EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

M461

Mechanical seals | Agitator seals | Liquid-lubricated seals

Features
- For top entry drives
- For glass-lined vessels
- Double seal
- Unbalanced
- Independent of direction of rotation
- Multiple springs rotating
- Liquid-lubricated
- Cartridge unit

Advantages
- Ready-to-fit and factory-tested unit
- 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
- The seal can be lifted off the glass-lined flange as a complete cartridge. The sensitive glass lined basic flange remains mounted on the vessel.
- ATEX certification on request

Operating range
Shaft diameter:
d1 = 40 ... 160 mm (1.57" ... 6.30")
Pressure:
p1 = vacuum ... 16 bar (232 PSI),
p3 = max. 18 bar (261 PSI)
Temperature:
t1 = -40 °C ... +200 (250*) °C
(-40 °F ... +392 (482*) °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 T3 (for glass-lined vessels)
- DIN 28137 T2 (flange connection for glass-lined vessels)
- DIN 28159 (shaft end for glass-lined vessels)

Notes
Options:
- Cooling resp. heating flange
- Leakage drain resp. flush

Recommended applications
- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Food and beverage industry
- Agitators
- Reactors

Recommended piping plans
Closed circuit TS system, open circuit SPA, SPN

Product links:
EagleBurgmann TS1000
EagleBurgmann TS2000
EagleBurgmann SPA
EagleBurgmann SPN manual
EagleBurgmann SPN automatic

eagleburgmann.com
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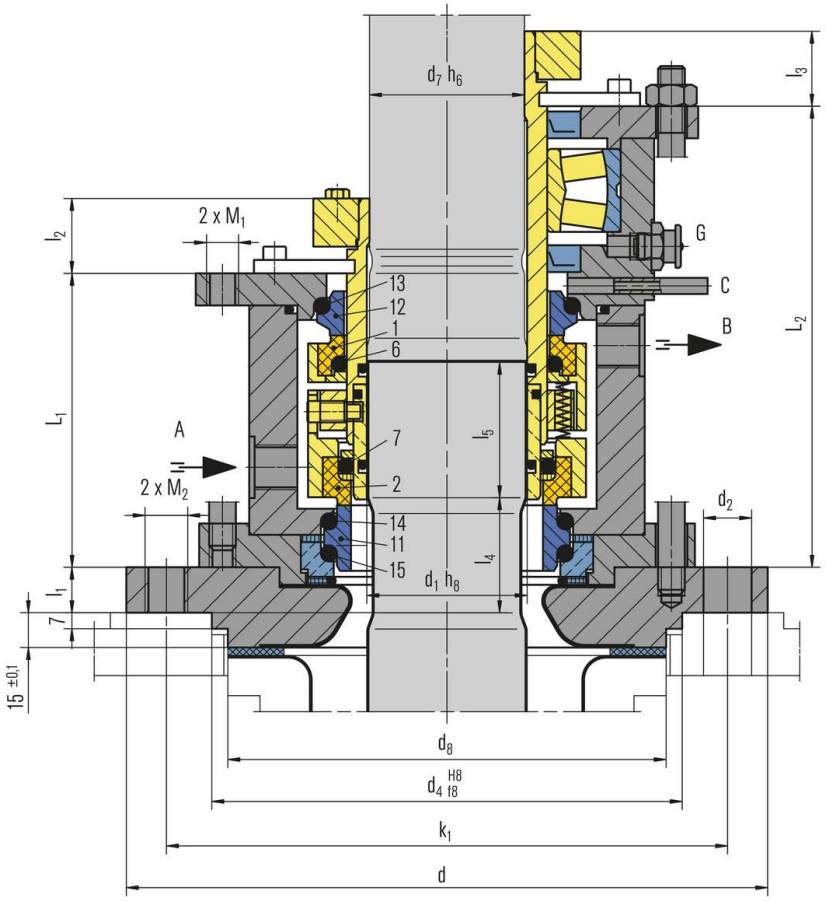
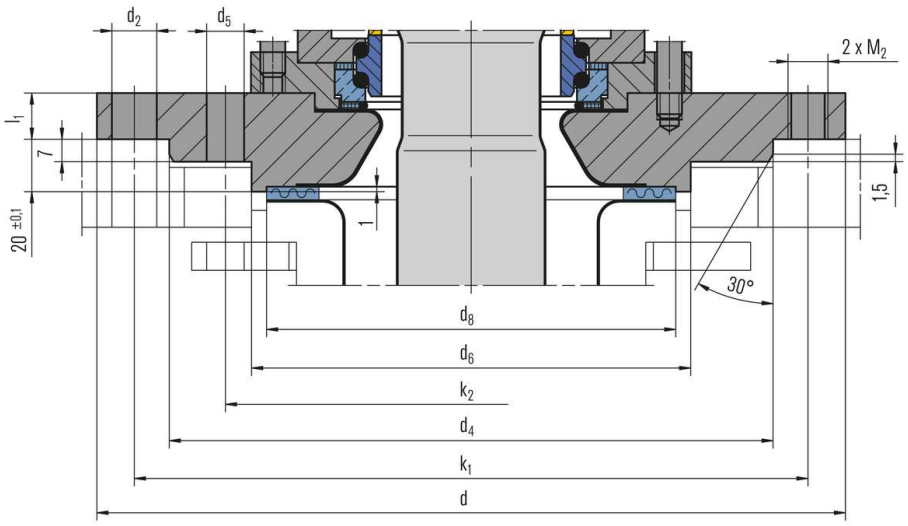


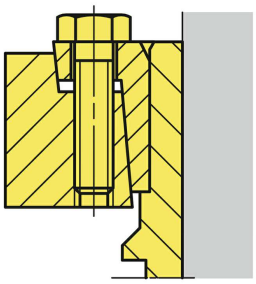
Item	Description
1	Seal face, atmosphere side
2	Seal face, product side
6, 7, 13, 14, 15	O-Ring
11	Seat, product side
12	Seat, atmosphere side

Flange connections acc. to DIN 28137 T2
for nominal diameters 125 ... 161.

