

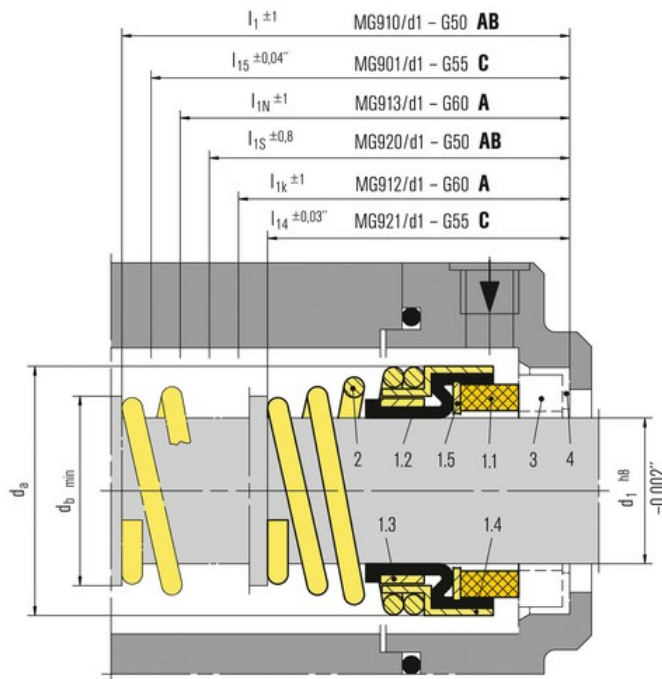
MG9

Features

- For plain shafts
- Single and dual seal
- Elastomer bellows rotating
- Unbalanced
- Independent of direction of rotation
- No torsion on bellows and spring
- Conical or cylindrical spring
- Metric and inch sizes available
- Special seat dimensions available
- US Patent No. 6.220.601

Advantages

- Fits into any installation space due to smallest outer seal diameter
- Important material approvals available
- Individual installation length can be achieved
- High flexibility due to extended selection of materials
- Universal application (standardization)



Item Part no. to DIN 24250

Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	481	Bellows
1.3	485	Driver collar
1.4	484.1	"L" ring (spring collar)
1.5	474	Washer
2	477	Spring
3	475	Seat
4	412	Rubber cup

MG9 (2)

Recommended applications

- Water and waste water technology
- Pulp and paper industry
- Chemical industry
- Cooling fluids
- Media with low solids content
- Pressure oils for bio diesel fuels
- Circulating pumps
- Submersible pumps
- Multi-stage pumps (non-drive side)
- Water and waste water pumps
- Oil applications

Operating range

Shaft diameter: $d_1 = 10 \dots 100 \text{ mm}$ (0.375" ... 4")
 Pressure: $p_1 = 12 \text{ bar}$ (174 PSI),
 vacuum up to 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking
 Temperature: $t = -20 \text{ }^\circ\text{C} \dots +140 \text{ }^\circ\text{C}$ (-4 °F ... +284 °F)
 Sliding velocity: $v_g = 10 \text{ m/s}$ (33 ft/s)
 Axial movement: $\pm 0.5 \text{ mm}$

Notes

A modular principle comprising a bellows unit for each shaft diameter and a correspondingly long spring (tapered or cylindrical spring) for individual length compensation regarding I1K, I1N and other installation lengths.

The MG9 can also be used as a multiple seal in tandem or in a back-to-back arrangement. Installation proposals can be supplied on request.

The entire MG9 series is available in metric and inch sizes.

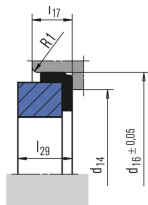
Standards and approvals

- EN 12756
- FDA
- KTW
- WRAS
- W270
- NSF
- ACS

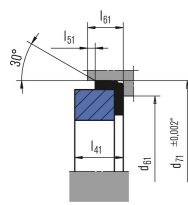
Materials

Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1)
 Seat: Silicon carbide (Q1, Q2), Aluminium oxide (V)
 Elastomer: NBR (P), EPDM (E), FKM (V), HNBR (X4)
 Metal parts: CrNiMo steel (G)

