	74.0	83.0	79.5	53.4	26.1	90.0	148.0	18.0
60.0	78.0	79.0	91.0	79.5	53.4	26.1	102.0	157.0	18.0
65.0	84.8	85.7	98.5	79.5	53.4	26.1	109.0	163.0	18.0
70.0	93.0	95.0	108.0	79.5	53.4	26.1	118.0	178.0	18.0

d_1 (inches)	d_2	d_3 min	d_3 max	l_{15}	l_{16}	l_{17}	a_1	d_a	s
1.000	1.693	1.750	2.000	3.130	2.102	1.028	2.440	4.134	0.520
1.125	1.811	1.875	2.050	3.130	2.102	1.028	2.440	4.134	0.520
1.250	1.960	2.000	2.250	3.130	2.102	1.028	2.640	4.330	0.520
1.375	2.086	2.125	2.420	3.130	2.102	1.028	2.750	4.449	0.520
1.500	2.200	2.250	2.625	3.130	2.102	1.028	2.950	4.842	0.520
1.625	2.340	2.375	2.700	3.130	2.102	1.028	3.030	4.842	0.599
1.750	2.460	2.500	2.812	3.130	2.102	1.028	3.190	5.433	0.599
1.875	2.582	2.625	2.940	3.130	2.102	1.028	3.190	5.433	0.599
2.000	2.677	2.750	3.190	3.130	2.102	1.028	3.430	5.827	0.599
2.125	2.834	2.875	3.437	3.130	2.102	1.028	3.820	5.827	0.709
2.250	2.960	3.000	3.560	3.130	2.102	1.028	3.940	6.181	0.709
2.375	3.070	3.125	3.590	3.130	2.102	1.028	4.020	6.181	0.709
2.500	3.212	3.250	3.800	3.130	2.102	1.028	4.170	6.417	0.709
2.625	3.338	3.375	3.937	3.130	2.102	1.028	4.290	6.417	0.709
2.750	3.660	3.750	4.250	3.130	2.102	1.028	4.650	7.008	0.709





TSSC-C01

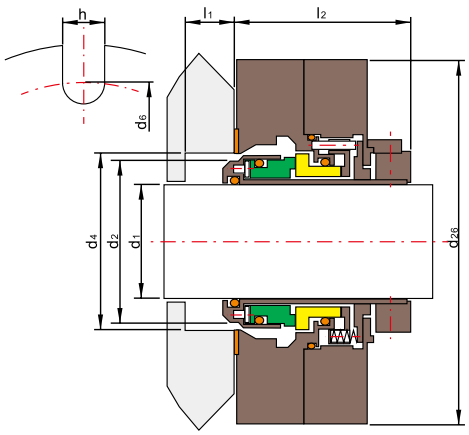
Operating Limits

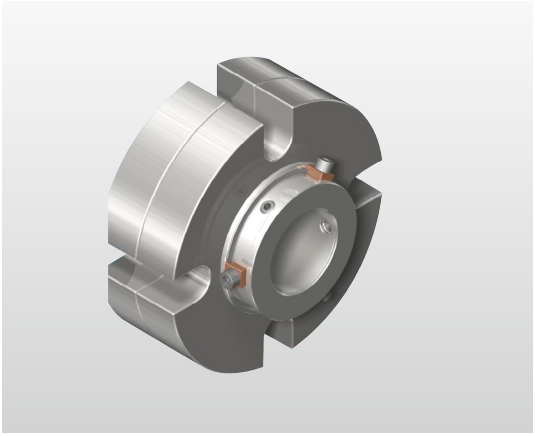
Pressure: ≤4MPa
Speed: ≤20m/s
Temperature: -40˚C ~+204˚C

d_1 (inches)	d_4		$d_6$min				d_{26}	l_1	l_2
	min	max	3/8"	1/2"	5/8"	3/4"		min	
1.000	1.750	2.000	2.880	3.010	3.130	–	4.650	0.630	1.890
1.125	1.880	2.030	2.920	3.050	3.170	–	4.690	0.630	1.890
1.125***	1.880	2.030	2.920	3.050	3.170	–	4.690	0.630	1.890
1.250	2.000	2.260	3.130	3.260	3.380	–	4.900	0.630	1.890
1.375	2.130	2.420	3.270	3.400	3.520	–	5.040	0.630	1.890
1.375***	2.000	2.420	3.270	3.400	3.520	–	5.040	0.630	1.890
1.500	2.250	2.620	3.460	3.590	3.710	–	5.230	0.630	1.890
1.625	2.380	2.680	3.520	3.650	3.770	–	5.290	0.630	1.890
1.750	2.500	2.800	3.640	3.770	3.890	–	5.410	0.630	1.890
1.875	2.630	2.930	3.760	3.890	4.010	–	5.530	0.630	1.890
2.000	2.750	3.180	3.970	4.100	4.220	–	5.740	0.630	1.890
2.125	2.880	3.430	4.270	4.400	4.530	–	6.040	0.630	1.890
2.250	3.000	3.550	4.380	4.510	4.630	–	6.140	0.630	1.890
2.375	3.130	3.590	4.520	4.650	4.770	–	6.290	0.630	1.890
2.500	3.250	3.800	4.650	4.780	4.900	–	6.410	0.630	1.890
2.625	3.630	4.000	–	5.350	5.480	5.600	7.630	0.880	2.500
2.750	3.750	4.130	–	5.480	5.600	5.730	7.760	0.880	2.500
2.875	3.880	4.250	–	5.600	5.730	5.850	7.880	0.880	2.500
3.000	4.000	4.440	–	5.730	5.850	5.980	8.010	0.880	2.500
3.125	4.130	4.550	–	5.850	5.980	6.100	8.130	0.880	2.500
3.250	4.250	4.690	–	5.980	6.100	6.230	8.260	0.880	2.500
3.375	4.380	4.800	–	6.100	6.230	6.350	8.380	0.880	2.500
3.500	4.500	4.940	–	6.230	6.350	6.480	8.510	0.880	2.500
3.625	4.630	5.050	–	6.350	6.480	6.600	8.630	0.880	2.500
3.750	4.750	5.140	–	6.480	6.600	6.730	8.760	0.880	2.500
3.875	4.880	5.260	–	6.600	6.730	6.850	8.880	0.880	2.500
4.000	5.000	5.440	–	6.730	6.850	6.980	9.010	0.880	2.500
4.125	5.130	5.550	–	6.850	6.980	7.100	9.130	0.880	2.500
4.250	5.250	5.690	–	6.890	7.020	7.140	9.180	0.880	2.500
4.375	5.380	5.810	–	7.020	7.140	7.270	9.300	0.880	2.500
4.500	5.500	5.940	–	7.140	7.270	7.390	9.430	0.880	2.500
4.625	5.630	6.060	–	7.270	7.390	7.520	9.560	0.880	2.500
4.750	5.750	6.220	–	7.470	7.600	7.720	9.760	0.880	2.500

d_1 (mm)	d_4		$d_6$min				d_{26}	l_1	l_2
	min	max	3/8"	1/2"	5/8"	3/4"		min	
25	44	51	70	72	74	–	118	16	48
28	47	52	70	72	74	–	118	16	48
30	49	57	76	78	80	–	124	16	48
32	51	58	77	79	81	–	124	16	48
33	52	59	76	78	80	–	124	16	48
35	54	62	80	82	84	–	128	16	48
38	57	67	85	87	89	–	133	16	48
40	59	68	86	88	90	–	134	16	48
43	62	69	86	88	90	–	134	16	48
45	64	73	92	94	96	–	140	16	48
48	67	74	91	93	95	–	139	16	48
50	69	78	97	99	101	–	145	16	48
55	74	83	102	104	106	–	150	16	48
60	79	91	112	114	116	–	160	16	48
65	92	102	–	132	134	138	194	22	64
70	95	105	–	135	137	141	197	22	64
75	100	113	–	141	143	147	203	22	64
80	105	116	–	144	146	150	207	22	64
85	110	122	–	151	153	157	213	22	64
90	115	125	–	154	156	160	216	22	64
95	120	131	–	160	162	166	222	22	64
100	127	138	–	167	169	173	229	22	64
110	136	148	–	174	176	180	236	22	64
120	145	158	–	186	188	192	248	22	64

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/AFLAS/Kalrez)
- Other Parts(C-276/Duplex/316)





TSSC-C03

Operating Limits

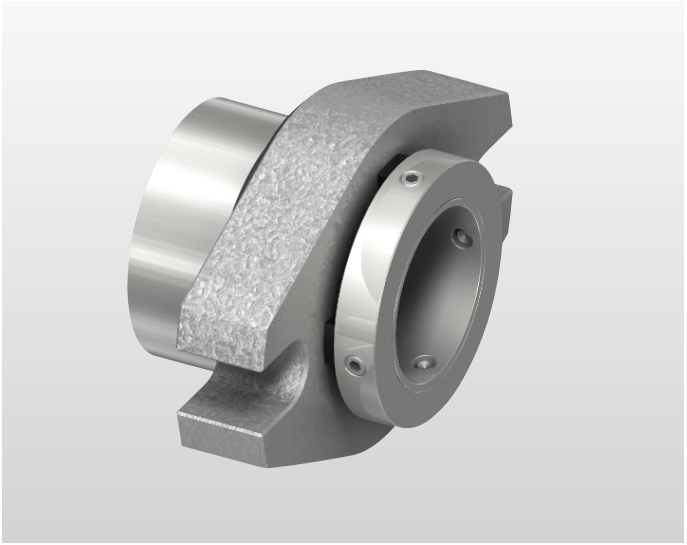
Pressure: ≤4MPa
Speed: ≤20m/s
Temperature: -40˚C ~+204˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/AFLAS/Kalrez)
- Other Parts(C-276/dUPLE/316)

d_1 (inches)	d_2		d_4	d_6	d_{26}	l_1	l_2			h
	min	max					3/8"	1/2"	5/8"	
1.750	2.500	2.810	0.690	0.570	5.490	1.910	3.620	3.75*	-	1.270
1.875	2.630	2.940	0.690	0.570	5.490	1.910	3.750	3.87*	-	1.270
2.000	2.750	3.190	0.690	0.570	5.490	1.910	4.000	4.130	-	1.270
2.125	2.880	3.440	0.690	0.690	5.990	1.910	4.250	4.380	4.500	1.270
2.250	3.000	3.560	0.690	0.690	5.990	1.910	4.370	4.500	4.620	1.270
2.375	3.130	3.590	0.690	0.690	5.990	1.910	4.430	4.560	4.680	1.270
2.500	3.250	3.810	0.690	0.690	6.490	1.910	4.620	4.750	4.870	1.270
2.625	3.630	4.040	0.880	0.690	6.450	2.500	5.020	5.150	-	1.770
2.750	3.750	4.380	0.880	0.690	7.700	2.500	5.420	5.550	-	1.770
2.875	3.880	4.500	0.880	0.690	7.830	2.500	5.500	5.620	-	1.770
3.000	4.000	4.690	0.880	0.690	7.940	2.500	5.650	5.770	-	1.770
3.125	4.130	4.810	0.880	0.690	7.990	2.500	5.800	5.920	-	1.770
3.250	4.250	4.940	0.880	0.690	8.190	2.500	5.930	6.050	-	1.770
3.375	4.380	5.060	0.880	0.810	8.300	2.500	6.020	6.140	6.270	1.770
3.500	4.500	5.190	0.880	0.810	8.440	2.500	6.180	6.310	6.430	1.770
3.625	4.630	5.310	0.880	0.810	8.490	2.500	6.310	6.440	6.560	1.770
3.750	4.750	5.390	0.880	0.810	8.710	2.500	6.380	6.510	6.630	1.770
3.875	4.880	5.510	0.880	0.810	8.840	2.500	6.520	6.640	6.770	1.770
4.000	5.000	5.690	0.880	0.810	8.960	2.500	6.660	6.780	6.910	1.770
4.125	5.130	5.810	0.880	0.810	8.990	2.500	6.790	6.900	7.030	1.770
4.250	5.250	5.940	0.880	0.810	8.990	2.500	6.910	7.040	7.160	1.770
4.375	5.380	6.060	0.880	0.810	9.330	2.500	7.030	7.150	7.280	1.770
4.500	5.500	6.190	0.880	0.810	9.490	2.500	7.180	7.300	7.430	1.770
4.625	5.630	6.310	0.880	0.810	9.490	2.500	7.280	7.400	7.530	1.770
4.750	5.750	6.470	0.880	0.810	10.490	2.500	7.400	7.530	7.650	1.770

d_1 (mm)	d_2		d_4	d_6	d_{26}	l_1			l_2	h
	min	max				3/8"	1/2"	5/8"		
45	64	73	18	13	139	49	95	97	-	43
48	67	73	18	13	139	49	95*	97*	-	43
50	69	78	18	13	139	49	100	102	-	43
53	73	87	18	17	152	49	109	111	115	43
55	74	83	18	17	152	49	105	107	111	43
58	80	91	18	17	152	49	114	116	120	43
60	80	91	18	17	152	49	114	116	120	43
65	92	103	22	17	164	64	127	131	-	45
70	96	111	22	17	196	64	137	141	-	45
75	102	119	22	17	202	64	143	147	-	45
80	106	122	22	17	203	64	150	154	-	45
85	111	128	22	21	211	64	152	156	161	45
90	116	132	22	21	214	64	160	164	168	45
95	121	137	22	21	221	64	161	165	170	45
100	127	144	22	21	228	64	168	172	177	45
110	137	154	22	21	237	64	178	182	186	45
120	146	164	22	21	266	64	187	191	195	45

TSSC-A01

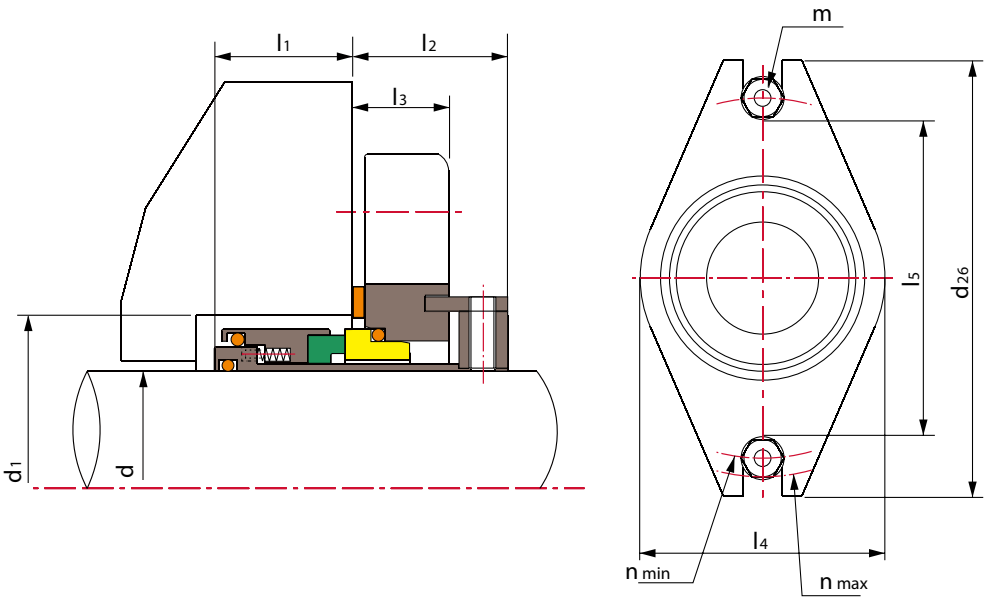


Operating Limits

Pressure: ≤2.5MPa
Speed: ≤16m/s
Temperature: ≤+200˚C

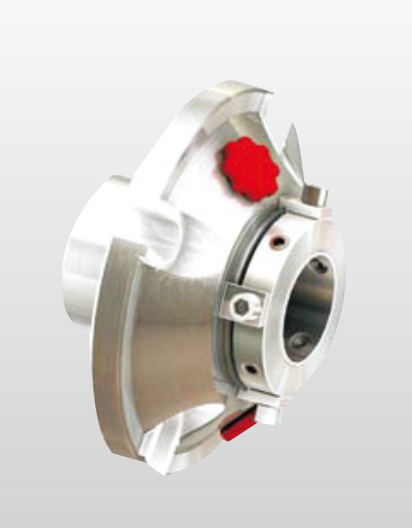
d (inches)	d_{26}	l_5	l_3	l_4	d_1		n		m	l_1	l_2
					min	max	min	max			
1.000	4.000	2.187	0.812	2.208	1.625	1.875	2.750	3.500	1/2	1.125	1.250
1.125	4.125	2.312	0.812	2.333	1.750	2.000	2.875	3.625	1/2	1.125	1.250
1.250	4.250	2.437	0.812	2.458	1.875	2.125	3.000	3.750	1/2	1.125	1.250
1.375	4.250	2.625	0.812	2.645	2.000	2.250	3.187	3.750	1/2	1.125	1.250
1.500	4.500	2.812	0.875	2.833	2.250	2.500	3.375	4.000	1/2	1.125	1.312
1.625	4.750	2.937	0.875	2.958	2.375	2.625	3.500	4.250	1/2	1.125	1.312
1.750	5.000	3.062	0.937	3.083	2.500	2.750	3.625	4.500	1/2	1.187	1.375
1.875	5.250	3.187	0.937	3.207	2.625	2.875	3.750	4.750	1/2	1.187	1.375
2.000	5.500	3.312	1.000	3.333	2.750	3.000	4.000	4.875	5/8	1.187	1.437
2.125	5.750	3.437	1.000	3.458	2.875	3.125	4.125	5.125	5/8	1.187	1.437
2.250	6.500	3.750	1.000	3.895	3.000	3.375	4.562	5.750	3/4	1.187	1.437
2.375	6.500	3.750	1.000	3.895	3.125	3.375	4.562	5.750	3/4	1.187	1.437
2.500	7.000	4.375	1.000	4.770	3.375	4.000	5.187	6.250	3/4	1.125	1.625
2.625	7.000	4.375	1.000	4.770	3.500	4.000	5.187	6.250	3/4	1.125	1.625
2.750	7.000	4.375	1.000	4.770	3.625	4.000	5.187	6.250	3/4	1.125	1.625
2.875	7.500	4.937	1.250	5.145	3.750	4.500	5.750	6.750	3/4	1.187	2.000
3.000	7.500	4.937	1.250	5.145	3.875	4.500	5.750	6.750	3/4	1.187	2.000
3.125	7.500	4.937	1.250	5.145	4.000	4.500	5.750	6.750	3/4	1.187	2.000
3.250	8.000	5.312	1.250	5.520	4.125	4.875	6.125	7.250	3/4	1.187	2.000
3.375	8.000	5.312	1.250	5.520	4.250	4.875	6.125	7.250	3/4	1.187	2.000
3.500	8.000	5.312	1.250	5.520	4.375	4.875	6.125	7.250	3/4	1.187	2.000
3.625	8.500	5.687	1.250	5.895	4.500	5.250	6.500	7.750	3/4	1.187	2.000
3.750	8.500	5.687	1.250	5.895	4.625	5.250	6.500	7.750	3/4	1.187	2.000
3.875	8.500	5.687	1.250	5.895	4.750	5.250	6.500	7.750	3/4	1.187	2.000
4.000	9.000	6.062	1.250	6.145	4.875	5.500	6.875	8.250	3/4	1.187	2.000

TSSC-A01



- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (mm)	d_{26}	l_5	l_3	l_4	d_1		n		m	l_1	l_2
					min	max	min	max			
24	101.6	55.6	20.7	56.1	40.0	48.0	69.9	88.9	12	28.6	31.8
25	101.6	55.6	20.7	56.1	41.0	48.0	69.9	88.9	12	28.6	31.8
28	104.8	58.8	20.7	59.3	44.0	50.0	73.1	92.1	12	28.6	31.8
30	108.0	61.9	20.7	62.4	46.0	54.0	76.2	95.3	12	28.6	31.8
32	108.0	61.9	20.7	62.4	48.0	54.0	76.2	95.3	12	28.6	31.8
33	108.0	61.9	20.7	62.4	49.0	55.0	76.2	95.3	12	28.6	31.8
35	108.0	66.7	20.7	67.2	51.0	59.0	81.0	95.3	12	28.6	31.8
38	114.3	71.5	22.3	72.0	57.2	62.0	85.8	101.6	12	28.6	33.4
40	114.3	71.5	22.3	72.0	58.0	64.0	85.8	101.6	12	28.6	33.4
43	120.7	74.6	22.3	75.1	61.0	67.0	88.9	108.0	12	28.6	33.4
45	127.0	77.8	23.8	78.3	63.5	69.0	92.1	114.3	12	30.2	35.0
48	133.4	81.0	23.8	81.5	66.7	72.0	95.3	120.7	12	30.2	35.0
50	133.4	81.0	23.8	81.5	68.0	74.0	95.3	120.7	12	30.2	35.0
53	139.7	84.2	25.4	84.7	71.0	77.0	101.6	123.9	16	30.2	36.5
55	146.1	87.3	25.4	87.8	74.0	79.0	104.8	130.2	16	30.2	36.5
58	165.1	95.3	25.4	98.9	79.4	85.7	115.9	146.0	20	30.2	36.5
60	165.1	95.3	25.4	98.9	79.4	85.7	115.9	146.0	20	30.2	36.5
63	177.8	111.2	25.4	121.2	85.8	101.6	131.8	158.7	20	28.6	41.2
65	177.8	111.2	25.4	121.2	88.9	101.6	131.8	158.7	20	28.6	41.2
68	177.8	111.2	25.4	121.2	92.1	101.6	131.8	158.7	20	28.6	41.2
70	177.8	111.2	25.4	121.2	92.1	101.6	131.8	158.7	20	28.6	41.2
75	190.5	125.4	31.7	130.7	98.5	114.3	146.1	171.4	20	30.2	50.8
80	190.5	125.4	31.7	130.7	101.6	114.3	146.1	171.4	20	30.2	50.8
85	203.2	135.0	31.7	140.2	108.0	123.8	155.6	184.1	20	30.2	50.8
90	215.9	144.5	31.7	149.7	114.3	133.3	165.1	196.8	20	30.2	50.8
95	215.9	144.5	31.7	149.7	117.5	133.3	165.1	196.8	20	30.2	50.8
100	228.6	154.0	31.7	156.1	123.9	139.7	174.7	209.5	20	30.2	50.8



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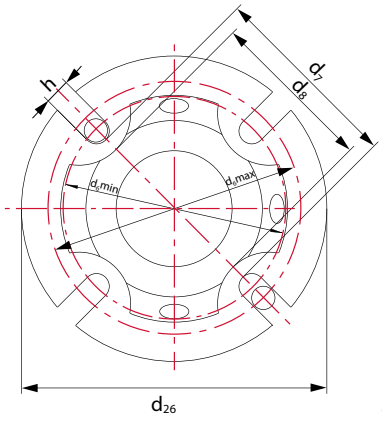
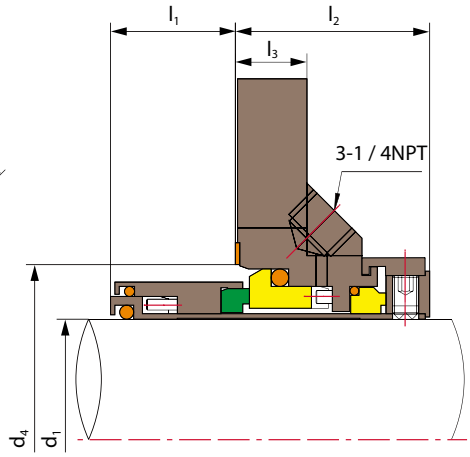


