

# HBrinker Mechanical Seal

Standard Cartridge Seal

Mechanical Seal HBTEX-DS



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### Operating range

Shaft diameter:  $d_1 = 25 \dots 80 \text{ mm}$  (1" ... 3.15")

Temperature:  $t^* = -40 \text{ }^\circ\text{C} \dots +220 \text{ }^\circ\text{C}$  (-40 °F ... + 428 °F)

Pressure:  $p_1 = 25 \text{ bar}$  (232 PSI)

Sliding velocity:  $v_g = 20 \text{ m/s}$  (66 ft/s)

Barrier fluid circulation system:

$p_{3\text{max}} = 16 \text{ bar}$  (232 PSI)

$\Delta p$  ( $p_3 - p_1$ ) ideal = 2 ... 3 bar (29 ... 44 PSI)

$\Delta p$  ( $p_3 - p_1$ ) max.

= 10 bar (145 PSI) at  $< 120 \text{ }^\circ\text{C}$  ( $< 248 \text{ }^\circ\text{F}$ )

= 5 bar (73 PSI) at  $\leq 220 \text{ }^\circ\text{C}$  ( $\leq 232 \text{ }^\circ\text{F}$ )

API Plan 52 (53/54)

Pump startup:

$\Delta p$  ( $p_3 - p_1$ ) max. 16 bar (232 PSI) allowed

\* Operating limits of O-Rings to be observed

### Materials

- Seal face: Carbon graphite (A), Silicon carbide (Q1)
- Seat: Silicon carbide (Q1), Tungsten carbide (U2)
- Secondary seals: FPM (V), EPDM (E), FFKM (K)
- Bellows: Inconel® 718 (M6)
- Springs: Hastelloy® C-4 (M)
- Metal parts: CrNiMo steel (G), Duplex (G1)

### Features

- Double seal
- Mtex-DN: API Plan 52 (53/54)
- Mtex9-DN: API Plan 53/54
- Cartridge
- Balanced
- Independent of direction of rotation
- Metal bellows
- Stationary Springs
- Pumping device independent of direction of rotation

### Advantages

- Ideal seal for standardizations
- Universal applicable for packings conversions, retrofits or OEM
- No dimensional modification of the seal chamber (centrifugal pumps) necessary, small radial installation height
- Trouble-free running due to bellows unit with vibration dampers (essential in case of dry-running)
- No damage of the shaft by dynamically loaded O-Ring
- Self cleaning effect of the bellows
- Straightforward and easy installation due to pre-assembled unit

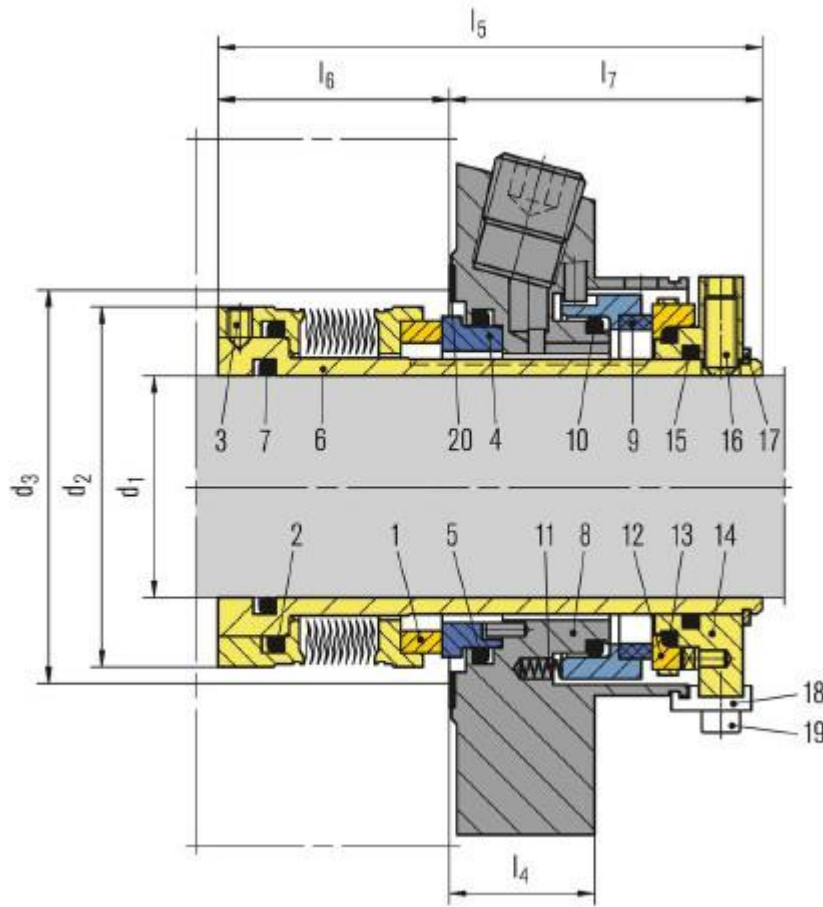
### Recommended applications

- Process industry
- Chemical industry
- Hot media
- Cold media
- Highly viscous media
- Pumps
- Special rotating equipment

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Item	Description	Item	Description
1	Bellows unit	12	Seat
2	O-Ring	13	O-Ring
3	Set screw	14	Drive Coller
4	Seat	15	O-Ring
5	O-Ring	16	Set Screw
6	Shaft sleeve	17	Retaining ring
7	O-Ring	18	Assembly fixture
8	Cover	19	Hex socket head screw
9	Seal face	20,22	Gasket
10	O-Ring	23	Screw plug
11	Spring		

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Dimension Table in millimeter

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	d <sub>a</sub>	a <sub>2</sub>	s
25	45.0	47.0	51.0	25.4	87.0	33.6	53.4	105.0	62.0	13.2
30	49.4	52.0	56.0	25.4	86.5	33.1	53.4	105.0	67.0	13.2
32	52.3	54.5	57.0	25.4	86.5	33.1	53.4	108.0	70.0	13.2
33	52.3	54.5	57.0	25.4	86.5	33.1	53.4	108.0	70.0	13.2
35	54.8	58.0	61.5	25.4	86.5	33.1	53.4	113.0	72.0	13.2
38	57.5	60.0	66.0	25.4	86.5	33.1	53.4	123.0	75.0	14.0
40	58.8	62.0	68.0	25.4	86.3	32.9	53.4	123.0	77.0	14.2
43	61.9	64.5	70.5	25.4	86.5	33.1	53.4	133.0	80.0	14.2
45	65.0	68.5	73.0	25.4	86.5	33.1	53.4	138.0	82.0	14.2
48	68.4	71.0	75.0	25.4	86.8	33.4	53.4	138.0	85.0	14.2
50	70.0	73.0	78.0	25.4	87.2	33.8	53.4	148.0	87.0	14.2
53	71.9	75.0	87.0	25.4	87.4	34.0	53.4	148.0	97.0	18.0
55	74.6	77.0	83.0	25.4	87.0	33.6	53.4	148.0	92.0	18.0
60	83.9	87.0	91.0	25.4	88.2	34.8	53.4	157.0	102.0	18.0
65	87.5	90.0	98.5	25.4	88.1	34.7	53.4	163.0	109.3	18.0
70	93.0	98.0	108.0	25.4	89.6	36.2	53.4	178.0	118.3	18.0
75	96.8	101.6	118.0	28.0	107.4	43.5	63.9	190.0	129.0	18.0
80	104.7	108.0	124.0	28.0	106.8	42.9	63.9	195.0	135.0	18.0