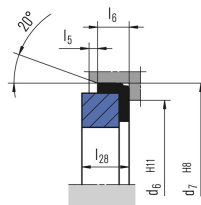
Seat alternatives



G50
Euro standard



G55
US standard



G60
EN 12756

Dimensions

EagleBurgmann*	Crane*	Sealol*	Dimensions	Table
MG910/d1-G50	1A	43 CE long	Inch/mm	B
	1A	43 CE long	mm	A
MG920/d1-G50	2	43 CE short	Inch/mm	B
	2	43 CE short	mm	A
MG901/d1-G55	1	43 CU long	Inch (USA only)	C
MG921/d1-G55	2	43 CU short	Inch (USA only)	C
	21	43 CU short	Inch (USA only)	C
MG912/d1-G60	502	43 DIN	mm	A
	521	43 DIN	mm	A
MG913/d1-G60	2100-I1k	43 DIN	mm	A
	2100-I1N		mm	A

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MG9 (3)

MG9 ... the alternative * Connection dimensions identical

Dimensions

d ₁	d ₆	d ₇	d ₁₄	d ₁₆	d _a	d _b	l ₁	l _{1k}	l _{1N}	l _{1S}	l ₅	l ₆	l ₁₇	l ₂₈	l ₂₉
10	17	21	11.0	24.60	19.6	13.0	53.0	32.5	40	34.0	1.5	4	7.5	6.6	9.0
12	19	23	13.5	27.80	21.6	15.0	53.0	32.5	40	34.0	1.5	4	7.5	6.6	9.0
14	21	25	17.0	30.95	24.0	18.0	54.5	35.0	40	35.5	1.5	4	9.0	6.6	10.5
15	-	-	17.0	30.95	25.0	19.0	54.5	-	-	35.5	-	-	9.0	-	10.5
16	23	27	17.0	30.95	26.5	20.0	54.5	35.0	40	35.5	1.5	4	9.0	6.6	10.5
18	27	33	20.0	34.15	29.0	22.0	54.5	37.5	45	35.5	2.0	5	9.0	7.5	10.5
20	29	35	21.5	35.70	31.5	24.5	54.5	37.5	45	35.5	2.0	5	9.0	7.5	10.5
22	31	37	23.0	37.30	33.0	27.0	54.5	37.5	45	35.5	2.0	5	9.0	7.5	10.5
24	33	39	26.5	40.50	37.0	29.0	54.5	40.0	50	35.5	2.0	5	9.0	7.5	10.5
25	34	40	26.5	40.50	38.0	30.0	54.5	40.0	50	35.5	2.0	5	9.0	7.5	10.5
28	37	43	29.5	47.65	41.0	34.0	72.0	42.5	50	45.0	2.0	5	10.5	7.5	12.0
30	39	45	32.5	50.80	43.0	36.0	72.0	42.5	50	45.0	2.0	5	10.5	7.5	12.0
32	42	48	32.5	50.80	45.0	38.0	72.0	42.5	55	45.0	2.0	5	10.5	7.5	12.0
33	42	48	36.5	54.00	46.0	39.0	72.0	42.5	55	45.0	2.0	5	10.5	7.5	12.0
35	44	50	36.5	54.00	48.0	41.0	72.0	42.5	55	45.0	2.0	5	10.5	7.5	12.0
38	49	56	39.5	57.15	52.5	44.5	72.0	45.0	55	45.0	2.0	6	10.5	9.0	12.0
40	51	58	42.5	60.35	55.5	47.5	72.0	45.0	55	45.0	2.0	6	10.5	9.0	12.0
43	54	61	46.0	63.50	58.5	50.5	83.0	45.0	60	53.0	2.0	6	10.5	9.0	12.0
45	56	63	46.0	63.50	60.5	52.5	83.0	45.0	60	53.0	2.0	6	10.5	9.0	12.0
48	59	66	49.0	66.70	64.0	56.0	83.0	45.0	60	53.0	2.0	6	10.5	9.0	12.0
50	62	70	52.0	69.85	66.0	58.0	84.5	47.5	60	54.5	2.5	6	12.0	9.5	13.5
53	65	73	55.5	73.05	69.0	61.0	84.5	47.5	70	54.5	2.5	6	12.0	11.0	13.5
55	67	75	58.5	76.20	71.0	63.0	84.5	47.5	70	54.5	2.5	6	12.0	11.0	13.5
58	70	78	61.5	79.40	76.0	66.0	84.5	52.5	70	54.5	2.5	6	12.0	11.0	13.5
60	72	80	61.5	79.40	78.0	68.0	84.5	52.5	70	54.5	2.5	6	12.0	11.0	13.5
63	75	83	65.0	82.55	82.0	71.5	84.5	52.5	70	54.5	2.5	6	12.0	11.0	13.5
65	77	85	68.0	92.10	84.0	73.5	86.0	52.5	80	65.0	2.5	6	14.5	11.0	16.0
68	81	90	71.0	95.25	87.0	76.5	86.0	52.5	80	65.0	2.5	7	14.5	11.3	16.0
70	83	92	71.0	95.25	89.0	79.0	86.0	60.0	80	65.0	2.5	7	14.5	11.3	16.0
75	88	97	77.5	101.60	95.0	85.0	89.0	60.0	80	68.0	2.5	7	14.5	11.3	16.0
80	95	105	84.0	114.30	101.5	91.5	99.0	60.0	90	76.0	3.0	7	18.5	12.0	20.0
85	100	110	87.0	117.50	107.0	97.0	99.0	60.0	90	76.0	3.0	7	18.5	14.0	20.0
90	105	115	93.5	123.85	111.5	103.0	103.0	65.0	90	79.0	3.0	7	18.5	14.0	20.0
95	110	120	96.5	127.00	117.5	108.0	103.0	65.0	90	79.0	3.0	7	18.5	14.0	20.0
100	115	125	103.0	133.35	122.5	114.0	106.0	65.0	90	82.0	3.0	7	18.5	14.0	20.0

