



## 产品介绍

◎ 单端面 ◎ 非平衡型 ◎ 任意旋向 ◎ 橡胶波纹管

◎ 材料组合

密封端面: 石墨、碳化硅、碳化钨、氧化铝

辅助密封: 丁腈胶、氟橡胶、乙丙胶

金属构件: 不锈钢

◎ 运行参数

规格: 10~110 mm

压力:  $\leq 1.6$  Mpa

温度:  $-20 \sim 120^{\circ}\text{C}$

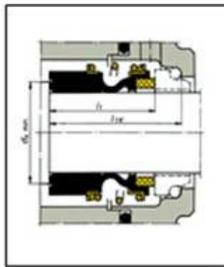
线速度:  $\leq 10$  m/s

轴向窜动量:  $\pm 0.5$  mm

# Materials

# 材料

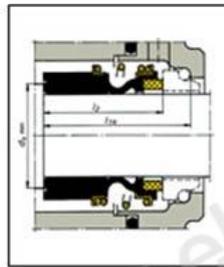
Seal faces 旋转环	Seats 静止环								
	G4, G6			G9			G50	G60	G606
	Q <sub>1</sub>	S	V	Q <sub>1</sub>	S	V	V	Q <sub>1</sub>	B
A	●	●	●	●	●	●	●	●	-
Q <sub>1</sub>	●	-	-	●	-	-	-	●	-
U <sub>3</sub>	-	-	-	-	-	-	-	-	●



### MG12

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the fitting length  $l_{16}$  according to DIN 24960 in combination with seat G6 or G60. ( $d_{1max}$  acc. to DIN 24960 is exceeded).

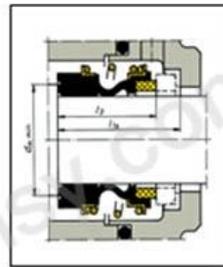
较MG1大的安装长度见表中  $l_{16}$



### MG13

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the fitting length  $l_{16}$  according to DIN 24960 in combination with seat G6 or G60. ( $d_{1max}$  acc. to DIN 24960 is exceeded).

较MG1更大的安装长度见表中  $l_{16}$



### MG1S20

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the special fitting length  $l_{15}$  in combination with seat G50.

特殊设计的安装长度见表中  $l_{15}$

### RMG (not illustrated)

Identical to MG1, but with a special bellows surface on the shaft side. For use in hot-water pumps at up to 120°C and 25 bar and/or 140°C/16 bar. Only in combination with seat G606.  $d_1 = 12...38$  mm

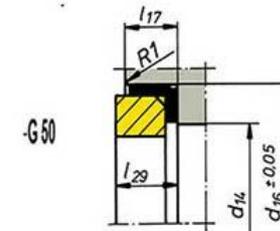
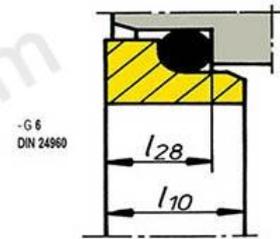
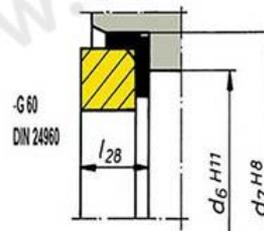
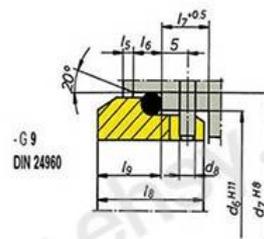
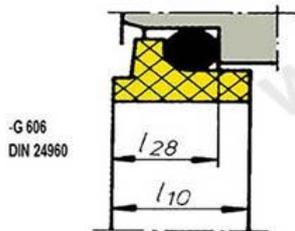
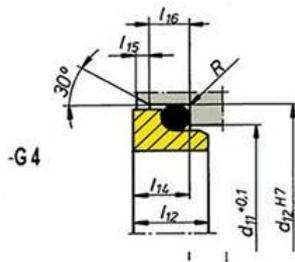
热水泵专用, 120°C, 25bar 或 140°C, 16bar,  $d_1 = 12 - 38$ mm, 静止环为 G606.

