EagleBurgmann
a member of EKK and FREUDENBERG

RELY ON EXCELLENCE

M3N

Mechanical Seals | Mechanical seals for pumps | Pusher seals

Features

- For plain shafts
- Single seal
- Unbalanced
- Rotating conical spring
- Dependent on direction of rotation

Advantages

- Universal application opportunities
- Insensitive to low solids content
- No damage of the shaft by set screws
- Large choice of materials
- Short installation lengths possible (G16)
- Variants with shrink-fitted seal face available

Operating range

Shaft diameter:
d1 = 6 ... 80 mm (0,24" ... 3,15")
Pressure: p1 = 10 bar (145 PSI)
Temperature:
t = -20 °C ... +140 °C (-4 °F ... +284 °F)
Sliding velocity: vg = 15 m/s (50 ft/s)
Axial movement: ±1.0 mm

Materials

Seal face: Special cast CrMo steel (S)
Seat G9: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)

Standards and approvals

- EN 12756

Recommended applications

- Low solids content media
- Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Building services industry
- Food and beverage industry
- Sugar industry
- Water and sewage water pumps
- Submersible pumps
- Chemical standard pumps
- Eccentric screw pumps
- Cooling water pumps
- Basic sterile applications

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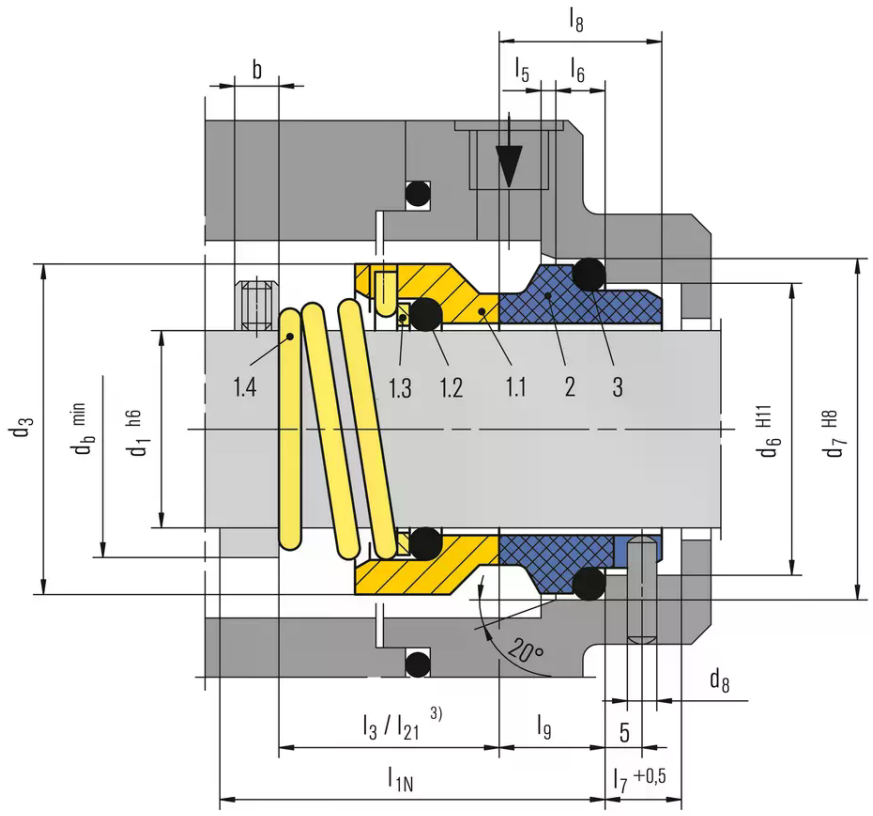
All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications means, however, that they can serve only as guide values.
We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. Subject to change.



