

RELY ON EXCELLENCE

eMG

Mechanical seals | Mechanical seals for pumps | Elastomer bellows seals



Features

- For plain shafts
- Single and dual seal
- Elastomer bellows rotating
- Balanced
- 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

Operating range

Shaft diameter:
 $d_1 = 14 \dots 110 \text{ mm} (0.55" \dots 4.33")$
 Pressure: $p_1 = 18 \text{ bar} (261 \text{ PSI})$,
 vacuum ... $0.5 \text{ bar} (7.25 \text{ PSI})$,
 up to $1 \text{ bar} (14.5 \text{ PSI})$ with seat locking
 Temperature:
 $t = -20 \text{ °C} \dots +140 \text{ °C}$
 $(-4 \text{ °F} \dots +284 \text{ °F})$
 Sliding velocity: $v_g = 10 \text{ m/s} (33 \text{ ft/s})$
 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-Q7, Q1)
 Seat: Silicon carbide (eSiC-Q7, Q1), Tungsten carbide (U3)
 Elastomer: NBR (P), EPDM (E), FKM (V), HNBR (X4)
 Metal parts: CrNiMo steel (G), Hastelloy® (M)

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. Other materials and designs available on request.

Recommended applications

- Fresh water supply
- Building services engineering
- Waste water technology
- Food technology
- Sugar production
- Pulp and paper industry
- Oil industry
- Petrochemical industry
- Chemical industry
- Water, waste water, slurries (up to 5 % by weight)
- Pulp (up to 4 % otro)

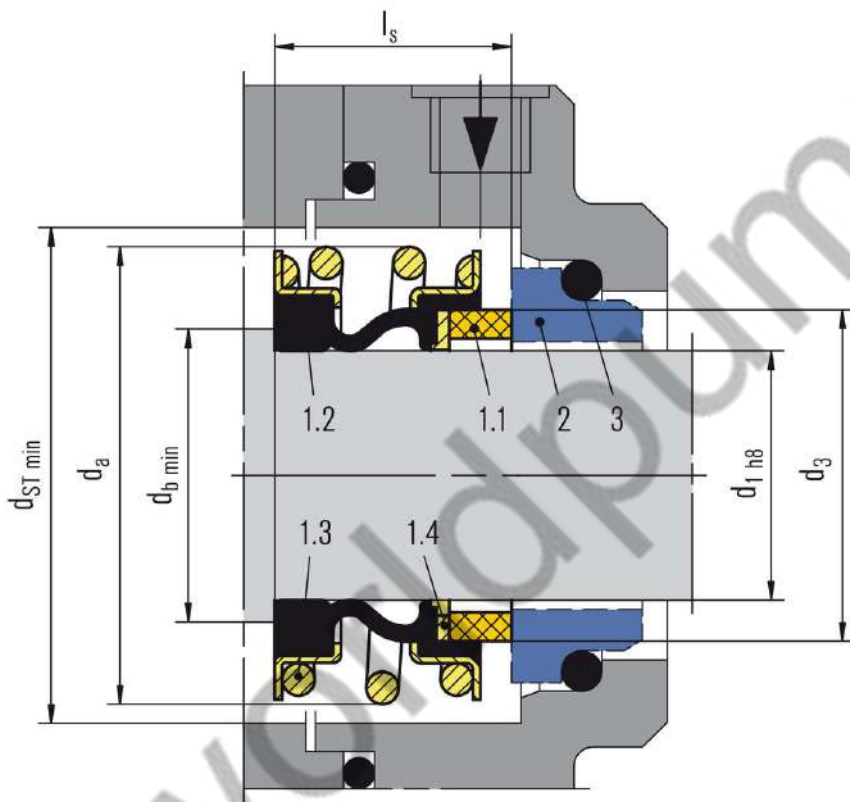
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- Latex
- Dairies, beverages
- Sulfide slurries
- Chemicals
- Oils
- Chemical standard pumps
- Helical screw pumps
- Stock pumps
- Circulating pumps
- Submersible pumps
- Water and waste water pumps

eMG

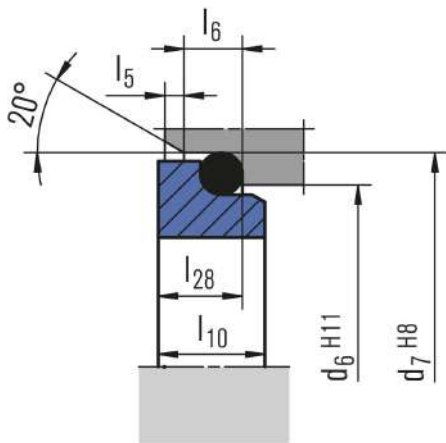
Item Description

- | | |
|-----|----------------------|
| 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 |

