

# eMG1



## Features

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

## Advantages

- **100 % compatible with MG1**
- 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
- Suitable for low-end sterile applications
- Dimension adaptations and additional seats available

## Operating range

Shaft diameter:  
 $d_1 = 15 \dots 110 \text{ mm}$  (0.59" ... 4.33")  
 Pressure:  $p_1 = 16 \text{ bar}$  (230 PSI),  
 vacuum ... 0.5 bar (7.25 PSI),  
 up to 1 bar (14.5 PSI) with seat locking  
 Temperature:  $t = -20 \text{ °C} \dots +140 \text{ °C}$   
 (-4 °F ... +284 °F)  
 Sliding velocity:  $vg = 10 \text{ m/s}$  (33 ft/s)  
 Admissible axial movement:  $\pm 2.0 \text{ mm}$

## Materials

Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1, eSiC-Q7), Tungsten carbide (U3)  
 Seat: Silicon carbide (Q1, Q2, eSiC-Q7), Tungsten carbide (U3), Special cast CrMo steel (S), Aluminium oxide (V)  
 Elastomer:  
 NBR (P), EPDM (E), FKM (V), HNBR (X4)  
 Metal parts:  
 CrNiMo steel (G), Hastelloy® C-4 (M)

## Standards and approvals

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

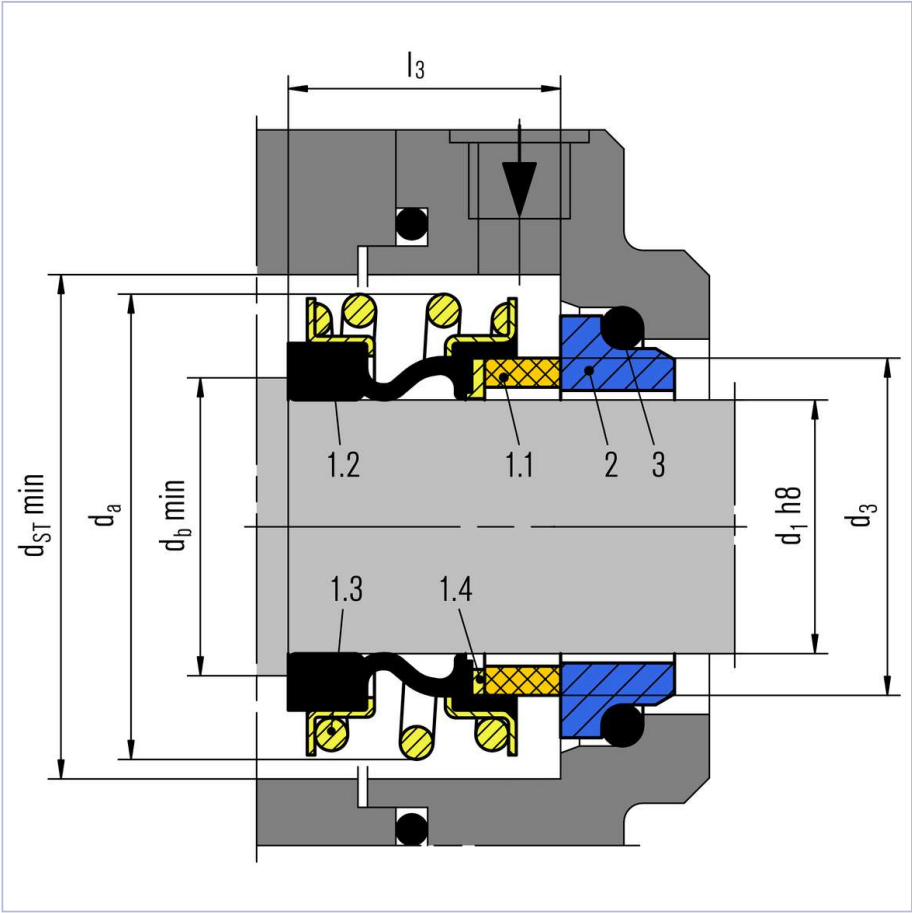
- FDA
- WRAS
- KTW
- ACS
- W270

## Notes

The eMG1 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

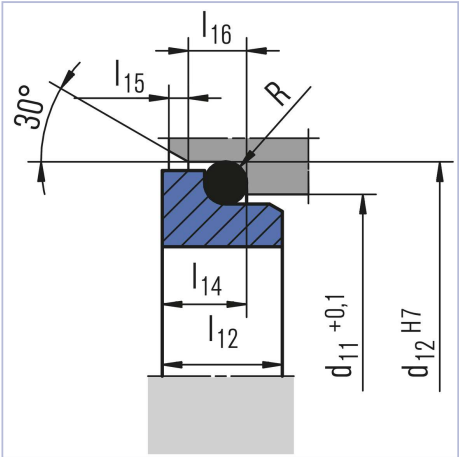
- Process industry
- Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Food and beverage industry
- Sugar industry
- Water, waste water, slurries (up to 5 % by weight)
- Pulp (up to 4 % otro)
- Latex
- Dairies, beverages
- Sulfide slurries
- Chemicals
- Oils
- Chemical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



