EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

M7N

Mechanical seals | Mechanical seals for pumps | Pusher seals

Features
- For plain shafts
- Single seal
- Unbalanced
- Super-Sinus-spring
- Independent of direction of rotation

Advantages
- Universal application opportunities
- Efficient stock keeping due to easily interchangeable faces
- Extended selection of materials
- Insensitive to low solids contents
- Flexibility in torque transmissions
- Self cleaning effect
- Short installation length possible (G16)
- Pumping screw for media with higher viscosity (M7..F)

Operating range
Shaft diameter:
d1 = 14 ... 100 mm (0.55 " ... 3.94 ")
Pressure:
p1 = 25 bar (363 PSI)
Temperature:
t = -50 °C ... +220 °C
(-58 °F ... +428 °F)
Sliding velocity:
vg = 20 m/s (66 ft/s)

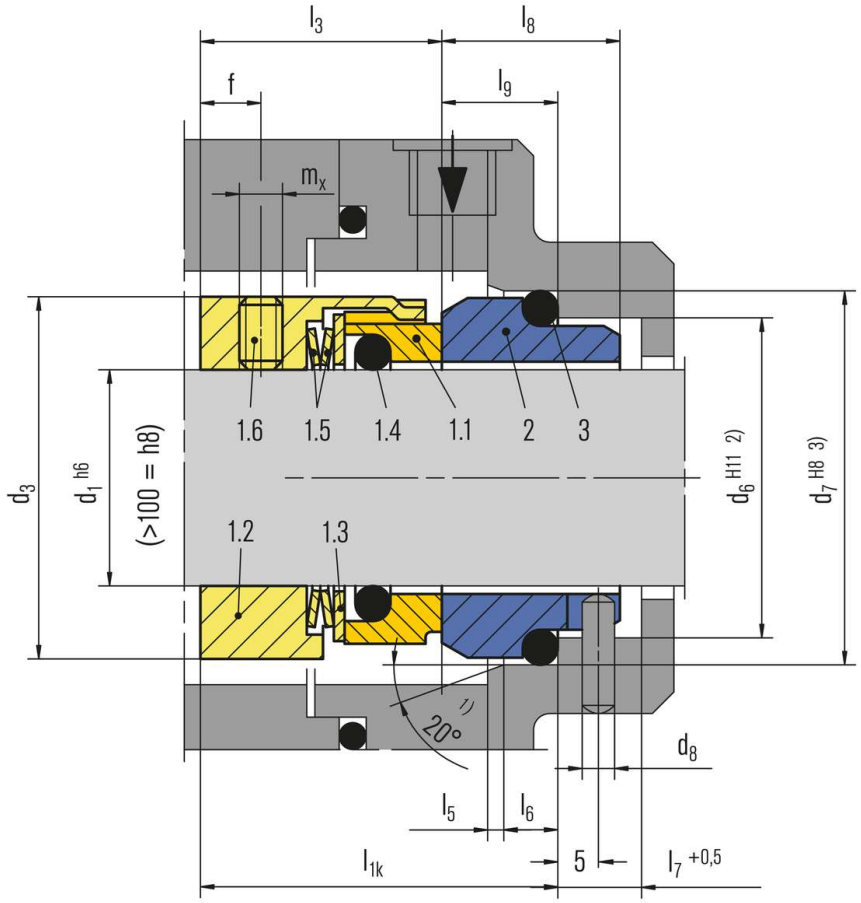
Axial movement:
d1 = up to 25 mm: ±1.0 mm
d1 = 28 up to 63 mm: ±1.5 mm
d1 = from 65 mm: ±2.0 mm

Materials
Seal face: Silicon carbide (Q1)
Seat G9: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1)
Seat G4, G6 (Q1), Seat G13 (A, B)

Secondary seals: EPDM (E), FKM (V), FFKM (K)
Springs: CrNiMo steel (G)
Metal parts: CrNiMo steel (G), Duplex (G1)

Standards and approvals
- EN 12756

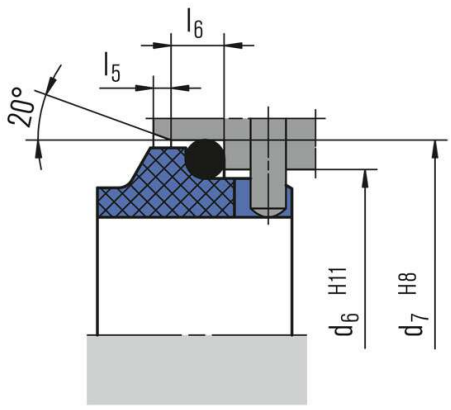
Recommended applications
- Process industry
- Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Shipbuilding
- Lube oils
- Low solids content media
- Water / sewage water pumps
- Chemical standard pumps
- Vertical screw pumps
- Gear wheel feed pumps
- Multistage pumps (drive side)
- Circulation of printing colors with viscosity 500 ... 15,000 mm^2/s.



