

RB1A

Operating Limits

Pressure: 400 psi (2.8 MPa) max

Speed: 2500 ft/min (13 m/s) max

Temperature: -22 to 392 °F (-30 to 200 °C)

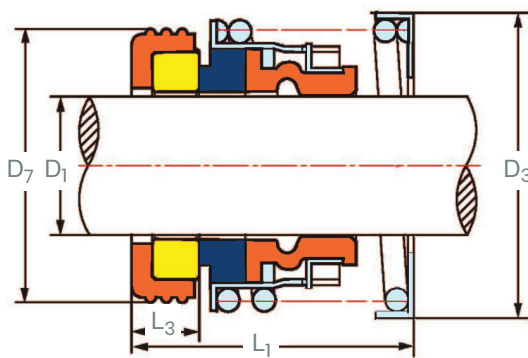
- **Face/Primary Ring** (Carbon/SiC/TC)
- **Seat/Mating Ring** (Alumina/SiC/TC)
- **Secondary Seals** (NBR/EPDM/FKM)
- **Spring & Hardware** (SS304/SS316)



Design Features:

- Rubber bellows accommodates equipment play and misalignment.
- Single-spring design reduces buildup and clogging risk.
- Available balanced seal version withstands higher operating pressures.
- Radial component stack-up allows reduced axial length.

SEAL SIZE (INCHES)	D ₁	D ₃	D ₇	L ₁	L ₃
1	1.000	1.500	1.625	1.999	0.437
1 1/8	1.125	1.634	1.750	2.063	0.437
1 1/4	1.250	1.811	1.875	2.063	0.437
1 3/8	1.375	1.874	2.000	2.122	0.437
1 1/2	1.500	2.000	2.125	2.122	0.437
1 5/8	1.625	2.252	2.375	2.500	0.500
1 3/4	1.750	2.382	2.500	2.500	0.500
1 7/8	1.875	2.500	2.625	2.626	0.500
2	2.000	2.626	2.750	2.626	0.500
2 1/8	2.125	2.811	3.000	2.937	0.563
2 1/4	2.250	2.937	3.125	2.937	0.563
2 3/8	2.375	3.063	3.250	3.063	0.563
2 1/2	2.500	3.189	3.375	3.063	0.563
3	3.000	3.748	3.875	3.500	0.626
4	4.000	5.560	4.880	3.090	0.780



Replaces John Crane Type 2

RB1B

Operating Limits

Pressure: 150 psi [1.0 MPa] max

Speed: 2400 ft/min [12 m/s] max

Temperature: -20 to 400 °F [-30 to 200 °C]

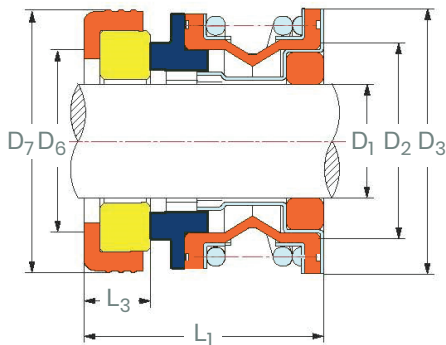
- **Face/Primary Ring** (Thermoset Carbon/Carbon/SiC/TC)
- **Seat/Mating Ring** (Alumina/SiC/TC)
- **Secondary Seals** (NBR/EPDM/FKM)
- **Spring & Hardware** (SS304/SS316)



Design Features:

- Rubber bellows accommodates equipment play and misalignment.
- Single-spring design reduces buildup and clogging risk.
- Relatively compact, one-piece rubber bellows design easily installs and operates in a wide range of small pump applications.

