

RELY ON EXCELLENCE

## BT-RN

Mechanical Seals | Mechanical seals for pumps | Pusher seals



### Features

- For plain shafts
- Single seal
- Unbalanced
- Conical spring rotating
- Dependent on direction of rotation
- Torque transmission via conical spring

### Notes

Alternative seat ring can be supplied with short tail or long tail with slot for pin (to prevent seat rotation).

### Advantages

- Universal application opportunities
- Large choice of materials
- No shaft damage from set screws
- Dimensions can be adjusted and additional seats available
- Variants with shrink fitted face available

### Operating range

Shaft diameter:

$d1 = 6 \dots 110 \text{ mm (0.24" } \dots 4.33\text{")}$ ,

Pressure:  $p1^* = 10(12) \text{ bar (145(174) PSI)}$

Temperature:  $t^* = -20 \text{ }^\circ\text{C } \dots +140 \text{ }^\circ\text{C (-4 } ^\circ\text{F } \dots +284 \text{ }^\circ\text{F)}$

Sliding velocity:  $vg = 15 \text{ m/s (50 ft/s)}$

\* Dependent on medium, size and material

### Materials

Seal face:

CrNi steel (F, F1), CrNiMo steel (G), Tungsten carbide (U), Silicon carbide (Q1)

Seat:

Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Tungsten carbide (U), Silicon carbide (Q1)

Elastomers:

NBR (P), EPDM (E), FKM (V), FFKM (K)

Metal parts:

CrNi steel 1.4301 (F), CrNiMo steel 1.4401 (G)

### Standards and approvals

- Various material approvals e.g. WRAS, UBA, ACS, NSF, FDA available (depending on type and material combinations). Please inquire!
- EN 12756

### Recommended applications

- Water and wastewater technology
- Building services industry
- Chemical industry
- Food and Beverage industry
- Low solid content media
- Centrifugal pumps
- Cooling water pumps
- Clean water pumps



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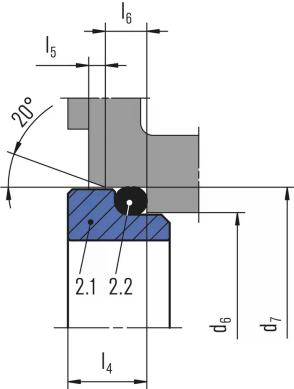
## Seat alternatives

### PF L1

**Item Description**  
2.1 Stationary seat  
2.2 O-Ring

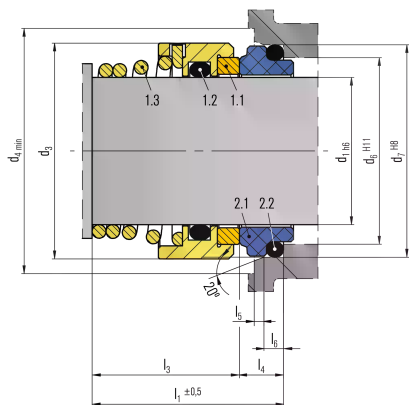
### PF L

**Item Description**  
2.1 Stationary seat  
2.2 O-Ring



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## Product variants



### BT-RN4

Same items and designations as for BT-RN, but with shrink-fitted seal face into the seal face carrier.

Seal face:

Tungsten carbide (U), Silicon carbide (Q1)

Shaft diameter:

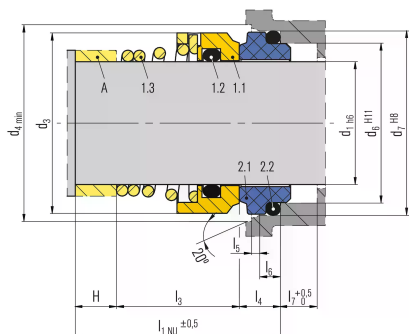
d1 = 16 ... 80 mm (0.63" ... 3.15"),

#### Item Description

- 1.1 Seal face
- 1.2 O-ring
- 1.3 Spring
- 2.1 seat
- 2.2 O-Ring

### BT-RN.NU

Same items and designations as for BT-RN, but with installation length l1N according to EN 12756 (Normal, Unbalanced).

