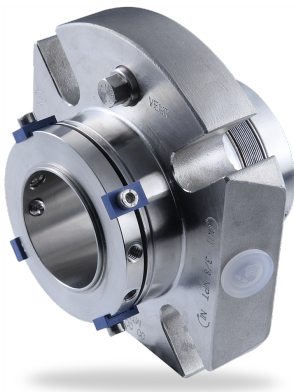


RELY ON EXCELLENCE

Mtex Dual seals

Mechanical seals | Mechanical seals for pumps | Standard cartridge seals



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

Operating range

Shaft diameter:
 $d_1 = 25 \dots 80 \text{ mm (1" ... 3.15")}$
 Temperature:
 $t^* = -40 \text{ °C ... } +220 \text{ °C (-40 °F ... } +428 \text{ °F)}$
 Pressure: $p_1 = 25 \text{ bar (232 PSI)}$
 Sliding velocity: $vg = 20 \text{ m/s (66 ft/s)}$

Barrier fluid circulation system:
 $p_{3\text{max}} = 16 \text{ bar (232 PSI)}$
 $\Delta p (p_3 - p_1) \text{ ideal} = 2 \dots 3 \text{ bar (29 ... 44 PSI)}$
 $\Delta p (p_3 - p_1) \text{ max.}$
 $= 10 \text{ bar (145 PSI) at } <120 \text{ °C (<248 °F)}$
 $= 5 \text{ bar (73 PSI) at } \leq 220 \text{ °C (}\leq 232 \text{ °F)}$

API Plan 52 (53/54)

Pump startup:
 $\Delta p (p_3 - p_1) \text{ max. } 16 \text{ bar (232 PSI) allowed}$

* 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)

Recommended applications

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

Recommended piping plans

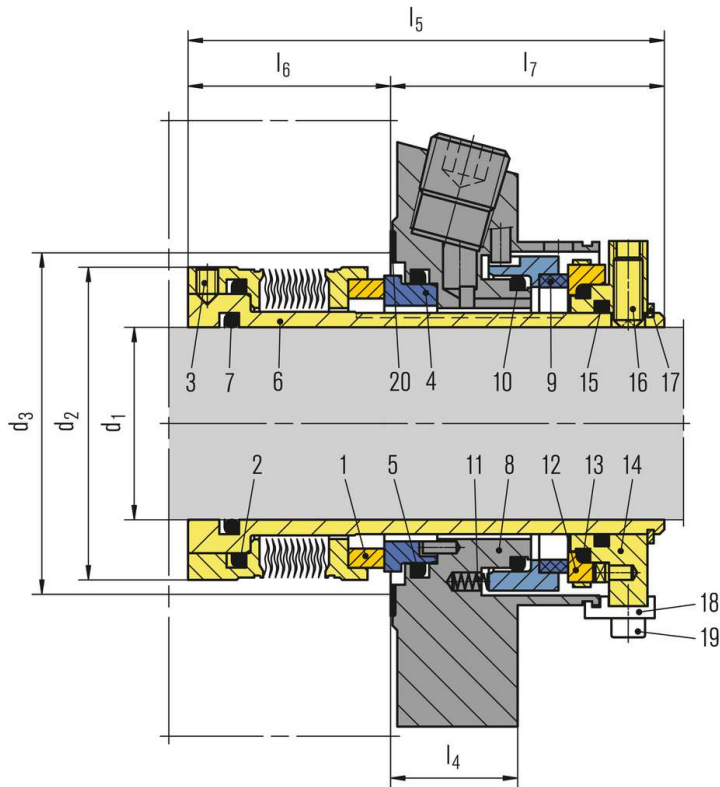
EagleBurgmann TS 2000 Thermosiphon system

Product link:
[EagleBurgmann TS2000](#)

Detailed information on these API 682 4th edition plans:

[API Plan 52](#)
[API Plan 53A](#)
[API Plan 53B](#)
[API Plan 53C](#)
[API Plan 54](#)

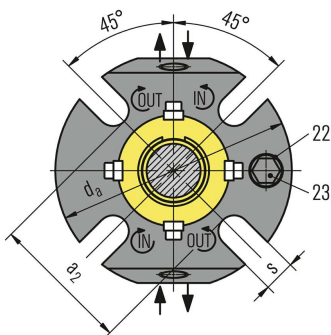
RELY ON EXCELLENCE



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

Installation, details, options

Seal cover



All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications, however, means that they can serve only as guide values.

We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. This is subject to change.

RELY ON EXCELLENCE

Product variants

Mtex9-DN

Dimensions, items and descriptions as for Mtex-DN, but with optimized seal face geometry for pressurized operation according to API Plan 53/54. A barrier fluid system (e.g. EagleBurgmann TS2000) is necessary.

Pressure: $p_1 = 10 \text{ bar (145 PSI)}$

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

Barrier fluid circulation system:

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

$\Delta p (p_3 - p_1)_{\text{ideal}} = 2 \dots 3 \text{ bar (29 ... 44 PSI)}$

$\Delta p (p_3 - p_1)_{\text{max}} = 16 \text{ bar (232 PSI)}$

API Plan 53/54

Pump startup:

$\Delta p (p_3 - p_1)_{\text{max}} = 16 \text{ bar (232 PSI)}$ allowed

Dimensions

d_1	d_2	$d_3 \text{ min.}$	$d_3 \text{ max.}$	l_4	l_5	l_6	l_7	d_a	a_2	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

Dimensions in millimeter

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We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. This is subject to change.