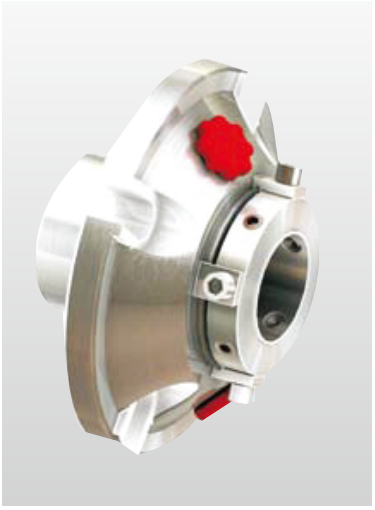


Operating Limits

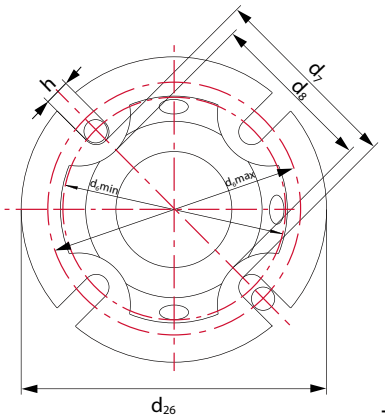
Pressure: ≤2.3MPa
Speed: ≤16m/s
Temperature: -30˚C ~200˚C

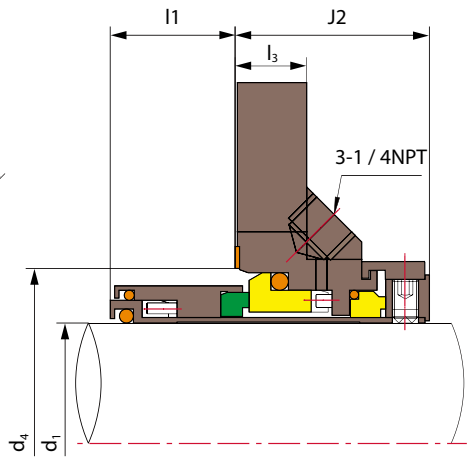
- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

d_1 (inches)	d_4		d_6		d_7	d_8	d_{26}	l_1	l_2	l_3	h
	min	max	min	max							max
1.000	1.625	1.937	2.687	3.562	2.125	1.937	4.125	1.125	1.590	0.519	1/2
1.125	1.750	2.062	2.812	3.687	2.250	2.063	4.250	1.125	1.590	0.519	1/2
1.250	1.875	2.187	2.937	3.812	2.375	2.187	4.375	1.125	1.590	0.519	1/2
1.375	2.000	2.250	3.062	3.812	2.500	2.312	4.375	1.125	1.590	0.519	1/2
1.500	2.250	2.375	3.375	4.437	2.812	2.562	5.000	1.125	1.752	0.644	1/2
1.625	2.375	2.500	3.375	4.437	2.812	2.562	5.000	1.125	1.752	0.644	1/2
1.750	2.500	2.750	3.750	4.937	3.187	2.812	5.500	1.125	1.752	0.644	1/2
1.875	2.625	2.875	3.750	4.937	3.187	2.812	5.500	1.125	1.752	0.644	1/2
2.000	2.750	3.000	4.125	5.437	3.562	3.063	6.000	1.125	1.752	0.644	1/2
2.000-AC	2.750	3.000	4.000	4.750	3.450	3.035	5.250	1.125	1.752	0.644	1/2
2.125	2.875	3.125	4.125	5.437	3.562	3.063	6.000	1.125	1.752	0.644	1/2
2.250	3.000	3.250	4.500	5.812	3.812	3.312	6.500	1.125	1.752	0.644	5/8
2.375	3.125	3.375	4.500	5.812	3.812	3.312	6.500	1.125	1.752	0.644	5/8
2.500	3.375	3.625	5.000	6.312	4.312	3.812	7.000	1.250	1.877	0.769	5/8
2.625	3.500	3.750	5.000	6.312	4.312	3.812	7.000	1.250	1.877	0.769	5/8
2.750	3.625	3.875	5.000	6.312	4.312	3.812	7.000	1.250	1.877	0.769	5/8
2.875	3.750	4.125	5.625	6.812	4.937	4.250	7.500	1.250	1.877	0.769	5/8
3.000	3.875	4.250	5.625	6.812	4.937	4.250	7.500	1.250	1.877	0.769	5/8
3.125	4.000	4.375	5.625	6.812	4.937	4.250	7.500	1.250	1.877	0.769	5/8
3.250	4.125	4.500	6.125	7.187	5.312	4.625	8.000	1.250	1.877	0.769	3/4
3.375	4.250	4.625	6.125	7.187	5.312	4.625	8.000	1.250	1.877	0.769	3/4
3.500	4.375	4.750	6.125	7.187	5.312	4.625	8.000	1.250	1.877	0.769	3/4
3.625	4.500	5.000	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.750	4.625	5.125	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.875	4.750	5.250	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
4.000	4.875	5.500	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.125	5.125	5.875	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.250	5.125	5.875	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.375	5.375	6.250	7.812	8.687	7.000	5.750	9.500	1.250	1.877	0.769	3/4
4.500	5.375	6.250	7.812	8.687	7.000	5.750	9.500	1.250	1.877	0.769	3/4
4.625	5.625	6.625	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8
4.750	5.625	6.625	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8
4.875	5.875	6.625	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8
5.000	5.875	6.625	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8



TSSC-A03



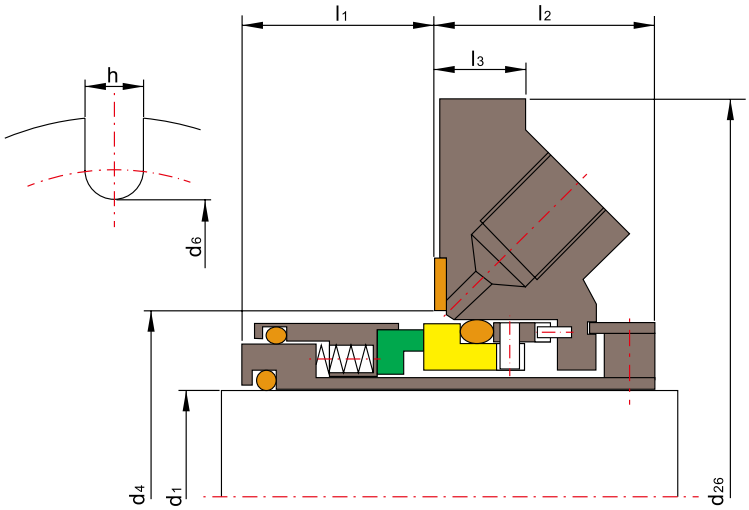


Operating Limits

Pressure: ≤2.3MPa
Speed: ≤16m/s
Temperature: -30˚C ~200˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)
- Other Parts(SUS304/SUS316)

d_1 (mm)	d_4		d_6		d_7	d_8	d_{26}	l_1	l_2	l_3	h
	min	max	min	max							max
24	40.0	46.0	67.0	90.5	54.0	49.2	104.8	28.6	40.5	13.2	12
25	41.0	49.0	67.0	90.5	54.0	49.2	104.8	28.6	40.5	13.2	12
28	44.0	52.3	70.3	93.6	57.2	52.4	108.0	28.6	40.5	13.2	12
30	46.0	55.5	73.5	96.8	60.4	55.6	111.0	28.6	40.5	13.2	12
32	48.0	55.5	73.5	96.8	60.4	55.6	111.0	28.6	40.5	13.2	12
33	49.0	55.5	73.5	96.8	60.4	55.6	111.0	28.6	40.5	13.2	12
35	51.0	57.5	76.6	96.8	63.5	58.8	111.0	28.6	40.5	13.2	12
38	57.2	60.4	85.7	114.3	71.5	65.0	127.0	28.6	44.5	16.4	12
40	58.0	60.4	85.7	114.3	71.5	65.0	127.0	28.6	44.5	16.4	12
43	61.0	69.9	95.3	127.0	81.0	71.4	139.7	28.6	44.5	16.4	12
45	63.5	69.9	95.3	127.0	81.0	71.4	139.7	28.6	44.5	16.4	12
48	66.7	73.0	95.3	127.0	81.0	71.4	139.7	28.6	44.5	16.4	12
50	68.0	76.2	104.8	139.7	90.5	77.8	152.4	28.6	44.5	16.4	12
53	71.0	76.2	104.8	139.7	90.5	77.8	152.4	28.6	44.5	16.4	12
55	74.0	82.5	114.3	149.2	96.8	84.1	165.1	28.6	44.5	16.4	16
58	76.2	82.6	114.3	149.2	96.8	84.1	165.1	28.6	44.5	16.4	16
60	79.4	85.7	114.3	149.2	96.8	84.1	165.1	28.6	44.5	16.4	16
63	85.8	92.1	127.0	160.3	109.5	96.8	177.8	31.8	47.7	19.6	16
65	88.9	95.3	127.0	160.3	109.5	96.8	177.8	31.8	47.7	19.6	16
68	92.1	98.4	127.0	160.3	109.5	96.8	177.8	31.8	47.7	19.6	16
70	92.1	98.4	127.0	160.3	109.5	96.8	177.8	31.8	47.7	19.6	16
75	98.5	108.0	142.9	173.0	125.4	108.0	190.5	31.8	47.7	19.6	16
80	101.6	111.1	142.9	173.0	125.4	108.0	190.5	31.8	47.7	19.6	16
85	108.0	117.5	155.6	182.5	135.0	117.5	203.2	31.8	47.7	19.6	20
90	114.3	127.0	171.5	195.2	150.8	127.0	215.9	31.8	47.7	19.6	20
95	117.5	130.2	171.5	195.2	150.8	127.0	215.9	31.8	47.7	19.6	20
100	123.9	139.7	188.9	207.9	168.3	136.5	228.6	31.8	47.7	19.6	20
105	130.1	149.2	189.0	208.0	168.3	136.5	228.6	31.8	47.7	19.6	20
110	136.5	158.8	198.4	220.6	177.8	146.1	241.3	31.8	47.7	19.6	20
115	142.9	168.3	211.1	230.2	186.6	155.6	254.0	31.8	47.7	19.6	22
120	142.9	168.3	211.1	230.2	186.6	155.6	254.0	31.8	47.7	19.6	22
125	149.2	168.3	211.1	230.2	186.6	155.6	254.0	31.8	47.7	19.6	22



TSSC-A04

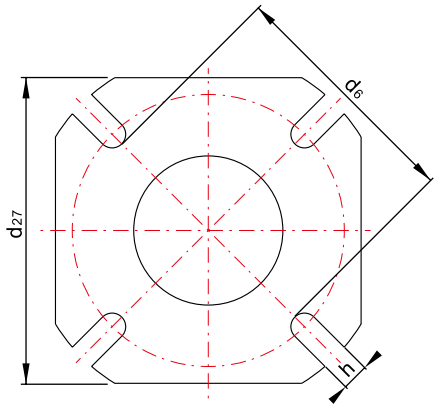
Operating Limits

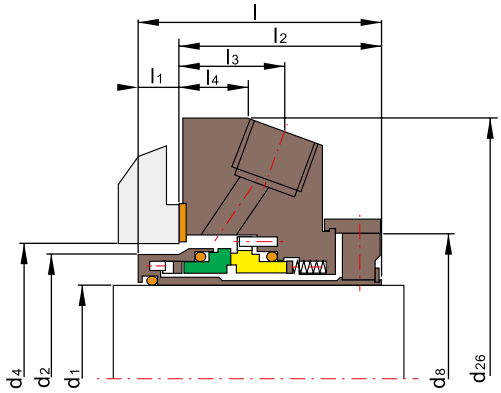
Pressure: ≤2.3MPa
Speed: ≤23m/s
Temperature: -30˚C ~200˚C

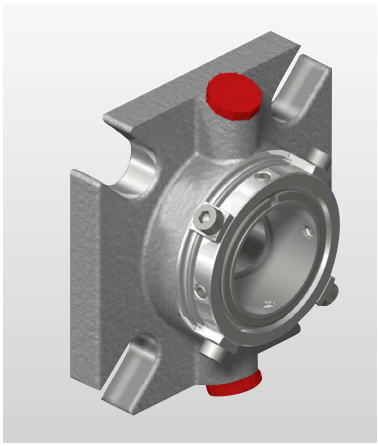
- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/AFLAS/Kalrez)
- Other Parts(C-276/DUPLEX/316)

d_1 (mm)	d_4 min	d_4 max	d_6	d_{26}	l_1	l_2	l_3	h max
1.000	1.625	1.937	2.187	4.125	1.055	1.354	0.492	0.562
1.125	1.75	2.062	2.312	4.250	1.055	1.354	0.492	0.562
1.250	1.875	2.187	2.437	4.375	1.055	1.354	0.492	0.562
1.375	2.000	2.312	2.625	4.375	1.055	1.354	0.492	0.562
1.500	2.250	2.500	2.875	5.000	1.090	1.393	0.644	0.562
1.625	2.375	2.500	2.875	5.000	1.090	1.393	0.644	0.562
1.750	2.500	2.625	3.000	5.250	1.090	1.393	0.644	0.562
1.875	2.625	3.000	3.312	5.500	1.090	1.393	0.644	0.562
2.000	2.750	3.000	3.312	5.500	1.150	1.413	0.644	0.562
2.125	2.875	3.312	3.687	5.750	1.150	1.413	0.644	0.687
2.250	3.000	3.312	3.687	5.750	1.150	1.413	0.644	0.687
2.375	3.125	3.562	3.937	6.000	1.150	1.413	0.644	0.687
2.500	3.375	3.687	4.187	6.250	1.199	1.413	0.644	0.687
2.625	3.500	3.750	4.187	6.250	1.199	1.413	0.644	0.687
2.750	3.625	3.875	4.187	6.250	1.199	1.413	0.644	0.687

d_1 (inches)	d_4 min	d_4 max	d_6	d_{26}	l_1	l_2	l_3	h max
24	40.0	46.0	52.4	101.6	26.8	34.4	12.5	14.3
25	41.0	49.2	55.6	104.8	26.8	34.4	12.5	14.3
28	44.0	52.4	58.7	108.0	26.8	34.4	12.5	14.3
30	46.0	55.6	61.9	111.0	26.8	34.4	12.5	14.3
32	48.0	55.6	61.9	111.0	26.8	34.4	12.5	14.3
33	49.0	55.6	61.9	111.0	26.8	34.4	12.5	14.3
35	50.8	58.7	66.7	111.0	26.8	34.4	12.5	14.3
38	57.2	63.5	73.0	127.0	27.7	35.4	16.4	14.3
40	57.2	63.5	73.0	127.0	27.7	35.4	16.4	14.3
43	60.3	63.5	73.0	127.0	27.7	35.4	16.4	14.3
45	63.5	66.7	76.2	133.4	27.7	35.4	16.4	14.3
48	66.7	76.2	84.1	139.7	27.7	35.4	16.4	14.3
50	66.7	76.2	84.1	139.7	27.7	35.4	16.4	14.3
53	69.9	76.2	84.1	139.7	29.2	35.9	16.4	14.3
55	73.0	84.1	93.7	146.0	29.2	35.9	16.4	17.5
58	76.2	84.1	93.7	146.0	29.2	35.9	16.4	17.5
60	79.4	90.5	100	152.4	29.2	35.9	16.4	17.5
63	85.7	93.7	106.4	158.8	30.5	35.9	16.4	17.5
65	88.9	95.3	106.4	158.8	30.5	35.9	16.4	17.5
70	92.1	98.4	106.4	158.8	30.5	35.9	16.4	17.5







TSSC-A05

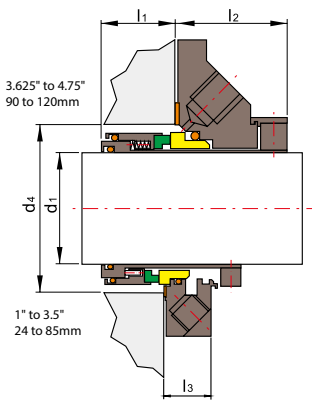
Operating Limits

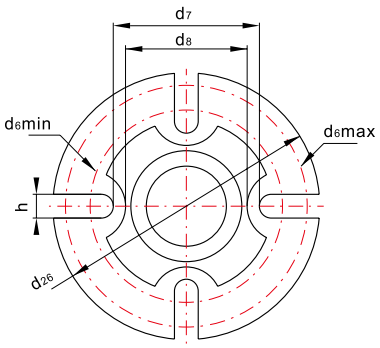
Pressure: ≤2.3MPa
Speed: ≤23m/s
Temperature: -30˚C ~200˚C

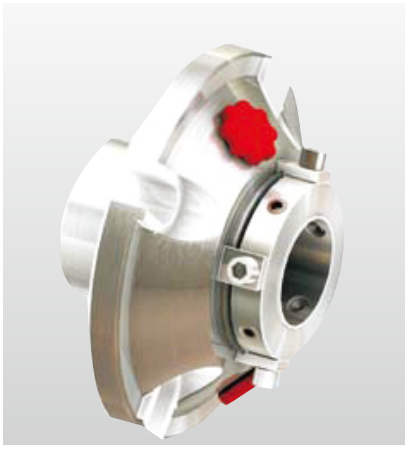
- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)
- Other Parts(C-276/Duplex/316)

Seal Size (mm)	d_1	d_2	d_4 min	d_4 max	d_6	d_8	d_{26}	d_{27}	l	l_1	l_2	l_3	l_4	h
24	24	38.0	40.0	48.0	61.0	51.0	105.0	99.0	55.7	10	45.7	20.5	11.9	14.0
25	25	39.0	41.0	51.0	61.0	51.0	105.0	101.6	55.7	10	45.7	20.5	11.9	14.0
28	28	42.6	44.0	54.0	65.0	55.5	111.0	99.0	55.7	10	45.7	20.3	11.9	14.0
30	30	44.1	46.0	54.0	64.6	56.4	105.0	97.8	55.7	10	45.7	20.3	11.9	14.0
32	32	47.1	49.0	57.0	66.5	59.5	105.0	99.0	55.7	10	45.7	21.2	14.0	14.0
33	33	47.1	49.0	57.0	66.5	59.5	105.0	99.0	55.7	10	45.7	21.2	14.0	14.0
35	35	49.0	51.0	59.0	68.5	61.5	111.0	104.1	55.7	10	45.7	21.5	13.2	14.0
38	38	52.9	57.0	70.0	80.7	70.7	135.0	114.3	57.6	10	47.6	24.6	16.0	14.0
40	40	54.8	59.0	70.5	80.7	70.7	135.0	114.3	57.6	10	47.6	24.6	16.0	14.0
43	43	56.1	61.0	70.5	80.7	70.7	135.0	114.3	7.0	10	47.6	20.5	15.5	14.0
45	45	59.3	64.0	75.0	83.7	75.7	139.0	117.5	57.6	10	47.6	24.3	16.0	14.0
48	48	62.4	66.6	75.0	83.7	75.7	139.0	117.5	57.6	10	47.6	24.3	16.0	14.0
50	50	65.3	70.0	78.0	87.6	79.0	150.0	124.5	57.6	10	47.6	24.3	16.0	17.5
53	53	68.8	73.0	87.0	97.0	85.0	150.0	136.5	57.6	10	47.6	22.5	15.5	17.5
55	55	68.8	73.0	87.0	97.0	85.0	150.0	136.5	57.6	10	47.6	22.5	15.5	17.5
58	58	72.0	76.2	92.0	102.4	88.7	164.5	139.7	57.6	10	47.6	24.6	16.0	17.5
60	60	75.2	80.0	92.0	102.4	88.7	164.5	139.7	57.6	10	47.6	24.6	16.0	17.5
63	63	78.3	83.0	98.5	108.7	96.1	171.0	147.4	57.6	10	47.6	23.7	16.0	17.5
65	65	81.5	86.0	98.5	108.7	96.1	171.0	147.4	57.6	10	47.6	23.7	16.0	17.5
70	70	84.7	89.0	100.0	111.9	98.3	180.5	152.4	57.6	10	47.6	24.3	16.0	17.5

Seal Size (inches)	d_1	d_2	d_4 min	d_4 max	d_6	d_8	d_{26}	d_{27}	l	l_1	l_2	l_3	l_4	h
1.000	1.000	1.538	1.625	2.000	2.401	2.008	4.134	3.900	2.194	0.394	1.800	0.807	0.469	0.551
1.125	1.125	1.678	1.750	2.125	2.559	2.183	4.375	4.000	2.194	0.394	1.800	0.800	0.469	0.551
1.250	1.250	1.853	1.875	2.250	2.618	2.34	4.134	3.900	2.194	0.394	1.800	0.835	0.551	0.551
1.375	1.375	1.932	2.000	2.312	2.697	2.418	4.375	4.100	2.194	0.394	1.800	0.846	0.520	0.551
1.500	1.500	2.084	2.250	2.750	3.177	2.783	5.315	4.500	2.269	0.394	1.875	0.970	0.630	0.551
1.625	1.625	2.209	2.375	2.750	3.177	2.783	5.315	4.500	2.269	0.394	1.875	0.807	0.610	0.551
1.750	1.750	2.334	2.500	2.937	3.297	2.982	5.475	4.625	2.269	0.394	1.875	0.957	0.630	0.551
1.875	1.875	2.459	2.625	2.937	3.297	2.982	5.475	4.625	2.269	0.394	1.875	0.957	0.630	0.551
2.000	2.000	2.569	2.750	3.062	3.450	3.108	5.906	4.900	2.269	0.394	1.875	0.970	0.630	0.689
2.125	2.125	2.709	2.875	3.437	3.821	3.346	5.906	5.375	2.269	0.394	1.875	0.970	0.610	0.689
2.250	2.250	2.834	3.000	3.625	4.030	3.493	6.475	5.500	2.269	0.394	1.875	0.970	0.630	0.689
2.375	2.375	2.959	3.125	3.625	4.030	3.493	6.475	5.500	2.269	0.394	1.875	0.970	0.630	0.689
2.500	2.500	3.084	3.250	3.875	4.280	3.785	6.725	5.800	2.269	0.394	1.875	0.933	0.630	0.689
2.625	2.625	3.209	3.375	3.875	4.280	3.785	6.725	5.800	2.269	0.394	1.875	0.933	0.630	0.689
2.750	2.750	3.334	3.500	3.937	4.405	3.871	7.100	6.000	2.269	0.394	1.875	0.957	0.630	0.689







