



BURGMANN®

The Name for Sealing Technology.



机械密封

为火电站、核电站、石油化工、
油田开采、炼油、造船、制糖、造纸等
工业用泵提供机械密封的设计、
制造和维修服务。

上海博格曼有限公司

BURGMANN SHANGHAI LTD.



1997年12月15日德国技术监督协会 TÜV CERT 认证机构、莱茵安全与环境保护有限公司根据 TÜV CERT 程序证明：上海博格曼有限公司已在机械密封及其附属系统的设计、制造和销售领域建立并应用了质量体系，经过审核证明，该质量体系满足了 DIN EN ISO 9001:1994 标准。

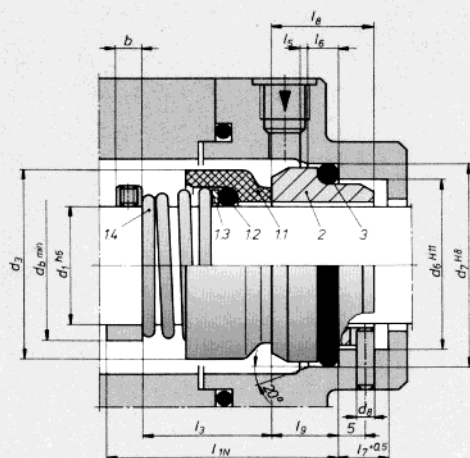
The TÜV CERT, Certification Body of TÜV Rheinland Anlagentechnik GmbH hereby certifies in accordance with TÜV CERT. procedures on 15th December, 1997 that:

Burgmann Shanghai Ltd. has established and applies a quality system for design, manufacturing and sales of Mechanical Seals and Supporting Systems.

An audit was performed. Proof has been furnished that the requirements according to DIN EN ISO 9001:1994 are fulfilled.

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- Single seal
- Unbalanced
- Conical spring
- Dependent on direction of rotation
- To DIN 24960*

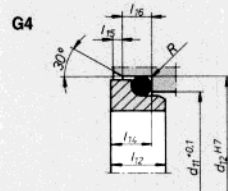
The M2 mechanical seal range features a spring loaded solid carbon graphite seal face. They are cost effective for basic applications such as circulating pumps for water and heating systems.

- 单端面密封
- 非平衡型
- 锥形弹簧
- 旋转方向固定

- 符合 DIN 24960 标准

M2 系列的机械密封，其旋转环为石墨，主要适用于介质为水的循环泵和加热系统。

Stationary seats 静止环



G6
to DIN
24960



Unquoted dimensions as for Item 2.

Operating limits 运行参数

$d_1 = 6 \dots 38 \text{ mm } 0.25'' \dots 1.5''$
 $p_1 = 10 \text{ bar } 145 \text{ PSI}$
 $t = -20 \dots 180^\circ\text{C } -4^\circ\text{F} \dots 355^\circ\text{F}$
 $v_g = 15 \text{ m/s } 50 \text{ ft/s}$
 Axial movement 轴向窜动量: $\pm 1.0 \text{ mm}$

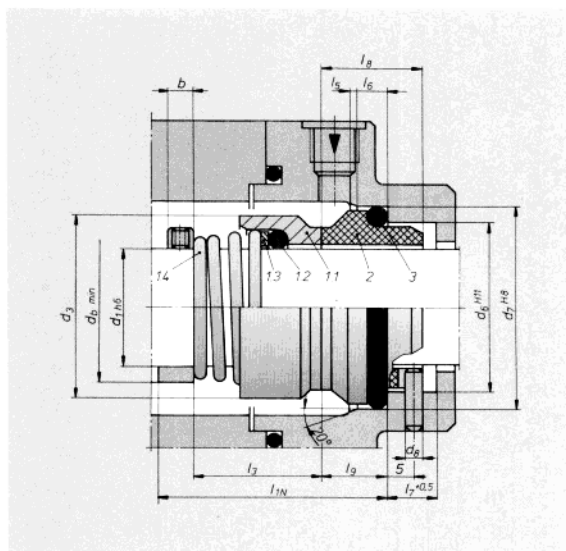
Seal designations 密封环代号

Rotating unit 旋转环部件	Stationary seats 静止环		
	G4	G6	G9
M2	M2	M2 N4	M2 N
B	Q ₁ ; S; (Q ₂ ; V)	Q ₁ ; S; (Q ₂ ; V)	Q ₁ ; Q ₂ ; S; V

