

RELY ON EXCELLENCE

eMG

Mechanical seals | Mechanical seals for pumps | Elastomer bellows seals



Features

- For plain shafts
- Single and dual seal
- Elastomer bellows rotating
- Unbalanced
- Independent of direction of rotation

Advantages

- **Identical with eMG1 but with approx. 20 % shorter installation length**
- Small outer diameter of bellows support (d_{bmin}) enables direct retaining ring support, or smaller spacer rings
- Optimal alignment characteristic through self-cleaning of disk/shaft
- Improved centering across entire pressure operating range
- No torsion on bellows
- Shaft protection over entire seal length
- Protection of seal face during installation due to special bellows design
- Insensitive to shaft deflections due to large axial movement ability
- Dimension adaptations and additional seats available

Operating range

Shaft diameter:

$d_1 = 15 \dots 110 \text{ mm (0.59" ... 4.33")}$

Pressure: $p_1 = 18 \text{ bar (261 PSI)}$,

vacuum ... $0.5 \text{ bar (7.25 PSI)}$,

up to 1 bar (14.5 PSI) with seat locking

Temperature:

$t = -20 \text{ °C ... } +140 \text{ °C}$

$(-4 \text{ °F ... } +284 \text{ °F})$

Sliding velocity: $v_g = 10 \text{ m/s (33 ft/s)}$

Admissible axial movement: $\pm 2.0 \text{ mm } (\pm 0.08")$

Materials

Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (eSiC-07, Q1)

Seat: Silicon carbide (eSiC-07, Q1), Tungsten carbide (U3)

Elastomer: NBR (P), EPDM (E), FKM (V), HNBR (X4)

Metal parts: CrNiMo steel (G), Hastelloy® (M)

Further materials upon request.

Standards and approvals

Various material approvals available (depending on type and material combinations).

Please inquire!

- FDA
- WRAS
- UBA (KTW)
- ACS
- W270

Notes

The eMG can also be used as a multiple seal in tandem or in a back-to-back arrangement, please inquire. Dimension adaptations for specific conditions, e.g. shaft in inches or special seat dimensions are available upon request.

Recommended applications

- Fresh water supply
- Building services engineering
- Waste water technology
- Food technology
- Sugar production
- Pulp and paper industry
- Oil industry
- Petrochemical industry

