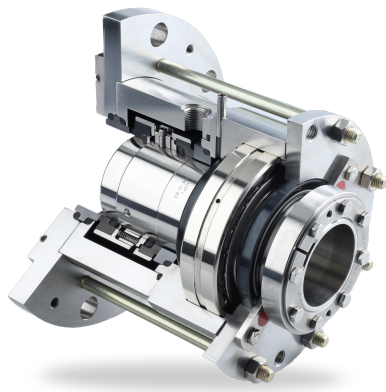


M481

Mechanical seals | Agitator seals | Liquid-lubricated seals



Features

- For top entry drives
- Double seals
- Unbalanced
- Independent of direction of rotation
- Multiple springs rotating
- Liquid-lubricated
- Cartridge unit

Advantages

- Ready-to-fit and factory-tested units
- Available with or without bearing
- Suitable for standardizations
- Seal can be applied at higher pressure and rotating speed than specified by DIN
- Self-closing on product side
- ATEX certification on request

Operating range

Shaft diameter:
d1 = 40 ... 220 mm (1.57" ... 8.66")

Pressure:
p1 = vacuum ... 16 bar (232 PSI),

p3 = max. 18 bar (261 PSI)
Temperature:
t1 = -40 °C ... +200 (350*) °C
(-40 °F ... +392 (662*) °F)

Sliding velocity:
vg = 0 ... 5 m/s (0 ... 16 ft/s)

For applications beyond this range, please inquire.

* with cooling flange

! It should be noted that the extremal values of each operating parameter cannot be applied at the same time because of their interaction.

Materials

Seal faces: Carbon graphite or Silicon carbide, FDA conform

Seats: Silicon carbide, FDA conform

Secondary seals and metallic parts acc. to application and customers' requirement.

Standards and approvals

- FDA
- ATEX
- DIN 28138 (mechanical seals for agitator shafts)
- DIN 28136 T2 (for steel vessels)
- DIN 28141 (flange connection for steel vessels)
- DIN 28154 (shaft end for steel vessels)

Notes

Options:

- Cooling resp. heating flange
- Leakage drain
- Flush
- Polymerization barrier
- Axial expansion joint (shaft movement)
- Wiper ring (shaft movement)

Please inquire.

Recommended applications

- Refining technology
- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Food and beverage industry
- Agitators
- Reactors

