

RELY ON EXCELLENCE

## BT-FH

Mechanical Seals | Mechanical seals for pumps | Pusher seals



### Features

- Single seal
- For plain shafts
- 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
- Reliable design
- High flexibility due to extended selection of materials
- No damage of the shaft by set screws
- Dimensions can be customized
- Alternative seats available

### Operating range

Shaft diameter:

d1 = 10 ... 100 mm (0.39" ... 3.94")

Pressure: p1\* = 12 (16) bar (174 (232) PSI)

Temperature:

t\* = -35 °C ... +200 °C (-31 °F ... +392 °F)

Sliding velocity: vg = 15 m/s (50 ft/s)

\* Dependent on medium, size and material

### Materials

Seal face:

Al-oxide (V), Silicon carbide (Q1), Tungsten carbide (U)

Seat:

Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Carbon graphite, full carbon (B3), Silicon carbide (Q1, Q6, Q7), Tungsten carbide (U)

PTFE glass fiber reinforced (Y1),

PTFE carbon reinforced (Y2)

Elastomers:

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

Metal parts:

CrNiMo steel 1.4401 (G)

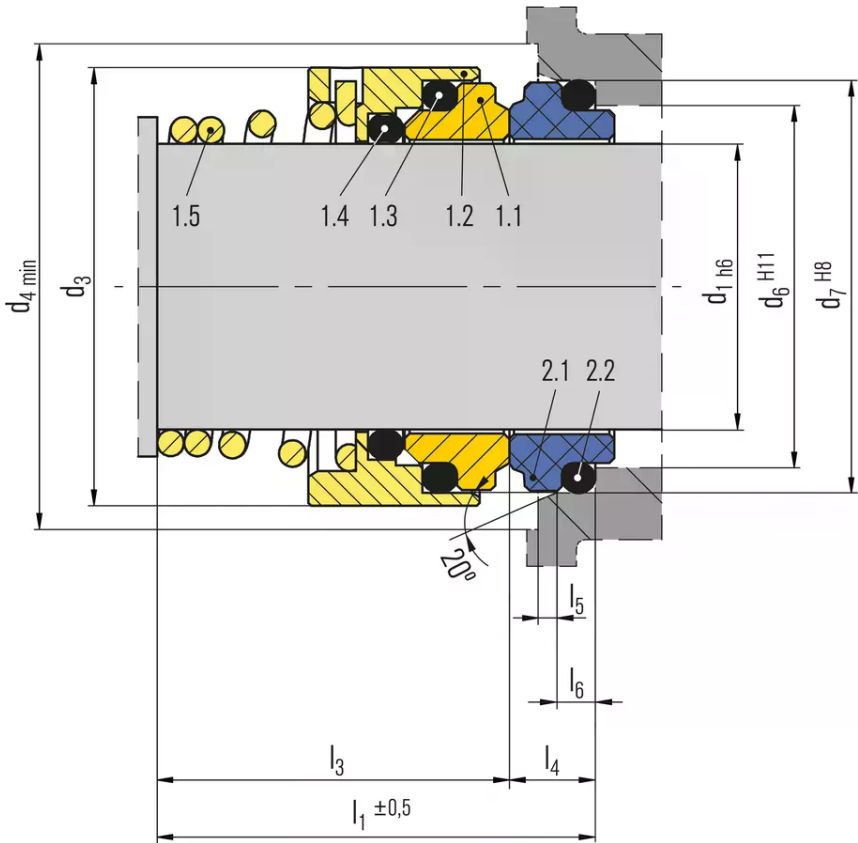
### Standards and approvals

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

### Recommended applications

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

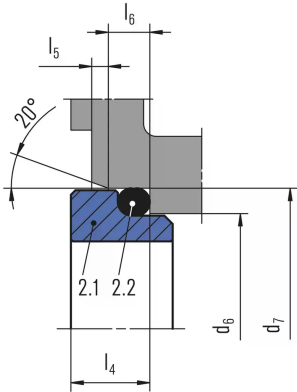
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Item	Description
1.1	Seal face
1.2	Collar
1.3	O-Ring
1.4	O-Ring
1.5	Spring
2.1	Stationary seat
2.2	O-Ring