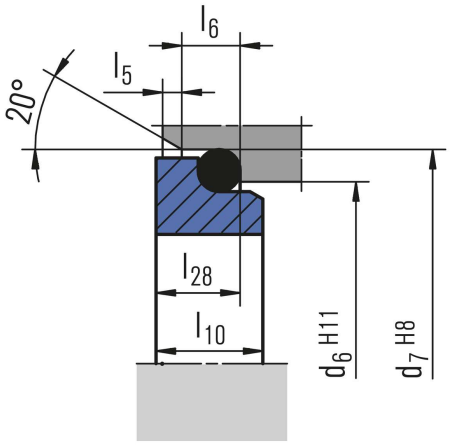
Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	485	Drive collar
1.3	474	Thrust ring
1.4	412.1	O-Ring
1.5	477	Spring
1.6	904	Set screw
2	475	Seat (G9)
3	412.2	O-Ring

1) d1 > 100 mm: 30°
2) d1 > 100 mm: +0.1
3) d1 > 100 mm: H7

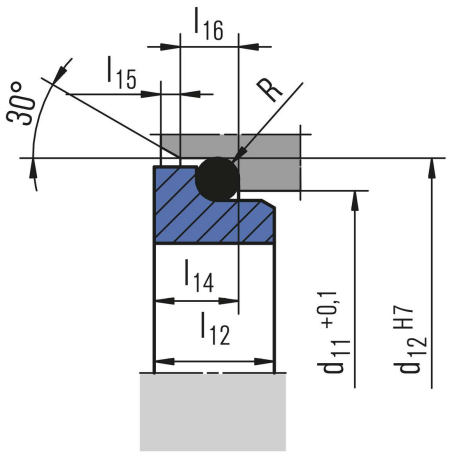
Seat alternatives



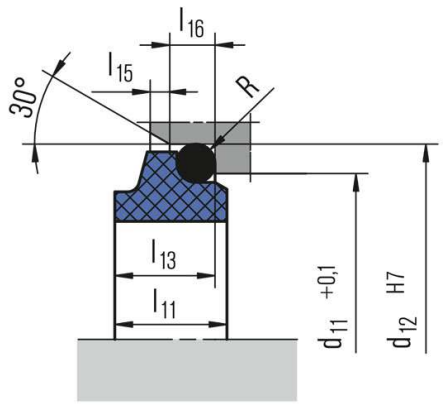
G9 (EN 12756)



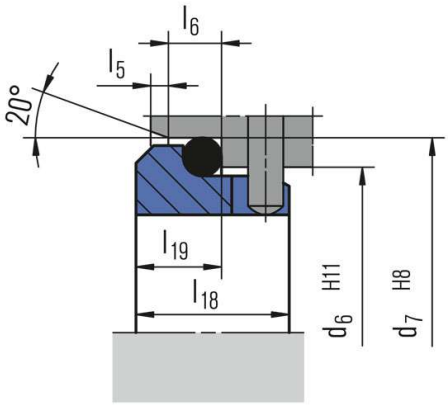
G6 (EN 12756)



G4



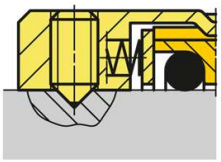
G13



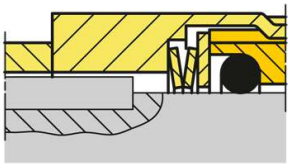
G16
(EN 12756, but l_{1k} is shorter than specified)

Torque transmissions

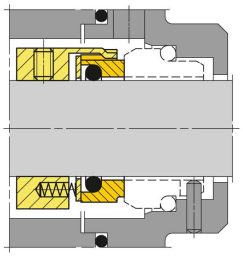
d1 > 100 mm (3.94")
Torque transmission by 4 set screws with cone points. Offset: 90°



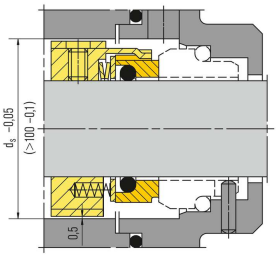
Drive key
(M7S2 / M74S2)



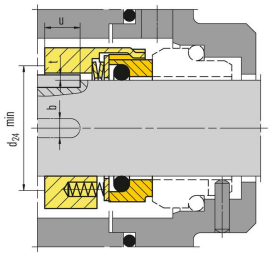
Product variants



M74
Dimensions, items and descriptions as for M7N, but with multiple springs (Item no. 1.5).
Preferably for d1 >100 mm (3.94").