TSSC-A06

Operating Limits

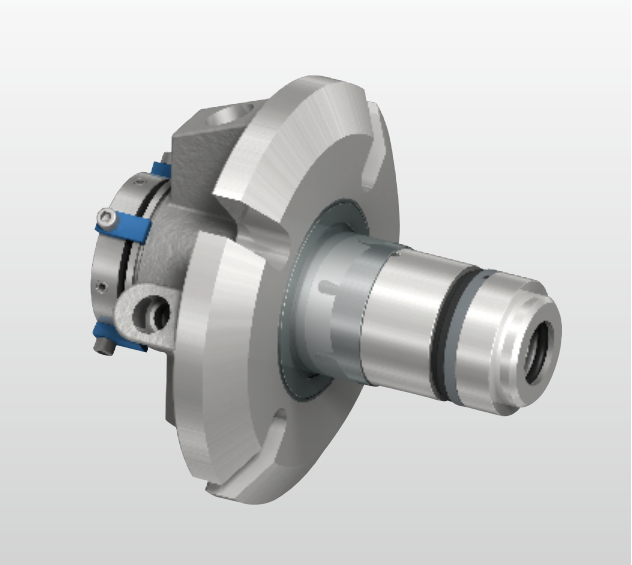
Pressure: ≤2.3MPa
Speed: ≤23m/s
Temperature: -30˚C ~200˚C

- Rotary Ring(Carbon/SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)
- Other Parts(C-276/Duplex/316)

d_1 (inches)	d_4		d_6		d_7	d_8	d_{26}	l_1	l_2	l_3	h
	min	max	min	max							
1.000	1.625	1.937	2.937	3.625	2.375	-	4.125	1.209	1.467	0.927	1/2
1.125	1.750	2.062	2.937	3.750	2.375	-	4.250	1.209	1.467	0.927	1/2
1.250	1.875	2.187	3.062	3.875	2.500	-	4.375	1.209	1.467	0.927	1/2
1.375	2.000	2.312	3.186	3.875	2.625	-	4.375	1.209	1.467	0.927	1/2
1.500	2.250	2.500	3.375	4.500	2.832	-	5.000	1.090	1.400	0.852	1/2
1.625	2.375	2.500	3.375	4.500	2.832	-	5.000	1.090	1.400	0.852	1/2
1.750	2.500	2.750	3.562	4.750	3.022	-	5.250	1.090	1.400	0.852	1/2
1.875	2.625	2.750	3.562	4.750	3.022	-	5.250	1.090	1.400	0.852	1/2
2.000	2.750	3.000	3.937	5.000	3.386	-	5.500	1.150	1.413	0.852	1/2
2.125	2.875	3.312	4.375	5.125	3.687	-	5.750	1.150	1.413	0.852	5/8
2.250	3.000	3.312	4.375	5.125	3.687	-	5.750	1.150	1.413	0.852	5/8
2.375	3.125	3.562	4.625	5.375	3.937	-	6.000	1.150	1.413	0.852	5/8
2.500	3.375	3.875	5.000	6.375	4.312	-	7.000	1.250	1.500	0.926	5/8
2.625	3.500	3.875	5.000	6.375	4.312	-	7.000	1.250	1.500	0.926	5/8
2.750	3.625	3.875	5.000	6.375	4.312	-	7.000	1.250	1.500	0.926	5/8
2.875	3.750	4.500	5.625	6.812	4.937	-	7.350	1.250	1.500	0.926	5/8
3.000	3.875	4.500	5.625	6.812	4.937	-	7.500	1.250	1.500	0.926	5/8
3.125	4.000	4.500	5.625	6.812	4.937	-	7.500	1.250	1.500	0.926	5/8
3.250	4.125	4.875	6.000	7.312	5.312	-	8.000	1.250	1.500	0.926	5/8
3.375	4.250	4.875	6.000	7.312	5.312	-	8.000	1.250	1.500	0.926	5/8
3.500	4.375	4.875	6.000	7.312	5.312	-	8.000	1.250	1.500	0.926	5/8
3.625	4.500	5.000	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.750	4.625	5.125	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.875	4.750	5.250	6.750	7.687	5.937	5.000	8.500	1.250	1.877	0.769	3/4
4.000	4.875	5.500	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.125	5.125	5.875	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.250	5.125	5.875	7.437	8.187	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.375	5.375	6.250	7.812	8.687	7.000	5.750	9.500	1.250	1.877	0.769	3/4
4.500	5.375	6.250	7.812	8.687	7.000	5.750	9.500	1.250	1.877	0.769	3/4
4.625	5.625	6.250	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8
4.750	5.625	6.250	8.312	9.062	7.345	6.125	10.000	1.250	1.877	0.769	7/8

d_1 (mm)	d_4		d_6		d_7	d_8	d_{26}	l_1	l_2	l_3	h
	min	max	min	max							
24	40.0	46.0	74.6	92.0	60.3	-	104.8	30.7	37.3	23.5	12
25	41.0	49.2	74.6	92.0	60.3	-	104.8	30.7	37.3	23.5	12
28	44.0	52.4	74.6	95.3	60.3	-	108.0	30.7	37.3	23.5	12
30	46.0	55.6	77.8	98.4	63.5	-	110.0	30.7	37.3	23.5	12
32	48.0	55.6	77.8	98.4	63.5	-	110.0	30.7	37.3	23.5	12
33	49.0	55.6	77.8	98.4	63.5	-	110.0	30.7	37.3	23.5	12
35	50.8	58.7	80.9	98.4	66.7	-	110.0	30.7	37.3	23.5	12
38	57.2	63.5	85.7	114.3	71.9	-	127.0	27.7	35.6	21.6	12
40	57.2	63.5	85.7	114.3	71.9	-	127.0	27.7	35.6	21.6	12
43	60.3	63.5	85.7	114.3	71.9	-	127.0	27.7	35.6	21.6	12
45	63.5	69.8	90.5	120.7	76.7	-	133.4	27.7	35.6	21.6	12
48	66.7	69.8	90.5	120.7	76.7	-	133.4	27.7	35.6	21.6	12
50	68.0	69.8	90.5	120.7	76.7	-	133.4	27.7	35.6	21.6	12
53	71.0	76.2	100.0	127.0	86.0	-	139.7	29.2	35.9	21.6	12
55	73.0	84.1	111.1	130.2	93.7	-	146.0	29.2	35.9	21.6	16
58	769.2	84.1	111.1	130.2	93.7	-	146.0	29.2	35.9	21.6	16
60	79.4	90.5	117.5	136.5	100.0	-	152.4	29.2	35.9	21.6	16
63	85.7	98.4	127.0	161.9	109.5	-	177.8	31.8	38.1	23.5	16
65	88.9	98.4	127.0	161.9	109.5	-	177.8	31.8	38.1	23.5	16
70	92.1	98.4	127.0	161.9	109.5	-	177.8	31.8	38.1	23.5	16
75	98.5	114.3	142.9	173.0	125.4	-	190.5	31.8	38.1	23.5	16
80	101.6	114.3	142.9	173.0	125.4	-	190.5	31.8	38.1	23.5	16
85	108.0	123.7	152.4	185.7	135.0	-	203.2	31.8	38.1	23.5	16
90	114.3	127.0	171.5	195.2	150.8	127.0	215.9	31.8	47.7	19.6	20
95	117.5	130.2	171.5	195.2	150.5	127.0	215.9	31.8	47.7	19.6	20
100	123.9	139.7	188.9	207.9	168.3	136.5	228.6	31.8	47.7	19.6	20
105	130.1	149.2	189.0	208.0	168.3	136.5	228.6	31.8	47.7	19.6	20
110	136.5	158.8	198.4	220.6	177.8	146.1	241.3	31.8	47.7	19.6	20
115	142.9	168.3	211.1	230.2	186.6	155.6	254.0	31.8	47.7	19.6	22
120	142.9	168.3	211.1	230.2	186.6	155.6	254.0	31.8	47.7	19.6	22

TSDC-J01



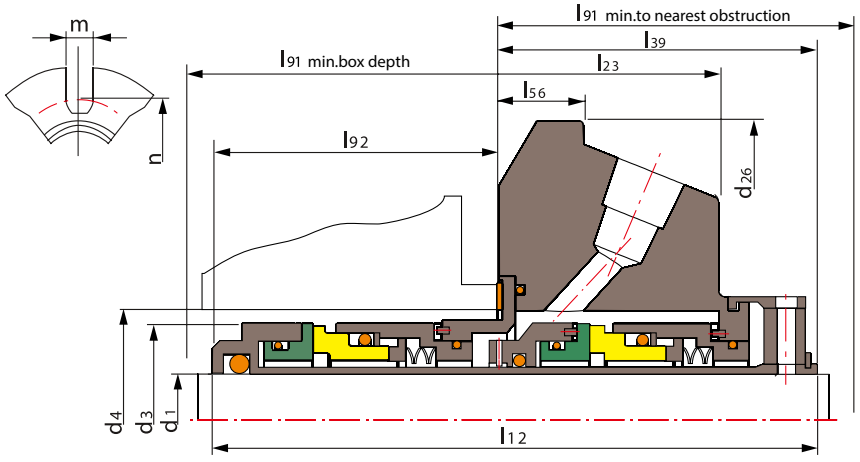
Operating Limits

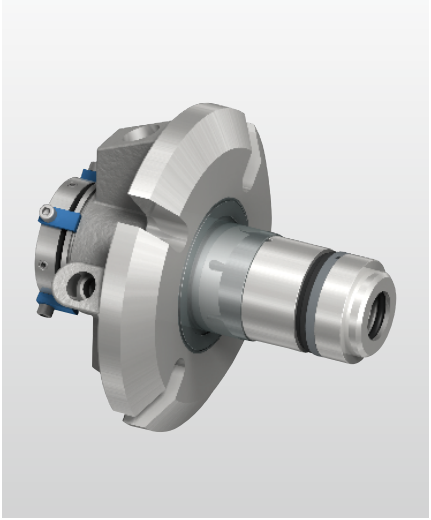
Pressure: <2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

ISO9001& TS16949

d_1 (inches)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
1.000	1.564	1.625	1.889	4.000	3.705	1.353	1.954	0.531	2.000	1.876	1.751	0.525	2.805
1.125	1.689	1.750	2.015	4.125	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	2.933
1.250	1.812	1.875	2.294	4.250	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	3.213
1.375	1.939	2.000	2.421	4.375	3.851	1.446	2.062	0.531	2.125	1.914	1.789	0.525	3.338
1.500	2.187	2.250	2.680	4.875	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.525	3.599
1.625	2.312	2.375	2.812	5.000	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.766
1.750	2.406	2.480	2.918	5.250	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.875
1.875	2.549	2.625	2.918	5.250	3.995	1.487	2.125	0.593	2.187	1.995	1.870	0.562	3.875
2.000	2.673	2.750	3.015	5.500	4.355	1.601	2.312	1.063	2.375	2.167	2.042	0.562	4.000
2.125	2.798	2.875	3.360	5.859	4.355	1.601	2.312	0.593	2.375	2.167	2.042	0.687	4.469
2.250	2.923	3.000	3.485	6.500	4.355	1.601	2.312	0.593	2.375	2.167	2.042	0.687	4.566
2.375	3.048	3.125	3.610	6.500	4.545	1.717	2.466	0.625	2.528	2.204	2.079	0.687	4.719
2.500	3.301	3.375	3.891	6.750	4.545	1.717	2.563	0.625	2.625	2.107	1.982	0.687	5.000
2.625	3.551	3.625	4.062	6.750	4.594	1.625	2.500	0.625	2.562	2.219	2.094	0.687	5.170
2.750	3.551	3.625	4.062	6.750	4.594	1.625	2.500	0.625	2.562	2.219	2.094	0.687	5.170
2.875	3.614	3.750	4.186	7.000	4.594	1.725	2.500	0.625	2.562	2.219	2.094	0.687	5.312
3.000	3.864	4.000	4.469	7.750	4.594	1.787	2.562	0.685	2.625	2.157	2.032	0.812	5.720
3.125	4.022	4.125	4.600	7.875	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	5.845
3.250	4.022	4.134	4.600	7.437	4.687	1.593	2.510	\	2.635	2.302	2.177	0.812	5.845
3.375	4.246	4.375	4.850	8.125	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	6.095
3.500	4.371	4.500	4.975	8.250	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	6.220
3.625	4.500	4.625	5.100	8.375	4.687	1.593	2.562	\	2.687	2.250	2.125	0.687	6.250
.750	4.625	4.724	5.199	8.750	4.687	1.593	2.562	\	2.687	2.250	2.125	0.687	6.770
3.875	4.750	4.875	5.375	8.750	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	6.636
4.000	4.875	5.000	5.500	9.000	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	6.761
4.125	5.000	5.125	5.625	9.000	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	6.886
4.250	5.125	5.250	5.750	9.250	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	7.011
4.500	5.375	5.500	6.000	9.500	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	7.261
4.750	5.625	5.750	6.313	10.375	4.687	1.593	2.562	\	2.687	2.250	2.125	0.812	7.574
5.000	6.125	6.760	7.260	12.000	5.515	1.749	3.043	\	3.168	2.598	2.473	0.812	10.00
5.250	6.375	7.010	7.510	12.250	5.515	1.749	3.043	\	3.168	2.598	2.473	0.812	10.25
5.500	6.625	7.500	8.000	12.687	5.515	1.749	3.043	\	3.168	2.598	2.473	0.937	10.50

TSDC-J01





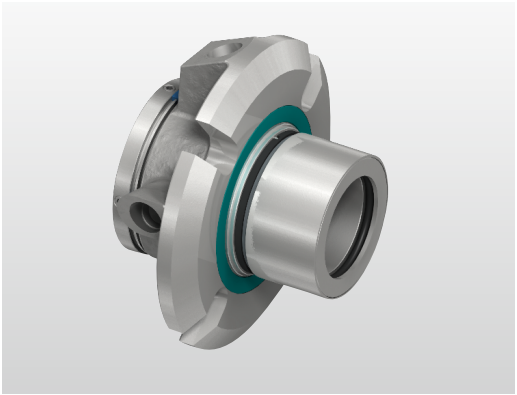
- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d_1 (mm)	d_3	d_4		d_{26}	l_{12}	l_{23}	l_{39}	l_{56}	l_{90}	l_{91}	l_{92}	m	n
		min	max										
24	39.7	41.3	48.0	101.6	94.1	34.4	49.6	13.5	50.8	47.7	44.5	13.3	71.2
25	39.7	41.3	48.0	101.6	94.1	34.4	49.6	13.5	50.8	47.7	44.5	13.3	71.2
28	42.9	44.5	51.2	104.8	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	74.5
30	44.5	46.1	56.5	108.0	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	79.9
32	46.0	47.6	58.3	108.0	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	81.6
33	49.3	50.8	61.5	111.1	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	84.8
35	49.3	50.8	61.5	111.1	97.8	36.7	52.4	13.5	54.0	48.6	45.4	13.3	84.8
38	55.5	57.2	68.1	123.8	101.5	37.8	54.0	15.1	55.5	50.7	47.5	13.3	91.4
40	58.7	60.3	71.4	127.0	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	95.7
43	61.1	63.0	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
45	61.1	63.0	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
48	64.7	66.7	74.1	133.4	101.5	37.8	54.0	15.1	55.5	50.7	47.5	14.3	98.4
50	67.9	70.0	76.6	139.7	110.6	40.7	58.7	27.0	60.3	55.0	51.9	14.3	101.6
53	71.1	73.0	85.3	148.8	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	113.5
55	72.9	75.0	85.3	148.8	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	113.5
58	74.2	76.2	88.5	165.1	110.6	40.7	58.7	15.1	60.3	55.0	51.9	17.4	116.0
60	77.4	79.4	91.7	165.1	115.4	43.6	62.6	15.9	64.2	56.0	52.8	17.4	119.9
63	83.8	85.7	98.8	171.5	115.4	43.6	65.1	15.9	66.7	53.5	50.3	17.4	127.0
65	83.8	85.7	98.8	171.5	115.4	43.6	65.1	15.9	66.7	53.5	50.3	17.4	127.0
68	90.2	92.1	103.2	171.5	116.7	41.3	63.5	15.9	65.1	56.4	53.2	17.4	131.3
70	90.2	92.1	103.2	171.5	116.7	41.3	63.5	15.9	65.1	56.4	53.2	17.4	131.3
75	98.1	101.6	113.5	196.9	116.7	45.4	65.1	17.4	66.7	54.8	51.6	20.6	145.3
80	102.2	105.0	116.8	188.9	119.0	40.5	63.8	\	66.9	58.5	55.3	20.6	148.5
85	107.9	111.1	123.2	206.4	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	154.8
90	114.3	117.5	129.5	212.7	119.0	40.5	65.1	\	68.3	57.2	54.0	17.5	158.6
95	117.5	120.0	132.1	222.3	119.0	40.5	65.1	\	68.3	57.2	54.0	17.5	172.0
100	123.8	127.0	139.7	228.6	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	171.7
105	127.0	130.2	142.9	228.6	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	174.9
110	136.5	139.7	152.4	241.3	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	184.4
115	136.5	139.7	152.4	241.3	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	184.4
120	142.9	146.1	160.4	263.5	119.0	40.5	65.1	\	68.3	57.2	54.0	20.6	192.4
125	155.6	171.7	184.4	304.8	140.1	44.4	77.3	\	80.5	66.0	62.8	20.6	254.0
130	161.9	178.1	190.8	311.2	140.1	44.4	77.3	\	80.5	66.0	62.8	20.6	260.4
135	168.3	190.5	203.2	322.3	140.1	44.4	77.3	\	80.5	66.0	62.8	20.8	266.7
140	168.3	190.5	203.2	322.3	140.1	44.4	77.3	\	80.5	66.0	62.8	20.8	266.7

TSDC-J05

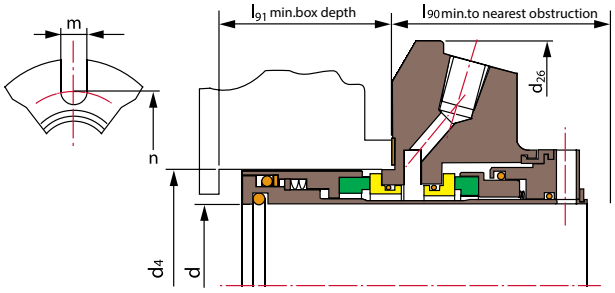
Operating Limits

Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C



ISO9001& TS16949

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring/PTFE)
  Other Parts(SUS304/SUS316/
- Titanium/Hastelloy-C)

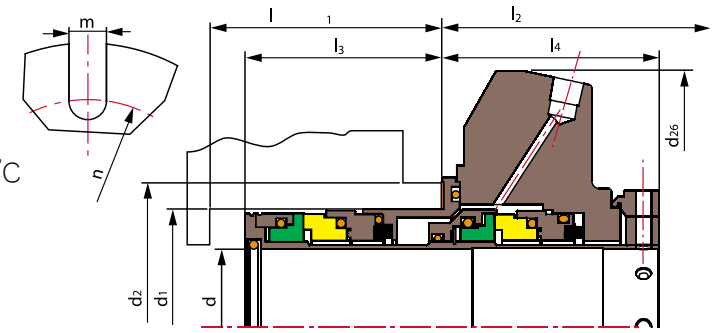


d (inches)	d4		d26	l90	l91	n	m
	min	max				min	
1.000	1.625	1.889	4.000	2.000	1.635	2.805	0.525
1.125	1.750	2.015	4.125	2.125	1.603	2.933	0.525
1.250	1.875	2.294	4.250	2.125	1.603	3.213	0.525
1.375	2.000	2.421	4.375	2.125	1.603	3.338	0.525
1.500	2.250	2.680	4.875	2.187	1.680	3.599	0.525
1.625	2.375	2.812	5.000	2.187	1.680	3.766	0.562
1.750	2.500	2.918	5.250	2.187	1.680	3.875	0.562
1.875	2.625	2.918	5.250	2.187	1.680	3.875	0.562
2.000	2.750	3.015	5.500	2.375	1.711	4.000	0.562
2.125	2.875	3.360	5.859	2.375	1.711	4.469	0.687
2.250	3.000	3.485	6.500	2.475	1.711	4.566	0.687
2.375	3.125	3.610	6.500	2.528	1.711	4.719	0.687
2.500	3.375	3.891	6.750	2.625	1.703	5.000	0.687
2.625	3.687	4.062	6.750	2.562	1.727	5.170	0.687
2.750	3.687	4.062	6.750	2.562	1.727	5.170	0.687

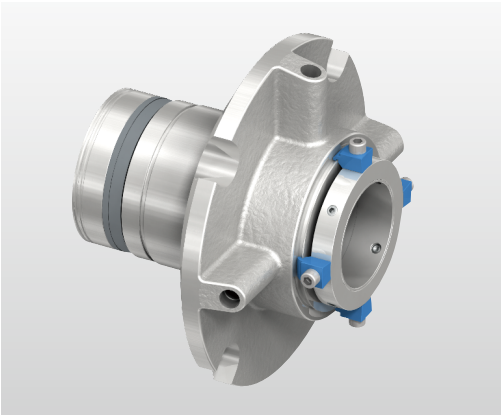
TSDC-FS02

Operating Limits

Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

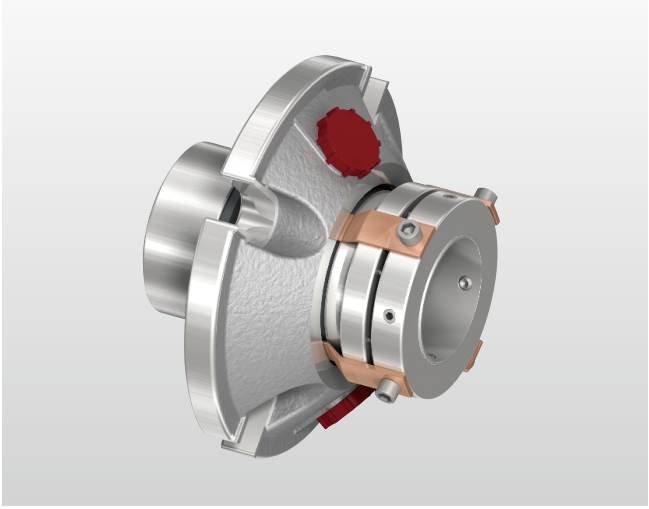


- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/Carbon/TC)
- Secondary Seal(VITON/Encapsulated Ring)
  Other Parts(SUS304/SUS316/Titanium/
- Hastelloy-C)



d (inches)	d1		d2	d26	l3	l1	l4	l2	n	m
	min	max								
1.000	1.625	1.875	2.115	3.69~3.75	1.838	1.900	2.062	2.124	2.750	0.440
1.125	1.750	2.000	2.240	3.69~3.75	1.838	1.900	2.062	2.124	2.875	0.440
1.250	1.890	2.245	2.495	4.19~4.25	1.838	1.900	2.062	2.124	3.125	0.562
1.375	2.000	2.375	2.615	3.94~4.00	1.838	1.900	2.062	2.124	3.250	0.440
1.437	2.250	2.688	2.775	4.72~4.78	1.903	1.965	2.122	2.184	3.750	0.560
1.500	2.250	2.525	2.775	4.69~4.75	1.903	1.965	2.122	2.184	3.750	0.560
1.625	2.375	2.780	3.030	4.69~4.75	1.903	1.965	2.122	2.184	3.750	0.560
1.750	2.500	2.875	3.150	4.94~5.00	1.903	1.965	2.122	2.184	3.875	0.560
1.875	2.625	2.875	3.150	4.94~5.00	1.903	1.965	2.122	2.184	3.875	0.560
1.937	2.690	2.920	\	\	1.903	1.965	2.122	2.184	\	\
2.000	2.750	3.030	3.280	5.00~5.12	1.903	1.965	2.122	2.184	4.120	0.688
2.125	2.875	3.125	3.430	5.94~6.00	1.903	1.965	2.122	2.184	4.250	0.750
2.250	3.000	3.280	\	\	1.903	1.965	2.122	2.184	\	\
2.375	3.125	3.687	3.975	6.32~6.38	1.903	1.965	2.122	2.184	4.875	0.750
2.437	3.375	3.450	TBD	6.32~6.38	1.934	1.996	2.091	2.153	4.875	0.750
2.500	3.375	3.687	3.975	6.32~6.38	1.903	1.965	2.122	2.184	4.875	0.750
2.625	3.625	4.312	4.615	7.19~7.25	2.429	2.491	2.906	2.968	5.625	0.880
2.750	3.750	4.312	4.615	7.19~7.25	2.429	2.491	2.906	2.968	5.625	0.880

