

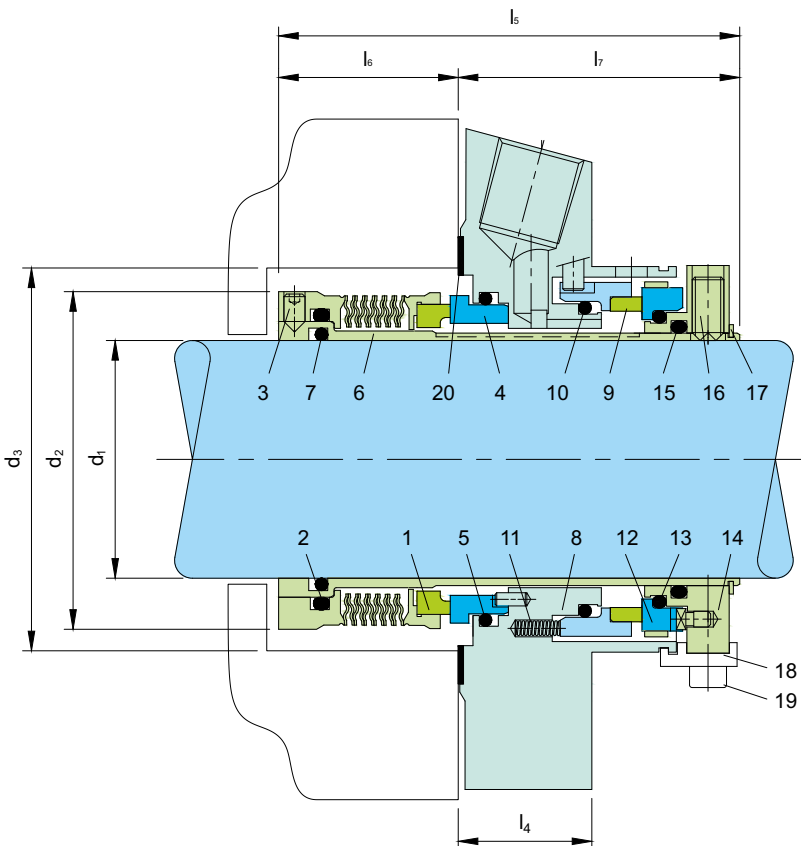


Product Description

1. Dual seal configuration
2. Balanced design
3. Independent of direction of rotation
4. Cartridge construction
5. Metal bellows design
6. Designed with integrated pumping device for increased efficiency in circulation
7. Stationary O-ring design
8. Seals with API Plan 52 and API Plan 53/54

Technical Features

1. Ideal for use in process pump standardization
2. O-ring is dynamically loaded to prevent shaft damage.
3. Dimensional modification of the stuffing box chamber is not required due to short radial installation height
4. Ideal to convert and retrofit pumps with packings and large volume OEM production
5. Cartridge unit factory assembled for easy installation, which reduces down-time
6. Rugged design for long operating life
7. Bellows design efficiently ensure self-cleaning
8. Suitable for high temperature applications



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

Item	Description
1	Bellows unit
2, 5, 7, 10, 13, 15	O-ring
3, 16	Set screw
4	Seat
6	Shaft sleeve
8	Cover
9	Seal face
11	Spring

Item	Description
12	
14	Drive collar
17	Retaining ring
18	Assembly fixture
19	HSH Cap Screw
20	Gasket
21	Screw Plug
22	Gasket

Typical Industrial Applications

API & ISO Pumps	Fertiliser
Acids (some)	Fuel oil, lubricating oil, gasoline, etc
Aqueous solutions	Heat transfer fluids
Aromatic fractionation products	Highly viscous media
Benzene, toluene, solvents, etc	Hydrocarbons
Caustics & chemicals	Lubricating liquids
Crude oil fractionation products	Oil & gas
	Petrochemical Refining technology