### MG1 multiple seal

The MG1 can also be used as a double seal in tandem or back-to-back arrangement. Installation proposals can be supplied on request.

MG1 也可用于串联式或背对背式的双端面密封。

## 静止环



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>2</sub>	d <sub>5</sub> '	d <sub>6</sub> '	d <sub>7</sub> '	d <sub>8</sub> '	d <sub>ST</sub>	l	l <sub>1</sub>	l <sub>1K</sub>	l <sub>1N</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>9</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	
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	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	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	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	-	-	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	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	37.5	25	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		
19	26.7	-	-	-	-	-	20.0	34.15	37.0	33.0	33	28	38	21.5	30.0	-	-	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	37.5	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		
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	37.5	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		
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	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		
25	31.2	34	40	3	32.0	38.0	26.5	40.50	42.5	38.0	38	32	44	22.5	32.5	40.0	50	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	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	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	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	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	46.2	52.0	36.5	54.00	57.0	50.0	44	44	59	28.5	35.0	42.5	55	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		
38	46.2	49	56	4	49.2	55.0	39.5	57.15	59.0	53.0	53	47	61	30.0	36.0	45.0	55	46.0	33	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	55.0	55	49	64	30.0	36.0	45.0	55	46.0	33	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		
42	51.8	-	-	-	-	-	46.0	63.50	65.5	58.0	53	53	67	30.0	36.0	-	-	51.0	41	-	-	-	-	-	-	13.2	12.0	2.0	6.0	10.5	-	12.0	2.5		
43	51.8	54	61	4	53.2	62.0	46.0	63.50	65.5	58.0	53	53	67	30.0	36.0	45.0	60	51.0	41	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	60.0	55	55	70	30.0	36.0	45.0	60	51.0	41	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	63.0	58	58	74	30.5	36.0	45.0	60	51.0	41	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	65.0	60	60	77	30.5	38.0	47.5	60	50.5	41	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		
53	62.2	65	73	4	63.8	72.3	55.5	73.05	78.5	70.0	63	63	81	33.0	36.5	47.5	70	59.0	41	2.5	6	9.0	23.0	15.0	12.0	13.5	12.3	2.0	6.0	12.0	11.0	13.5	2.5		
55	64.2	67	75	4	66.5	75.4	58.5	76.20	81.0	72.0	65	65	83	35.0	36.5	47.5	70	59.0	41	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		
58	67.2	70	78	4	69.5	78.4	61.5	79.40	85.5	75.0	68	68	88	37.0	41.5	52.5	70	59.0	41	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	79.0	70	70	91	38.0	41.5	52.5	70	59.0	41	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	84.0	77	77	96	40.0	41.5	52.5	80	69.0	49	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		
68	78.0	81	90	4	82.7	91.5	71.0	95.25	96.5	88.0	80	80	100	40.0	41.2	52.5	80	68.7	49	2.5	7	9.0	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	90.0	82	82	103	40.0	48.7	60.0	80	68.7	49	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	95.0	87	87	110	40.0	48.7	60.0	80	68.7	52	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	100.0	92	92	116	40.0	48.0	60.0	90	78.0	56	3.0	7	9.0	26.2	18.2	13.0	16.2	15.0	2.0	6.0	18.5	14.0	20.0	2.5		
85	96.0	100	110	4	100.2	109.0	87.0	117.50	120.0	107.0	97	97	124	41.0	46.0	60.0	90	76.0	56	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	114.0	104	104	131	45.0	51.0	65.0	90	76.0	59	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	119.0	109	109	136	46.0	51.0	65.0	90	76.0	59	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	124.0	114	114	140	47.0	51.0	65.0	90	76.0	62	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		