M7F
Shaft diameter d1 = max. 100 mm (3.94")
Dimensions, items and descriptions as for type M7N, but with pumping screw, dependent on direction of rotation.
(Viscosity ≤ ISO VG10).



M7S2
Shaft diameter: d1 = max. 100 mm (3.94").
Dimensions, items and descriptions as for type M7N, but with drive key.
(without item no. 1.6)

M74F
Shaft diameter:
d1 = 14 ... 200 mm (0.55" ... 7.87")
Dimensions, items and descriptions as for type M7N, but with multiple springs and pumping screw, dependent on direction of rotation.
(Viscosity ≤ ISO VG10).

M74S2
Shaft diameter:
d1 = 28 ... 200 mm (1.10" ... 7,87")
Dimensions, items and descriptions as for type M7N, but with multiple springs and drive key.
(without item no. 1.6)

M78N
Shaft diameter:
d1 = 18 ... 100 mm (0.71" ... 3.94")
Temperature: t = max. 180 °C (356 °F)

Dimensions, items and description as for M7N. Design of the seal face especially for secondary sealing element made of PTFE (T).
Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1)*
Seat G9: Special cast CrMo steel (S)*, Silicon carbide (Q1)

* Cannot be combined with seal face made of silicon carbide (Q1)

Dimensions

d_1	d_3	d_6	d_7	d_8	d_{11}	d_{12}	d_{24}	d_s	l_{1k}	l_3	l_5	l_6	l_7	l_8	l_9	l_{10}	l_{11}	l_{12}	l_{13}	l_{14}	l_{15}	l_{16}	l_{28}	b	f	m_x	$u_{max.}$	t	R
14*	25	21.0	25.0	3	20.5	24.6	16	34	35.0	25.0	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	6.6	4	6	M5	10	1.5	1.2
16*	27	23.0	27.0	3	22.0	28.0	18	36	35.0	25.0	1.5	4	8.5	17.5	10.0	7.5	11.5	8.5	9.0	7.5	1.2	3.8	6.6	4	6	M5	10	1.5	1.5
18*	33	27.0	33.0	3	24.0	30.0	20	38	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5.0	7.5	5	7	M5	12	1.1	1.5
20*	35	29.0	35.0	3	29.5	35.0	22	40	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	5	7	M5	12	1.1	1.5
22*	37	31.0	37.0	3	29.5	35.0	24	42	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	7	M5	12	1.5	1.5
24*	39	33.0	39.0	3	32.0	38.0	26	44	40.0	28.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	8	M5	12	1.5	1.5
25*	40	34.0	40.0	3	32.0	38.0	27	45	40.0	28.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	8	M5	12	1.5	1.5
28*	43	37.0	43.0	3	36.0	42.0	30	47	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5.0	7.5	6	8	M6	13	1.5	1.5
30*	45	39.0	45.0	3	39.2	45.0	32	49	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	7.5	6	8	M6	13	1.5	1.5
32*	47	42.0	48.0	3	42.2	48.0	34	51	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	7.5	6	8	M6	13	1.5	1.5
33*	48	42.0	48.0	3	44.2	50.0	35	51	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	10.5	1.5	5.0	7.5	6	8	M6	13	1.5	1.5
35*	50	44.0	50.0	3	46.2	52.0	37	54	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	7.5	6	8	M6	13	1.5	1.5
38*	55	49.0	56.0	4	49.2	55.0	40	59	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5.0	9.0	6	8	M6	13	1.5	1.5
40*	57	51.0	58.0	4	52.2	58.0	42	61	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5.0	9.0	6	8	M6	13	1.5	1.5
43*	60	54.0	61.0	4	53.3	62.0	45	65	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	13.2	14.3	12.0	2.0	6.0	9.0	6	8	M6	13	1.5	2.5
45*	62	56.0	63.0	4	55.3	64.0	47	66	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	9.0	6	8	M6	13	1.5	2.5
48*	65	59.0	66.0	4	59.7	68.4	50	69	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	9.0	6	8	M6	13	1.5	2.5
50*	67	62.0	70.0	4	60.8	69.3	52	71	47.5	32.5	2.5	6	9.0	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6.0	9.5	6	8	M6	13	1.5	2.5
53*	70	65.0	73.0	4	63.8	72.3	55	75	47.5	32.5	2.5	6	9.0	23.0	15.0	12.0	17.0	13.5	14.3	12.3	2.0	6.0	11.0	6	8	M6	13	1.5	2.5
55*	72	67.0	75.0	4	66.5	75.4	57	76	47.5	32.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	6	8	M6	13	1.5	2.5
58*	79	70.0	78.0	4	69.5	78.4	60	83	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	8	9	M8	13	1.9	2.5