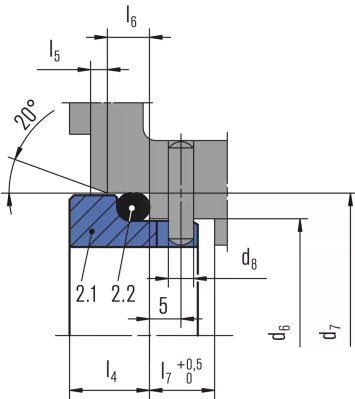
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### Seat alternatives



**PF L**

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

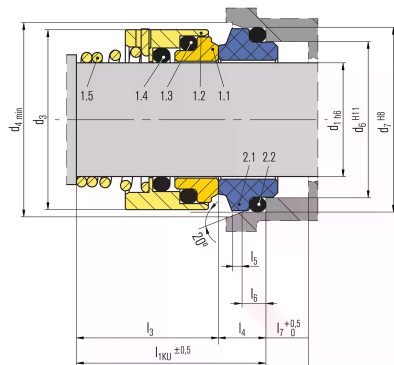


**PF L1**

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

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## Product variants

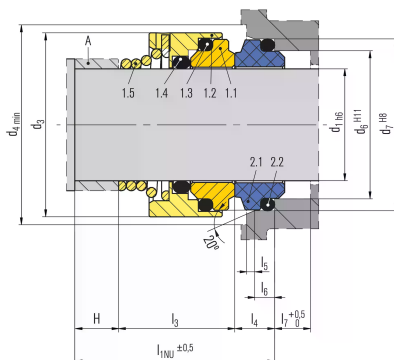


### BT-FH.KU

Items and designations are the same as for BT-FH, but with installation length  $l_{FKU}$  according to EN 12756 (Short, Unbalanced).

#### Item Description

- 1.1 Seal face
- 1.2 Collar
- 1.3 O-Ring
- 1.4 O-Ring
- 1.5 Spring
- 2.1 Stationary seat
- 2.2 O-Ring

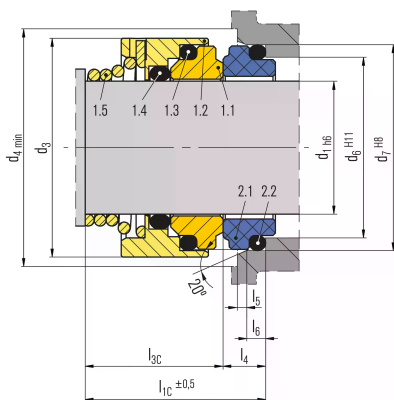


### BT-FH.NU

Items and designations are the same as for BT-FH, but with installation length  $l_{1NU}$  according to EN 12756 (Short, Unbalanced).

#### Item Description

- 1.1 Seal face
- 1.2 Colalr
- 1.3 O-Ring
- 1.4 O-Ring
- 1.5 Spring
- 2.1 Stationary seat
- 2.2 O-Ring



### BT-FHC

Items and designations are the same as for BT-FH, but with shorter installation length  $l_{3C}$  (see dimension table). Same installation length as the BT-RN.

#### Item Description

- 1.1 Seal face
- 1.2 Colalr
- 1.3 O-Ring
- 1.4 O-Ring
- 1.5 Spring
- 2.1 Stationary seat
- 2.2 O-Ring

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## Dimensions

BT-FH	BT-FHC
d <sub>1</sub>	d <sub>3</sub>
10	20
12	22
14	25
15	29
16	29
18	33
20	33
22	38
24	38
25	40
28	46
30	46
32	46
35	50
38	63
40	63
42	63
43	63
45	69
48	69
50	76
55	76
60	82
65	89
70	94
75	100
80	105
85	115
90	120
95	126
100	130

BT-FH, BT-FHC - Dimensions in millimeters

BT-FH.NU
d <sub>1</sub>
10
12
14
16
18
20
22
24
25
28
30

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### BT-FH.NU

32
33
35
38
40
43
45
48
50
53
55
58
60
63
65
68
70
75
75
80
85
90
95
100

d~3~, d~4~ dimensions not always in accordance with EN 12756 I~1NU~ complies with EN 12756 (normal length, unbalanced) I~1KU~ complies with EN 12756 (short length, unbalanced) BT-FH.NU / KU - Dimensions in millimeters