TSDC-A02

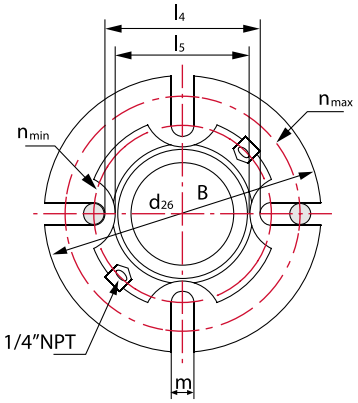


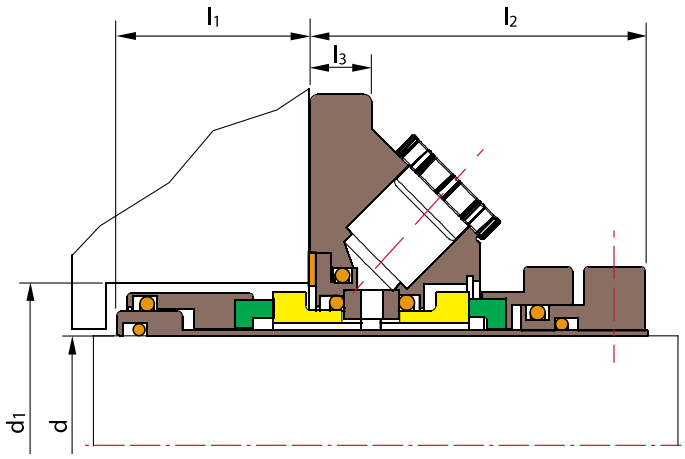
Operating Limits

Pressure: <2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)
- Other Parts(SUS304/SUS316/Titanium/Hastelloy-C)

d (inches)	d_{26}	l_4	l_5	l_3	d_1		n		m	l_1	l_2
					min	max	min	max	max		
1.000	4.125	2.125	1.937	0.519	1.625	1.937	2.687	3.562	1/2	1.281	2.062
1.125	4.250	2.250	2.063	0.519	1.750	2.062	2.812	3.617	1/2	1.281	2.062
1.250	4.375	2.375	2.187	0.519	1.875	2.187	2.937	3.812	1/2	1.281	2.062
1.375	4.375	2.500	2.312	0.519	2.000	2.250	3.062	3.812	1/2	1.281	2.062
1.500	5.000	2.812	2.562	0.644	2.250	2.375	3.375	4.437	1/2	1.312	2.125
1.625	5.000	2.812	2.562	0.644	2.375	2.500	3.375	4.437	1/2	1.312	2.125
1.750	5.500	3.187	2.812	0.644	2.500	2.750	3.750	4.937	1/2	1.312	2.125
1.875	5.500	3.187	2.812	0.644	2.625	2.875	3.750	4.937	1/2	1.312	2.125
2.000	6.000	3.562	3.063	0.644	2.750	3.000	4.125	5.437	1/2	1.380	2.125
2.000-AC	5.250	3.450	3.035	0.644	2.750	3.000	4.000	4.750	1/2	1.380	2.125
2.125	6.000	3.562	3.063	0.644	2.875	3.125	4.125	5.437	1/2	1.380	2.125
2.250	6.500	3.812	3.312	0.644	3.000	3.250	4.500	5.812	5/8	1.380	2.125
2.375	6.500	3.812	3.312	0.644	3.125	3.375	4.500	5.812	5/8	1.380	2.125
2.500	7.000	4.312	3.812	0.769	3.375	3.625	5.000	6.312	5/8	1.500	2.375
2.625	7.000	4.312	3.812	0.769	3.500	3.750	5.000	6.312	5/8	1.500	2.375
2.750	7.000	4.312	3.812	0.769	3.625	3.875	5.000	6.312	5/8	1.500	2.375
2.875	7.500	4.937	4.250	0.769	3.750	4.125	5.625	6.812	5/8	1.500	2.375
3.000	7.500	4.937	4.250	0.769	3.875	4.250	5.625	6.812	5/8	1.500	2.375
3.125	7.500	4.937	4.250	0.769	4.000	4.375	5.625	6.812	5/8	1.500	2.375
3.250	8.000	5.312	4.625	0.769	4.125	4.500	6.125	7.187	3/4	1.500	2.375
3.375	8.000	5.312	4.625	0.769	4.250	4.625	6.125	7.187	3/4	1.500	2.375
3.500	8.000	5.312	4.625	0.769	4.375	4.750	6.125	7.187	3/4	1.500	2.375
3.625	8.500	5.937	5.000	0.769	4.500	5.000	6.750	7.687	3/4	1.500	2.375
3.750	8.500	5.937	5.000	0.769	4.625	5.125	6.750	7.687	3/4	1.500	2.375
3.875	8.500	5.937	5.000	0.769	4.750	5.250	6.750	7.687	3/4	1.500	2.375
4.000	9.000	6.625	5.375	0.769	4.875	5.500	7.437	8.187	3/4	1.500	2.375
4.125	9.000	6.625	5.375	0.769	5.125	5.875	7.437	8.187	3/4	1.500	2.375
4.250	9.000	6.625	5.375	0.769	5.125	5.875	7.437	8.187	3/4	1.500	2.375
4.375	9.500	7.000	5.750	0.769	5.375	6.250	7.812	8.687	3/4	1.500	2.375
4.500	9.500	7.000	5.750	0.769	5.375	6.250	7.812	8.687	3/4	1.500	2.375
4.625	10.000	7.345	6.125	0.769	5.625	6.625	8.312	9.062	7/8	1.500	2.375
4.750	10.000	7.345	6.125	0.769	5.625	6.625	8.312	9.062	7/8	1.500	2.375
4.875	10.000	7.345	6.125	0.769	5.875	6.625	8.312	9.062	7/8	1.500	2.375
5.000	10.000	7.345	6.125	0.769	5.875	6.625	8.312	9.062	7/8	1.500	2.375



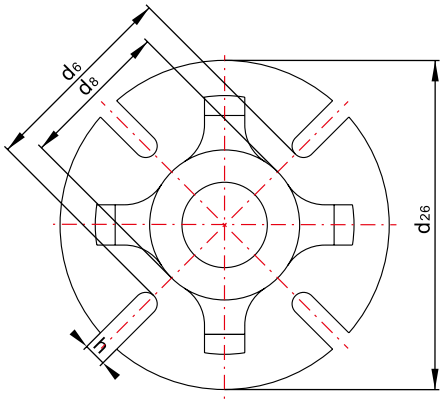


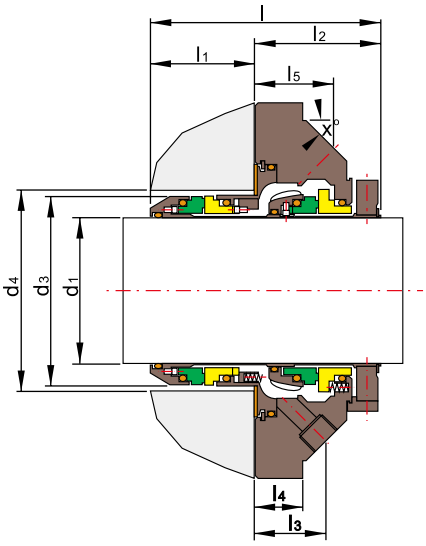
TSDC-A02

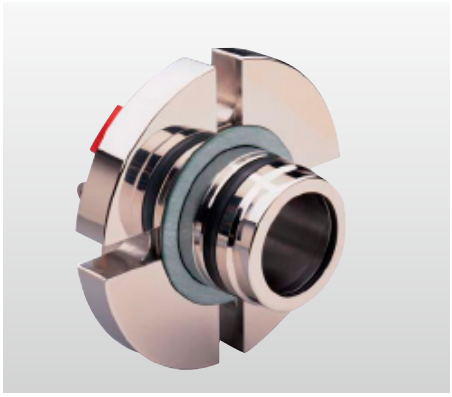
Operating Limits

Pressure: <2.1MPa(shaft diameter≤75mm)
<1.3MPa(shaft diameter>75mm)
Speed: ≤25m/s
Temperature: -30˚C ~+205˚C

d (mm)	d_{26}	l_4	l_5	l_3	d_1		n		m	l_1	l_2
					min	max	min	max	max		
24	104.8	54.0	49.2	13.2	40.0	46.0	67.0	90.5	12	32.5	52.4
25	104.8	54.0	49.2	13.2	41.0	49.0	67.0	90.5	12	32.5	52.4
28	108.0	57.2	52.4	13.2	44.0	52.3	70.3	93.6	12	32.5	52.4
30	111.0	60.4	55.6	13.2	46.0	55.5	73.5	96.8	12	32.5	52.4
32	111.0	60.4	55.6	13.2	48.0	55.5	73.5	96.8	12	32.5	52.4
33	111.0	60.4	55.6	13.2	49.0	55.5	73.5	96.8	12	32.5	52.4
35	111.0	63.5	58.8	13.2	51.0	57.5	76.6	96.8	12	32.5	52.4
38	127.0	71.5	65.0	16.4	57.2	60.3	85.7	114.3	12	33.3	54.0
40	127.0	71.5	65.0	16.4	58.0	60.4	85.7	114.3	12	33.3	54.0
43	127.0	71.5	65.0	16.4	61.0	63.5	85.7	114.3	12	33.3	54.0
45	139.7	81.0	71.4	16.4	63.5	69.9	95.3	127.0	12	33.3	54.0
48	139.7	81.0	71.4	16.4	66.7	73.0	95.3	127.0	12	33.3	54.0
50	139.7	81.0	71.4	16.4	68.0	73.0	95.3	127.0	12	33.3	54.0
53	152.4	90.5	77.8	16.4	71.0	76.2	104.8	139.7	12	35.0	54.0
55	152.4	90.5	77.8	16.4	74.0	79.4	104.8	139.7	12	35.0	54.0
58	165.1	96.8	84.1	16.4	76.2	82.5	114.3	149.2	16	35.0	54.0
60	165.1	96.8	84.1	16.4	79.4	85.7	114.3	149.2	16	35.0	54.0
63	177.8	109.5	96.8	19.6	85.8	92.1	127.0	160.3	16	38.1	60.3
65	177.8	109.5	96.8	19.6	88.9	95.3	127.0	160.3	16	38.1	60.3
68	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	38.1	60.3
70	177.8	109.5	96.8	19.6	92.1	98.4	127.0	160.3	16	38.1	60.3
75	190.5	125.4	108.0	19.6	98.5	108.0	142.9	173.0	16	38.1	60.3
80	190.5	125.4	108.0	19.6	101.6	111.1	142.9	173.0	16	38.1	60.3
85	203.2	135.0	117.5	19.6	108.0	117.5	155.6	182.5	20	38.1	60.3
90	215.9	150.8	127.0	19.6	114.3	127.0	171.5	195.2	20	38.1	60.3
95	215.9	150.8	127.0	19.6	117.5	130.2	171.5	195.2	20	38.1	60.3
100	228.6	168.3	136.5	19.6	123.9	139.7	189.0	208.0	20	38.1	60.3
105	228.6	168.3	136.5	19.6	130.1	149.2	189.0	208.0	20	38.1	60.3
110	241.3	177.8	146.2	19.6	136.5	158.8	198.4	220.6	20	38.1	60.3
115	254.0	186.6	155.8	19.6	142.9	168.3	211.1	230.2	22	38.1	60.3
120	254.0	186.6	155.8	19.6	142.9	168.3	211.1	230.2	22	38.1	60.3
125	254.0	186.6	155.8	19.6	149.2	168.3	211.1	230.2	22	38.1	60.3







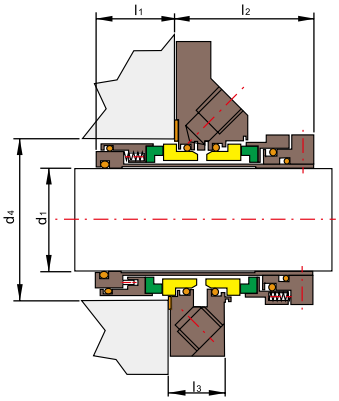
TSDC-A03

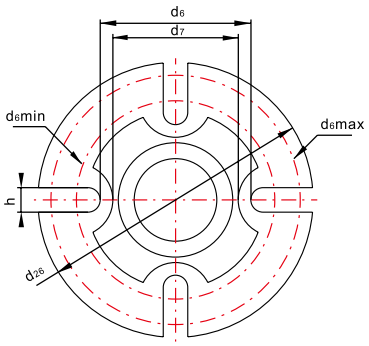
Operating Limits

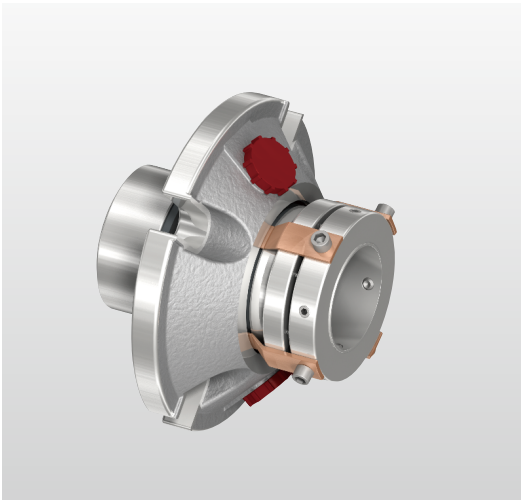
Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -40˚C ~204˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)
- Other Parts(C-276/Duplex/316)

Seal Size (mm)	d_1	d_2	d_4		d_6	d_8	d_{26}	l	l_1	l_2	l_3	l_4	l_5	h	x
			min	max											
24	24	40.8	43.0	48.0	57.7	50.4	105.0	92.0	53.1	38.9	28.2	19.2	29.2	14.0	20°
25	25	41.8	44.0	51.0	62.0	51.0	105.0	92.0	53.1	38.9	27.8	19.2	29.2	14.0	20°
28	28	45.4	47.0	54.0	65.0	55.5	111.0	92.0	53.1	38.9	27.5	19.2	29.4	14.0	20°
30	30	46.8	49.0	54.0	64.6	56.4	105.0	92.0	53.1	38.9	27.4	19.2	29.7	14.0	20°
32	32	49.8	51.0	57.0	66.5	59.4	105.0	92.0	53.1	38.9	28.4	21.5	30.9	14.0	25°
33	33	49.8	51.0	57.0	66.5	59.4	105.0	92.0	53.1	38.9	28.4	21.5	30.9	14.0	25°
35	35	51.8	53.0	59.0	68.5	61.4	120.0	92.0	53.1	38.9	29.3	20.7	29.3	14.0	15°
40	40	57.6	59.0	70.5	80.7	70.8	135.0	93.2	53.1	40.1	30.1	21.3	30.1	14.0	20°
43	43	58.6	61.0	70.5	80.7	70.8	135.0	93.2	53.1	40.1	26.7	21.3	29.8	14.0	15°
45	45	62.0	64.0	75	84.6	73.8	139.0	93.2	53.1	40.1	30.5	21.9	30.5	14.0	20°
50	50	68.0	70.0	78.0	87.6	78.9	150.0	93.2	53.1	40.1	30.5	21.6	30.5	17.5	20°
53	53	71.6	73.0	87.0	97.0	85.0	150.0	93.2	53.1	40.1	25.7	21.3	29.5	17.5	15°
55	55	71.6	73.0	87.0	97.0	85.0	150.0	93.2	53.1	40.1	25.7	21.3	29.5	17.5	15°
60	60	77.9	80.0	92.0	102.4	88.0	164.5	93.2	53.1	40.1	30.5	21.6	30.5	17.5	20°
63	63	81.1	83.0	98.5	108.7	94.4	171.0	93.2	53.1	40.1	29.8	21.6	29.8	17.5	15°
65	65	84.3	86.0	98.5	108.7	94.4	171.0	93.2	53.1	40.1	29.4	21.3	29.4	17.5	15°
70	70	87.4	89.0	100.0	112.0	98.3	180.5	93.2	53.1	40.1	29.7	21.3	29.7	17.5	20°
75	75	98.0	101.6	117.5	131.4	116.5	189.3	115.9	63.5	52.4	25.0	25.8	36.3	17.5	20°
80	80	104.4	108.0	127.0	142.5	126.0	201.9	115.9	63.5	52.4	25.0	25.8	36.3	21.0	20°
85	85	107.6	111.1	127.0	142.5	126.0	201.9	115.9	63.5	52.4	25.0	25.8	36.3	21.0	20°
90	90	113.9	117.5	136.5	152.0	135.5	214.6	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
95	95	117.1	120.0	136.5	152.0	135.5	214.6	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
100	100	123.4	127.0	139.7	155.2	138.7	227.3	115.9	63.5	52.4	26.2	25.8	36.3	21.0	20°
105	105	129.8	133.4	152.4	167.9	151.4	240.0	115.9	63.5	52.4	36.0	23.8	40.1	21.0	45°
110	110	136.1	139.7	152.4	167.9	151.4	240.0	115.9	63.5	52.4	36.0	23.8	40.1	21.0	45°
115	115	142.5	146.1	165.1	180.6	164.1	252.7	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°
120	120	142.5	146.1	165.1	180.6	164.1	252.7	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°
125	125	148.8	152.4	165.1	180.6	164.1	252.7	115.9	63.5	52.4	36.0	23.8	40.1	24.0	45°







TSDC-A04

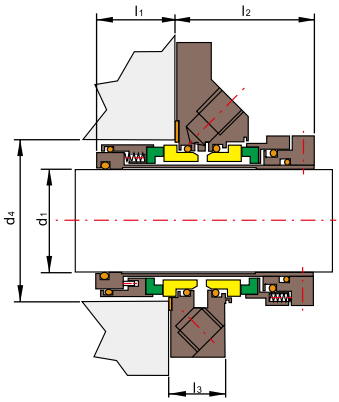
Operating Limits

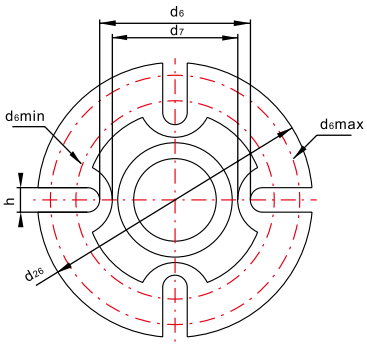
Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -40˚C ~204˚C

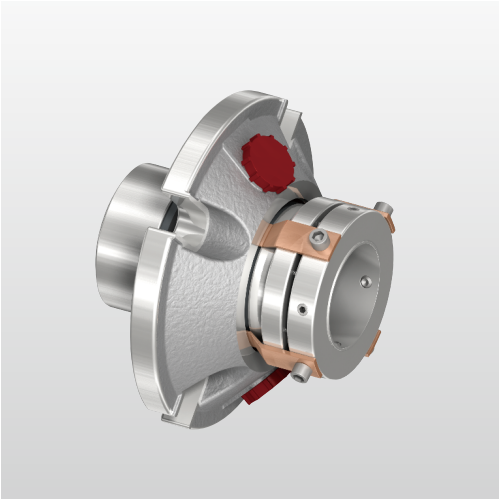
- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)

Other Parts(C-276/Duplex/316)

d_1 (mm)	d_4	d_6	d_7	d_8	d_{26}	l_1	l_2	l_3	h
24	40.0	74.6	60.3	-	104.8	30.7	51.3	23.5	12
25	41.0	74.6	60.3	-	104.8	30.7	51.3	23.5	12
28	44.0	74.6	60.3	-	108.0	30.7	51.3	23.5	12
30	46.0	77.8	63.5	-	111.0	30.7	51.3	23.5	12
32	48.0	77.8	63.5	-	111.0	30.7	51.3	23.5	12
33	49.0	77.8	63.5	-	111.0	30.7	51.3	23.5	12
35	50.8	80.9	66.7	-	111.0	30.7	51.3	23.5	12
38	57.2	85.7	71.9	-	127.0	27.7	56.5	21.6	12
40	57.2	85.7	71.9	-	127.0	27.7	56.5	21.6	12
43	60.3	85.7	71.9	-	127.0	27.7	56.5	21.6	12
45	63.5	90.5	76.7	-	133.4	27.7	56.5	21.6	12
48	66.7	90.5	76.7	-	133.4	27.7	56.5	21.6	12
50	68.0	90.5	76.7	-	133.4	27.7	56.5	21.6	12
53	71.0	100.0	86.0	-	139.7	29.2	57.2	21.6	12
55	73.0	111.1	93.7	-	146.0	29.2	57.2	21.6	16
58	76.2	111.1	93.7	-	146.0	29.2	57.2	21.6	16
60	79.4	117.5	100.0	-	152.4	29.2	57.2	21.6	16
63	85.7	127.0	109.5	-	177.8	31.8	63.8	23.5	16
65	88.9	127.0	109.5	-	177.8	31.8	63.8	23.5	16
70	92.1	127.0	109.5	-	177.8	31.8	63.8	23.5	16
75	98.5	142.9	125.4	-	190.5	31.8	63.8	23.5	16
80	101.6	142.9	125.4	-	190.5	31.8	63.8	23.5	16
85	108.0	152.4	135.0	-	203.2	31.8	63.8	23.5	16
90	114.3	171.5	150.8	127.0	215.9	31.8	47.7	19.6	20
95	117.5	171.5	150.8	127.0	215.9	31.8	47.7	19.6	20
100	123.9	188.9	168.3	136.5	228.6	31.8	47.7	19.6	20
115	142.9	211.1	186.6	155.6	254.0	31.8	47.7	19.6	22
120	142.9	211.1	186.6	155.6	254.0	31.8	47.7	19.6	22