Item	Part no. toDIN 24250	Description
1.1	472	Seal face
1.2	412.1	O-Ring
1.3	474	Thrust ring
1.4	478	Righthand spring
1.4	479	Lefthand spring
2	475	Seat (G9)
3	412.2	O-Ring

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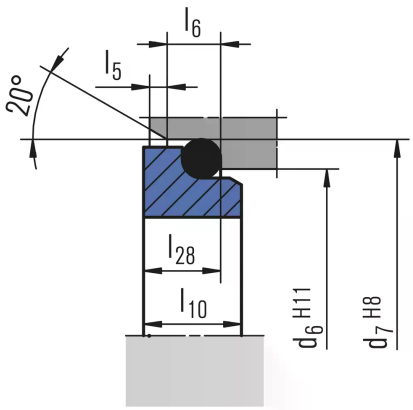
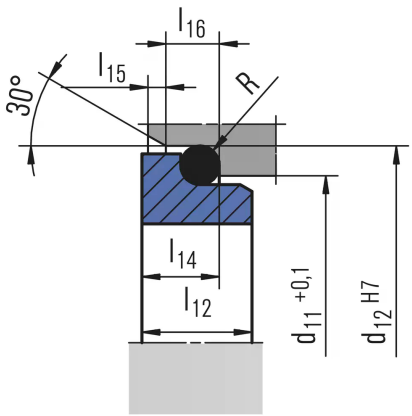
Seat alternatives

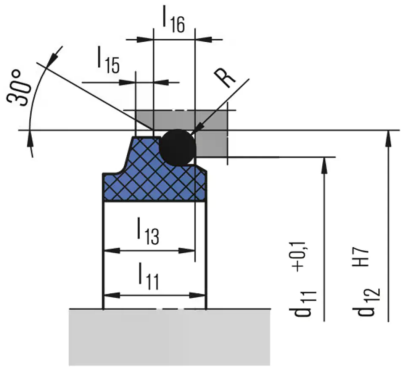
G6 (EN 12756)



G4



G13



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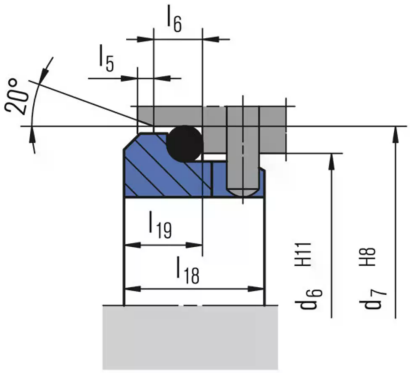
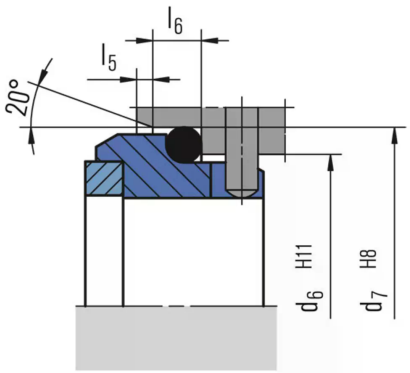
G16 (EN 12756)



G9 (EN 12756)



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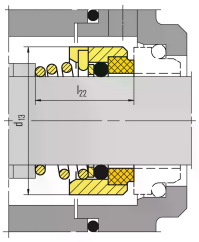
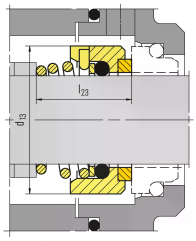
Product variants

M3
Items and description as M3N.
Seal face: Special cast CrMo steel (S)
Seat G13: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)



M32
Items and descriptions as for type M3N, but with carbon graphite seal face shrink-fitted to the seal face carrier (Item no. 1.1).
Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)
Seat G4: special cast CrMo steel (S), Silicon carbide (Q1, Q2)
Seat G6 (M32N4): Special cast CrMo steel (S), Silicon carbide (Q1, Q2)
Seat G9 (M32N): Silicon carbide (Q1, Q2)
Seat G6 also available in A, B = G30 (longer installation length than G6)