Table A - Dimensions in Millimeter

Dimensions

d ₁	d ₁	d ₁₄	d ₁₆	d _a	d _b	l ₁	l _{1S}	l ₁₇	l ₂₉
0.375"	9.53	11.0	24.60	18.8	12.5	53.0	34.0	7.5	9.0
0.500"	12.70	13.5	27.80	22.3	16.0	53.0	34.0	7.5	9.0
0.625"	15.88	17.0	30.95	26.5	20.0	54.5	35.5	9.0	10.5
0.750"	19.05	20.0	34.15	29.5	23.0	54.5	35.5	9.0	10.5
0.875"	22.23	23.0	37.30	33.0	27.0	54.5	35.5	9.0	10.5
1.000"	25.40	26.5	40.50	38.0	30.5	54.5	35.5	9.0	10.5
1.125"	28.58	29.5	47.65	41.5	34.5	72.0	45.0	10.5	12.0
1.250"	31.75	32.5	50.80	45.0	38.0	72.0	45.0	10.5	12.0
1.375"	34.93	36.5	54.00	48.0	41.0	72.0	45.0	10.5	12.0
1.500"	38.10	39.5	57.15	52.5	44.5	72.0	45.0	10.5	12.0
1.625"	41.28	42.5	60.35	57.0	48.5	72.0	45.0	10.5	12.0
1.750"	44.45	46.0	63.50	60.5	51.5	83.0	53.0	10.5	12.0
1.875"	47.63	49.0	66.70	64.0	55.0	83.0	53.0	10.5	12.0
2.000"	50.80	52.0	69.85	66.0	58.0	84.5	54.5	12.0	13.5
2.125"	53.98	55.5	73.05	71.0	61.5	84.5	54.5	12.0	13.5
2.250"	57.15	58.5	76.20	76.5	65.0	84.5	54.5	12.0	13.5
2.375"	60.33	61.5	79.40	78.5	68.5	84.5	54.5	12.0	13.5