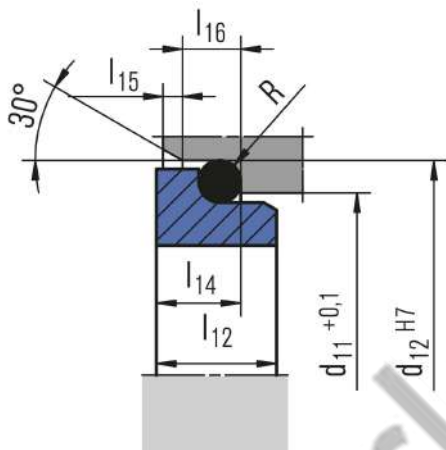


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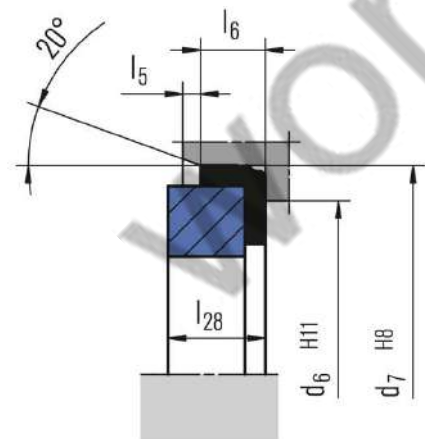
Seat alternatives



G6
EN 12756



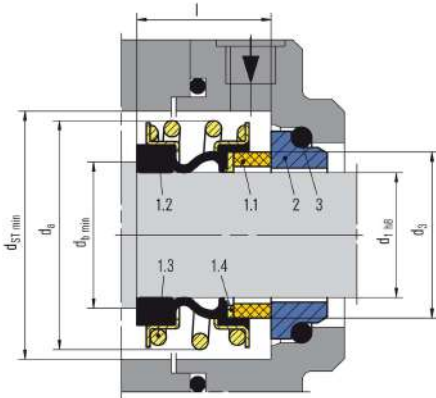
G4 (optional)



G60 (optional)
EN 12756

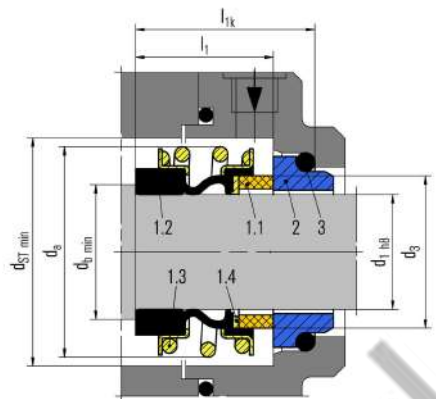
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Product variants



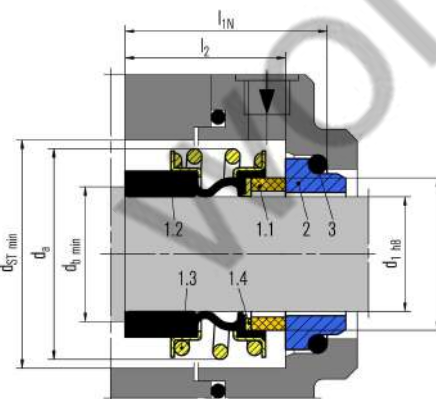
eMG1

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



eMG12

Dimensions, items and designations same as for eMG, but with an extended 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).

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eRMG

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

d1 = 14 ... 38 mm (0.55" ... 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)