## 密封选型指南

### 机械密封材料代号一览表

#### 1. 密封面材料

	DIN24960 代号	BURGMANN 代号	材 料 名 称	上海博格曼代号
石墨类	A	Buko 03	浸渍碳石墨	M106D 或 M120D
	B	Buko 1	合成树脂浸渍碳石墨	M106K 或 M158K
	B3	Buko 02	合成树脂浸渍碳石墨	
	B5	Buko 34	合成树脂粘碳	
	B6	Buko 41	浸渍碳石墨, 用于食品加工	
	C	Buko 22	浸渍电化石墨	
	金属材料	▲ E	Burne 20	铬钢
▲ S		Burne 5	铬钼铸钢	1Cr27Mo2
碳化物	▲ U1	Buka 1 整体	钴基碳化钨	YG6 或 YG8
	▲ U12	Buka 1 镶装	钴基碳化钨	YG6 或 YG8
	▲ U2	Buka 16 整体	镍基碳化钨	YW8
	▲ U22	Buka 16 镶装	镍基碳化钨	YW8
	U3	Buka 15 整体	镍铬钼基碳化钨	W7
	U32	Buka 15 镶装	镍铬钼基碳化钨	W7
	▲ Q1	Buka 22 整体	常压烧结碳化硅	Sic(常压)
	▲ Q12	Buka 22 镶装	常压烧结碳化硅	Sic(常压)
	▲ Q2	Buka 20 整体	Sic-Si 反应粘合碳化硅	Sic(反应)
	▲ Q22	Buka 20 镶装	Sic-Si 反应粘合碳化硅	Sic(反应)
	Q3	Buka 30 整体	Sic-C-Si 浸硅碳	
	Q32	Buka 30 镶装	Sic-C-Si 浸硅碳	
	Q4	Buka 24 整体	C-Sic 表面渗硅碳	
金属氧化物(陶瓷)	▲ V	Buke 5	氧化铝 99.7%	Al <sub>2</sub> O <sub>3</sub> -99
	V2	Buke 3	氧化铝 97.5%	Al <sub>2</sub> O <sub>3</sub> -97
塑料	▲ Y1	Buku 2	填充玻璃纤维的 PTFE	
	Y2	Buku 3	填充石墨的 PTFE	

## 2. 辅助密封件材料

	DIN24960 代号	BURGMANN 代号	材 料 名 称
橡胶类弹性体	B	B	丁基橡胶 (BR)
	▲ E	E	乙丙橡胶 (EPDM)
	K	K	全氟橡胶 (Kalrez <sup>®</sup> )
	N	N	氯丁橡胶 (CR)
	▲ P	P	丁腈橡胶 (NBR) / NBR40
	S	S	硅橡胶 (MVQ)
▲ V	V	氟橡胶 (FPM) / F26 (Viton <sup>®</sup> )	
包覆弹性体	▲ M1	TTV	双层 PTFE 包覆的氟橡胶
	▲ M2	TTE	双层 PTFE 包覆的乙丙橡胶
	M3	TTS	双层 PTFE 包覆的硅橡胶
	M4	TTN	双层 PTFE 包覆的氯丁橡胶
	M5	FEP	氯化乙丙烯 (FEP) 包覆的氟橡胶
	M7	TTV/T	双层 PTFE 包覆的氟橡胶 / 整体
	其他材料	U1	K/T
非弹性体	Y1	Burasil <sup>®</sup>	非石棉密封垫
	G	Statotherm <sup>®</sup>	柔性石墨
	T	T	PTFE
	T2	T2	填充玻璃纤维的 PTFE
	T3	T3	填充石墨的 PTFE
	T12	T12	填充碳石墨的 PTFE