60*	81	72.0	80.0	4	71.5	80.4	62	85	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	8	9	M8	13	1.9	2.5
63*	84	75.0	83.0	4	74.5	83.4	65	88	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.3	2.0	6.0	11.0	8	9	M8	13	1.9	2.5
65*	86	77.0	85.0	4	76.5	85.4	67	95	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6.0	11.0	8	9	M8	13	1.9	2.5
68*	89	81.0	90.0	4	82.7	91.5	70	93	52.5	34.5	2.5	7	9.0	26.0	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6.0	11.3	8	9	M8	13	1.9	2.5
70*	91	83.0	92.0	4	83.0	92.0	72	95	60.0	42.0	2.5	7	9.0	26.0	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6.0	11.3	8	9	M8	16	1.9	2.5
75*	99	88.0	97.0	4	90.2	99.0	77	105	60.0	42.0	2.5	7	9.0	26.0	18.0	12.5	18.0	15.2	15.3	14.0	2.0	6.0	11.3	8	10	M8	16	1.9	2.5
80*	104	95.0	105.0	4	95.2	104.0	82	109	60.0	41.8	3.0	7	9.0	26.2	18.2	13.0	19.0	16.2	16.3	15.0	2.0	6.0	12.0	8	10	M8	16	1.9	2.5
85*	109	100.0	110.0	4	100.2	109.0	87	114	60.0	41.8	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	14.0	8	10	M8	16	1.9	2.5
90*	114	105.0	115.0	4	105.2	114.0	92	119	65.0	46.8	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	14.0	10	10	M8	20	2.3	2.5
95*	119	110.0	120.0	4	111.6	120.3	97	124	65.0	47.8	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	14.0	10	10	M8	20	2.3	2.5
100*	124	115.0	125.0	4	114.5	123.3	102	129	65.0	47.8	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	14.0	10	10	M8	20	2.3	2.5
105	138	122.2	134.3	5	–	–	108	143	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
110	143	128.2	140.3	5	–	–	113	148	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
115	148	136.2	148.3	5	–	–	118	153	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
120	153	138.2	150.3	5	–	–	123	158	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
125	158	142.2	154.3	5	–	–	128	163	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
130	163	146.2	158.3	5	–	–	133	168	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
135	168	152.2	164.3	5	–	–	138	173	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
140	173	156.2	168.3	5	–	–	143	178	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
145	178	161.2	173.3	5	–	–	148	183	67.0	47.0	2.0	10	12.0	30.0	20.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
150	183	168.2	180.3	5	–	–	153	188	69.0	47.0	2.0	10	12.0	32.0	22.0	–	–	–	–	–	–	–	–	10	10	M8	20	2.3	-
155	191	173.2	185.3	5	–	–	158	196	80.0	56.0	2.0	12	12.0	34.0	24.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-
160	196	178.2	190.3	5	–	–	163	201	80.0	56.0	2.0	12	12.0	34.0	24.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-
165	201	183.2	195.3	5	–	–	168	206	80.0	56.0	2.0	12	12.0	34.0	24.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-
170	206	188.2	200.3	5	–	–	173	211	80.0	56.0	2.0	12	12.0	34.0	24.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-
175	211	193.2	205.3	5	–	–	178	216	80.0	56.0	2.0	12	12.0	34.0	24.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-
180	216	207.5	219.3	5	–	–	183	221	84.0	56.0	2.0	12	12.0	38.0	28.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	-

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

d_1	d_3	d_6	d_7	d_8	d_{11}	d_{12}	d_{24}	d_s	l_{1k}	l_3	l_5	l_6	l_7	l_8	l_9	l_{10}	l_{11}	l_{12}	l_{13}	l_{14}	l_{15}	l_{16}	l_{28}	b	f	m_x	$u_{max.}$	t	R
185	221	212.5	224.3	5	–	–	188	226	84.0	56.0	2.0	12	12.0	38.0	28.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	–
190	226	217.5	229.3	5	–	–	193	231	84.0	56.0	2.0	12	12.0	38.0	28.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	–
195	231	222.5	234.3	5	–	–	198	236	84.0	56.0	2.0	12	12.0	38.0	28.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	–
200	236	227.5	239.3	5	–	–	203	241	84.0	56.0	2.0	12	12.0	38.0	28.0	–	–	–	–	–	–	–	–	12	12	M8	24	2.1	–

Dimensions in millimeter
d_1 >200 on request
* EN 12756