d ₁	d ₃	d ₆	d ₇	d ₈	d ₁₁	d ₁₂	d _b	l _{1N}	l ₃	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀	l ₁₂	l ₁₄	l ₁₅	l ₁₆	l ₂₁	l ₂₈	b	R
6	15	-	-	-	11.8	16.0	8	-	-	-	-	-	-	-	-	6.5	5.6	1.2	3.8	10.9	-	-	1.2
8	18	-	-	-	15.5	19.2	11	-	-	-	-	-	-	-	-	8.0	7.0	1.2	3.8	15.5	-	-	1.2
10*	20	17	21	3	15.5	19.2	13	40	17.5	1.5	4	8.5	17.5	10.0	7.5	7.5	6.6	1.2	3.8	15.9	6.6	8	1.2
12*	22	19	23	3	17.5	21.6	16	40	17.5	1.5	4	8.5	17.5	10.0	7.5	6.5	7.0*	1.2	3.8	16.0	6.6	8	1.2
14*	25	21	25	3	20.5	24.6	18	40	17.5	1.5	4	8.5	17.5	10.0	7.5	6.5	7.0*	1.2	3.8	16.0	6.6	8	1.2
15	27	-	-	-	20.5	24.6	19	-	-	-	-	-	-	-	-	7.5	6.6	1.2	3.8	17.4	-	-	1.2
16*	27	23	27	3	22.0	28.0	21	40	19.5	1.5	4	8.5	17.5	10.0	7.5	8.5	7.5	1.5	5.0	19.0	6.6	8	1.5
18*	30	27	33	3	24.0	30.0	23	45	20.5	2.0	5	9.0	19.5	11.5	8.5	9.0	8.0	1.5	5.0	20.5	7.5	8	1.5
20*	32	29	35	3	29.5	35.0	26	45	22.0	2.0	5	9.0	19.5	11.5	8.5	8.5	7.5	1.5	5.0	22.0	7.5	8	1.5
22*	35	31	37	3	29.5	35.0	28	45	23.5	2.0	5	9.0	19.5	11.5	8.5	8.5	7.5	1.5	5.0	23.5	7.5	8	1.5
24*	38	33	39	3	32.0	38.0	30	50	25.0	2.0	5	9.0	19.5	11.5	8.5	8.5	7.5	1.5	5.0	25.0	7.5	8	1.5
25*	40	34	40	3	32.0	38.0	31	50	26.5	2.0	5	9.0	19.5	11.5	8.5	8.5	7.5	1.5	5.0	26.5	7.5	8	1.5
26	41	-	-	-	34.0	40.0	32	-	-	-	-	-	-	-	-	9.0	8.0	1.5	5.0	26.5	-	-	1.5
28*	43	37	43	3	36.0	42.0	35	50	26.5	2.0	5	9.0	19.5	11.5	8.5	10.0	9.0	1.5	5.0	26.5	7.5	8	1.5
30	47	-	-	-	39.2	45.0	37	-	-	-	-	-	-	-	-	11.5	10.5	1.5	5.0	25.0	-	-	1.5
32	48	-	-	-	42.2	48.0	39	-	-	-	-	-	-	-	-	13.0	10.5	1.5	5.0	28.5	-	-	1.5
35	53	-	-	-	46.2	52.0	43	-	-	-	-	-	-	-	-	13.5	11.0	1.5	5.0	28.5	-	-	1.5
38	56	-	-	-	49.2	55.0	47	-	-	-	-	-	-	-	-	13.0	10.3	1.5	5.0	32.0	-	-	1.5

* Installation length differs from G4-seats

M3N



- **Single seal**
- **Unbalanced**
- **Conical spring**
- **Dependent on direction of rotation**
- **To DIN 24960***

The M3 mechanical seals are immensely popular. Extremely rugged and reliable, they cover a wide spectrum of applications – in water pumps, sewage pumps, submerged pumps, chemical pumps, etc.

- 单端面密封
- 非平衡型
- 锥形弹簧
- 旋转方向固定

- 符合 DIN 24960 标准

M3 系列的机械密封, 应用广泛, 可靠性好。适用于清水泵、污水泵、潜水泵、化工泵等。

Operating limits 运行参数

$d_1 = 6 \dots 80 \text{ mm}$ $0.25" \dots 3.125"$ $t = -20 \dots 180^\circ\text{C}$ $-4^\circ\text{F} \dots 355^\circ\text{F}$
 (M 37 G from $d_1 = 16 \text{ mm}$ / (M 37 up to 120°C)
 M 37 up to $d_1 = 55 \text{ mm}$) $v_g = 10 \text{ (15) m/s}$ 33 (50) ft/s
 $p_1 = 10 \text{ bar}$ 145 PSI
 Axial movement 轴向窜动量: $\pm 1.0 \text{ mm}$

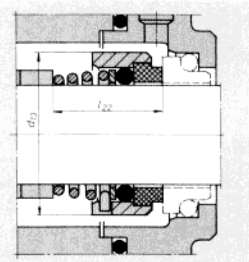
Combination of materials and seal types 材料组合与密封型号

Rotating unit 旋转环 部件	Stationary seats 静止环								
	G4			G13			G6 ³⁾		
	S	V	Q ₁ (Q ₂)	A; B	S	V	Q ₁ (Q ₂)	A; B	V
M3 (S)	-	-	-	M3	-	-	-	M3N	-
M32 (A; B)	M32	M32	M32	-	M32N4	M32N4	M32N4	-	M32N
M37 (U ₁)	-	-	M37	M37	-	-	M37N4	M37N	M37N
M37G (Q ₁ ; Q ₂ ; U ₂₂)	-	-	M37G	M37G	-	-	M37GN4	M37GN	M37GN

³⁾ Stationary seat G6 is also available in materials A and B (as style G30) (longer fitting length than G6).