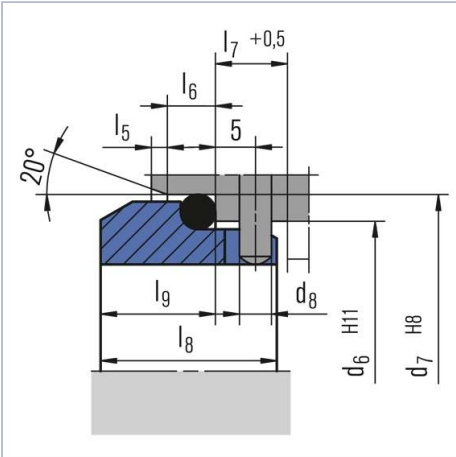
**Item Description**

- 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

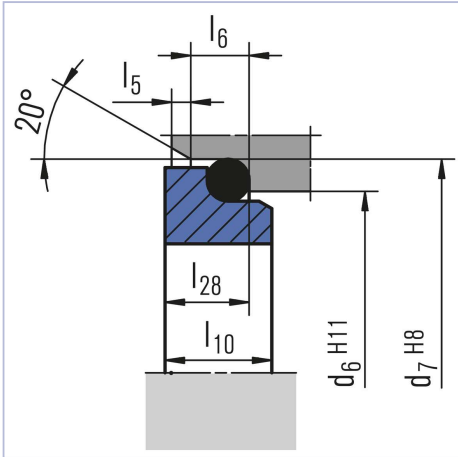
Seat alternatives



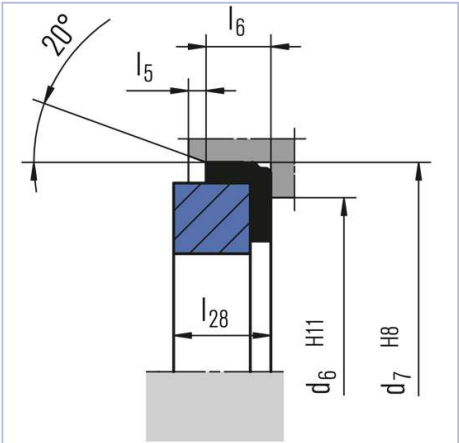
G4



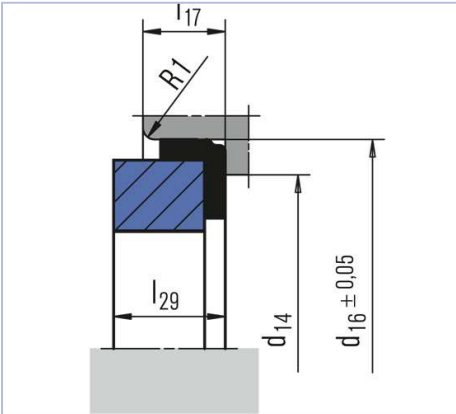
G9  
EN 12756



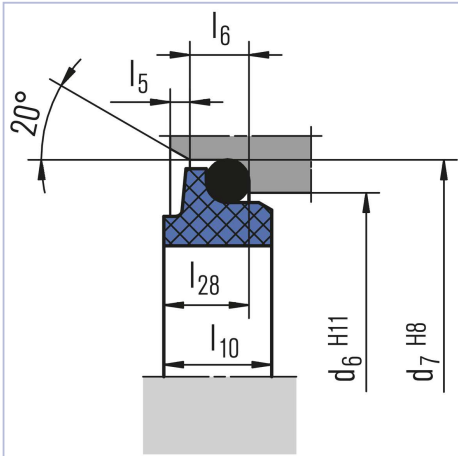
G6  
EN 12756



G60  
EN 12756

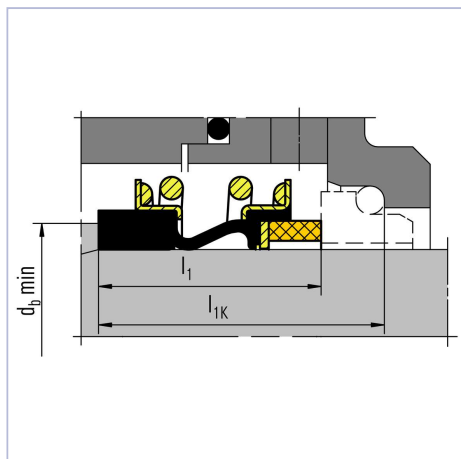


G50  
Euro standard



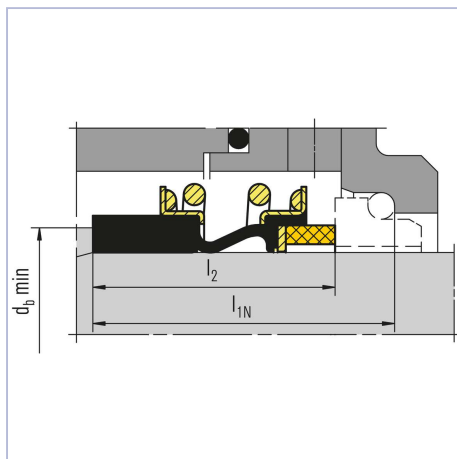
G606  
EN 12756  
(for eRMG1.. only)

## Product variants



### eMG12

Dimensions, items and designations same as for eMG1, 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 eMG1, 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).

### eRMG1..

Identical to eMG1..., but with a special bellows surface on the shaft side. For use in hot water pumps up to 120 °C (248 °F) and 25 bar (363 PSI) or 140 °C (284 °F) and 16 bar (232 PSI). Only in combination with seat G606 ( $d_1 = 12 \dots 38 \text{ mm}$  (0.47" ... 1.50")). Seal face: Tungsten carbide (U3) Seat G606: Carbon graphite resin impregnated (B), Carbon graphite antimony impregnated (A)

## Dimensions

d <sub>1</sub>	d <sub>3</sub>	d <sub>6</sub>	d <sub>7</sub> d <sub>8</sub>	d <sub>11</sub>	d <sub>12</sub>	d <sub>14</sub>	d <sub>16</sub>	d <sub>a</sub>	d <sub>b</sub> <sup>*</sup>	d <sub>ST</sub>	l <sub>3</sub>	l <sub>1</sub>	l <sub>1K</sub>	l <sub>1N</sub>	l <sub>2</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	l <sub>10</sub>	l <sub>12</sub>	l <sub>14</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>17</sub>	l <sub>28</sub>	l <sub>29</sub>	R
15	20.8	—	— —	20.5	24.6	17.0	30.95	28.5	18.5	30	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	17.0	28.4	35.0	40	33.4	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	19.5	30.0	37.5	-	-	2.0	5	9.0	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	21.5	30.0	37.5	-	-	2.0	5	9.0	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	21.5	30.0	37.5	-	-	2.0	5	9.0	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	22.5	32.5	40.0	-	-	2.0	5	9.0	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	23.0	