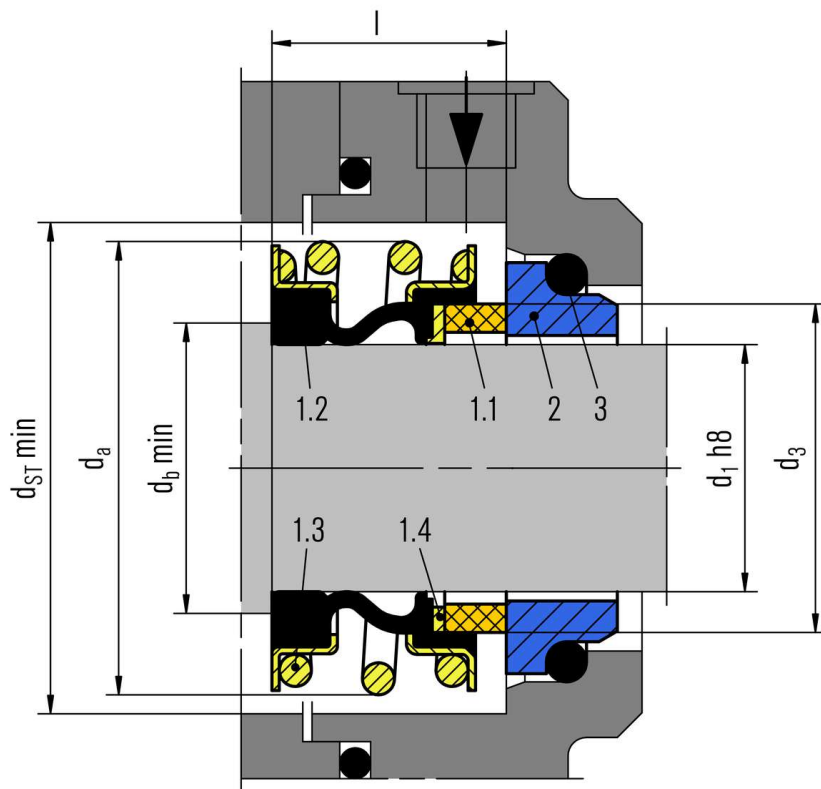
RELY ON EXCELLENCE

- Chemical industry
- Water, waste water, slurries (up to 5 % by weight)
- Pulp (up to 4 % otro)
- Latex
- Dairies, beverages
- Sulfide slurries
- Chemicals
- Oils
- Chemical standard pumps
- Helical screw pumps
- Stock pumps
- Circulating pumps
- Submersible pumps
- Water and waste water pumps

eMG

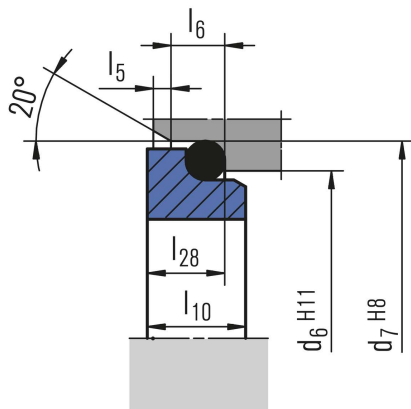
Item Description

- | | |
|-----|----------------------|
| 1.1 | Seal face |
| 1.2 | Bellows |
| 1.3 | Set of springs |
| 1.4 | PEEK-PTFE disk |
| 2 | Seat (G6) |
| 3 | O-Ring or cup rubber |