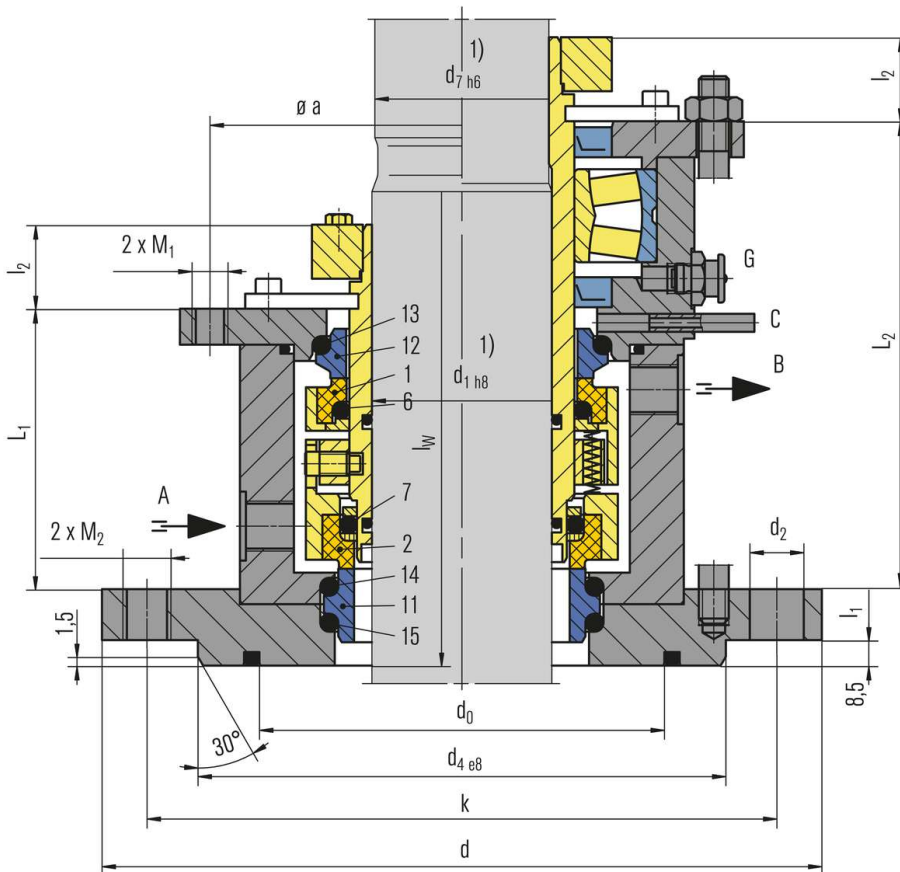
Recommended piping plans

Closed circuit EagleBurgmann TS system, open circuit EagleBurgmann SPA, SPN

Product links:

RELY ON EXCELLENCE

EagleBurgmann TS1000
 EagleBurgmann TS2000
 EagleBurgmann SPA
 EagleBurgmann SPN manual
 EagleBurgmann SPN automatic

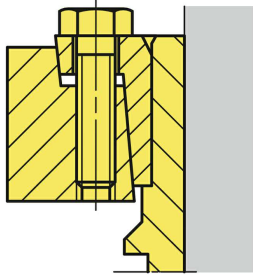


Item	Description
1	Seal face, atmosphere side
2	Seal face, product side
6, 7, 13, 14, 15	O-Ring
11	Seat, product side
12	Seat, atmosphere side

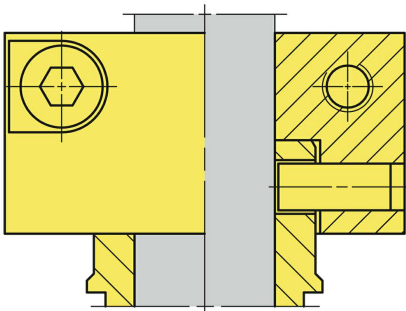
RELY ON EXCELLENCE

Torque transmissions

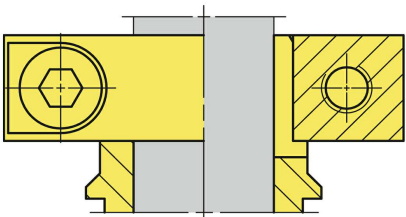
Shrink disk



Clamping ring with pin

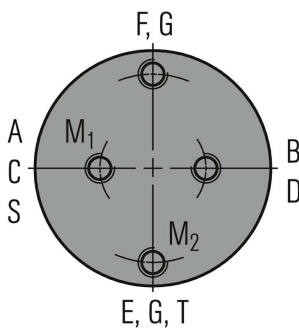


Clamping ring



RELY ON EXCELLENCE

Installation, details, options



Supply connections

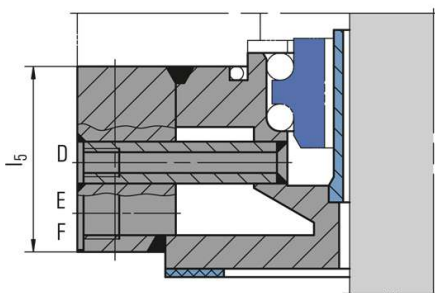
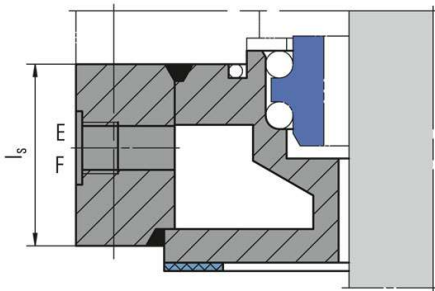
Designation and position acc. to DIN 28138 T3.