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2.500"	63.50	65.0	82.55	82.0	72.0	84.5	54.5	12.0	13.5
2.625"	66.68	68.0	92.10	84.0	75.0	86.0	65.0	14.5	16.0
2.750"	69.85	71.0	95.25	89.0	79.0	86.0	65.0	14.5	16.0
2.875"	73.03	74.5	98.45	92.5	82.0	89.0	68.0	14.5	16.0
3.000"	76.20	77.5	101.60	95.5	85.5	89.0	68.0	14.5	16.0
3.125"	79.38	80.5	111.15	101.5	91.0	99.0	76.0	18.5	20.0
3.250"	82.55	84.0	114.30	104.7	94.0	99.0	76.0	18.5	20.0
3.375"	85.73	87.0	117.50	107.0	98.0	99.0	76.0	18.5	20.0
3.500"	88.90	90.5	120.65	111.5	100.0	99.0	76.0	18.5	20.0
3.625"	92.08	93.5	123.85	114.5	104.0	103.0	79.0	18.5	20.0
3.750"	95.25	96.5	127.00	118.0	108.0	103.0	79.0	18.5	20.0
3.875"	98.43	100.0	130.20	121.0	112.0	106.0	82.0	18.5	20.0
4.000"	101.60	103.0	133.35	125.0	116.0	106.0	82.0	18.5	20.0

Table B - Dimensions in inch / millimeter

Dimensions

d ₁	d ₆₁	d ₇₁	d _a	d _b	l ₁₄	l ₁₅	l ₄₁	l ₅₁	l ₆₁
0.375	0.625	0.875	0.740	0.492	1.125	1.500	0.313	0.050	0.250
0.500	0.750	1.000	0.878	0.630	1.125	1.500	0.313	0.050	0.250
0.625	0.937	1.250	1.043	0.787	1.281	1.718	0.406	0.050	0.344
0.750	1.062	1.375	1.161	0.905	1.281	1.718	0.406	0.050	0.344
0.875	1.187	1.500	1.299	1.063	1.343	1.781	0.406	0.050	0.344
1.000	1.312	1.625	1.496	1.200	1.437	2.000	0.437	0.050	0.375
1.125	1.437	1.750	1.634	1.358	1.500	2.062	0.437	0.050	0.375
1.250	1.563	1.875	1.772	1.496	1.500	2.062	0.437	0.050	0.375
1.375	1.687	2.000	1.890	1.614	1.562	2.124	0.437	0.050	0.375
1.500	1.813	2.125	2.067	1.752	1.562	2.124	0.437	0.050	0.375
1.625	2.000	2.375	2.244	1.909	1.875	2.500	0.500	0.050	0.437
1.750	2.125	2.500	2.382	2.028	1.875	2.500	0.500	0.050	0.437
1.875	2.250	2.625	2.520	2.165	2.000	2.625	0.500	0.050	0.437
2.000	2.375	2.750	2.598	2.283	2.000	2.625	0.500	0.050	0.437
2.125	2.375	3.000	2.795	2.421	2.249	2.937	0.562	0.050	0.500
2.250	2.437	3.125	2.992	2.559	2.249	2.937	0.562	0.050	0.500
2.375	2.563	3.250	3.071	2.697	2.375	3.062	0.562	0.050	0.500
2.500	2.687	3.375	3.228	2.834	2.375	3.062	0.562	0.050	0.500
2.625	2.812	3.375	3.307	2.953	2.562	3.375	0.625	0.100	0.562
2.750	2.937	3.500	3.504	3.110	2.562	3.375	0.625	0.100	0.562
2.875	3.062	3.750	3.642	3.228	2.687	3.500	0.625	0.100	0.562
3.000	3.187	3.875	3.760	3.366	2.687	3.500	0.625	0.100	0.562
3.125	3.312	4.000	4.000	3.583	2.968	3.906	0.781	0.100	0.656
3.250	3.437	4.125	4.122	3.700	2.968	3.906	0.781	0.100	0.656
3.375	3.562	4.250	4.213	3.858	2.968	3.906	0.781	0.100	0.656
3.500	3.687	4.375	4.390	3.937	2.968	3.906	0.781	0.100	0.656
3.625	3.812	4.500	4.508	4.095	3.093	4.031	0.781	0.100	0.656
3.750	3.937	4.625	4.646	4.252	3.093	4.031	0.781	0.100	0.656
3.875	4.062	4.750	4.764	4.409	3.218	4.156	0.781	0.100	0.656
4.000	4.187	4.875	4.921	4.567	3.218	4.156	0.781	0.100	0.656

Table C - Dimensions in inch