

MG1

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
- No torsion on bellows

Advantages

- 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
- Universal application opportunities
- Important material certifications
 available
- High flexibility due to wide offer on materials
- Suitable for low-end sterile applications
- Special design for hot water pumps (RMG12) available
- Dimension adaptions and additional seats available

Operating range

Shaft diameter: d1 = 10 ... 100 mm (0.39" ... 3.94") Pressure: p1 = 16 bar (230 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F) Sliding velocity: vg = 10 m/s (33 ft/s) Admissible axial movement: ±2.0 mm (±0,08")

Materials

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

Seat: Silicon carbide (Q1, eSic-Q7), Tungsten carbide (U3) Elastomer: NBR (P), EPDM (E), FKM (V), HNBR (X4) Metal parts: CrNiMo steel (G), Hastelloy®

Further materials upon request.

Standards and approvals

• EN 12756 (MG12, MG13)

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

• FDA

(M)

- WRAS
- KTW
- ACS
- W270
- NSF

Notes

The MG1 can also be used as a multiple seal in tandem or in a back-to-back arrangement. Installation proposals available upon request.

Dimension adaptations for specific conditions, e.g. shaft in inches or special seat dimensions are available upon request.

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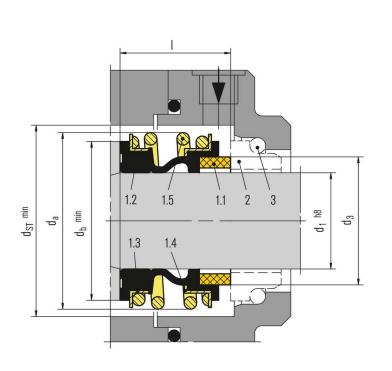
Recommended applications

- 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 (solids 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
- Oil applications

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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



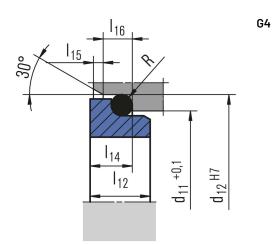


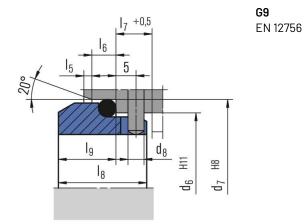
Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	481	Bellows
1.3	484.2	L-ring (spring collar)
1.4	484.1	L-ring (spring collar)
1.5	477	Spring
2	475	Seat
3	412	O-Ring or cup rubber

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Seat alternatives

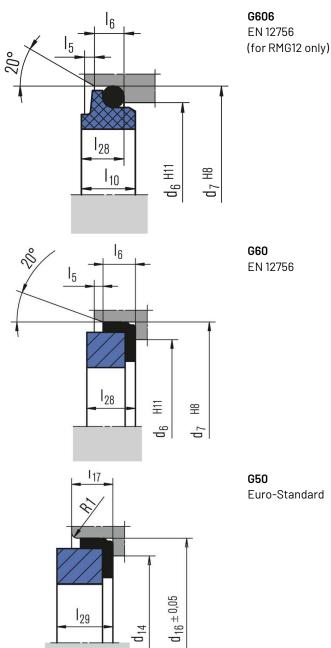




G6 EN 12756

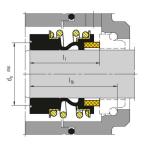
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Product variants



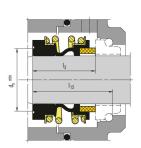
MG12

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the fitting length I_{1k} according to EN 12756 in combination with seat G6 or G60 (d_a exceeds EN 12756).

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MG13

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the fitting length I_{1N} according to EN 12756 in combination with seat G6 or G60 (d_a exceeds EN 12756).



MG1S20

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the special fitting length I_{1S} in combination with seat G50.

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RMG12

Identical to MG12, 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 (d1 = 12 ... 38 mm (0.47" ... 1.50")). Seal face: Tungsten carbide (U3) Seat G606: Carbon graphite resin impregnated (B)