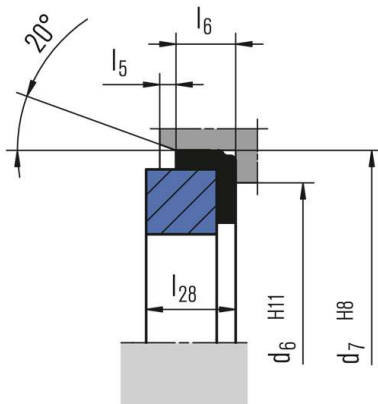


RELY ON EXCELLENCE

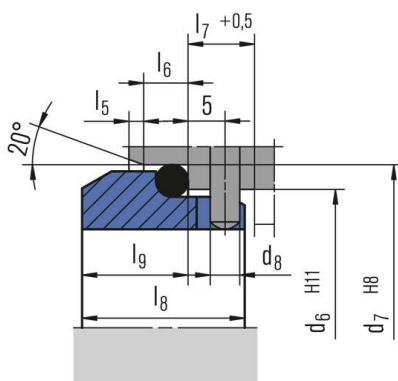
Seat alternatives



G6
EN 12756

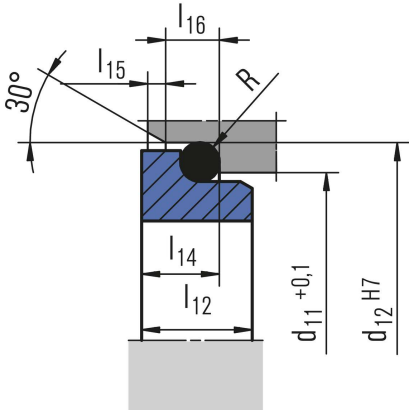


G60
EN 12756

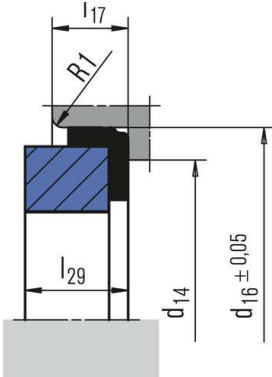


G9
EN 12756

RELY ON EXCELLENCE



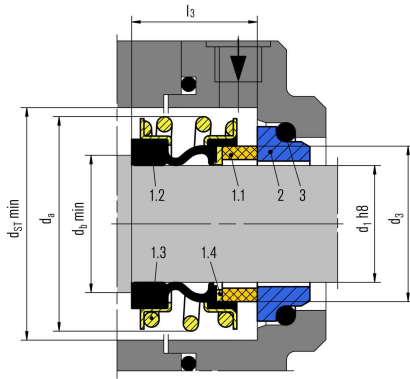
G4



G50
Euro standard

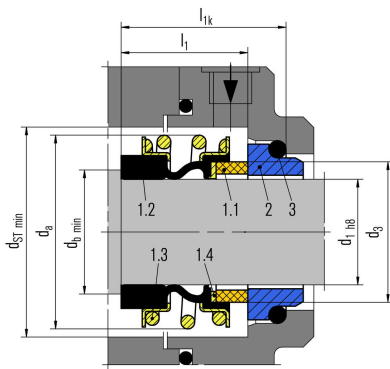
RELY ON EXCELLENCE

Product variants



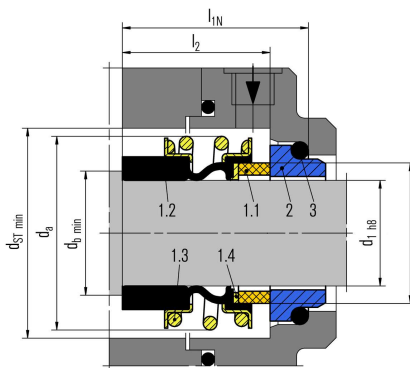
eMG1

Dimensions, items and designations same as for eMG, but with an extended bellows tail to achieve the fitting length l_3 .



eMG12

Dimensions, items and designations same as for eMG, but with a shortened bellows tail to achieve the fitting length l_{1k} according to EN 12756 in combination with seat G6 or G60 (d_a exceeds EN 12756).



eMG13

Dimensions, items and designations same as for eMG, but with an extended bellows tail to achieve the fitting length l_{1N} according to EN 12756 in combination with seat G6 or G60 (d_a exceeds EN 12756).

RELY ON EXCELLENCE

eRMG

Identical to eMG, but with a special bellows surface on the shaft side. For use in hot water pumps.

d1 = 12 ... 38 mm (0.47" ... 1.50")
Seat G6: Silicon carbide (eSiC-Q7)

A/eSiC-Q7:
120 °C (248 °F) and 25 bar (363 PSI) 140 °C (284 °F) and 16 bar (232 PSI)

B/eSiC-Q7:
120 °C (248 °F) and 18 bar (161 PSI)

eSiC-Q7/eSiC-Q7:
120 °C (248 °F) and 18 bar (161 PSI)