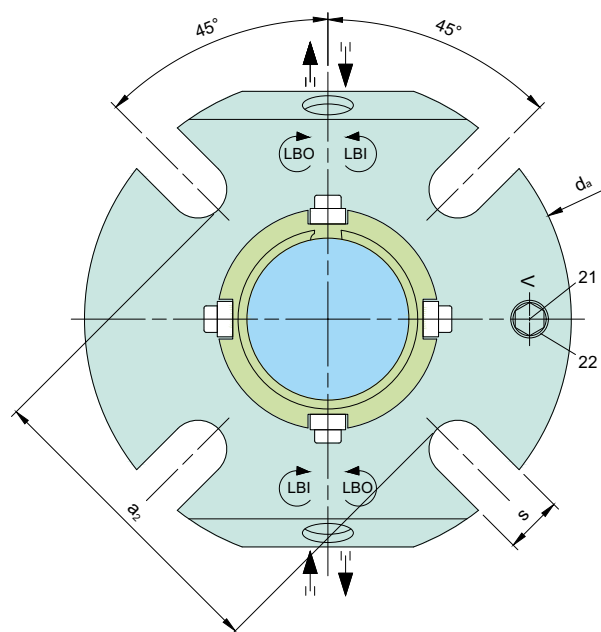
Materials

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

Performance Capabilities

Sizes:	$d_1 = 25 \dots 80 \text{ mm (1" } \dots 3.15\text{")}$
Temperature:	$t^* = -40^\circ\text{C} \dots +220^\circ\text{C}$ ($-40^\circ\text{F} \dots +428^\circ\text{F}$)
Pressure:	$p_1 = 25 \text{ bar (363 PSI)}$
Speed:	$= 20 \text{ m/s (66 ft/s)}$
Barrier fluid circulation system:	
$p_{3\text{max}}$	$= 16 \text{ bar (232 PSI)}$
$\Delta p (p_3 - p_1)$	ideal $= 2 \dots 3 \text{ bar (29 } \dots 44 \text{ PSI)}$
$\Delta p (p_3 - p_1)$	max $= 10 \text{ bar (145 PSI) at } < 120^\circ\text{C}$ ($< +248^\circ\text{F}$) $= 5 \text{ bar (73 PSI) at } \leq 220^\circ\text{C}$ ($\leq +232^\circ\text{F}$)
API Plan 52 (53/54)	
Pump startup:	
$\Delta p (p_3 - p_1)$	max $= 16 \text{ bar (232 PSI) allowed}$
Operating limits of O-rings to be observed *	

Installation, Details, Options



Product Variants

MTX9-DN

Dimensions, items and descriptions as for MTX-DN, but with optimized seal face geometry for pressurized operation according to API Plan 53/54. A barrier fluid system (e.g. Sealmatic BFS2000) is necessary.

Pressure: $p_1 = 25 \text{ bar (363 PSI)}$

Speed: $= 20 \text{ m/s (66 ft/s)}$

Barrier fluid circulation system:

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

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

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

API Plan 53/54

Pump startup:

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

Dimensional Data

Dimensions in millimeter

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	Connection
25	45.0	47.0	51.0	25.4	87.0	33.6	53.4	105.0	62.0	13.2	1/4 NPT
30	49.4	52.0	56.0	25.4	86.5	33.1	53.4	105.0	67.0	13.2	1/4 NPT
32	52.3	54.5	57.0	25.4	86.5	33.1	53.4	108.0	70.0	13.2	1/4 NPT
33	52.3	54.5	57.0	25.4	86.5	33.1	53.4	108.0	70.0	13.2	1/4 NPT
35	54.8	58.0	61.5	25.4	86.5	33.1	53.4	113.0	72.0	13.2	1/4 NPT
38	57.5	60.0	66.0	25.4	86.5	33.1	53.4	123.0	75.0	14.0	3/8 NPT
40	58.8	62.0	68.0	25.4	86.3	32.9	53.4	123.0	77.0	14.2	3/8 NPT
43	61.9	64.5	70.5	25.4	86.5	33.1	53.4	133.0	80.0	14.2	3/8 NPT
45	65.0	68.5	73.0	25.4	86.5	33.1	53.4	138.0	82.0	14.2	3/8 NPT
48	68.4	71.0	75.0	25.4	86.8	33.4	53.4	138.0	85.0	14.2	3/8 NPT
50	70.0	73.0	78.0	25.4	87.2	33.8	53.4	148.0	87.0	14.2	3/8 NPT
53	71.9	75.0	87.0	25.4	87.4	34.0	53.4	148.0	97.0	18.0	3/8 NPT
55	74.6	77.0	83.0	25.4	87.0	33.6	53.4	148.0	92.0	18.0	3/8 NPT
60	83.9	87.0	91.0	25.4	88.2	34.8	53.4	157.0	102.0	18.0	3/8 NPT
65	87.5	90.0	98.5	25.4	88.1	34.7	53.4	163.0	109.3	18.0	3/8 NPT
70	93.0	98.0	108.0	25.4	89.6	36.2	53.4	178.0	118.3	18.0	3/8 NPT
75	96.8	101.6	118.0	28.0	107.4	43.5	63.9	190.0	129.0	18.0	3/8 NPT
80	104.7	108.0	124.0	28.0	106.8	42.9	63.9	195.0	135.0	18.0	3/8 NPT

Note: Additional technical & dimensional information will be provided on request.

The specifications, drawings, images etc included in this catalogue are intended to be generic and must be interpreted as equivalent or functionally equivalent, more specifically the performance capabilities mentioned in this catalogue is based on optimum values, however the performance of the product is dependent on size, material of construction, media, pressure, temperature, sliding velocity etc and it shall vary from size to size or application to application. Customers are requested to consult with Sealmatic before employing the product from this catalogue for any application.