SEAL SIZE (INCHES)	D ₁	D ₇	D ₃	D ₆	D ₂	L ₁	L ₃
5/16	0.312	1.000	1.062	0.630	0.812	0.969	0.315
3/8	0.375	0.875	0.937	0.563	0.686	0.875	0.244
1/2	0.500	1.000	1.061	0.687	0.812	0.898	0.244
5/8	0.625	1.185	1.218	0.812	0.937	1.043	0.343
5/8 H	0.625	1.250	1.218	0.812	0.937	1.181	0.406
5/8 K	0.625	1.250	1.218	0.812	0.937	1.122	0.406
3/4 H	0.750	1.375	1.343	0.937	1.058	1.181	0.406
3/4 C	0.750	1.375	1.343	0.937	1.058	1.122	0.406
1	1.000	1.625	1.687	1.187	1.312	1.249	0.437
1 1/8	1.125	1.75	1.811	1.319	1.437	1.25	0.437



Replace John Crane Type 6 with "N" seat

RB1C

Operating Limits

Pressure: 150 psi [1 MPa] max

Speed: 2500 ft/min [13 m/s] max

Temperature: -22 to 392 °F [-30 to 200 °C]

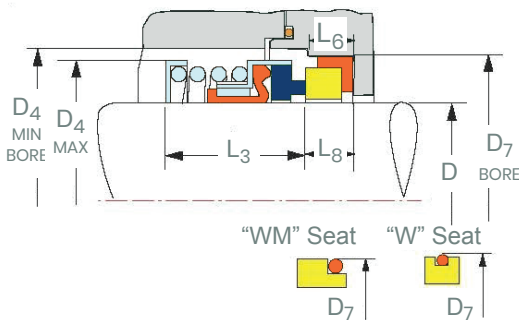
- **Face/Primary Ring** (Carbon/SiC/TC)
- **Seat/Mating Ring** (Alumina/SiC/TC)
- **Secondary Seals** (NBR/EPDM/FKM)
- **Spring & Hardware** (SS/SS304/SS316)



Design Features:

- Rubber bellows accommodates equipment play and misalignment.
- Single-spring design reduces buildup and clogging risk.
- Relatively compact rubber bellows design overall suits a wide range of general purpose applications.

Type RB1C with "N" seat



Replaces John Crane Type 21 with "N" seat

SEAL SIZE (INCHES)	D	D ₃	D ₄	D ₇	L ₃	L ₆	L ₈
0.500	0.500	0.937	1.063	1.094	0.813	0.280	0.343
0.625	0.625	1.063	1.313	1.219	0.875	0.343	0.406
0.750	0.750	1.187	1.437	1.344	0.875	0.343	0.406
0.875	0.875	1.313	1.563	1.469	0.937	0.343	0.406
1.000	1.000	1.687	1.937	1.594	1.000	0.343	0.406
1.125	1.125	1.812	2.062	1.876	1.062	0.406	0.469
1.250	1.250	1.937	2.187	2.000	1.062	0.406	0.469
1.375	1.375	2.062	2.312	2.126	1.125	0.406	0.469
1.500	1.500	2.187	2.437	2.250	1.125	0.406	0.469
1.625	1.625	2.500	2.750	2.376	1.375	0.406	0.469
1.750	1.750	2.625	2.875	2.502	1.375	0.406	0.469
1.875	1.875	2.750	3.000	2.626	1.500	0.406	0.469
2.000	2.000	2.875	3.187	2.750	1.500	0.469	0.531
2.125	2.125	3.000	3.312	2.876	1.687	0.469	0.531
2.250	2.250	3.125	3.437	3.000	1.687	0.469	0.531
2.375	2.375	3.250	3.562	3.126	1.812	0.469	0.531
2.500	2.500	3.343	3.687	3.250	1.812	0.469	0.531
2.625	2.625	3.500	4.000	3.626	1.937	0.563	0.626
2.750	2.750	3.750	4.125	3.750	1.937	0.563	0.626
2.875	2.875	3.875	4.375	3.876	2.062	0.563	0.626
3.000	3.000	4.000	4.500	4.000	2.062	0.563	0.626
3.125	3.125	4.125	4.750	4.376	2.187	0.720	0.783
3.250	3.250	4.250	4.875	4.500	2.187	0.720	0.783
3.375	3.375	4.500	5.250	4.626	2.187	0.720	0.783
3.500	3.500	4.625	5.375	4.750	2.187	0.720	0.783
3.625	3.625	4.750	5.500	4.876	2.312	0.720	0.783
3.750	3.750	4.875	5.625	5.000	2.312	0.720	0.783
3.875	3.875	5.000	5.750	5.126	2.437	0.720	0.783
4.000	4.000	5.125	5.875	5.250	2.437	0.720	0.783