Dimensions

d1	d3	d6	d7	d8	d11	d12	d14	d16	da	db*)	dST	l	l1	l1K	l1N	l2	l3	l5	l6	l7	l8	l9	l10	l12	l14	l15	l16	l17	l28	l29	R	
15	20.8	-	-	-	20.5	24.6	17.0	30.95	28.5	18.5	30	15.0	-	-	-	-	17.0	-	-	-	-	-	7.5	6.6	1.2	3.8	9.0	-	10.5	1.2		
16	21.0	23	27	3	22.0	28.0	17.0	30.95	28.5	19.5	30	15.0	28.4	35.0	40	33.4	17.0	1.5	4	8.5	17.5	10.0	7.5	8.5	7.5	1.5	5.0	9.0	6.6	10.5	1.5	
18	23.7	27	33	3	24.0	30.0	20.0	34.15	32.0	21.5	33	17.0	30.0	37.5	-	-	19.5	2.0	5	9	19.5	11.5	8.5	9.0	8.0	1.5	5.0	9.0	7.5	10.5	1.5	
20	26.7	29	35	3	29.5	35.0	21.5	35.70	37.0	24.0	38	19.0	30.0	37.5	-	-	21.5	2.0	5	9	19.5	11.5	8.5	8.5	7.5	1.5	5.0	9.0	7.5	10.5	1.5	
22	27.7	31	37	3	29.5	35.0	23.0	37.30	37.0	26.0	38	19.0	30.0	37.5	-	-	21.5	2.0	5	9	19.5	11.5	8.5	8.5	7.5	1.5	5.0	9.0	7.5	10.5	1.5	
24	31.2	33	39	3	32.0	38.0	26.5	40.50	42.5	28.0	44	19.0	32.5	40.0	-	-	22.5	2.0	5	9	19.5	11.5	8.5	8.5	7.5	1.5	5.0	9.0	7.5	10.5	1.5	
25	31.2	34	40	3	32.0	38.0	26.5	40.50	42.5	29.0	44	19.0	32.5	40.0	-	-	23.0	2.0	5	9	19.5	11.5	8.5	8.5	7.5	1.5	5.0	9.0	7.5	10.5	1.5	
28	35.0	37	43	3	36.0	42.0	29.5	47.65	49.0	32.0	50	23.0	35.0	42.5	50	42.5	26.5	2.0	5	9	19.5	11.5	8.5	10.0	9.0	1.5	5.0	10.5	7.5	12.0	1.5	
30	37.0	39	45	3	39.2	45.0	32.5	50.80	49.0	34.0	50	23.0	35.0	42.5	-	-	26.5	2.0	5	9	19.5	11.5	8.5	11.5	10.5	1.5	5.0	10.5	7.5	12.0	1.5	
32	40.2	42	48	3	42.2	48.0	32.5	50.80	53.5	36.0	55	23.5	35.0	42.5	-	-	27.5	2.0	5	9	19.5	11.5	8.5	11.5	10.5	1.5	5.0	10.5	7.5	12.0	1.5	
33	40.2	42	48	3	44.2	50.0	36.5	54.00	53.5	37.0	55	23.5	35.0	42.5	-	-	27.5	2.0	5	9	19.5	11.5	8.5	12.0	11.0	1.5	5.0	10.5	7.5	12.0	1.5	
35	43.2	44	50	3	46.2	52.0	36.5	54.00	57.0	40.0	59	24.5	35.0	42.5	-	-	28.5	2.0	5	9	19.5	11.5	8.5	12.0	11.0	1.5	5.0	10.5	7.5	12.0	1.5	
38	46.2	49	56	4	49.2	55.0	39.5	57.15	59.0	43.0	61	25.0	36.0	45.0	55	46.0	30.0	2.0	6	9	22.0	14.0	10.0	11.3	10.3	1.5	5.0	10.5	9.0	12.0	1.5	
40	48.8	51	58	4	52.2	58.0	42.5	60.35	62.0	45.0	64	25.5	36.0	45.0	-	-	30.0	2.0	6	9	22.0	14.0	10.0	11.8	10.8	1.5	5.0	10.5	9.0	12.0	1.5	
43	51.8	54	61	4	53.3	62.0	46.0	63.50	65.5	48.0	67	25.5	36.0	45.0	-	-	30.0	2.0	6	9	22.0	14.0	10.0	13.2	12.0	2.0	6.0	10.5	9.0	12.0	2.5	
45	53.8	56	63	4	55.3	64.0	46.0	63.50	68.0	50.0	70	25.5	36.0	45.0	-	-	30.0	2.0	6	9	22.0	14.0	10.0	12.8	11.6	2.0	6.0	10.5	9.0	12.0	2.5	