TSDC-A04

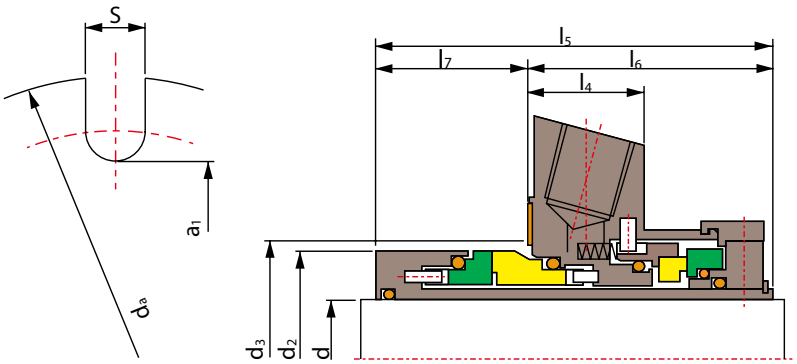
Operating Limits

Pressure: ≤2.1MPa
Speed: ≤25m/s
Temperature: -40˚C ~204˚C

- Rotary Ring(SiC/Carbon/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM/Kalrez)

Other Parts(C-276/Duplex/316)

d_1 (inches)	d_4	d_6	d_7	d_8	d_{26}	l_1	l_2	l_3	h
1.000	1.625	2.937	2.375	-	4.125	1.209	2.020	0.927	1/2
1.125	1.750	2.937	2.375	-	4.250	1.209	2.020	0.927	1/2
1.250	1.875	3.062	2.500	-	4.375	1.209	2.020	0.927	1/2
1.375	2.000	3.186	2.625	-	4.375	1.209	2.020	0.927	1/2
1.500	2.250	3.375	2.832	-	5.000	1.090	2.226	0.852	1/2
1.625	2.375	3.375	2.832	-	5.000	1.090	2.226	0.852	1/2
1.750	2.500	3.562	3.022	-	5.250	1.090	2.226	0.852	1/2
1.875	2.625	3.562	3.022	-	5.250	1.090	2.226	0.852	1/2
2.000	2.750	3.937	3.386	-	5.500	1.150	2.250	0.852	1/2
2.125	2.875	4.375	3.687	-	5.750	1.150	2.250	0.852	5/8
2.250	3.000	4.375	3.687	-	5.750	1.150	2.250	0.852	5/8
2.375	3.125	4.625	3.937	-	6.000	1.150	2.250	0.852	5/8
2.500	3.375	5.000	4.312	-	7.000	1.250	2.510	0.926	5/8
2.625	3.500	5.000	4.312	-	7.000	1.250	2.510	0.926	5/8
2.750	3.625	5.000	4.312	-	7.000	1.250	2.510	0.926	5/8
2.875	3.750	5.625	4.937	-	7.500	1.250	2.510	0.926	5/8
3.000	3.875	5.625	4.937	-	7.500	1.250	2.510	0.926	5/8
3.125	4.000	5.625	4.937	-	7.500	1.250	2.510	0.926	5/8
3.250	4.125	6.000	5.312	-	8.000	1.250	2.510	0.926	5/8
3.375	4.250	6.000	5.312	-	8.000	1.250	2.510	0.926	5/8
3.500	4.375	6.000	5.312	-	8.000	1.250	2.510	0.926	5/8
3.625	4.500	6.750	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.750	4.625	6.750	5.937	5.000	8.500	1.250	1.877	0.769	3/4
3.875	4.750	6.750	5.937	5.000	8.500	1.250	1.877	0.769	3/4
4.000	4.875	7.437	6.625	5.375	9.000	1.250	1.877	0.769	3/4
4.625	5.625	8.312	7.345	6.125	10.000	1.250	1.877	0.769	7/8
4.750	5.625	8.312	7.345	6.125	10.000	1.250	1.877	0.769	7/8



TSDC-B02

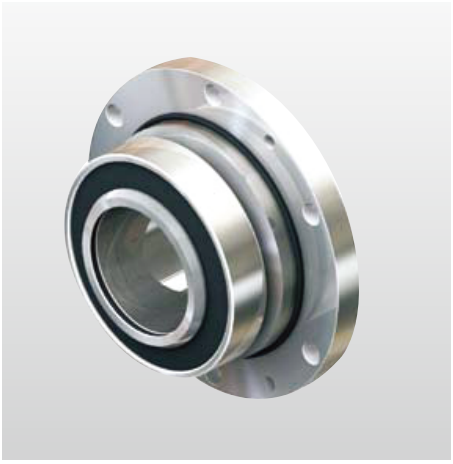
Operating Limits

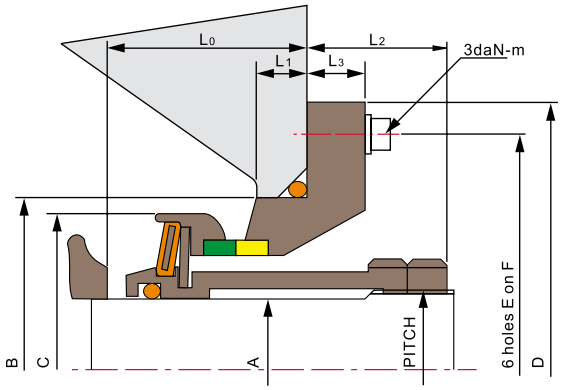
Pressure: ≤2.5MPa
Speed: ≤16m/s
Temperature: -40˚C ~220˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC/Carbon)
- Secondary Seal(VITON/Encapsulated/NBR/Kalrez)
- Other Parts(C-276/Duplex/316/304)

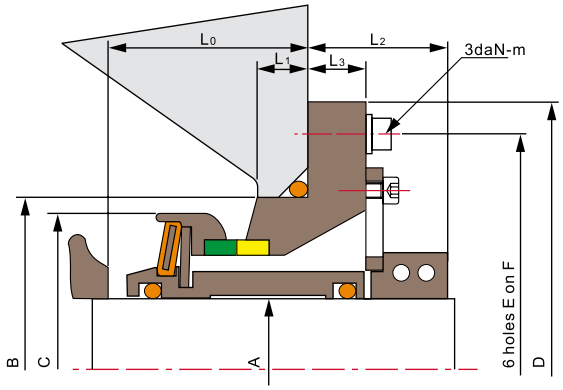
d (mm)	d_2	d_3 min	d_3 max	l_4	l_5	l_6	l_7	a_1	d_a	s
25	43.0	44.0	51.5	25.4	86.5	53.4	33.1	62	105	13.2
28	46.0	47.0	52.0	25.4	86.5	53.4	33.1	62	105	13.2
30	48.0	49.0	56.0	25.4	86.5	53.4	33.1	65	105	13.2
32	49.8	51.0	57.0	25.4	86.5	53.4	33.1	67	108	13.2
33	49.8	51.0	57.0	25.4	86.5	53.4	33.1	67	108	13.2
35	53.0	54.0	61.5	25.4	86.5	53.4	33.1	70	113	13.2
38	56.0	57.0	66.0	25.4	86.5	53.4	33.1	75	123	13.2
40	58.0	59.0	68.0	25.4	86.5	53.4	33.1	75	123	14.2
42	60.5	61.5	69.5	25.4	86.5	53.4	33.1	80	133	14.2
43	60.5	61.5	70.5	25.4	86.5	53.4	33.1	80	133	14.2
45	62.5	64.0	73.0	25.4	86.5	53.4	33.1	81	138	14.2
48	65.6	67.0	75.0	25.4	86.5	53.4	33.1	84	138	14.2
50	68.0	69.0	78.0	25.4	86.5	53.4	33.1	87	148	14.2
53	72.0	73.0	87.0	25.4	86.5	53.4	33.1	97	148	18.0
55	73.0	74.0	83.0	25.4	86.5	53.4	33.1	90	148	18.0
60	78.0	79.0	91.0	25.4	86.5	53.4	33.1	102	157	18.0
65	84.8	85.7	98.5	25.4	86.5	53.4	33.1	109	163	18.0
70	93.0	95.0	108.0	25.4	86.5	53.4	33.1	118	178	18.0
75	100.0	101.6	118.0	28.0	108.0	63.9	44.1	129	190	18.0
80	106.4	108.0	124.0	28.0	108.0	63.9	44.1	135	195	18.0
85	109.5	111.1	128.0	28.0	108.0	63.9	44.1	139	198	22.0
90	115.9	117.5	135.0	28.0	108.0	63.9	44.1	145	205	22.0
95	119.1	120.7	138.0	28.0	108.0	63.9	44.1	148	208	22.0
100	125.4	127.0	144.0	28.0	108.0	63.9	44.1	154	218	22.0

d (inches)	d_2	d_3 min	d_3 max	l_4	l_5	l_6	l_7	a_1	d_a	s
1.000	1.693	1.750	2.000	1.000	3.400	2.102	1.303	2.440	4.134	0.520
1.125	1.811	1.875	2.050	1.000	3.400	2.102	1.303	2.440	4.134	0.520
1.250	1.960	2.000	2.250	1.000	3.400	2.102	1.303	2.640	4.330	0.520
1.375	2.086	2.125	2.420	1.000	3.400	2.102	1.303	2.750	4.449	0.520
1.500	2.200	2.000	2.625	1.000	3.400	2.102	1.303	2.950	4.842	0.520
1.625	2.340	2.250	2.700	1.000	3.400	2.102	1.303	3.030	4.842	0.599
1.750	2.460	2.375	2.812	1.000	3.400	2.102	1.303	3.190	5.433	0.599
1.875	2.582	2.500	2.940	1.000	3.400	2.102	1.303	3.190	5.433	0.599
2.000	2.677	2.625	3.190	1.000	3.400	2.102	1.303	3.430	5.827	0.599
2.125	2.834	2.750	3.437	1.000	3.400	2.102	1.303	3.820	5.827	0.709
2.250	2.960	2.875	3.560	1.000	3.400	2.102	1.303	3.940	6.181	0.709
2.375	3.070	3.000	3.590	1.000	3.400	2.102	1.303	4.020	6.181	0.709
2.500	3.212	3.125	3.800	1.000	3.400	2.102	1.303	4.170	6.417	0.709
2.625	3.338	3.250	3.937	1.000	3.400	2.102	1.303	4.290	6.417	0.709
2.750	3.660	3.375	4.250	1.000	3.400	2.102	1.303	4.650	7.008	0.709
2.875	3.811	3.875	4.567	1.000	4.250	2.516	1.736	4.960	7.283	0.709
3.000	3.937	4.000	4.646	1.102	4.250	2.516	1.736	5.079	7.480	0.709
3.125	4.063	4.125	4.764	1.102	4.250	2.516	1.736	5.197	7.677	0.709
3.250	4.189	4.250	4.882	1.102	4.250	2.516	1.736	5.315	7.677	0.709
3.375	4.311	4.375	5.039	1.102	4.250	2.516	1.736	5.472	7.795	0.866
3.500	4.437	4.500	5.157	1.102	4.250	2.516	1.736	5.591	7.795	0.866
3.625	4.563	4.625	5.315	1.102	4.250	2.516	1.736	5.709	8.071	0.866
3.750	4.689	4.750	4.433	1.102	4.250	2.516	1.736	5.827	8.189	0.866
4.000	4.937	5.000	5.669	1.102	4.250	2.516	1.736	6.063	8.583	0.866

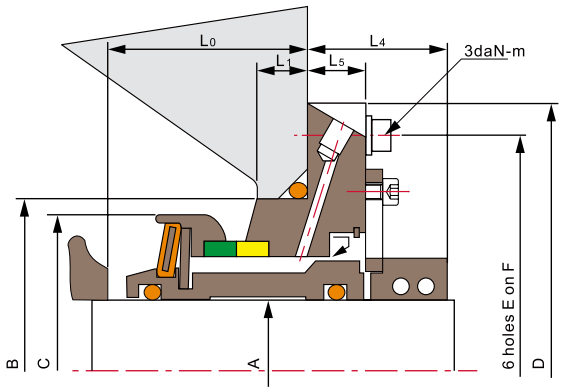




03



03C



03CP

TSG03、TSG03C、TSG03CP

Operating Limits

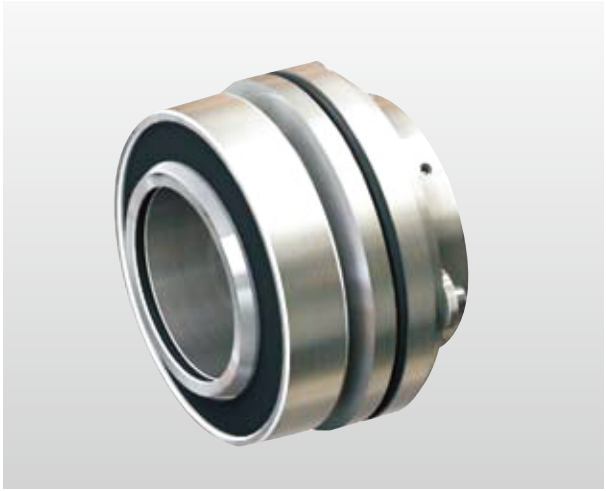
Pressure: ≤2MPa
Speed: ≤23m/s
Temperature: -30˚C ~+200˚C

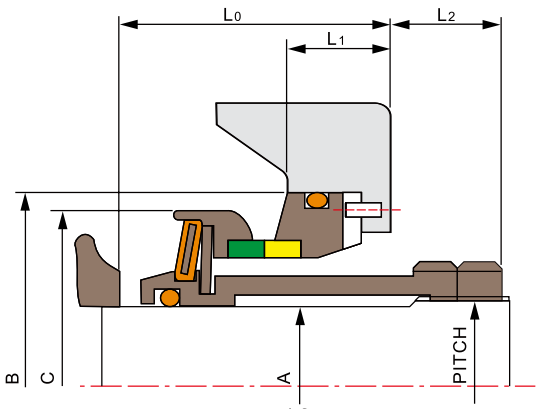
- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM)
- Other Parts(SUS304/SUS316)

Model	A	B	C	D	E	F	L_0	L_1	L_2	L_3	L_4	L_5
47x55	20~32	76	72	124	11	106	48.5	13	32	12	61.5	30
72x82	33~51	108	99	168	13	148	61	15	38	18	70	35
103x113	52~78	140	135	199	13	180	61	15	39	19	81	40
132x144	79~108	185	170	240	13	220	62	16	40	20	85	40
160x178	09~137	210	208	290	13	260	72	22	40	20	90	40
211x229	138~180	280	264	370	17	330	93	25	42	20	93	42

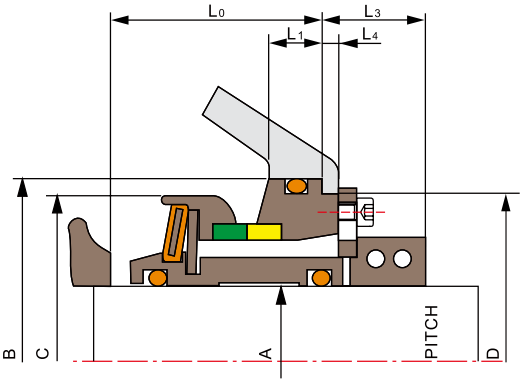
Pitch:please consult us according to diameter

ISO9001& TS16949

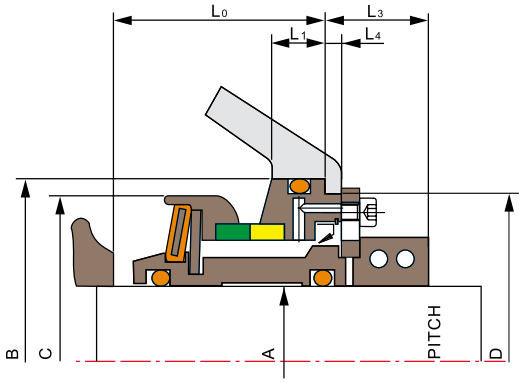




13



43C



43CP

TSG13、TSG43C、TCG43CP

Operating Limits

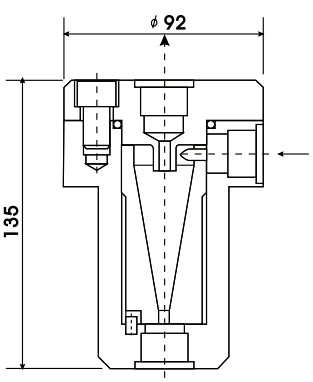
Pressure: ≤2MPa
Speed: ≤23m/s
Temperature: -30˚C ~+200˚C

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC)
- Secondary Seal(VITON/EPDM)
- Other Parts(SUS304/SUS316)

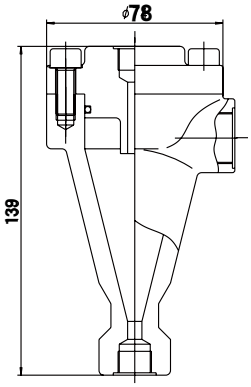
Model	A	B	C	D	L_0	L_1	L_2	L_3	L_4
47x55	20~32	76	72	68	50.5	15	40.5	25	4
72x82	33~51	108	99	102	61	15	48	28	6
103x113	52~78	140	135	131	63	17	57	30	6
132x144	79~108	185	170	177	67	18	58	33	6
160x178	109~137	210	208	202	86	34	60	50	6
211x229	138~180	280	264	265	105	40	62	60	8

Pitch:please consult us according to diameter

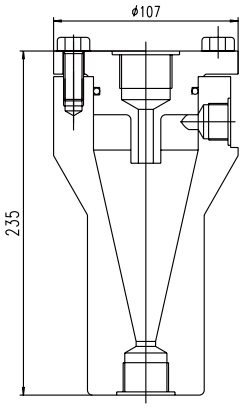
TSCS(CYCLONE SEPARATOR)



CS01



CS02



CS03

Operating Limits

Pressure: 6.4MPa
Working Temperature: 125℃
Nozzle: 1/2NPT
Material: Stainless steel/Ceramic

Operating plans: API31, API41.

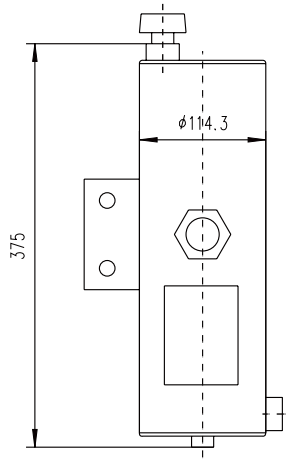
Technical data	CS01	CS02	CS03
Operating pressure max..(bar)	64	64	200
Operating temperature max..(℃)	125(60*)	125	150
Connections	G/NPT1/2	G/NPT1/2	G/NPT3/4,1
Weight approx.(kg)	3,5	2,0	8,0
Materials:casing/cover	316/304	316/304	316/304
O-ring	Viton	Viton	Viton

TSQS (QUENCH SYSTEM)

TSQS-032

Operating Limits
Capacity: 3.2L
Pressure: Pressureless
Working Temperature: −30℃~200℃
Material: Stainless steel

Operating plans: API 51 or pressureless API 52

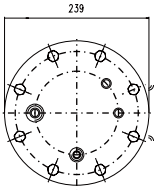


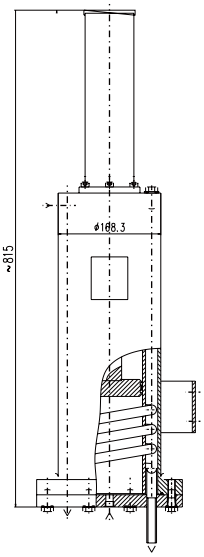
TSPB(PRESSURE BOOSTER)

Operating Limits

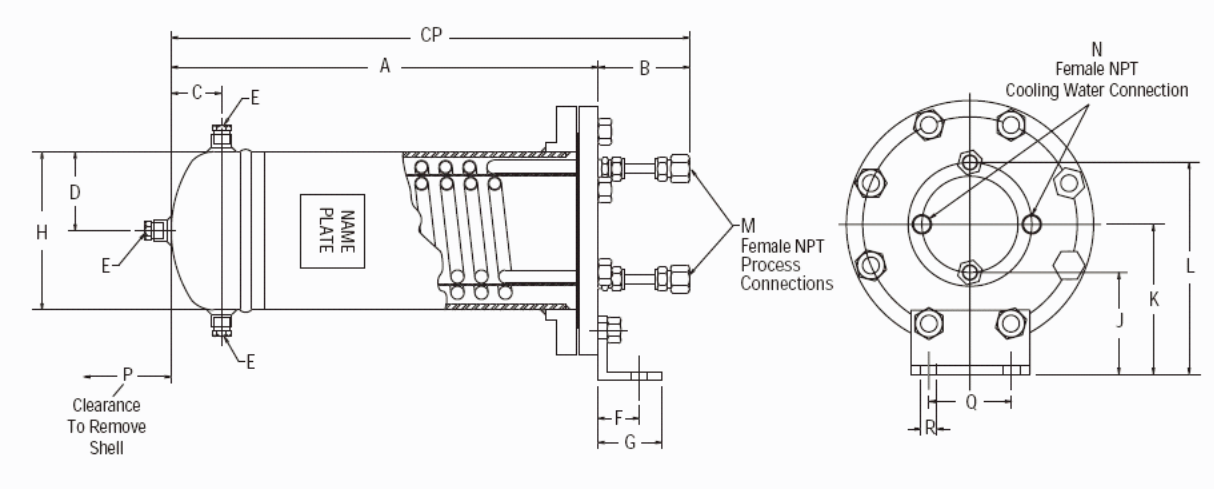
Capacity: 4L
Pressure: Inlet 5.7MPa, Outlet 6.5MPa
Working Temperature: −60℃——200℃
Cooling coil capacity: 0.3m2
Transmission ratio: 1:1.1
Material: Stainless steel

Operating plans: API 53C.





TSHE （HEAT-EXCHANGER）



Operating plans:API 52, API 53, API 53A, API 54.