RB1D/RB1DL

Operating Limits

Pressure: 232 psi [1.6 MPa] max

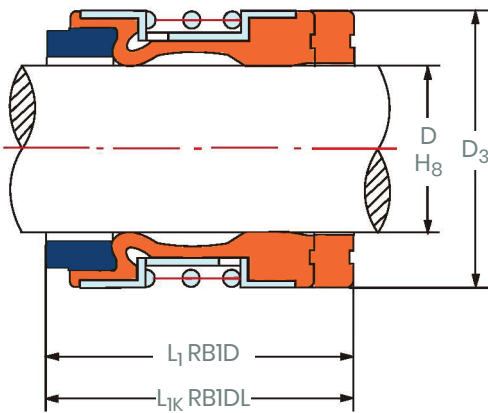
Speed: 3000 ft/min [15 m/s] max

Temperature: -22 to 392 °F [-30 to 200 °C]

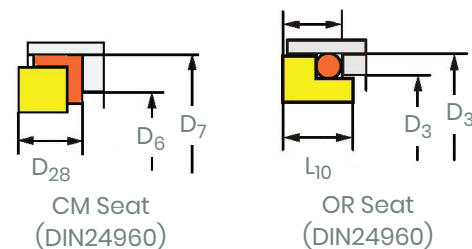
- **Face/Primary Ring** (Carbon/SiC/TC)
- **Seat/Mating Ring** (Alumina/SiC/TC)
- **Secondary Seal** (NBR/EPDM/FKM)
- **Spring & Hardware** (SS304/SS316)

Design Features:

- Compact design.
- Bellows are designed to support pressure and to decrease chances of creases or folds.
- Made to protect bellows from torsional strain.
- Unitized design.



CM Seat
(DIN24960)



CM Seat
(DIN24960)

OR Seat
(DIN24960)



RB1D



RB1DL



CM Seat



OR Seat

SEAL SIZE D (mm)	D ₃	D ₆	D ₇	RB1D	RB1DL	CM SEAT	OR 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

RB1D replaces John Crane Type 2100 with L1 standard working height.

RB1DL L1K is longer working height compliant with DIN.

RB1D standard seat is CM seat, but OR seat and BO seat are available upon request.

RB10

Operating Limits

Pressure: 400 psi (2.8 MPa) max

Speed: 2500 ft/min (13 m/s) max

Temperature: -22 to 392 °F (-30 to 200 °C)

- **Face/Primary Ring** (Carbon/SiC/TC)
- **Seat/Mating Ring** (Alumina/SiC/TC)
- **Secondary Seals** (NBR/EPDM/FKM)
- **Spring & Hardware** (SS304/SS316)

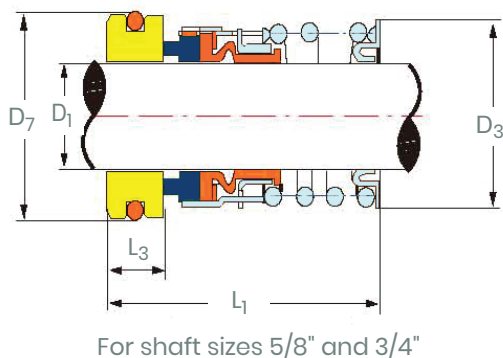
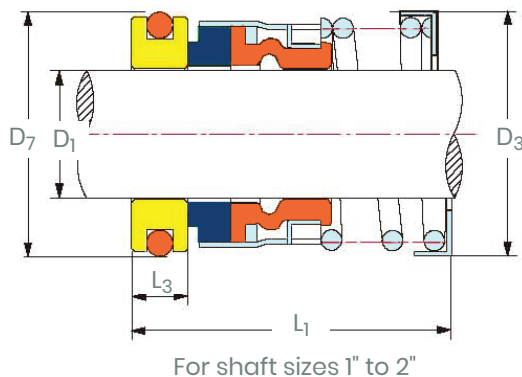


Machined

Stamped

Design Features:

- Rubber bellows accommodates equipment play and misalignment.
- Single-spring design reduces buildup and clogging risk.
- Available balanced seal version withstands higher operating pressure.



