

RELY ON EXCELLENCE

## BT-AR

Mechanical Seals | Mechanical seals for pumps | Elastomer bellow seals



### Features

- Single and dual seal
- For plain shafts
- Elastomer bellows rotating
- Unbalanced
- Independent of direction of rotation
- Available in metric and imperial sizes

### Advantages

- Shaft protection over entire seal length
- Short axial length
- High volume seal for use in low pressure, small diameter rotary shaft applications
- High flexibility thanks to extended selection of materials
- Best quality/price ratio
- Dimensions can be customized
- Additional seats available

**Notes** The BT-AR can also be used as a multiple seal in tandem or back-to-back arrangement. Installation suggestions are available upon request.

Dimensional adaptations for special conditions, such as inch shafts, different axial lengths, or specific seat dimensions are available upon request.

### Operating range

Shaft diameter:  $d_1 = 6 \dots 70 \text{ mm}$  (0.24" ... 2.76")  
 Pressure:  $p_1^* = 6 \text{ bar}$  (87 PSI),  
 vacuum ... 0.5 bar (7.25 PSI) up to 1 bar (14.5 PSI)  
 with seat locking  
 Temperature:  
 $t^* = -20 \text{ °C} \dots +120 \text{ °C}$  (-4 °F ... +248 °F)  
 Sliding velocity:  $v_g = 10 \text{ m/s}$  (33 ft/s)

\* Dependent on medium, size and material

### Materials

Seal face:

Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Carbon graphite, full carbon (B3), Silicon carbide (Q1, Q6), Tungsten carbide (U), PTFE glass fiber reinforced (Y1), PTFE carbon reinforced (Y2)

Seat:

Al-oxide (V, V1), Silicon carbide (Q1, Q6, Q7), Tungsten carbide (U), Cr steel (E), CrNi steel (F1), CrNiMo steel (G)

Elastomers:

NBR (P), EPDM (E), FKM (V), HNBR (X4)

Metal parts:

CrNi steel 1.4301 (F), CrNiMo steel 1.4401 (G), CrNi steel 1.4057 (F1)

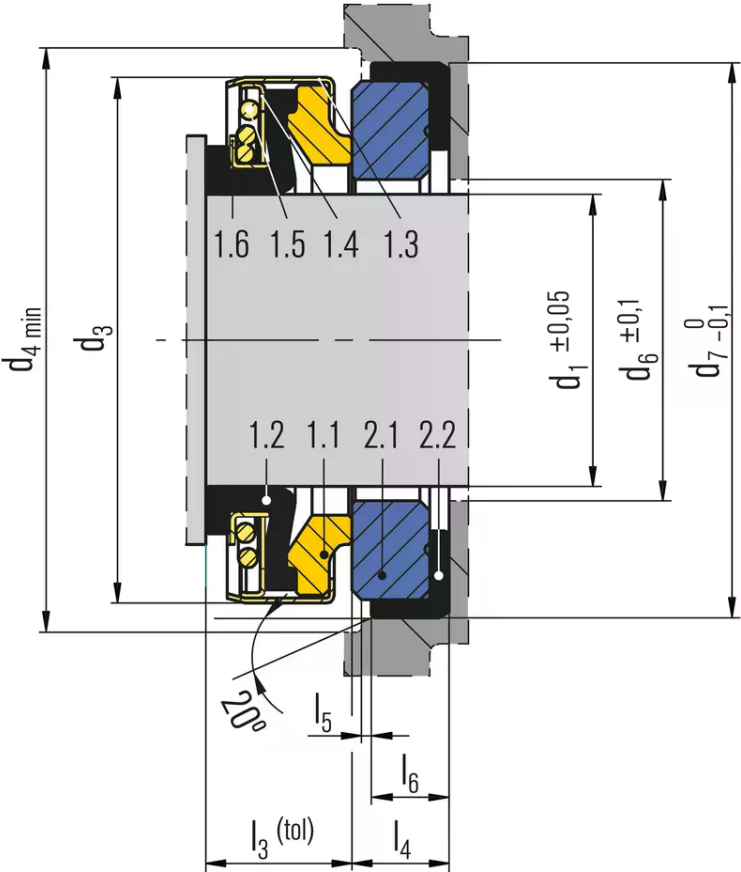
### Standards and approvals

- UBA
- W270
- ACS
- WRAS
- NSF
- DM 174/04
- FDA
- EC 1935/2004
- Various material approvals (depending on type and material combinations). Please inquire!