Demensions(inches)	A	CP	B	C	D	E(NPT)	F	G	H	J	K	L	M (NPT)	N (NPT)	P
TSHE-0500-SCS	13 1/16	18 1/16	5	1 7/8	2 13/16	1/2	1 3/4	3	5 9/16	43/8	61/8	8 1/4	1/2	1/2	12
TSHE-0625-SCS	16 5/8	21 5/8	5	2 1/4	3 5/16	1/2	1 3/4	3	6 5/8	47/8	65/8	9 1/8	1/2	3/4	15 5/8
TSHE-0750-SCS	23 3/8	28 3/8	5	2 3/4	4 5/16	1/2	21/4	3 1/2	8 5/8	51/2	81/8	11 1/2	3/4	1	22 1/8

Demensions(inches)	A	CP	B	C	D	E(NPT)	F	G	H	J	K	L	M (NPT)	N (NPT)	P
TSHE-0500-SCS	332	459	127	48	71	1/2	44	76	141	111	156	210	1/2	1/2	305
TSHE-0625-SCS	422	549	127	57	84	1/2	44	76	168	124	168	232	3/4	3/4	397
TSHE-0750-SCS	594	721	127	70	110	1/2	57	89	219	140	206	292	3/4	1	562

TSMRP(MANUAL REFILL PUMP)

Operating Limits

Capacity：2L

Pressure： 3MPa

Working Temperature：—30℃——110℃

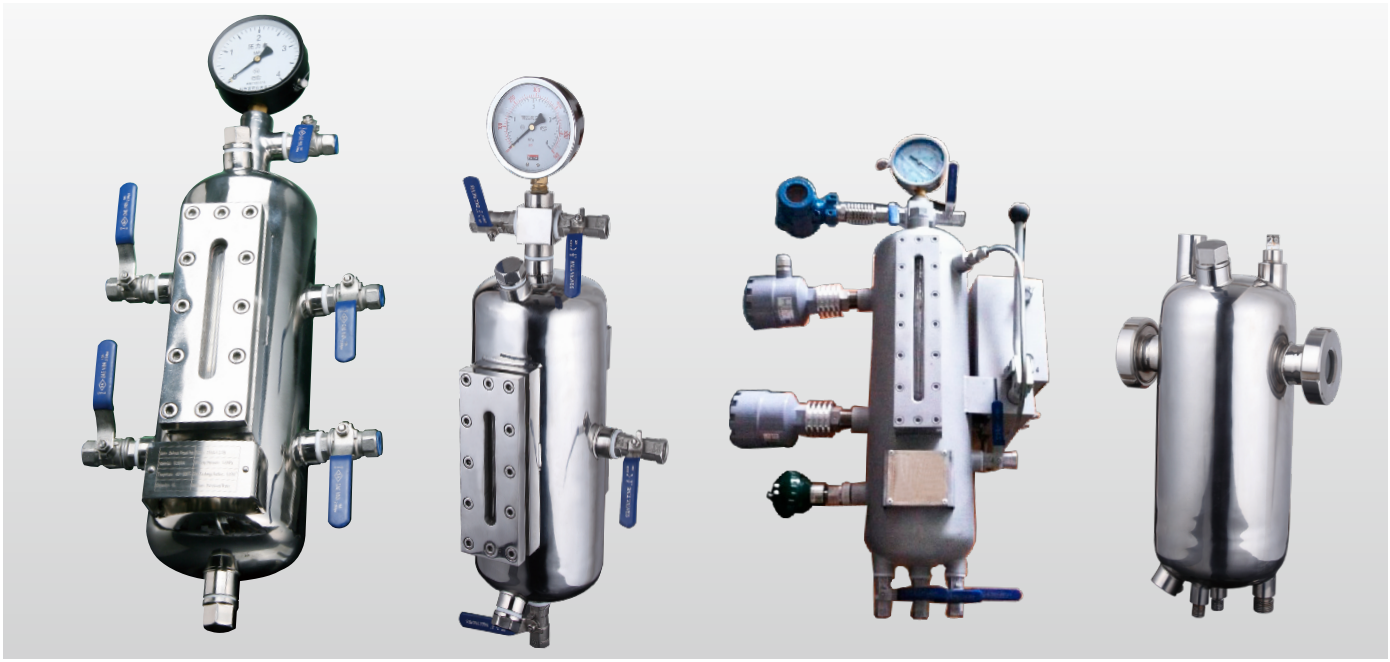
Displaced Volume：15ml/Stroke

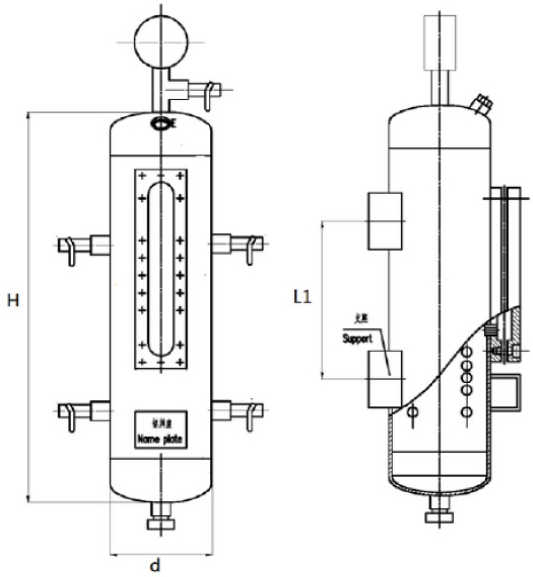
Material： Stainless steel

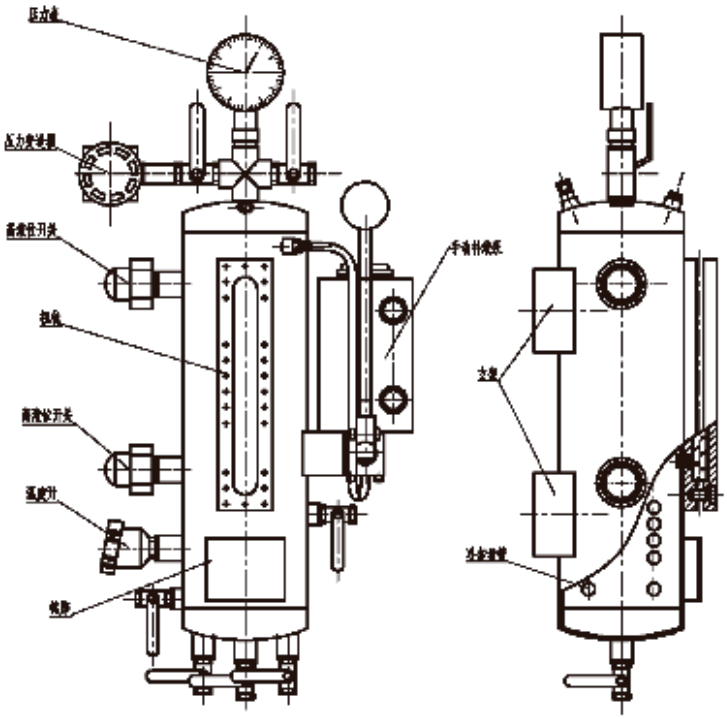
Operating plans:

API53, API53A, API53C, API54.

TSTS (THERMOSIPHON SYSTEM)







TSTS (THERMOSIPHON SYSTEM)

Operating Limits

Capacity：4L/6L/10L/12L/20L

Pressure： 2.5MPa

Working Temperature： −60°C——200°C

Material： Stainless steel

Operating plans:API 52 API 53 API 53A

标配 Standard Configuration	额外配件 Optional Parts
pressure gage	pressure switch
sight glass	high level switch
cooling coil	low level switch
valve	emperature gauge
	manual refill pump

model	volume(L)	d	L1	H	NOZZLE
TSLA1.4	4L	133	175	470	3/8"
TSLA1.6	6L	159	260	690	1/2"
TSLA1.10	10L	219	260	560	1/2"
TSLA1.12	12L	219	260	600	1/2"
TSLA1.20	20L	219	344	1400	1/2"

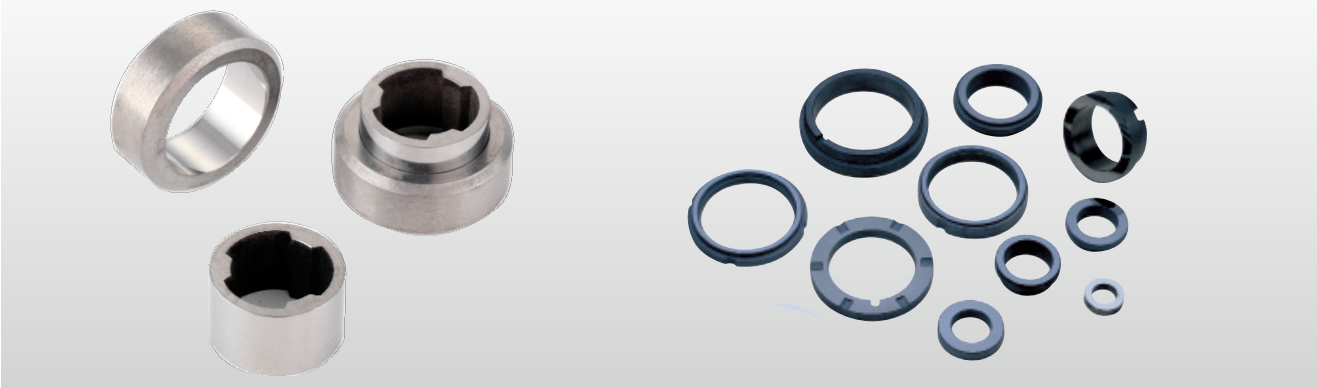
Carbon

ISO9001& TS16949

Carbon Performance Index

Type		Grade	Impregnated Material	Volume Density	Antiflexural Strength	Compression Strength	Shore Hardness	Porosity	Thermal Expansion Coefficient	Temperature	Feature
				g/cm^3	Mpa	Mpa	HS	%	10^{-6}/ ℃	℃	
Carbon	Pure carbon	M191T	Pure carbon	1.80	100	250	92	1.2	5.5	600	Acid-resistant & alkali-resistant,Anti-corrosion and high temperature
	Impregnated resin carbon	M106K	Furane resin	1.65	65	210	90	2.0	5.5	200	Acid-resistant & alkali-resistant extensive use
		M120K		1.70	62	180	85	2.0	5.0	200	
		M180K		1.80	80	240	90	1.2	5.5	210	
		M200K		1.82	55	115	55	1.2	4.5	210	
		M106H	Epoxide resin	1.65	60	210	85	1.5	4.8	200	Alkali-resistant
		M106F	Bakelite resin	1.75	60	200	85	2.0	5.0	200	Acid-resistant
	Impregnated metal carbon	M106D	Antimony alloy	2.30	65	220	90	2.0	5.5	350	Anti-high temperature,High strength
		M120D		2.30	60	220	90	2.0	5.5	350	
		M181P	Bronze alloy	2.40	80	250	75	2.5	6.0	350	Alkali resistant and anti-high temperature,high strength
Plastic Carbon	China powder	-	-	1.71	54	147	65	2.9	16.0	100	Low cost, excellent lubricating property
	SGL powder										

Tungsten Carbide (TC)/Silicon Carbide (SIC)



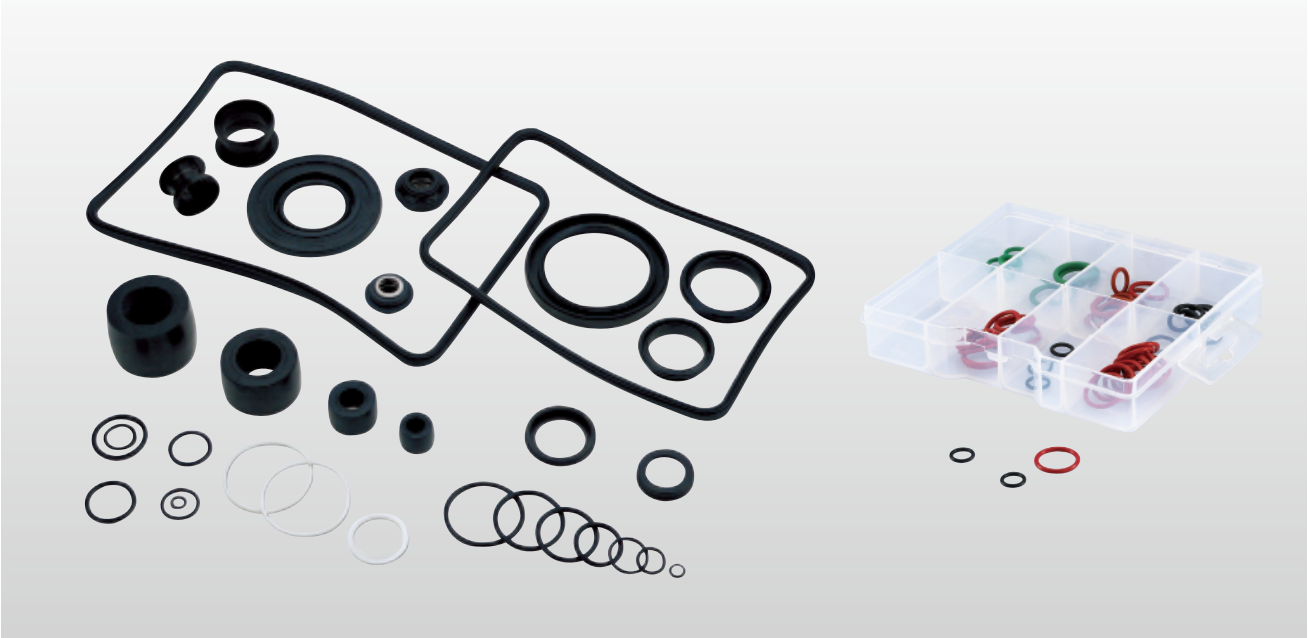
Main Performance Index of Silicon Carbide(SiC)				
	Item	Unit	SiC[1] ≥90	SSiC[2] ≥98
	Purity	%		
	Density	g/cm3	3.05	3.1
	Shore Hardness	HS	110-125	120-130
	Elastic Modulus	Mpa	4.12×10^5	4.10×10^5
	Poisson Ratio		0.15	0.16
	Tensile Strength	Mpa	2.75×10^2	2.8×10^2
	Bending Strength	Mpa	4.41×10^2	4.9×10^2
	Compression Strength	Mpa	2.94×10^3	3.0×10^3
	Thermal Conductivity	W/m.k	141(W/m.k)	147(W/m.k)
	oefficientofThermalExpansionl/	℃	4.3×10^{-6}	4.0×10^{-6}
	Heat Resistance		1600 C	1650℃
	Thermal Impact Coefficient	cal/cm.sec	46.5	200
	Acid Resistance		5 times higher than the usual TC	Resist all chemical media

The Corrosion Test for Four Materials in Reagent					
Test Environment		(mg/cm2yr) Conosive Agravity			
(Wt%)℃() ReagentConcentration Temperature		TC (6%)	SiC[1] (12%)	SSiC[2]	Ceramic (99%)
98% H2SO4	100	＞1000	55	1.8	65
50% NaOH	100	5	＞1000	2.5	75
53% HF	25	8	7.9	＜0.2	20
85% H3PO4	100	55	8.8	＜0.2	＞1000
70% HNO3	100	＞1000	0.5	＜0.2	7
45% KOH	100	3	＞1000	＜0.2	60
25% HCL	70	85	0.9	＜0.2	72
10% HF+ 57% HNO3	25	＞1000	＞1000	＜0.2	16

Main Technology Data of Tungsten Carbide(TC)					
Item		WC-Co	WC-Co	WC-Co	WC-Ni
	Brand No.	YG6	YG8	YG15	YWN8
	Density	14.6~15.0	14.5~14.9	13.9~14.2	14.4~14.8
	HRA	89.5	89.0	87.0	88.0
	Bending Strength	1421	1470	2058	1470
	Linear Expansivity 10-6/K(20℃~500℃)	5.0	5.1	6.3	5.3
	Medium	Resistant against: Oil, sewage water, weak acid/alkali ect.			Strong erosive medium

1) SiC means Reaction Silicon Carbide 2) SSiC means Sintered Silicon Carbide

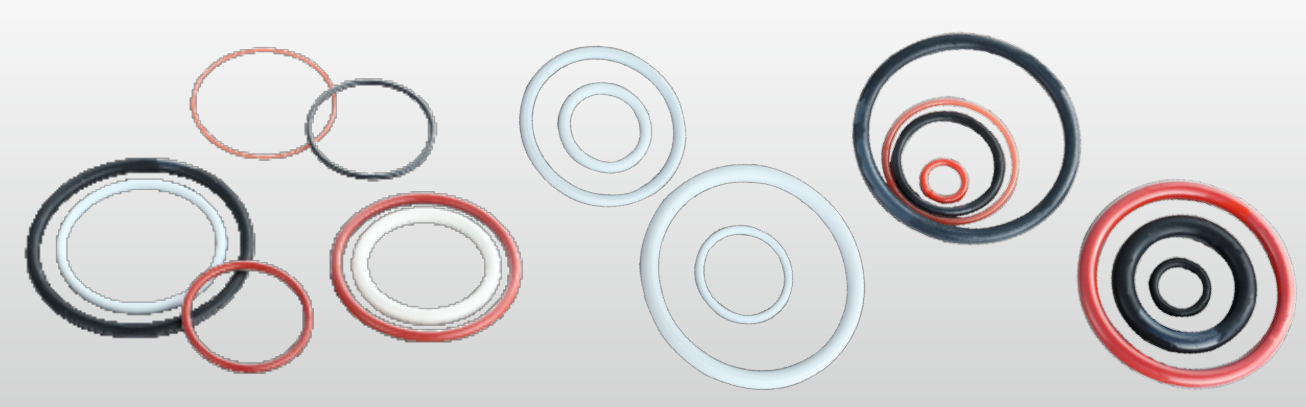
Rubber Products



ISO9001& TS16949

Rubber Classification & Features		
	Rubber Variety	Main Feature and Suitable Scope
	NBR	**Resistant against**:oil,pressure,abrasion. Hig elasticity and mechanical strength . Suitable for general hydraulic and pneumatic seal ; Unsuitale for working under sunlight and ultraviolet. **Application temperature**:-20˚C ~+120˚C
	CR.	**Resistant against**:oil,abrasion,efflorescence good bending. Especially suitable for pneuma machine and hydraulic fluid at high aniline po **Application temperature**:-40˚C ~+120˚C
	HR.	**Resistant against**:chemical reagents,dispen Suitale for hydraulic oil of organic phosphate a vacuum material. Unsuitable for general oil. **Application temperature**:-50˚C ~+150˚C
	EPDM	**Resistant against** : chemical reagents , Suitab for hydraulic oil of organic phosphate . **Application temperature** : -50˚C ~+150˚C
	SILICON RUBBER	**Resistant against**:heat,freeze.low mechanical strength,bad bending and abrasion.Suitale for fixed seal resistant to heat and freeze. Unsuitable for working under high mechanical strength. **Application temperature**:-80˚C ~+200˚C
	VITON	**Resistant against** : heat , oil , reagents . Suitable for high temperature and vacuum equipment . **Application temperature** : -30˚C ~+210˚C
	HNBR	**Resistant against** : gasoline , Freon , oil , acid , ozone , alkali , heating and freeze . High mechanical strength , high abrasion . **Application temperature** : -20˚C ~+180˚C

Encapsulated Rings



Product Type	Section
PTFE Encapsulated O-Rings	Solid Core / Hollow Core / Square / Rectangular
FEP Encapsulated O-Rings	
PFA Encapsulated O-Rings	
Square Cross-Section Ring Seals	
Rectangular Cross-Section Ring Seals	Radial / Axial

● (FEP/PFA)

● Plastic (FEP/PFA)

● Rubber (EPDM/Viton/Silicon)

Encapsulation Material Character

FEP (Florinated Ethylene Propylene)
Clear
Max temperature : 204˚C (400℉)
Excellent chemical and corrosion resistance
Fast-drying
Excellent resilience
Smooth/self-lubricating surface
FDA Compliant
USP Class Ⅵ approved

PFA (Perfluoroalkoxy)
Clear with light blue tint
Max temperature: 260˚C (500℉)
Excellent heat and chemical resistance
Better crack and stress resistance than FEP
Extremely smooth surface
Low vapor permeation
FDA Compliant
USP Class Ⅵ approved

Rubber Temperature Range		
	FEP	PFA
Silicon	-60° ~+205℃ -75° ~+400℉	-60° ~+260℃ -75° ~+500℉
Viton	- 26° ~+205℃ -15° ~+400℉	-26° ~+205℃ -15° ~+400℉
EPDM	-54° ~+149℃ -65° ~+300℉	-54° ~+149℃ -65° ~+300℉

0.25mm(.010″)1.14mm(.045″)

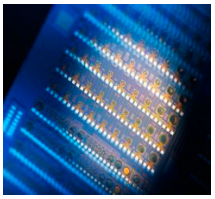
Dimension

Encapsulation wall thickness ranges from 0.25mm(.010") to 1.14mm(.045") depending on the cross section of the elastomeric core.