SEAL SIZE (INCHES)	D ₁	D ₃	D ₇	L ₁	L ₃
5/8	0.625	1.094	1.250	1.717	0.406
3/4	0.750	1.217	1.375	1.717	0.406
1	1.000	1.500	1.625	1.999	0.437
1 1/8	1.125	1.634	1.750	2.063	0.437
1 1/4	1.250	1.811	1.875	2.063	0.437
1 3/8	1.375	1.874	2.000	2.122	0.437
1 7/16	1.437	2.000	2.125	2.122	0.437
1 1/2	1.500	2.000	2.125	2.122	0.437
1 5/8	1.625	2.252	2.375	2.500	0.500
1 3/4	1.750	2.382	2.500	2.500	0.500
1 7/8	1.875	2.500	2.625	2.626	0.500
2	2.000	2.626	2.750	2.626	0.500
2 1/8	2.125	2.811	3.000	2.937	0.563
2 1/4	2.250	2.937	3.125	2.937	0.563
2 3/8	2.375	3.063	3.250	3.063	0.563
2 1/2	2.500	3.189	3.375	3.063	0.563
2 5/8	2.625	3.374	3.375	3.376	0.626
2 3/4	2.750	3.500	3.500	3.376	0.626
2 7/8	2.875	3.622	3.750	3.500	0.626
3	3.000	3.748	3.875	3.500	0.626
3 1/2	3.500	4.374	4.374	3.905	0.780

Replaces John Crane Type 1

SB10

Operating Limits

Pressure: 45 psi [0.3 MPa] max

Speed: 1600 ft/min [8m/s]

Temperature: -20 to 300 °F [-30 to 150 °C]



- **Face/Primary Ring**
(Thermoset Carbon / Sintered Carbon / SiC)
- **Seat/Mating Ring** (Alumina/SiC)
- **Secondary Seal** (NBR/EPDM/HNBR/FKM)
- **Spring & Hardware** (SS304/SS316)

Design Features:

- Rubber bellows accommodates equipment play and misalignment.
- Single-spring design reduces buildup and clogging risk.
- Stationary spring allows faster speeds and is less prone to angular misalignment than corresponding rotary spring designs.

SEAL SIZE (Inches)	D	D ₁	D ₂	D ₃	D ₅	D ₇	L ₁	L ₂	L ₃	L ₄
1/2	0.500	0.559	1.181	1.378	0.531	1.000	0.756	0.197	0.244	0.315
5/8	0.625	0.717	1.437	1.634	0.689	1.250	0.984	0.264	0.406	0.315
3/4	0.750	0.835	1.575	1.724	0.787	1.375	1.016	0.217	0.406	0.394
1	1.000	1.039	1.850	2.008	1.063	1.625	1.142	0.232	0.437	0.472
SEAL SIZE (mm)	D	D ₁	D ₂	D ₃	D ₅	D ₇	L ₁	L ₂	L ₃	L ₄
10	10	11.0	24.00	29.0	12	23	17.0	6.0	4	7.0
12S	12	14.2	28.57	32.0	14	25	18.2	5.2	5	8.0
12M	12	14.2	30.00	35.0	15	24/23	18.0	5.0	5	8.0
12L	12	14.2	33.40	38.0	14	25	18.0	6.3	5	6.7
16	16	18.2	36.50	41.5	18	31	19.8	6.8	5	8.0
16L	16	18.2	38.10	43.5	18	31	19.8	6.0	5	8.8
16LD	16	18.2	38.10	43.5	18	31	19.8	6.0	5	8.8
20S	20	21.2	38.00	43.8	21	35	20.5	5.5	5	10.0
20	20	21.2	40.00	43.8	21	35	20.5	5.5	5	10.0
25S	25	26.4	46.00	51.0	26	44	25.0	8.0	7	10.0
25	25	26.4	47.00	51.0	26	44	25.0	6.0	7	12.0
25L	25	26.4	52.00	57.0	27	48	25.0	6.0	7	12.0
30	30	31.0	52.00	57.0	32	48	27.0	8.0	8	11.0