M37G
Items and descriptions as for type M3N, but with shrink fitted silicon carbide seal face to the seal face carrier (Item no. 1.1).
Shaft diameter:
d1 = 16 ... 80 mm (0.63" ... 3.15")
Temperature:
t = –20 °C ... +180 °C (–4 °F ... +355 °F)
Sliding velocity: vg = 10 m/s (33 ft/s)

Seal face: Silicon carbide (Q12, Q22), Tungsten carbide (U22)
Seat G4: Silicon carbide (Q1, Q2)
Seat G13: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)
Seat G6 (M37GN4): Silicon carbide (Q1, Q2)
Seat G9 (M37GN): Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1, Q2)
Seat G6 also available in A, B = G30 (longer installation length than G6)

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Dimensions

d_1	d_3	d_6	d_7	d_8	d_{11}1)	d_{12}1)	d_{13}	d_b	l_{1N}	$l_3$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_{18}	l_{19}	l_{21}3)	l_{22}	l_{23}	l_{28}	b2)	R
6	14	–	–	–	11.5	16.0	16	8	–	–	–	–	–	–	–	–	9.0	6.5	7.1	5.6	1.2	3.8	–	–	10.5	11.9	–	–	–	1.2
8	18	–	–	–	15.5	19.2	18	11	–	–	–	–	–	–	–	–	9.0	8.0	7.1	7.0	1.2	3.8	–	–	15.5	16.9	–	–	–	1.2
10*	19	17	21	3	15.5	19.2	20	13	40	15.5	1.5	4	8.5	17.5	10.0	7.5	9.0	7.5	7.1	6.6	1.2	3.8	–	–	15.5	16.9	–	6.6	(8)	1.2
12*	21	19	23	3	17.5	21.6	22	16	40	16.0	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	–	–	15.5	17.4	–	6.6	(8)	1.2
14*	23	21	25	3	20.5	24.6	24	18	40	16.5	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	–	–	15.5	17.4	16.5	6.6	(8)	1.2
15	24	–	–	–	20.5	24.6	25	19	–	–	–	–	–	–	–	–	11.0	7.5	8.6	6.6	1.2	3.8	–	–	15.5	17.4	–	–	–	1.2
16*	26	23	27	3	22.0	28.0	26	21	40	18.0	1.5	4	8.5	17.5	10.0	7.5	11.5	8.5	9.0	7.5	1.5	5.0	–	–	17.5	19.5	16.5	6.6	(8)	1.5
18*	29	27	33	3	24.0	30.0	31	23	45	19.5	2.0	5	9.0	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5.0	15	7.0	18.5	20.5	18.0	7.5	(8)	1.5
20*	31	29	35	3	29.5	35.0	34	26	45	22.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	15	7.0	20.0	22.0	19.0	7.5	(8)	1.5
22*	33	31	37	3	29.5	35.0	36	28	45	21.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	15	7.0	21.5	23.5	20.5	7.5	(8)	1.5
24*	35	33	39	3	32.0	38.0	38	30	50	23.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	15	7.0	23.0	25.0	22.0	7.5	(8)	1.5
25*	36	34	40	3	32.0	38.0	39	31	50	26.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	15	7.0	24.5	26.5	23.5	7.5	(8)	1.5
26	37	–	–	–	34.0	40.0	40	32	–	–	–	–	9.0	–	–	–	13.0	9.0	10.0	8.0	1.5	5.0	–	–	24.5	26.5	23.5	–	–	1.5
28*	40	37	43	3	36.0	42.0	42	35	50	26.5	2.0	5	9.0	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5.0	15	7.0	24.5	26.5	24.5	7.5	(8)	1.5
30*	43	39	45	3	39.2	45.0	44	37	50	26.5	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	15	7.0	24.5	25.0	24.5	7.5	(8)	1.5
32*	46	42	48	3	42.2	48.0	46	39	55	28.5	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	15	7.0	28.0	28.5	28.0	7.5	(8)	1.5