Dupont- Kalrez

ISO9001& TS16949

Dupont-Kalrez



Semiconductor

- Chemical Vapor Deposition(CVD)and ETCH Equipment
- Heat treatment(RTP and Thermal Dissipation)Equipment
- PCB Equipment

Petrochemical and Chemical

- Pump (Mechanical Seal) ,valve,Blender,Reactor,Flange
- Analytical Instrument and Process Control Equipment
- Tank and Storage Tank

Oil and Gas Production

- Packer and it's sealing parts
- Safety valve and Electrical submersible pump
- Logging tools

Pharmaceuticals and Food

- Grinder , Centrifuge
- Pump (Mechanical Seal) , Valve , Blender , Reactor
- Bottler

Dupont-Kalrez

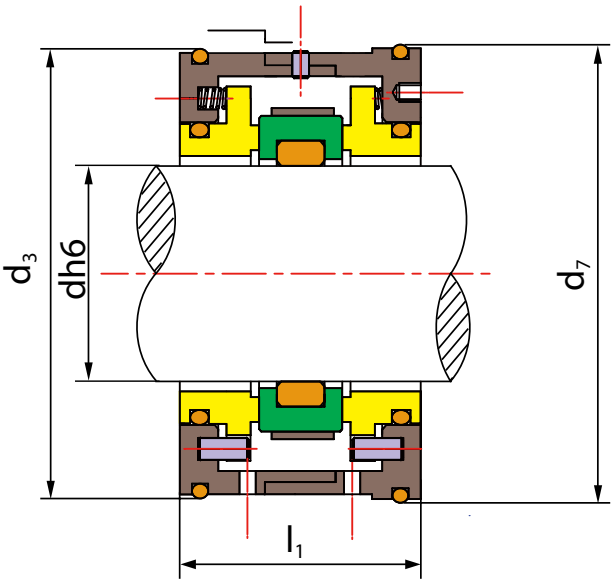
- Perfluoro (ether) rubber is invented by DuPont, DuPont is creator of it
- Kalrez is the only product which the time of application is more than 30 years, it is proved a long-term reliable and secure product in a variety of harsh sealing conditions
- Kalrez is the only product which from rubber to finished product all controled by DuPont,so ensures that the long-term stability of using of each product .
- Traceability: Each individually wrapped, has a unique bar code,every single product can be traced back to any information High temperature, high pressure. The maximum temperature can reach 327 ˚C heat resistance
- Chemical property is stable, resistance to hydrogen sulfide, benzene, oil, strong acid and alkali,the kinds of chemical medium are more than 1600.
- Excellent tensile strength (TS~15-20MPa)
- Extremely low compression permanent deformation(～20%-70h◎200˚C)
- Excellent sustained sealing ability

The type of Kalrez O-RING

- Japanese Industrial Standard: JIS (P/G/V/S/NW)
- American National Standards Institute: AS-568A
- European standard : K

ISO9001& TS16949

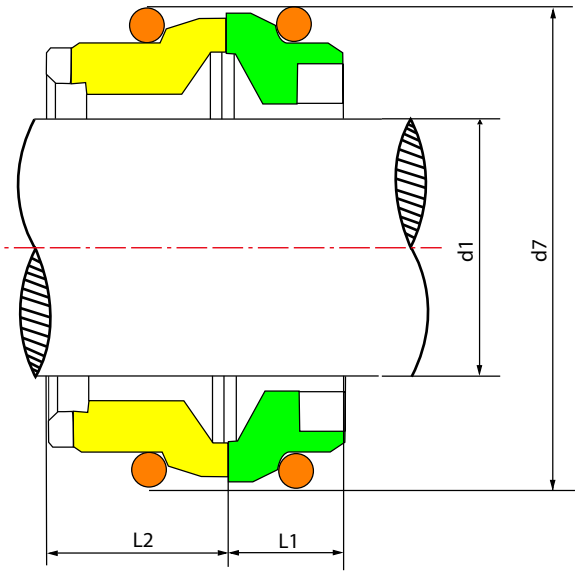
EMU pump TS WE

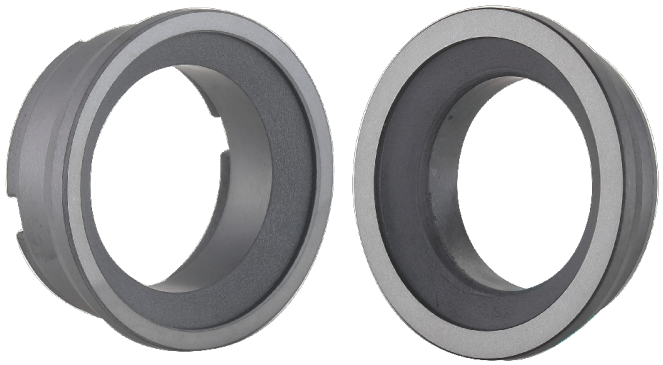


- Rotary Ring (SiC/TC)
- Stationary Ring (SiC)
- Secondary Seal(NBR/EPDM/VITON)
- Spring & Other Parts(SUS304/SUS316)
- Pin(SUS304/SUS316)

Seal size d(mm)	d_3	d_7	l_1
30	62	65	46
30A	62	65	46
35	67	70	46
35A	72	72	47
40	72	75	46
50	90	90	52
50A	83	89	46
60	92	99	46
75	128	130	75

APV pump TS APV-01





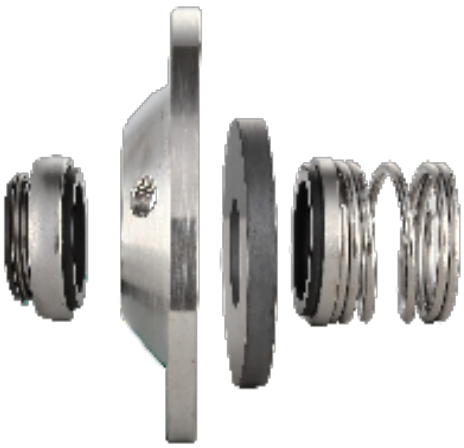
- Rotary Ring (SiC/TC/Carbon)
- Stationary Ring (Carbon/SiC/TC)
- Secondary Seal(VITON/Encapsulated Ring)

MODEL	d_1	d_7	L_1	L_2
U130-25	25	46	11.5	17.5
U130-35	35	56	11.5	17.5
30	44	45	30.5	12

- Seals to suit APV W Plus pumps
- Replace VULCAN TYPE16. PLUS

APV "World" pump TB APV-02A APV-02B

APV-02A



APV-02B

dimension: 1inch/1.5inch

Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(NBR/EPMD/Viton)

Spring &Other Parts(SUS304/SUS316)

APV "World" pump TB APV-03

dimension: 25mm/35mm

Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(NBR/EPMD/Viton)

Spring &Other Parts(SUS304/SUS316)

APV "World" pump TB APV-04

dimension: 25mm/35mm

Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(NBR/EPMD/Viton)

Spring &Other Parts(SUS304/SUS316)

ISO9001& TS16949

APV "World" pump TB APV05

dimension: 25mm

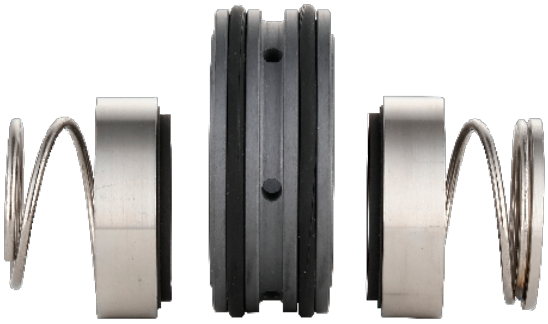
Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Fristam pump TB FM-02



dimension: 30mm/35mm

Rotary Ring (SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Fristam pump TB FM01

dimension: 30mm Material:304/Viton

Fristam pump TB FM-03

dimension: 30mm Material:304/Viton

Grundfos TB GF01

dimension: 12mm/16mm

Rotary Ring (Carbon/SIC)

Stationary Ring (SiC/TC)

Secondary Seal(EPDM/VITON)

Spring &Other Parts(SUS304/SUS316)

Grundfos TB GF02

dimension: 12mm

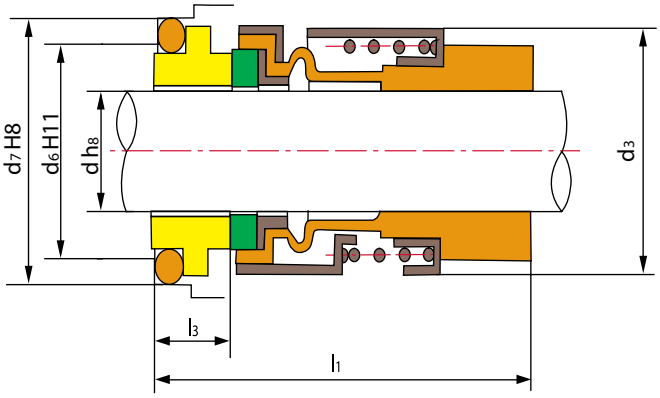
Rotary Ring (Carbon/SIC)

Stationary Ring (SiC/TC)

Secondary Seal(EPDM/VITON)

Spring &Other Parts(SUS304/SUS316)

Grundfos TB GF03 Long



- Rotary Ring(SiC/TC)
- Stationary Ring(Carbon/SiC/TC)
- Secondary Seal(NBR/EPDM/VITON)
- Retainer(SUS304/SUS316)
- Spring(SUS304/SUS316)

Seal size d(mm)	d_3	d_6	d_7	l_1	l_3
12	22	19	23	39.0	7.6
12A	22	19	23	34.0	7.6
15	26	23	27	39.0	8.7
16	26	23	27	39.0	8.7

Grundfos TB GF03 short

dimension: 12mm/16mm

Rotary Ring (SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(NBR/EPDM/VITON)

Spring &Other Parts(SUS304/SUS316)

Grundfos TB GF04

dimension: 12mm/16mm

Rotary Ring Carbon (TC)

Stationary Ring (TC)

Secondary Seal(NBR/EPDM/VITON)

Spring &Other Parts(SUS304/SUS316)

Grundfos TB GF06

dimension:22mm

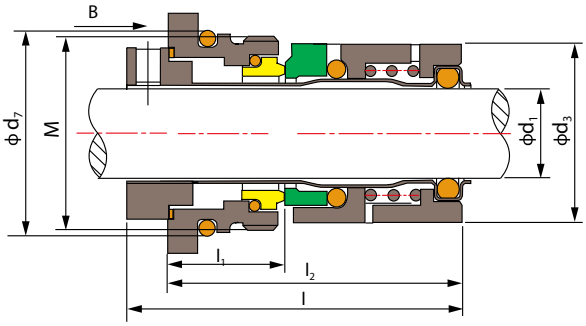
Rotary Ring (TC)

Stationary Ring (TC)

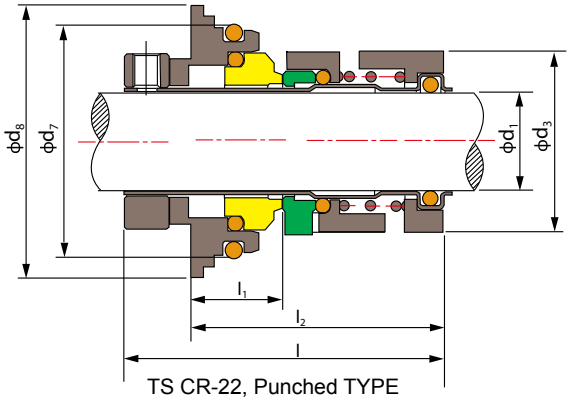
Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

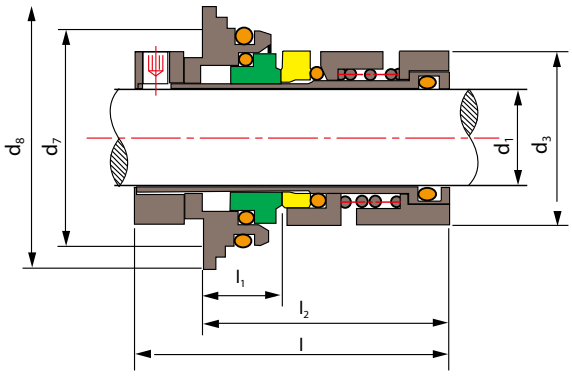
Grundfos pump TS CR



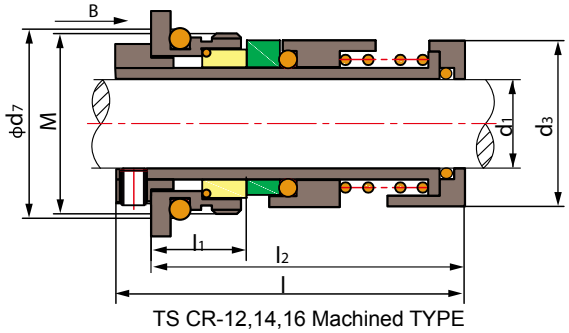
TS CR-12,14,16 Punched TYPE



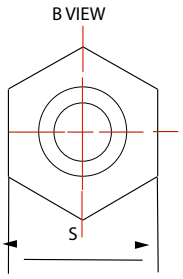
TS CR-22, Punched TYPE



TS CR-22,32 Machined TYPE



TS CR-12,14,16 Machined TYPE



- Rotary Ring (SiC/TC)
- Stationary Ring (SiC/TC)
- Secondary Seal(NBR/VITON)
- Spring &Other Parts(SUS304/SUS316)

Model Modelo	d_1	d_3	d_7	d_8	M	l	l_1	l_2	S
CR-12	12	25.0	29	\	M28X1.5	55.0	19	49.0	35.8
CR-14	14	27.5	39	\	M33X1.5	56.0	18	49.0	40.8
CR-16	16	30.5	34	\	M33X1.5	57.5	20	50.5	40.8
CR-22	22	39.5	50	59	\	71.0	20	57.0	\
CR-32	32	53.0	61	71	\	70.0	20	55.0	\

New

Grundfos plain bearing and bush

dimension: 12mm/16mm

dimension: 22mm

New

Grundfos TB GFK(metal bellow)

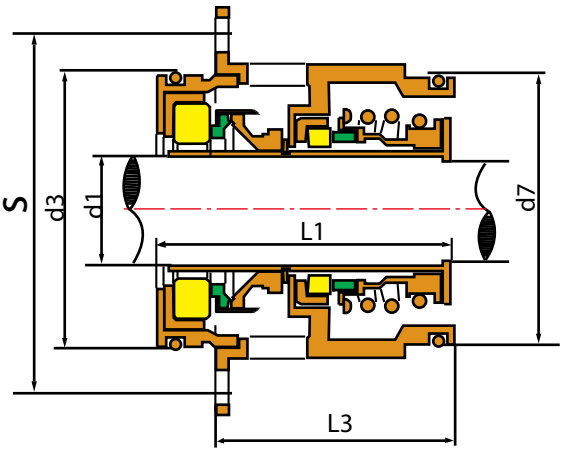
dimension: 22mm

Rotary Ring Carbon (Graphite/SiC/TC)

Stationary Ring (SiC/TC)

Bellows &Other Parts(Viton/SUS304/SUS316)

Grundfos pump TB SE

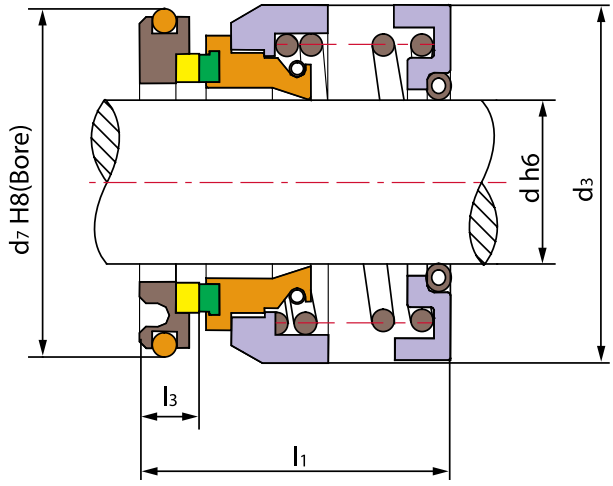


- Rotary Ring(Carbon/SIC)
- Stationary Ring(SIC/TC)
- Secondary Seal(NBR/EPDM/VITON)
- Spring & Other Parts (SUS304/SUS316)

MODEL	D_1	D_3	D_7	S	L_1	L_3
SE-22	22	58.0	56	86	61	51
SE-32	32	71.0	68	98	70	60

ISO9001& TS16949

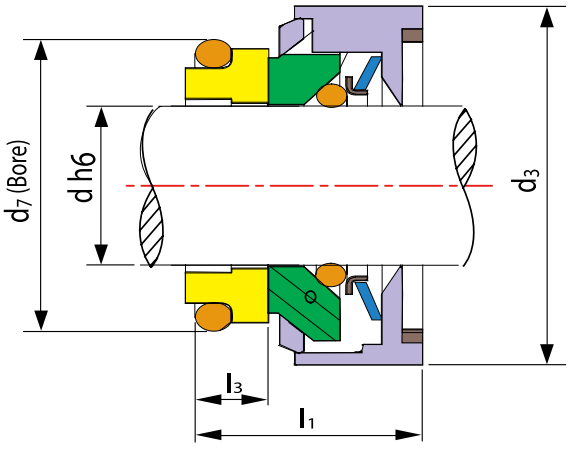
FLYGT pump TS X



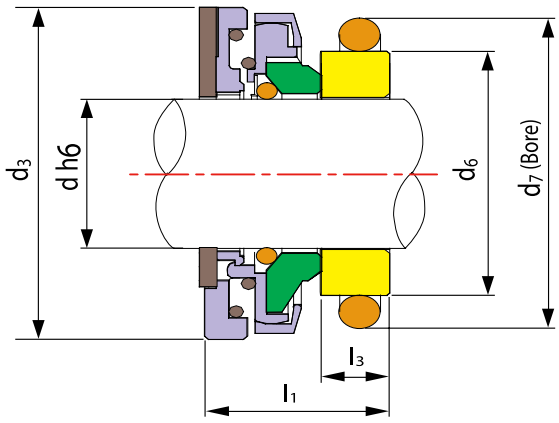
- Rotary Ring (SiC/TC)
- Stationary Ring(SiC / TC)
- O-Ring(NBR/EPDM/VITON)
- Spring (SUS304/SUS316)
- Tension Spring(SUS321)
- Stationary Seat(SUS304/SUS316)
- Spring Cover(Bakelite/Aluminum alloy)
- Retainer(Bakelite/Aluminum alloy)

Seal size(d)	d3	d7	l1	l3
20	42.5	55.5	36.5	11.0
22	47.0	45.5	32.6	9.0
25	54.0	50	38.6	10
28	54.0	50	38.6	10.0
30	54.0	50	38.6	10.0
35	62.0	60.5	39.8	11.0

FLYGT pump TS XA



TS XA-20(old)



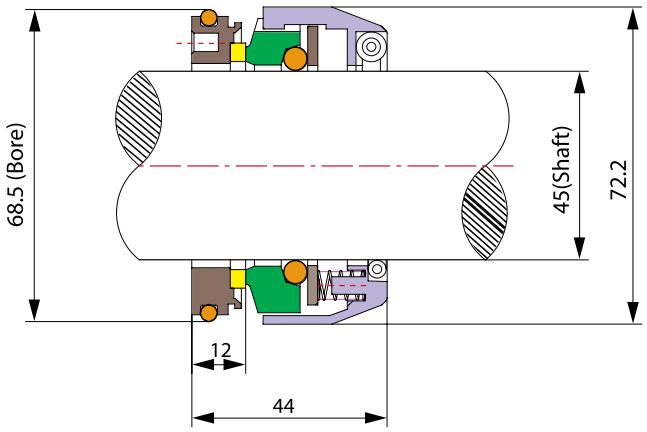
TS XA-25,35,20(new)

- Rotary Ring (Carbon/TC)
- Stationary Ring (Ceramic/TC)
- Secondary Seal (NBR/VITON)
- Spring & Other Parts (65Mn/SUS304/SUS316)
- Other Parts (Plastic)

Seal size d(mm)	d_3	d_6	d_7	l_1	l_3
XA-20	45.2	\	36	21.5	7.2
XA-25	54.0	35.2	42	21.0	6.0
XA-35	69.8	50.3	56	25.7	10.2

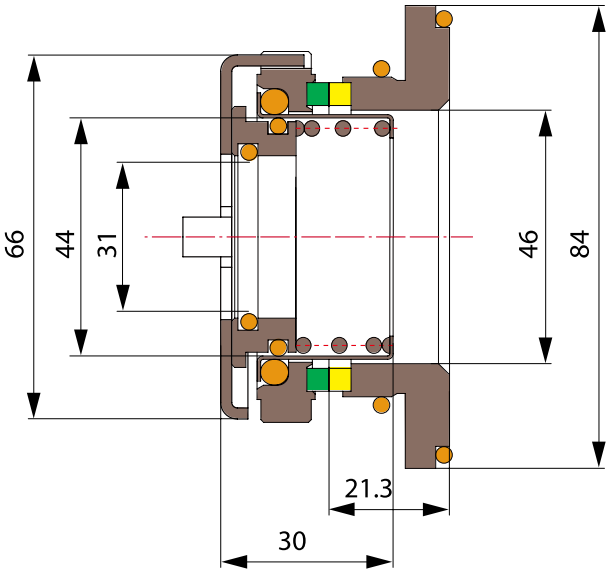
ISO9001& TS16949

FLYGT pump TS XC

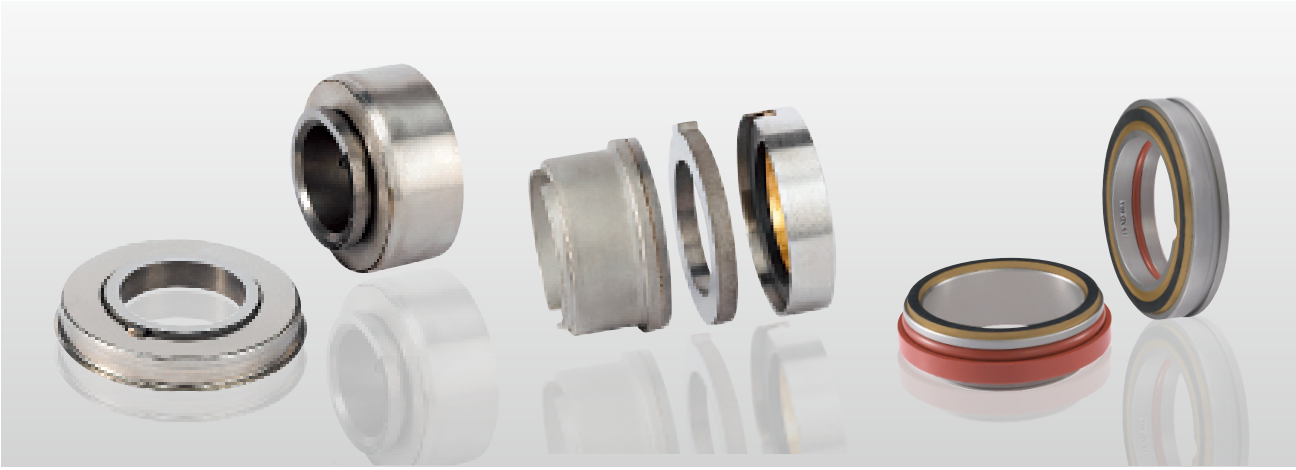


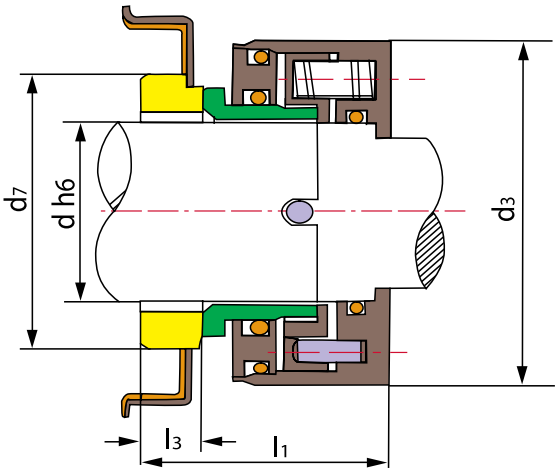
- Rotary Ring (Carbon/TC)
- Stationary Ring (SIC/TC)
- Secondary Seal (NBR/VITON)
- Spring & Other Parts (SUS304/SUS316)
- Other Parts (Plastic)

FLYGT pump TS XB

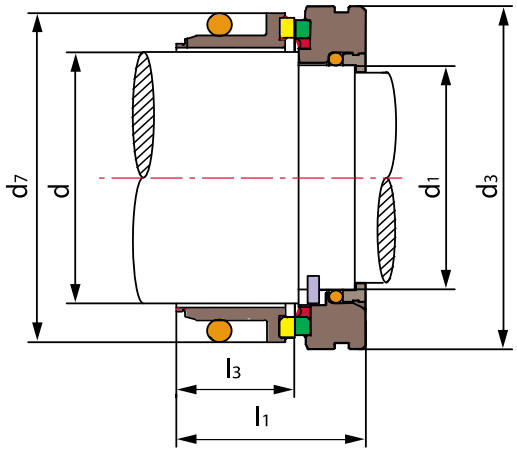


- Rotary Ring (TC)
- Stationary Ring (SIC/TC)
- Secondary Seal (NBR/VITON)
- Spring & Other Parts (SUS304/SUS316)



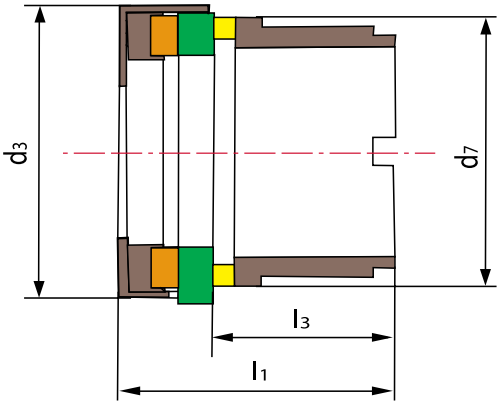


TS XD-35



TS XD-60 / TS XD-60A / TS XD-80

- Rotary Ring(SiC/TC)
- Stationary Ring(SiC/TC)
- O-Ring(NBR/EPDM/VITON)
- Spring Seat(NBR/SUS304/SUS316)
- Other Parts(SUS304/SUS316)



TS XD-30 / TS XD-45

Seal size d(mm)	d	d_1	d_3	d_7	l_1	l_3
30	\	\	50	46.0	37.6	24.6
35	35	\	67	53.5	42.8	10.3
45	\	\	65	63.0	39.5	26.5
60	60	55	83	83.0	44.3	28.0
60A	60	55	83	80.0	44.5	28.0
80	80	75	106	100.0	47.3	30.3

New & Patent

FLYGT pump TS XF

ISO9001& TS16949

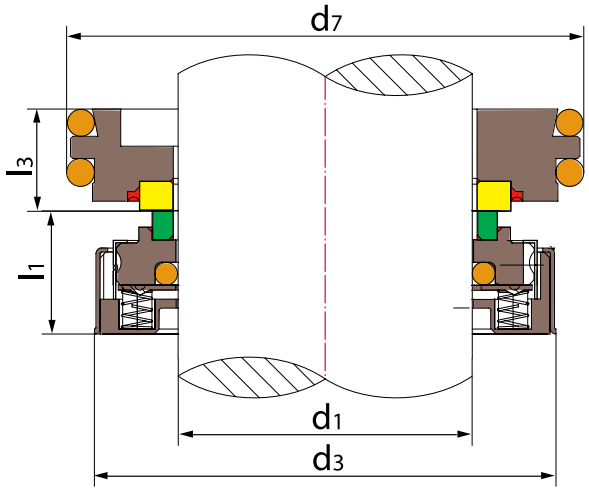
Rotary

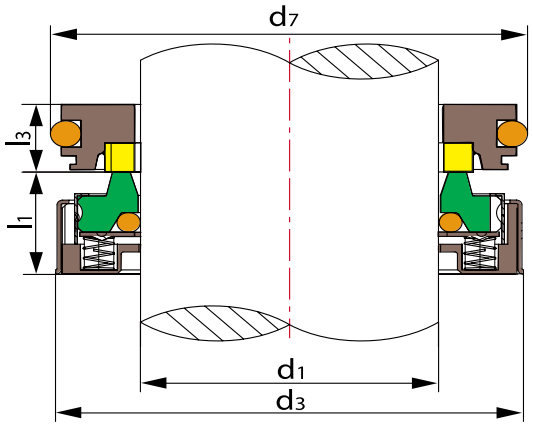
- Rotary Ring (TC)
- Stationary Ring (TC)
- Secondary Seal (NBR/VITON)
- Spring & Other Parts (SUS304/SUS316)

Seal size d(mm)	d_3	d_7	l_1	l_3
20	45.2	36	24.0	9.0
25	54.0	42	24.0	9.0
35	69.9	54	27.7	9.7

Advantage of New Flygt® pump seal
1. In this new design a wave spring replaces the coil spring for complete seal balance.
2. Stainless steel material replaces plastic materials to improve temperature resistance and strong impact forces.
3. Screw sets create a better seal connection and better functioning at high running speeds "We now supply this seal in shaft dimensions of 20mm / 25mm / 35mm. We can also custom design this seal to your requirements and pump housing!"