32.5	40.0	-	-	2.0	5	9.0	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	26.5	35.0	42.5	50	42.5	2.0	5	9.0	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	26.5	35.0	42.5	-	-	2.0	5	9.0	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	27.5	35.0	42.5	-	-	2.0	5	9.0	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	27.5	35.0	42.5	-	-	2.0	5	9.0	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	28.5	35.0	42.5	-	-	2.0	5	9.0	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	30.0	36.0	45.0	55	46.0	2.0	6	9.0	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	30.0	36.0	45.0	-	-	2.0	6	9.0	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	30.0	36.0	45.0	-	-	2.0	6	9.0	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	30.0	36.0	45.0	-	-	2.0	6	9.0	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	30.5	36.0	45.0	60	51.0	2.0	6	9.0	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	30.5	-	-	-	-	2.5	6	9.0	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	35.0	36.5	47.5	70	59.0	2.5	6	9.0	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	38.0	41.5	52.5	70	59.0	2.5	6	9.0	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	40.0	41.5	52.5	-	-	2.5	6	9.0	23.0	15.0	12.0	14.2	13.0	2.0	6.0	14.5	11.0	16.0	2.5
70	80.0	83	92 4	83.0	92.0	71.0	95.25	99.5	76.0	103	40.0	48.7	60.0	-	-	2.5	7	9.0	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	40.0	48.7	60.0	-	-	2.5	7	9.0	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	40.0	-	-	-	-	3.0	7	9.0	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	41.0	-	-	-	-	3.0	7	9.0	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	45.0	-	-	-	-	3.0	7	9.0	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	46.0	-	-	-	-	3.0	7	9.0	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	47.0	-	-	-	-	3.0	7	9.0	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	49.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Dimensions in millimeter

Fitting length/axial movement tolerances: d<sub>1</sub> 15 ... 18 mm ±1.0; d<sub>1</sub> 20 ... 26 mm ±1.5; d<sub>1</sub> 28 ... 110 mm ±2.0

\* Minimum diameter of the mating collar