Dimensions

d ₁	d ₃	d ₆	d7	d ₈	d ₁₁	d ₁₂	d ₁₄	d ₁₆	d _a	d _b *)	d _m *)	ds ^{*)}	d _{ST}	I	I ₁	I _{1k}	11N	I ₁ S	I ₂	I ₃ I ₅	1 ₆ 1 ₇	1 ₈	l9	I ₁₀	I ₁₂	I ₁₄	I ₁₅	1 ₁₆ 1 ₁	, I ₂₈	I ₂₉	R
10	15.7	17	21	3	15.5	19.2	11.0	24.60	22.5	20.5	18	18	24	14.5	25.9	32.5	40	34.0	33.4	25 1.5	4 8.5	17.5	10.0	7.5	7.5	6.6	1.2	3.8 7.	5 6.6	9.0	1.2
12	17.7	19	23	3	17.5	21.6	13.5	27.80	25.0	22.5	20	20	26	15.0	25.9	32.5	40	34.0	33.4	25 1.5	4 8.5	17.5	10.0	7.5	6.5	5.6	1.2	3.8 7.	5 6.6	9.0	1.2
14	19.7	21	25	3	20.5	24.6	17.0	30.95	28.5	26.5	22	22	30	17.0	28.4	35.0	40	35.5	33.4	25 1.5	4 8.5	17.5	10.0	7.5	6.5	5.6	1.2	3.8 9	0 6.6	10.5	1.2
15	20.8	-	-	-	20.5	24.6	17.0	30.95	28.5	26.5	22	22	30	17.0	28.4	-	-	35.5	33.4	25 -		-	-	-	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	26.5	22	22	30	17.0	28.4	35.0	40	35.5	33.4	25 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	29.0	29	26	33	19.5	30.0	37.5	45	35.5	37.5	25 2.0	59.0	19.5	11.5	8.5	9.0	8.0	1.5	5.0 9	0 7.5	10.5	1.5
19	26.7	-	-	-	-	-	20.0	34.15	37.0	33.0	33	28	38	21.5	30.0	-	-	35.5	37.5	25 -		-	-	-	-	-	-	- 9	0 -	10.5	-
20	26.7	29	35	3	29.5	35.0	21.5	35.70	37.0	33.0	33	28	38	21.5	30.0	37.5	45	35.5	37.5	25 2.0	59.0	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	33.0	33	28	38	21.5	30.0	37.5	45	35.5	37.5	25 2.0	59.0	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	38.0	38	32	44	22.5	32.5	40.0	50	35.5	42.5	25 2.0	59.0	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	38.0	38	32	44	23.0	32.5	40.0	50	35.5	42.5	25 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	44.0	37	37	50	26.5	35.0	42.5	50	45.0	42.5	33 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	44.0	37	37	50	26.5	35.0	42.5	50	45.0	42.5	33 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	46.0	41	41	55	27.5	35.0	42.5	55	45.0	47.5	33 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	46.0	41	41	55	27.5	35.0	42.5	55	45.0	47.5	33 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		52.0	36.5	54.00	57.0	50.0	44	44	59								5 9.0									12.0	
	46.2	49				55.0	39.5	57.15	59.0	53.0	53	47	61								0 6 9.0										
	48.8	51	58		52.2	58.0	42.5	60.35	62.0	55.0	55										0 6 9.0										
	51.8				53.3	62.0	46.0	63.50	65.5	58.0	53	53	67	30.0														6.0 10		12.0	
	51.8				53.3	62.0	46.0	63.50	65.5	58.0	53		67								0 6 9.0										
	53.8				55.3	64.0	46.0	63.50	68.0	60.0	55		70								0 6 9.0										
	56.8				59.7	68.4	49.0	66.70	70.5	63.0	58		74								0 6 9.0										
	58.8				60.8	69.3	52.0	69.85	74.0	65.0	60		77								569.0										
	62.2				63.8	72.3	55.5	73.05	78.5	70.0	63		81								569.0										
	64.2	67			66.5	75.4	58.5	76.20	81.0	72.0	65		83								569.0										
	67.2	70			69.5	78.4	61.5	79.40	85.5	75.0	68		88								569.0										
	70.0				71.5	80.4	61.5	79.40	88.5	79.0	70		91								569.0										
65	75.0				76.5	85.4	68.0	92.10	93.5	84.0	77	77	96								569.0										
68	78.0				82.7	91.5	71.0	95.25	96.5	88.0	80										579.0										
	80.0				83.0	92.0	71.0	95.25	99.5	90.0	82										579.0										
	85.5					99.0	77.5	101.60	107.0		87										579.0										
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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.

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Dimensions in millimeter

Fitting length/axial movement tolerances: d₁ 10 ... 12 mm ±0.5; d₁ 14 ... 18 mm ±1.0; d₁ 20 ... 26 mm ±1.5; d₁ 28 ... 100 mm ±2.0

* Minimum diameter of the mating collar

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