FLYGT pump TS 58UR

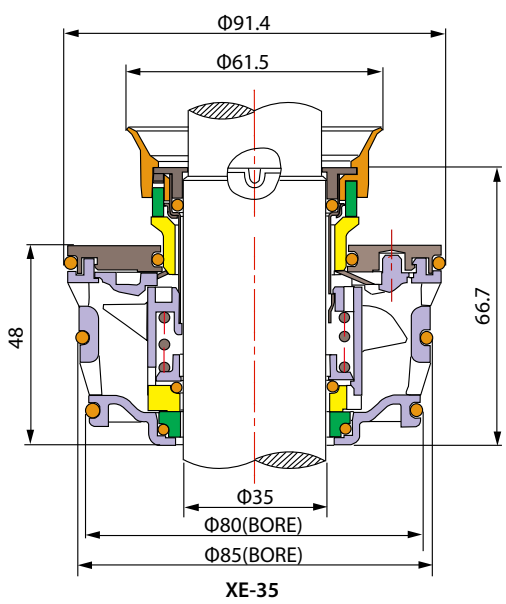


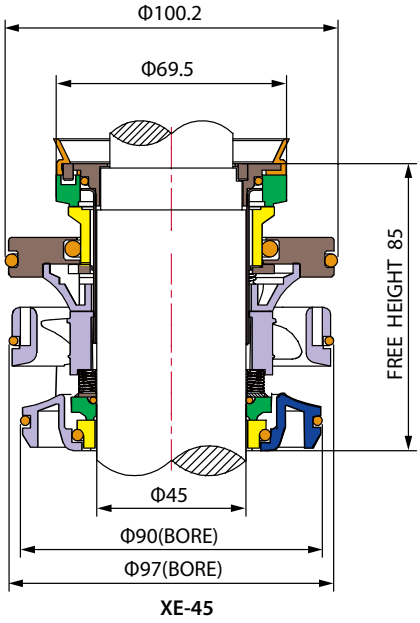


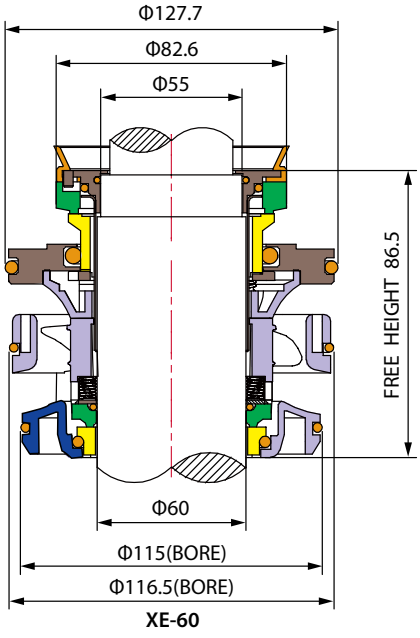
- Rotary Ring(Carbon/TC)
- Stationary Ring(TC)
- Secondary Seal(VITON/PTFE/NBR)
- Spring & Other Parts (SUS304/SUS316)

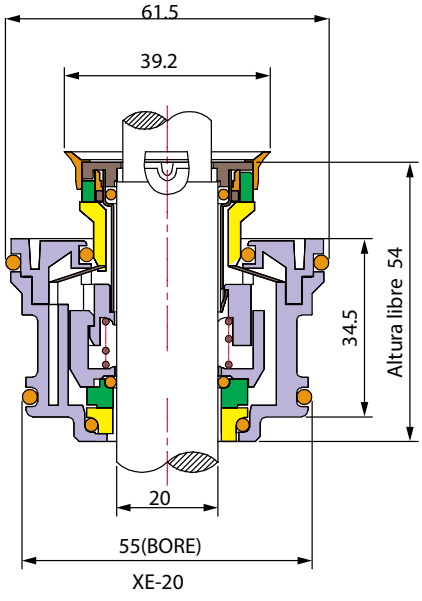
Model	$d_{1(mm)}$	d_3	d_7	l_1	l_3	Conform
TS58UR-60C	60	93.0	103.0	36	20.2	58UR-60B
TS58UR-60D	60	93.0	85.5	36	13.0	58UR-60A
TS58UR-90	90	116.5	115.0	32	16.0	\

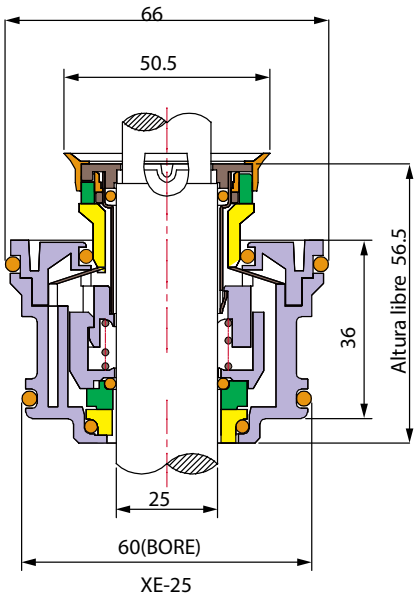
FLYGT pump TS XE









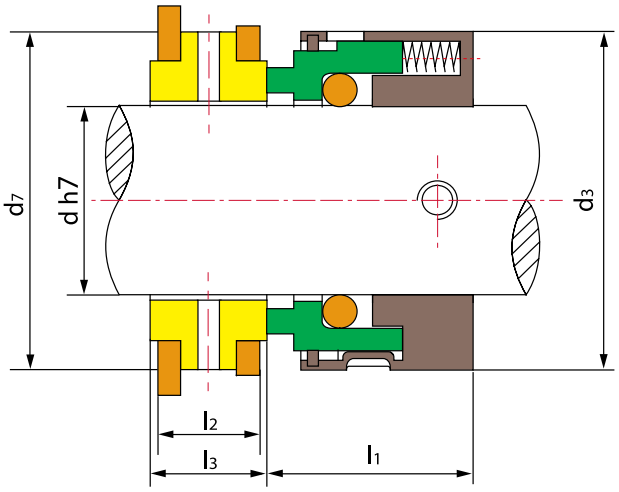


MODEL	For **Flygt and Grindex** Pumps & Mixers
XE-20	1520,2610,2620,2630,2640,4610&4620
XE-25	2660,4630&4640
XE-35	2670,3153,5100.210,5100,211,5100.220& 5100.221
XE-45	3171,4650,4660,5100.250,5100.251,5100.260& 5100.261
XE-60	3202,4670,4680,5100.300,5100.310,5150.300& 5150.310

- Rotary Ring (TC)
- Stationary Ring (TC)
- Secondary Seal (NBR/VITON/EPDM)
- Spring & other Parts (SUS304/SUS316)
- Other Parts (Plastic)
- Stationary Seat(Aluminum alloy)

ISO9001& TS16949

Amstrong pump TS ST



- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (SiC/TC)
- Secondary Seal(NBR/VITON)
- Spring & Other Parts(SUS304/SUS316)

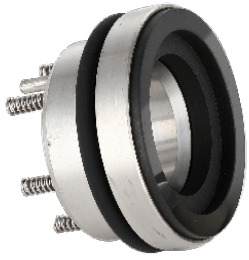
Seal size(inches)	D	D_3	D_7	L_1	L_2	L_3
1 1/8"	28.575	47.6	59.4	25.6	15.9	25.3
1 5/8"	41.275	62.0	71.8	29.5	15.9	25.3
2 1/8"	53.975	79.4	84.6	29.3	15.9	25.3
2 5/8"	66.675	88.9	111.0	41.3	15.9	25.3

Tri-Clover pump TB TRC-01(TS 161)

dimension: 0.75''/1.125''/1.25''/1.5''

- Rotary Ring (Carbon/SiC/TC)
- Stationary Ring (SiC/TC)
- Secondary Seal(VITON)
- Spring & Other Parts(SUS304/SUS316)

INOXPA PROULAC & SLR PUMP TB IN-01



dimension: 0.625inch/1inch/1.5inch

Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Lowara PUMP TB LW-01

dimension: 12mm/16mm

Rotary Ring (SiC/TC)

Stationary Ring (Carbon /SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Alfa Laval PUMP TB AL-01

dimension: 22mm

Rotary Ring (Carbon /SiC/TC)

Stationary Ring (SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Lowara PUMP TB LW-02 (TS U52)

dimension: 22mm

Rotary Ring (SiC/TC)

Stationary Ring (Carbon /SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

Alfa Laval PUMP TB AL-02

dimension: 35mm

Rotary Ring (Carbon /SiC/TC)

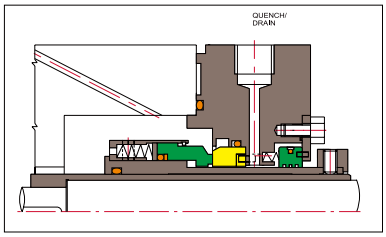
Stationary Ring (SiC/TC)

Secondary Seal(VITON)

Spring &Other Parts(SUS304/SUS316)

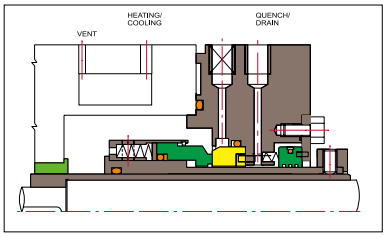
ISO9001 & TS16949

PLAN 01



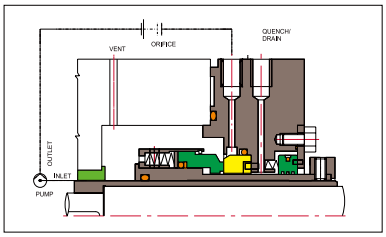
Clean media only
Inter circulating from the pump case to the seal

PLAN 02



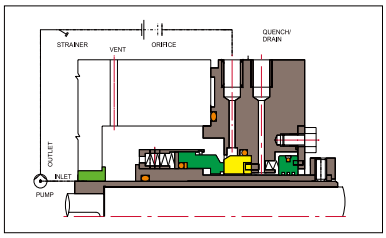
Clean media
Dead end seal chamber with no circulation,stuffing box cooling and neck bush are required,otherwith specified.

PLAN 11



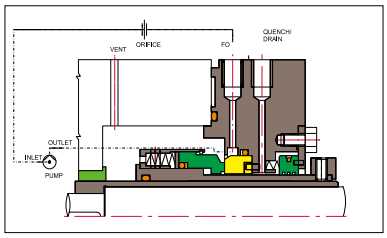
Clean media
Circulation from the pump outlet,through an orfice to the seal chamber

PLAN 12



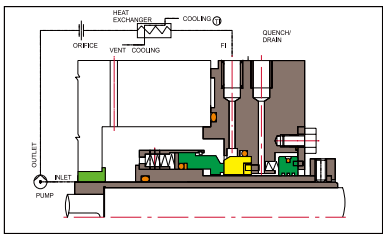
Clean media
Circulation from the pump outlet,through a strainer and an orfice to the seal chamber

PLAN 13



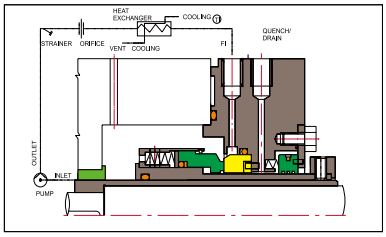
Clean media
Circulation from the seal chamber,through an orfice back to the pump inlet

PLAN 21



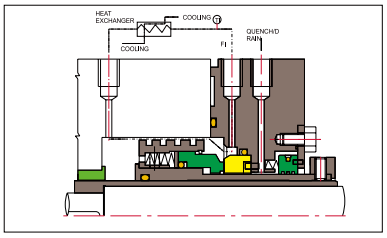
Clean media
Circulation from pump outlet, through an orfice and cooler to the seal chamber

PLAN 22



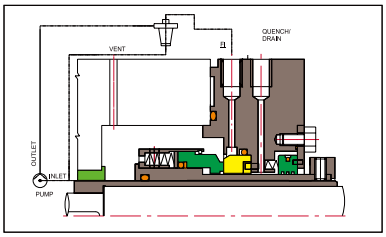
Clean media
Circulation from the pump outlet, through a strainer,an orfice and cooler to the seal chamber

PLAN 23



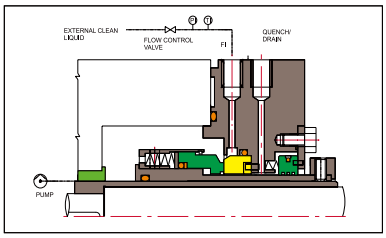
Clean media
Circulation from a pumping ring from the seal,through an cooler back to the seal chamber

PLAN 31



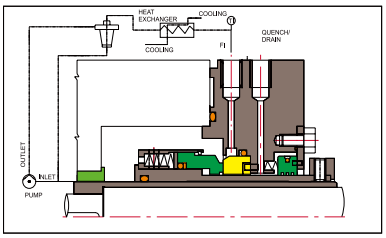
Contaminanated and special media
Circulation from the pump outlet,through an cyclone separator to the seal chamber

PLAN 32



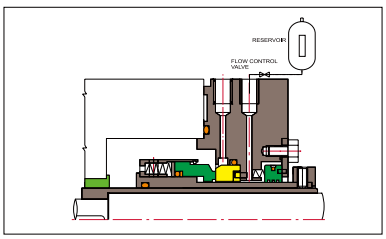
Contaminanated and special media
External clean liquid be injected in to the seal chamber

PLAN 41



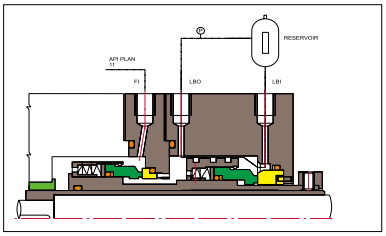
Contaminanated and special media
Cirulation from the pump outlet,through an cyclone separator and cooler to the seal chamber

PLAN 51



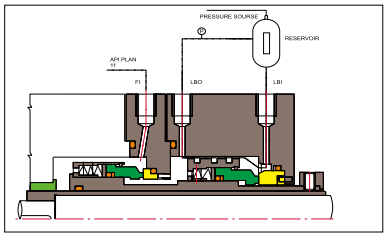
Contaminanated and special media
External reservoir providing a dead-end quench and connection FI for flushing

PLAN 52



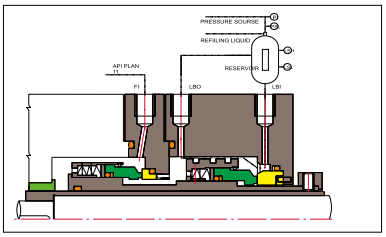
Contaminanated and special media
External reservoir providing buffer fluid for the out board seal
Pressureless,thermosiphon or forced circulation as required

PLAN 53A



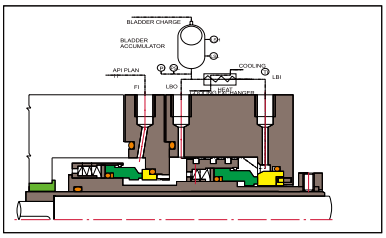
Contaminanated and special media
External pressuried reservoir providing buffer fluid for the seal chamber
Pressurized,thermosiphon or forced circulation as required

PLAN 53



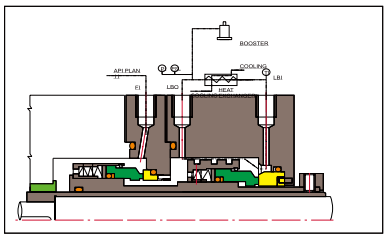
Contaminanated and special media
External pressuried reservoir providing buffer fluid for the out board seal
Pressurized,thermosiphon or forced circulation as required

PLAN 53B



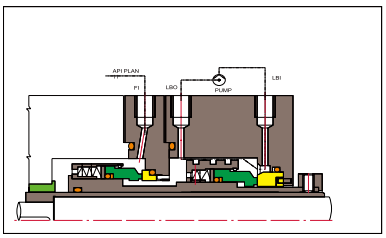
Contaminanated and special media
Circulation with bladder accumlator and cooler
Pressurized,forced circulation as required

PLAN 53C



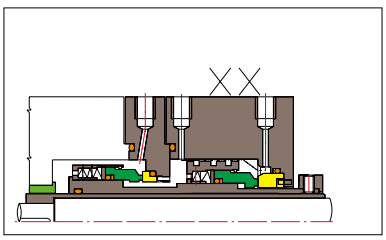
Contaminanated and special media
Circulation with pressure bosster and cooler
Pressurized,forced circulation as required

PLAN 54



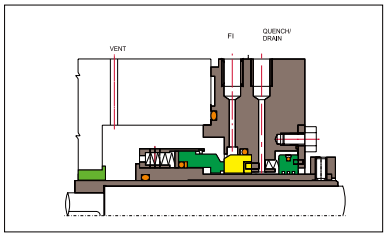
Contaminanated and special media
Circulation by and external pressure system
Reservoir pressure is bigger than the process being sealed

PLAN 61



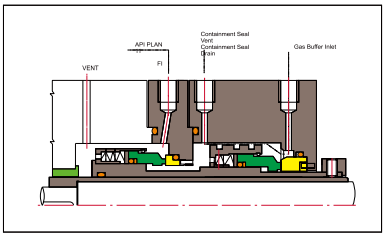
Plugged connections for the purchaser use

PLAN 62



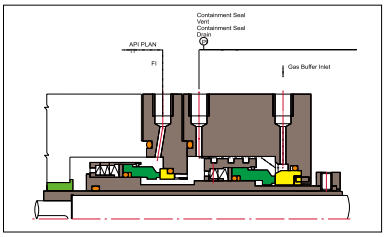
External flid quench(stea,gas,water etc)

PLAN 71



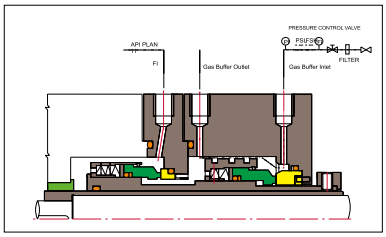
Tapped connection for purchase use
Typically this plan is used,when the purchaser may use buffer gas in the future

PLAN 72



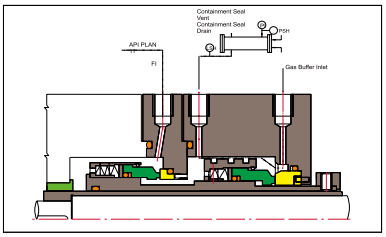
Externally supplied gas buffer for two seals
Pressure of buffer gas is lower than process side pressure of inner seal

PLAN 74



Externally supplied barrier gas used to positively prevent process fluid from leaking to atmosphere
Pressure of barrier gas is higher than process side pressure of inner seal

PLAN 75



Containment seal chamber drain for condensing leakage on two seal
Pump fluid condenses at ambient tem peratures

Installation Instructions

Preperation:

1. Shaft Outside Diameter is within tolerance ± 0.002"(0 .05mm)
2. Shaft run out < 0.004"(0.1 mm)
3. end float < 0.005"(0.13mm).
4. No sharp edges on the shaft over the o ring.

Note: During the installation, don't scratch or damage the O ring. If anything is damaged, p contact with our local agents to replace a new one.

Installation instructions:

1.The full set of cartridge seal is cleaned and exactly passed leakage examine before sale. In order to avoid damage, don't disassemble and clean the parts again before fixing.

2.The fitting allowance between the seal and shaft is dl h6 ▽0.8, and there should be leadi edge at the end of shaft. The outside diameter of shaft at the position of screw should b smaller, resisting the screw over-tighten. Lubricate the shaft with oil.

3.Place the cartridge seal into the pump chamber, then:

A. Tighten four screw bolts of flanges, ensuring the medium leading in hole "G" at the to position.

B. Tighten four set screws and position the shaft sleeve on the shaft.

C. Remove four gauge plates. Please keep them and they will be used in future installati disassemble.

D. Connect the medium lead-in pipe with hole "G" in order to flush away the friction he flushing the seal chamber when pump running.

Note: After complete the installation, turning the shaft by hand to check for the rotation. If the shaft could not rotate smoothly, seal has been improperly installed.