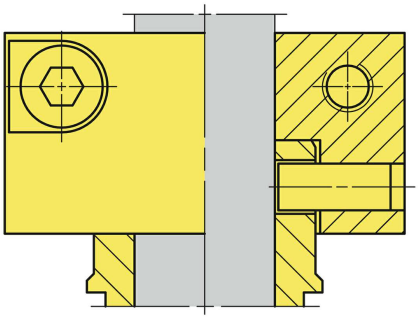


Torque transmissions

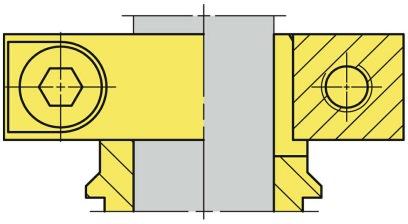
Shrink disk



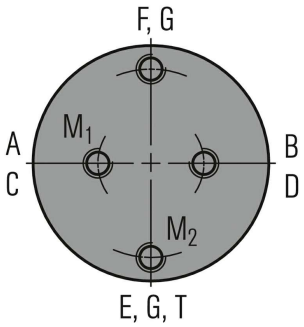
Clamping ring with pin



Clamping ring

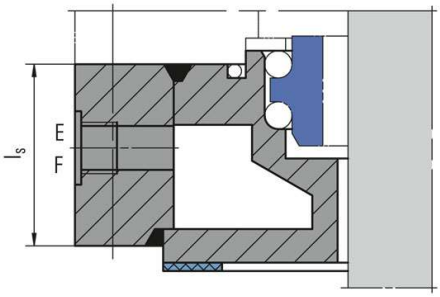


Installation, details, options

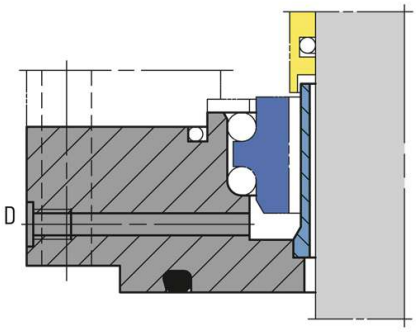


Supply connections
Designation and positions of screwed connections, pull-off and jacket threads acc. to DIN 28138 T3.

A Liquid IN
B Liquid OUT
C Drainage
D Leakage drain
E Cooling IN
F Cooling OUT
G Grease
T Temperature metering



Cooling flange
Can be used alternatively as a heating flange.



Leakage drain
Can be used alternatively as a flush.

Product variants

M461K-D
Double seal

M461KL-D
Double seal with integrated floating bearing.

M56K(L)-D
Double seal without/with floating bearing for PN 25 (Special seal on request.)

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 ($p1_{max}$ = 6 bar (87 PSI)) or pressurized with barrier fluid as double seal.

M491
All types of the M461 range available for unstepped shafts (all diameters). Seal identification: M491... Customized design or e.g. different drives (torque transmissions) are available.

Dimensions

d_1 1)	d_7 1)	Nominal size	Flange size 2)	d	nxd 2	d_4	nxd_5	d_6	d_7	k_1	k_2	L_1	L_2	l_1	l_2	l_3	l_4	l_5	M_1	M_2	A,B
40	38	40	E125	175	4x18	110	–	–	102	145	–	142	184	25	35	28	50	50	M12	M16	G3/8
50	48	50	E200	240	8x18	176	–	–	138	210	–	147	195	25	40	28	50	50	M12	M16	G3/8
60	58	60	E250	275	8x22	204	–	–	188	240	–	158	203	25	42	28	50	60	M12	M20	G3/8
80	78	80	E300	305	8x22	234	–	–	212	270	–	170	240	30	45	34	60	60	M16	M20	G1/2
100	98	100	E400	395	12x22	313	–	–	268	350	–	177	240	30	52	34	60	60	M16	M20	G1/2
100	98	100	E500	395	12x22	313	–	–	268	350	–	177	240	30	52	34	60	60	M16	M20	G1/2
125	120	125	E700	505	4x22	422	12x22	320	306	460	350	208	266	30	75	40	60	80	M20	M20	G1/2
140	135	140	E700	505	4x22	422	12x22	320	306	460	350	223	282	30	79	40	60	80	M20	M20	G1/2
160	150	160	E700	505	4x22	422	12x22	320	306	460	350	228	282	30	77	40	60	85	M20	M20	G1/2
160	150	160	E900	505	4x22	422	12x22	320	306	460	350	228	282	30	77	40	60	85	M20	M20	G1/2
160	150	161	E901	565	4x26	474	12x22	370	356	515	400	228	282	30	77	40	60	85	M20	M20	G1/2

Dimensions in millimeter
1) Shaft diameters d_1 and d_7 to DIN 28159
2) Flange size to DIN 28137 T2