48	56.8	59	66	4	59.7	68.4	49.0	66.70	70.5	53.0	74	26.0	36.0	45.0	60	51.0	30.5	2.0	6	9	22.0	14.0	10.0	12.8	11.6	2.0	6.0	10.5	9.0	12.0	2.5	
50	58.8	62	70	4	60.8	69.3	52.0	69.85	74.0	55.0	77	26.0	38.0	-	-	-	30.5	2.5	6	9	23.0	15.0	10.5	12.8	11.6	2.0	6.0	12.0	9.5	13.5	2.5	
55	64.2	67	75	4	66.5	75.4	58.5	76.20	81.0	60.0	83	30.0	36.5	47.5	70	59.0	35.0	2.5	6	9	23.0	15.0	12.0	14.5	13.3	2.0	6.0	12.0	11.0	13.5	2.5	
58	67.2	70	78	4	69.5	78.4	61.5	79.40	85.5	64.0	88	31.0	-	-	-	-	37.0	2.5	6	9	23.0	15.0	12.0	14.5	13.3	2.0	6.0	12.0	11.0	13.5	2.5	
60	70.0	72	80	4	71.5	80.4	61.5	79.40	88.5	66.0	91	32.0	41.5	52.5	70	59.0	38.0	2.5	6	9	23.0	15.0	12.0	14.5	13.3	2.0	6.0	12.0	11.0	13.5	2.5	
65	75.0	77	85	4	76.5	85.4	68.0	92.10	93.5	71.0	96	34.0	41.5	52.5	-	-	40.0	2.5	6	9	23.0	15.0	12.0	14.2	13.0	2.0	6.0	14.5	11.0	16.0	2.5	
68	78.0	81	90	4	82.7	91.5	71.0	95.25	96.5	74.0	100	34.0	-	-	-	-	40.0	2.5	7	9	26.0	18.0	12.5	14.9	13.7	2.0	6.0	14.5	11.3	16.0	2.5	
70	80.0	83	92	4	83.0	92.0	71.0	95.25	99.5	76.0	103	34.0	48.7	60.0	-	-	40.0	2.5	7	9	26.0	18.0	12.5	14.2	13.0	2.0	6.0	14.5	11.3	16.0	2.5	
75	85.5	88	97	4	90.2	99.0	77.5	101.60	107.0	81.0	110	34.0	48.7	60.0	-	-	40.0	2.5	7	9	26.0	18.0	12.5	15.2	14.0	2.0	6.0	14.5	11.3	16.0	2.5	
80	90.5	95	105	4	95.2	104.0	84.0	114.30	112.0	86.0	116	34.0	-	-	-	-	40.0	3.0	7	9	26.2	18.2	13.0	16.2	15.0	2.0	6.0	18.5	12.0	20.0	2.5	
85	96.0	100	110	4	100.2	109.0	87.0	117.50	120.0	92.0	124	35.0	-	-	-	-	41.0	3.0	7	9	26.2	18.2	15.0	16.0	14.8	2.0	6.0	18.5	14.0	20.0	2.5	
90	102.0	105	115	4	105.2	114.0	93.5	123.85	127.0	97.0	131	38.0	-	-	-	-	45.0	3.0	7	9	26.2	18.2	15.0	16.0	14.8	2.0	6.0	18.5	14.0	20.0	2.5	
95	107.0	110	120	4	111.6	120.3	96.5	127.00	132.0	102.0	136	39.0	-	-	-	-	46.0	3.0	7	9	25.2	17.2	15.0	17.0	15.8	2.0	6.0	18.5	14.0	20.0	2.5	
100	112.0	115	125	4	114.5	123.3	103.0	133.35	137.0	107.0	140	40.0	-	-	-	-	47.0	3.0	7	9	25.2	17.2	15.0	17.0	15.8	2.0	6.0	18.5	14.0	20.0	2.5	
110	123.0	-	-	-	-	-	-	-	150.0	118.0	154	43.0	-	-	-	-	49.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

RELY ON EXCELLENCE

Dimensions in millimeter

Fitting length/axial movement tolerances: d_1 15 ... 18 mm ± 1.0 ; d_1 20 ... 26 mm ± 1.5 ; d_1 28 ... 110 mm ± 2.0

* Minimum diameter of the mating collar