### Recommended applications

- Water and wastewater technology
- Whirlpool and swimming pool pumps
- Domestic appliances
- Dishwasher pumps
- Submersible pumps
- Circulating pumps
- Low duty water pumps

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Item	Description
1.1	Seal face
1.2	Bellows
1.3	Collar
1.4	Locking ring
1.5	Spring
1.6	Drive ring
2.1	Stationary seat
2.2	Gasket



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### Dimensions

d <sub>1</sub>	d <sub>1</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>6</sub>	d <sub>7</sub>	l <sub>3</sub>	tol	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	Note
3/8"	9.53	24	27	12	25.40	11.0	+0.5/0	5.5	0.5	4.5	X06
3/8"	9.53	24	27	12	25.40	11.0	+0.5/0	7.5	1.0	5.5	X06
1/2"	12.70	24	27	15	25.40	12.8	+0.7/0	7.5	1.0	5.5	X08
1/2"	12.70	24	27	15	25.40	16.3	+0.7/0	8.0	1.0	6.0	X08
5/8"	15.88	32	35	18	31.75	12.8	+0.7/0	10.3	1.0	8.0	X10
5/8"	15.88	32	35	18	30.95	12.8	+0.7/0	10.3	1.0	8.0	X10
3/4"	19.05	35	39	21	35.00	19.00	+0.7/0	10.3	1.0	8.0	X12

### BT-AR - Dimensions in inch/millimeter

d <sub>1</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>6</sub>	d <sub>7</sub>	l <sub>3</sub>	tol	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	Note
6	18	23	8	22.0	8.0	+0.5/0	4.0	0.5	3.5	8S (std version)
6	18	21	8	18.0	8.0	+0.5/0	4.8	0.5	3.5	8R
8	20	23	10	22.0	11.0	+0.5/0	4.8	0.5	3.5	12C (short version)
8	18	23	10	22.0	11.0	+0.5/0	4.0	0.5	3.5	(std version)
10	24	27	12	26.0	11.0	+0.5/0	8.0	1.0	6.0	14S (std version)
10	24	27	12	26.0	11.0	+0.5/0	5.5	0.5	4.5	14S (std version)
11	24	27	13	26.0	11.0	+0.5/0	8.0	1.0	6.0	14L (long version)
11	24	27	13	26.0	11.0	+0.5/0	5.5	0.5	4.5	14L (long version)
12	24	27	14	26.0	11.0	+0.5/0	8.0	1.0	6.0	16R (std version)
12	24	27	14	26.0	11.0	+0.5/0	5.5	0.5	4.5	20R (std version)
12	24	27	14	26.0	12.8	+0.7/0	8.0	1.0	6.0	25R (std version)
12	24	27	14	26.0	12.8	+0.7/0	5.0	0.5	4.5	
13	24	27	15	26.0	12.8	+0.7/0	8.0	1.0	6.0	
13	24	27	15	26.0	12.8	+0.7/0	5.5	0.5	4.5	
14	28	31	18	28.5	12.8	+0.7/0	7.5	1.0	5.5	
14	28	31	18	29.5	12.8	+0.7/0	8.0	1.0	6.0	
14	28	31	18	28.5	15.3	±0.8	7.5	1.0	5.5	
14	32	31	16	25.0	15.3	±0.8	7.3	1.0	5.5	
15	32	35	17	29.5	12.8	+0.7/0	8.0	1.0	6.0	
15	32	35	17	30.0	12.8	+0.7/0	6.0	1.0	4.0	
15	32	40	17	38.0	12.8	+0.7/0	8.0	1.0	6.0	
16	32	35	18	29.5	12.8	+0.7/0	8.0	1.0	6.0	
16	32	35	18	30.0	12.8	+0.7/0	6.0	1.0	4.0	
16	32	40	17	38.0	12.8	+0.7/0	8.0	1.0	6.0	
17	39	43	19	42.0	12.8	+0.7/0	8.0	1.0	6.0	
18	39	43	20	42.0	12.8	+0.7/0	8.0	1.0	6.0	
19	39	43	21	42.0	12.8	+0.7/0	8.0	1.0	6.0	
20	35	39	22	35.0	17.8	±0.7	7.5	1.0	5.5	
20	39	43	22	42.0	12.8	+0.7/0	8.0	1.0	6.0	
22	42	47	24	45.0	12.8	+0.7/0	10.0	1.0	8.0	
24	47	52	26	50.0	13.5	+1/0	10.0	1.0	8.0	
25	42	52	27	50.0	13.5	+1/0	10.0	1.0	8.0	
25	42	47	27	45.0	13.5	+1/0	10.0	1.0	8.0	
25	47	52	27	50.0	13.5	+1/0	10.0	1.0	8.0	
27	47	52	30	50.0	13.5	+1/0	10.0	1.0	8.0	
28	54	60	31	57.0	15.0	+1/0	10.0	1.0	8.0	
30	54	60	33	57.0	15.0	+1/0	10.0	1.0	8.0	

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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>3</sub>	tol	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	Note
32	54	60	35	57.0	15.0	+1/0	10.0	1.0	8.0	
35	60	70	38	63.0	16.0	+1/0	10.0	1.0	8.0	
38	65	75	41	68.0	18.0	+1/0	12.0	2.0	9.0	
40	65	75	43	68.0	18.0	+1/0	12.0	2.0	9.0	
45	70	80	48	73.0	20.0	+1/0	12.0	2.0	9.0	
50	85	95	53	88.0	23.0	+1/0	15.0	2.0	12.0	
60	105	115	63	110.0	30.0	+1/0	15.0	2.0	12.0	
70	105	115	73	110.0	32.0	+1/0	15.0	2.0	12.0	

Dimensions in millimeter