注: ▲为首选材料

## 3. 弹性及其他结构材料

	DIN24960 代号	BURGMANN 代号	中国 GB1220	可代用材料
弹簧材料	▲ G	1.4571	0Cr18Ni12Mo2Ti	或 1Cr18Ni12Mo2Ti
	▲ M	Hast C4	Hast C4 (2.4610)	
结构材料	▲ E	1.4122	3Cr17Mo	Cr17Ni2
	F	1.4301	0Cr18Ni9	1Cr18Ni9Ti
	F1	1.4313	X4CrNi13-4 (X3CrNiMo13-4)	2Cr13 或 3Cr13
	▲ G	1.4571	0Cr18Ni12Mo2Ti	或 1Cr18Ni12Mo2Ti
	▲ G1	1.4462	X2CrNiMoN22-5-3	
	G2	1.4439	X2CrNiMoN17-13-5	
	▲ M	Hast C4	Hast C4 (2.4610)	
	M1	Hast B2	Hast B2 (2.4617)	
	M3	Carp 20	20 <sup>#</sup> 合金 Cb3 (2.4660)	
	M4	Monel K500	蒙乃尔合金 K500 (2.4375)	
	M5	Hast C276	Hast C276 (2.4819)	
	T1	1.4505	X4NiCrMoCuNb20-18-2	
	T2	Titan	纯钛 TA <sub>1</sub>	
	T3	Ine.625	Ine.625 (2.4856)	
	T4	Carp.42	4J42	
	T5	Ine.800	Ine.800 (1.4876)	
T6	AM350	沉淀硬化不锈钢 AM350		
M6	Incon.718			

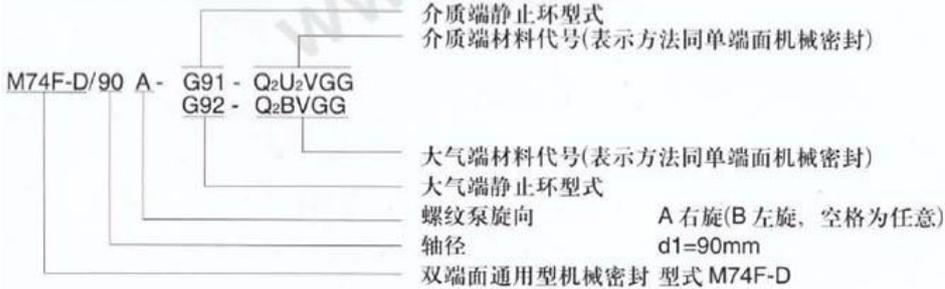
注: ▲为首选材料

## 型号意义

1. 单端面通用型机械密封: M2,M3,M7,MG1,MFL,H7,H12,H17,HJ92 等及其相应的派生系列。



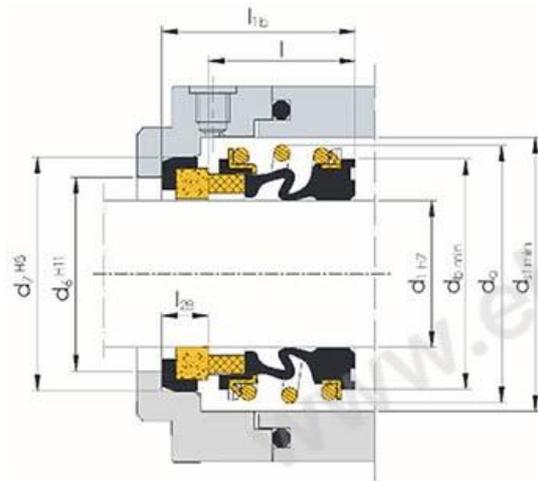
2. 双端面通用型机械密封: M74-D,H74-D 等及其相应派生系列



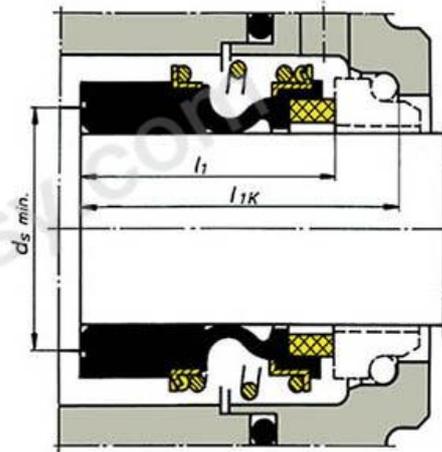
注: 1. 密封选型指南系按照德国机械密封标准 DIN24960 和 BURGMANN 公司通用方式编写。

2. 如果介质端与大气端静止环型式相同为 G92, 材料代号也相同为 Q2BVGG, 那么可简略写为 M74F-D/90A-G92- Q2BVGG。

3. 如果选用 2 套单端面机械密封组成双端面密封, 则分别按单端面密封选型编写方式书写, 但需要分别注明介质端、大气端。



型号 MG1



型号 MG12