

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

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:

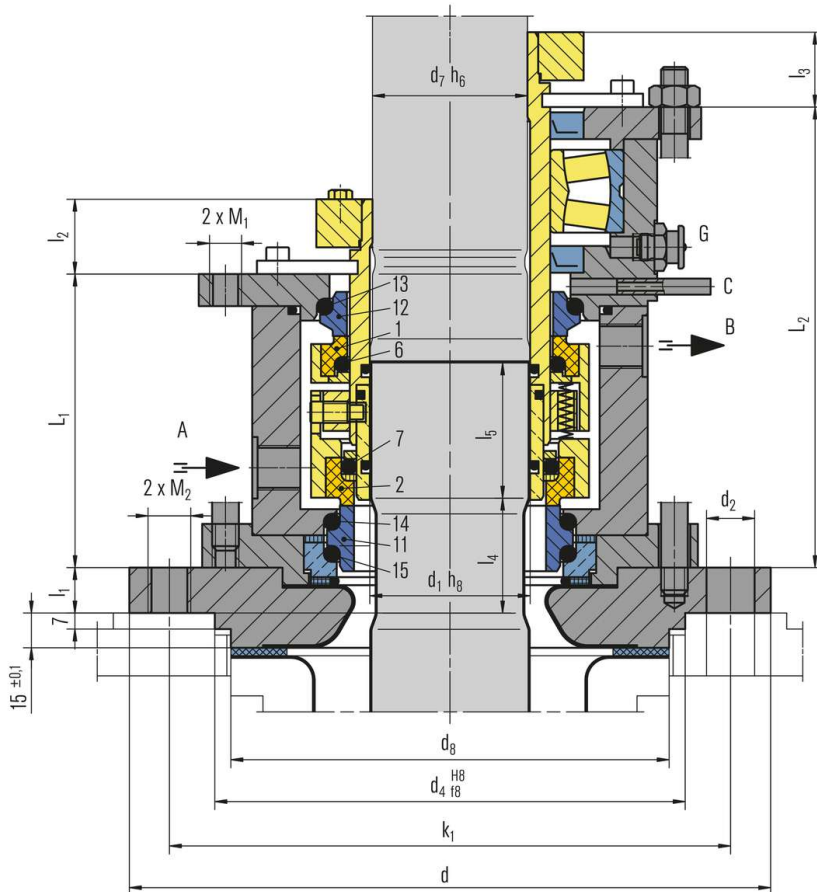
[EagleBurgmann TS1000](#)

[EagleBurgmann TS2000](#)

[EagleBurgmann SPA](#)

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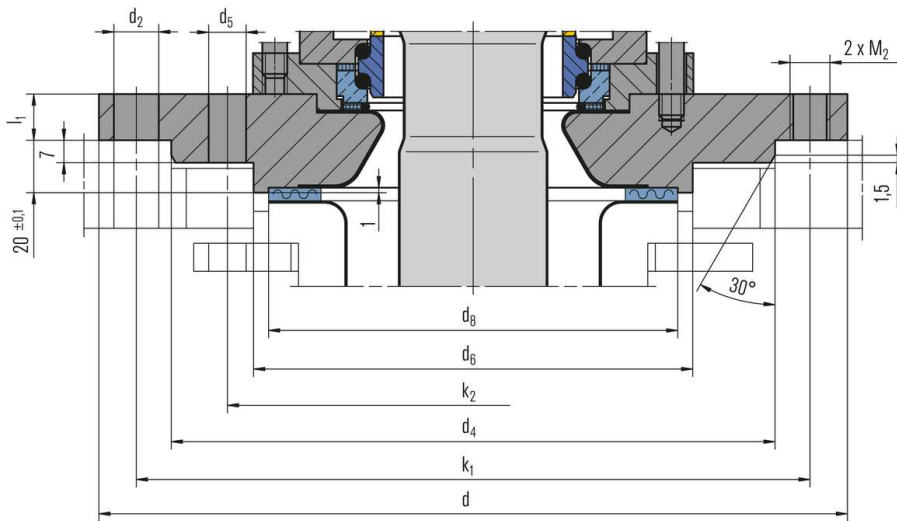
[EagleBurgmann SPN manual](#)
[EagleBurgmann SPN automatic](#)



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

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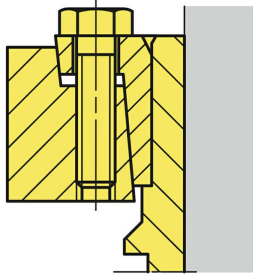
Flange connections acc. to DIN 28137 T2
for nominal diameters 125 ... 161.



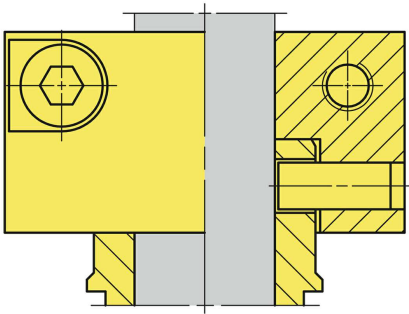
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Torque transmissions

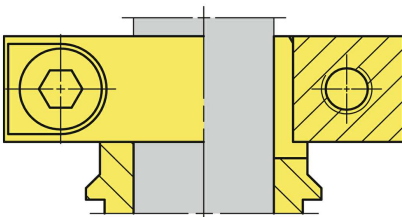
Shrink disk



Clamping ring with pin

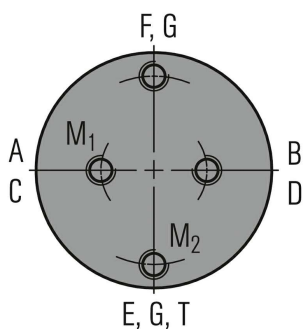


Clamping ring



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Installation, details, options



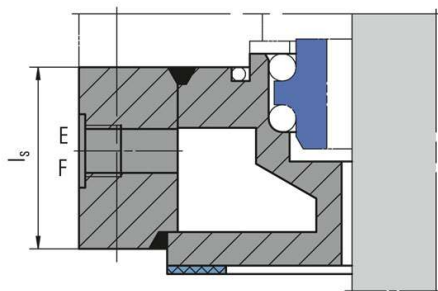
Supply connections

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

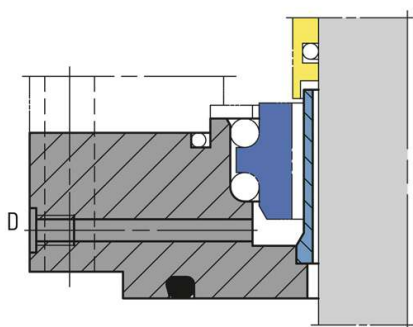
Cooling flange

Can be used alternatively as a heating flange.



Leakage drain

Can be used alternatively as a flush.



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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.)

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.

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 ($p_{1max} = 6 \text{ bar (87 PSI)}$) or pressurized with barrier fluid as double seal.

Dimensions

$d_1^{1)}$	$d_7^{1)}$	Nominal size	Flange size ²⁾	d	$n \times d^2$	d_4	$n \times d_5$	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

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