worldpump.net

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Dimensions

d ₁	d ₃	d ₆	d ₇	d ₁₁	d ₁₂	d _a	d _b *)	d _{ST}	l _S	l	l ₁	l _{1k}	l ₂	l _{1N}	l ₅	l ₆	l ₁₀	l ₁₂	l ₁₄	l ₁₅	l ₁₆	l ₂₈	l ₂₉	R
14	19,7	21	25	20,5	24,6	27	17,5	28,5	15	17	28,4	35	-	-	1,5	4	7,5	6,5	5,6	1,2	3,8	6,6	10,5	1,2
15	20,8	-	-	20,5	24,6	28,5	18,5	30	15	17	-	-	-	-	-	-	-	7,5	6,6	1,2	3,8	-	10,5	1,2
16	21	23	27	22	28	28,5	19,5	30	15	17	28,4	35	33,4	40	1,5	4	7,5	8,5	7,5	1,5	5	6,6	10,5	1,5
18	23,7	27	33	24	30	32	21,5	33	17	19,5	30	37,5	-	-	2	5	8,5	9	8	1,5	5	7,5	10,5	1,5
20	26,7	29	35	29,5	35	37	24	38	19	21,5	30	37,5	-	-	2	5	8,5	8,5	7,5	1,5	5	7,5	10,5	1,5
22	27,7	31	37	29,5	35	37	26	38	19	21,5	30	37,5	37,5	45	2	5	8,5	8,5	7,5	1,5	5	7,5	10,5	1,5
24	31,2	33	39	32	38	42,5	28	44	19	22,5	32,5	40	-	-	2	5	8,5	8,5	7,5	1,5	5	7,5	10,5	1,5
25	31,2	34	40	32	38	42,5	29	44	23	23	32,5	40	-	-	2	5	8,5	8,5	7,5	1,5	5	7,5	10,5	1,5
28	35	37	43	36	42	49	32	50	23	26,5	35	42,5	42,5	50	2	5	8,5	10	9	1,5	5	7,5	12	1,5
30	37	39	45	39,2	45	49	34	50	23,5	26,5	35	42,5	-	-	2	5	8,5	11,5	10,5	1,5	5	7,5	12	1,5
32	40,2	42	48	42,2	48	53,5	36	55	23,5	27,5	35	42,5	-	-	2	5	8,5	11,5	10,5	1,5	5	7,5	12	1,5
33	40,2	42	48	44,2	50	53,5	37	55	24,5	27,5	35	42,5	-	-	2	5	8,5	12	11	1,5	5	7,5	12	1,5
35	43,2	44	50	46,2	52	57	40	59	25	28,5	35	42,5	-	-	2	5	8,5	12	11	1,5	5	7,5	12	1,5
38	46,2	49	56	49,2	55	59	43	61	25,5	30	36	45	46	55	2	6	10	11,3	10,3	1,5	5	9	12	1,5
40	48,8	51	58	52,2	58	62	45	64	25,5	30	36	45	-	-	2	6	10	11,8	10,8	1,5	5	9	12	1,5
43	51,8	54	61	53,3	62	65,5	48	67	25,5	30	36	45	-	-	2	6	10	13,2	12	2	6	9	12	2,5
45	53,8	56	63	55,3	64	68	50	70	26	30	36	45	-	-	2	6	10	12,8	11,6	2	6	9	12	2,5
48	56,8	59	66	59,7	68,4	70,5	53	74	26	30,5	36	45	51	60	2	6	10	12,8	11,6	2	6	9	12	2,5
50	58,8	62	70	60,8	69,3	74	55	77	30	30,5	38	47,5	-	-	2,5	6	10,5	12,8	11,6	2	6	9,5	13,5	2,5
53	62,2	65	73	63,8	72,3	78,5	58	81	29	33	36,5	47,5	-	-	2,5	6	12	13,5	12,3	2	6	11	13,5	2,5
55	64,2	67	75	66,5	75,4	81	60	83	30	35	36,5	47,5	59	70	2,5	6	12	14,5	13,3	2	6	11	13,5	2,5
58	67,2	70	78	69,5	78,4	85,5	64	88	31	37	-	-	-	-	2,5	6	12	14,5	13,3	2	6	11	13,5	2,5
60	70	72	80	71,5	80,4	88,5	66	91	34	38	41,5	52,5	59	70	2,5	6	12	14,5	13,3	2	6	11	13,5	2,5
65	75	77	85	76,5	85,4	93,5	71	96	34	40	41,5	52,5	-	-	2,5	6	12	14,2	13	2	6	11	16	2,5
68	78	81	90	82,7	91,5	96,5	74	100	34	40	-	-	-	-	2,5	7	12,5	14,9	13,7	2	6	11,3	16	2,5
70	80	83	92	83	92	99,5	76	103	34	40	48,7	60	-	-	2,5	7	12,5	14,2	13	2	6	11,3	16	2,5
75	85,5	88	97	90,2	99	107	81	110	34	40	48,7	60	-	-	2,5	7	12,5	15,2	14	2	6	11,3	16	2,5
80	90,5	95	105	95,2	104	112	86	116	34	40	48	60	-	-	3	7	13	16,2	15	2	6	12	20	2,5
85	96	100	110	100,2	109	120	92	124	35	41	46	60	-	-	3	7	15	16	14,8	2	6	14	20	2,5
90	102	105	115	105,2	114	127	97	131	38	45	51	65	-	-	3	7	15	16	14,8	2	6	14	20	2,5
95	107	110	120	111,6	120,3	132	102	136	39	46	51	65	-	-	3	7	15	17	15,8	2	6	14	20	2,5
100	112	115	125	114,5	123,3	137	107	140	40	47	51	65	-	-	3	7	15	17	15,8	2	6	14	20	2,5
110	123	-	-	-	-	150	118	154	43	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Dimensions in millimeter

Fitting length/axial movement tolerances: d₁ 15 ... 18 mm ±1.0; d₁ 20 ... 26 mm ±1.5; d₁ 28 ... 110 mm ±2.0

* Minimum diameter of the mating collar