33*	47	42	48	3	–	–	47	40	55	28.5	2.0	5	9.0	19.5	11.5	8.5	–	12.0	–	–	–	–	15	7.0	–	–	–	7.5	(8)	1.5
35*	49	44	50	3	46.2	52.0	49	43	55	28.5	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	15	7.0	28.0	28.5	28.0	7.5	(8)	1.5
38*	53	49	56	4	49.2	55.0	54	45	55	33.5	2.0	6	9.0	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5.0	16	8.0	31.0	32.2	31.0	9.0	7,5	1.5
40*	56	51	58	4	52.2	58.0	56	49	55	36.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5.0	16	8.0	34.0	34.7	34.0	9.0	(8)	1.5
42	59	–	–	–	53.3	62.0	58	52	–	–	–	–	9.0	–	–	–	17.0	13.2	14.3	12.0	2.0	6.0	–	–	35.0	37.3	35.0	–	–	2.5
43*	59	54	61	4	–	–	59	52	60	38.5	2.0	6	9.0	22.0	14.0	10.0	–	13.2	–	–	2.0	–	16	8.0	–	–	–	9.0	7,5	2.5
45*	61	56	63	4	55.3	64.0	61	55	60	39.5	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	16	8.0	36.5	39.2	36.5	9.0	(8)	2.5
48*	64	59	66	4	59.7	68.4	64	58	60	46.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	16	8.0	42.0	44.7	42.0	9.0	(8)	2.5
50*	66	62	70	4	60.8	69.3	66	61	60	45.0	2.5	6	9.0	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6.0	17	9.5	43.0	45.7	43.0	9.5	(8)	2.5
53*	69	65	73	4	–	–	69	64	70	47.0	2.5	6	9.0	23.0	15.0	12.0	–	13.5	–	–	–	–	17	9.5	–	–	–	11.0	8,0	2.5
55*	71	67	75	4	66.5	75.4	71	66	70	49.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	17	9.5	47.0	49.0	47.0	11.0	(8)	2.5
58*	76	70	78	4	69.5	78.4	78	69	70	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	18	10.5	50.0	52.0	50.0	11.0	(8)	2.5
60*	78	72	80	4	71.5	80.4	79	71	70	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	18	10.5	51.0	53.0	51.0	11.0	(8)	2.5
63*	83	75	83	4	–	–	83	74	70	55.0	2.5	6	9.0	23.0	15.0	12.0	–	14.2	–	–	–	–	18	10.5	–	–	–	11.0	(8)	2.5
65*	84	77	85	4	76.5	85.4	85	77	80	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6.0	18	10.5	52.0	54.3	52.0	11.0	(8)	2.5
68*	88	81	90	4	82.7	91.5	88	80	80	55.0	2.5	7	9.0	26.0	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6.0	18,5	11.0	53.0	55.3	52.7	11.3	(8)	2.5
70*	90	83	92	4	83.0	92.0	90	83	80	57.0	2.5	7	9.0	26.0	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6.0	19	11.5	54.0	56.3	54.0	11.3	(10)	2.5
75*	98	88	97	4	90.2	99.0	98	88	80	62.0	2.5	7	9.0	26.0	18.0	12.5	18.0	15.2	15.3	14.0	2.0	6.0	19	11.5	55.0	56.3	54.0	11.3	(10)	2.5
80*	100	95	105	4	95.2	104.0	103	93	90	61.8	3.0	7	9.0	26.2	18.2	13.0	19.0	16.2	16.3	15.0	2.0	6.0	19	11.5	58.0	59.3	58.0	12.0	10.0	2.5

Dimensions in millimeter 1) Fitting dimensions d~11~ and d~12~ only apply to type M37G with d~1~ 16 mm 2) Dimensions in brackets lie either above or below l~1N~ 3) l~3~ valid for M3...N, l~21~ valid for M3 *) According to EN 12756

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