- A Supply liquid IN
- B Supply liquid OUT
- C Drainage
- D Leakage drain
- E Cooling IN
- F Cooling OUT
- G Grease
- S Flush
- T Temperature metering

For reasons of standardization, the supply connections of single seals are matched to those of the double seals (in deviation from DIN 28138 T3).

Cooling flange

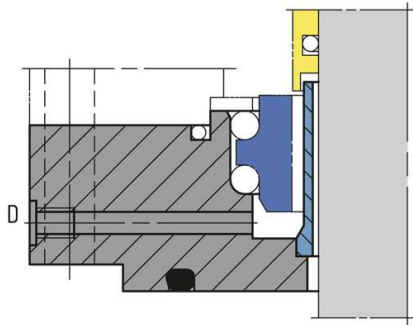
Can be used alternatively as a heating flange.



Leakage drain with cooling flange

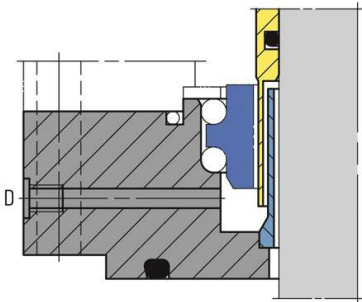
Can be used alternatively as a flush or as a heating flange.

RELY ON EXCELLENCE



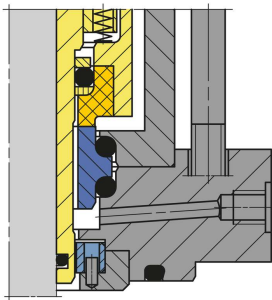
Leakage drain

Can be used alternatively as a flush.



Polymerization barrier

Can be used alternatively as a leakage drain or a flush.



Flush

RELY ON EXCELLENCE

Product variants

M481K-D

Double seal

M481KL-D

Double seal with integrated floating bearing

These seals are designed to be self-closing on the product side, i.e. they will remain closed even with pressure variations or a pressure reversal. Operation is possible with buffer fluid ($p_{1\max} = 6 \text{ bar (87 PSI)}$) or pressurized with barrier fluid as double seal.

M451

All types of the M481 range available for unstepped shafts (all diameters). Seal identification: M451... Customized design or e.g. different drives (torque transmissions) are available.

Dimensions

$d_1^{1)}$	$d_7^{1)}$	d	n x d_2	d_4	d_0	k	L_1	L_2	$L_w^{2)}$	l_1	l_2	A	M_1	M_1	A, B
40	38	175	4x18	110	90	145	87	136	143	15	28	122	M12	M16	G3/8
50	48	240	8x18	176	135	210	89	149	148	17	28	157	M12	M16	G3/8
60	58	240	8x18	176	135	210	93.5	156	158	17	28	168	M12	M16	G3/8
80	78	275	8x22	204	155	240	104.5	189	168	20	34	203	M16	M20	G1/2
100	98	305	8x22	234	190	270	109	190	178	20	34	228	M16	M20	G1/2
125	120	330	8x22	260	215	295	110	205	203	20	40	268	M20	M20	G1/2
140	135	395	12x22	313	250	350	124	222	208	20	40	285	M20	M20	G1/2
160	150	395	12x22	313	265	350	127.5	219.5	213	25	40	297	M20	M20	G1/2
180	170	445	12x22	364	310	400	132.5	230	233	25	45	332	M24	M20	G1/2
200	190	445	12x22	364	310	400	137.5	237.5	243	25	45	352	M24	M20	G1/2
220	210	505	16x22	422	340	460	149.5	249.5	263	25	50	381	M24	M20	G1/2

Dimensions in millimeter

1) Shaft diameters d_1 and d_7 to DIN 28154

2) Shaft step to DIN 28154