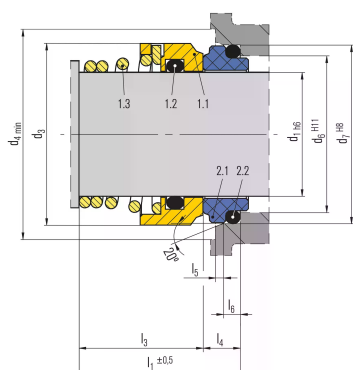


#### Item Description

- 1.1 Seal face
- 1.2 O-ring
- 1.3 Spring
- A Spacer (upon request)
- 2.1 seat
- 2.2 O-Ring

### BT-RN.KU

Items and designations same as for BT-RN, but with installation length l1K according to EN 12756 (Short, Unbalanced).



#### Item Description

- 1.1 Seal face
- 1.2 O-ring
- 1.3 Spring
- 2.1 Seat
- 2.2 O-Ring

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## Dimensions

12
14
16
18
20
22
24
25
28
30
32
33
35
38
40
43
45
48
50
53
55
58
60
63
65
68
70
75
80
85
90
95
100

Measurements in MM

d <sub>1</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>6</sub>	d <sub>7</sub>	l <sub>1</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>
8	16	20	13.0	17.1	20.5	15	5.5	1.2	3
10	20	23	14.0	18.1	20.5	15	5.5	1.2	3
11	20	26	16.5	20.6	23.5	18	5.5	1.2	3
12	22	26	16.5	20.6	23.5	18	5.5	1.2	3
13	22	28	19.0	23.1	28.0	22	6.0	1.2	3
14	24	28	19.0	23.1	28.0	22	6.0	1.2	3
15	24	32	21.0	26.9	29.0	22	7.0	1.5	4
16	26	32	21.0	26.9	30.0	23	7.0	1.5	4
17	26	32	21.0	26.9	30.0	23	7.0	1.5	4
18	32	36	25.0	30.9	32.0	24	8.0	1.5	4
19	32	36	25.0	30.9	33.0	25	8.0	1.5	4
20	32	36	25.0	30.9	33.0	25	8.0	1.5	4

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d <sub>1</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>6</sub>	d <sub>7</sub>	l <sub>1</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>
21	32	38	30.0	35.4	33.0	25	8.0	2.0	4
22	36	41	30.0	35.4	33.0	25	8.0	2.0	4
23	36	41	30.0	35.4	35.0	27	8.0	2.0	4
24	38	41	30.0	35.4	35.0	27	8.0	2.0	4
25	39	43	33.0	38.2	35.5	27	8.5	2.0	4
26	39	43	33.0	38.2	35.5	27	8.5	2.0	4
28	42	50	38.0	43.3	38.0	29	9.0	2.0	4
29	42	50	38.0	43.3	38.0	29	9.0	2.0	4
30	44	50	38.0	43.3	39.0	30	9.0	2.0	4
32	46	50	38.0	43.3	39.0	30	9.0	2.0	4
33	47	57	45.0	53.5	50.5	39	11.5	2.0	6
34	48	57	45.0	53.5	50.5	39	11.5	2.0	6
35	49	57	45.0	53.5	50.5	39	11.5	2.0	6
36	50	57	45.0	53.5	50.5	39	11.5	2.0	6
37	52	57	45.0	53.5	50.5	39	11.5	2.0	6
38	54	64	52.0	60.5	50.5	39	11.5	2.0	6
40	56	64	52.0	60.5	50.5	39	11.5	2.0	6
42	59	64	52.0	60.5	50.5	39	11.5	2.0	6
43	59	64	52.0	60.5	50.5	39	11.5	2.0	6
44	60	69	57.0	65.5	52.5	41	11.5	2.0	6
45	61	69	57.0	65.5	52.5	41	11.5	2.0	6
48	64	69	57.0	65.5	52.5	41	11.5	2.0	6
50	66	76	64.0	72.5	56.5	45	11.5	2.0	6
55	71	80	64.0	72.5	58.5	47	11.5	2.0	6
60	80	85	72.0	79.3	60.5	49	11.5	2.0	6
65	85	90	77.0	84.5	62.5	51	11.5	2.0	6
70	90	97	82.0	89.5	62.5	51	11.5	2.0	6
75	99	103	87.0	94.5	68.5	57	11.5	2.0	6
80	104	110	92.0	99.5	70.5	59	11.5	2.0	6
85	109	116	98.0	105.5	72.5	59	13.5	2.5	6
90	114	121	105.0	111.5	75.5	62	13.5	2.5	6
95	119	126	110.0	116.5	75.5	62	13.5	2.5	6
100	124	131	114.0	119.5	88.5	75	13.5	2.5	6
110	143	149	124.0	132.2	92.5	75	17.5	4.0	7

BT-RN / BT-RN4 - Dimensions in millimeters