All material designations according to DIN 24960.

See inside the back cover of this manual.

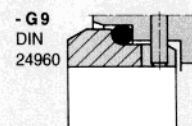
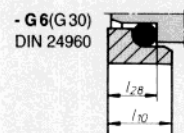
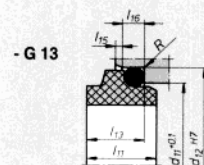
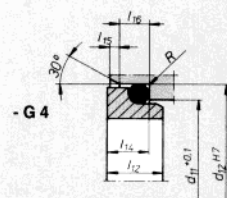


M32

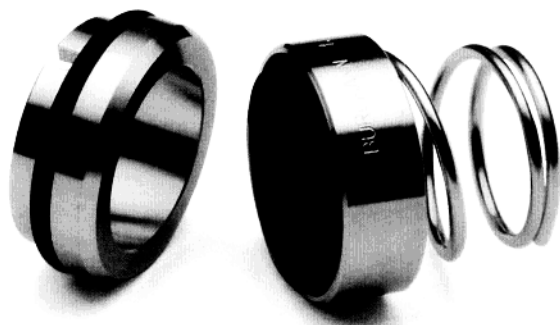
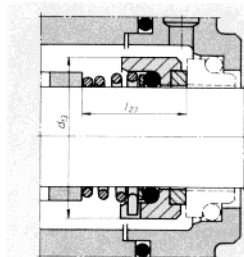
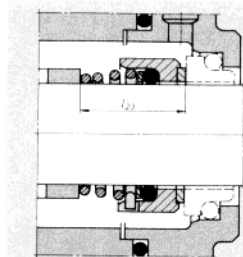
Item no's and descriptions as for type M3N, but with the **seal face (carbon)** shrink fitted into the seal face carrier (Item no. 1.1).

密封面由石墨镶装。

Stationary seats 静止环



Unquoted dimensions as for Item 2.



M37

(d_1 max. 55 mm)

Item no's and descriptions as for type M3N, but with the **seal face brazed** (tungsten carbide) to the seal face carrier (Item no. 1.).

密封面由碳化钨用铜焊接。

M37 G

Item no's and descriptions as for type M3N, but with the **seal face shrink-fitted** (silicon carbide) into the seal face housing (Item no. 1.).

密封面由碳化硅镶装。

d_1	d_3	d_6	d_7	d_8	$d_{11}^{(1)}$	$d_{12}^{(1)}$	d_{13}	d_0	l_N	l_3	l_5	l_6	l_7	l_8	l_9	l_{10}	l_{11}	l_{12}	l_{13}	l_{14}	l_{15}	l_{16}	l_{21}	l_{22}	l_{23}	$l_{26}^{(2)}$	R		
6	14	-	-	-	11.5	16.0	16	8	-	-	-	-	-	-	-	-	9.0	6.5	7.1	5.6	1.2	3.8	10.5	11.9	-	-	1.2		
8	18	-	-	-	15.5	19.2	18	11	-	-	-	-	-	-	-	-	9.0	8.0	7.1	7.0	1.2	3.8	15.5	16.9	-	-	1.2		
10*	19	17	21	3	15.5	19.2	20	13	40	15.5	1.5	4	3.5	17.5	10.0	7.5	9.0	7.5	7.1	6.6	1.2	3.8	15.5	16.9	-	6.6	(8) 1.2		
12*	21	19	23	3	17.5	21.6	22	16	40	16.0	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	15.5	17.4	-	6.6	(8) 1.2		
14*	23	21	25	3	20.5	24.6	24	18	40	16.5	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	15.5	17.4	16.5	6.6	(8) 1.2		
15	24	-	-	-	20.5	24.6	25	19	-	-	-	-	-	-	-	-	11.0	7.5	8.6	6.6	1.2	3.8	15.5	17.4	-	-	1.2		
16*	26	23	27	3	22.0	28.0	26	21	40	18.0	1.5	4	8.5	17.5	10.0	7.5	11.5	8.5	9.0	7.5	1.5	5.0	17.5	19.5	16.5	6.6	(8) 1.5		
18*	29	27	33	3	24.0	30.0	31	23	45	19.5	2.0	5	9.0	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5.0	18.5	20.5	18.0	7.5	(8) 1.5		
20*	31	29	35	3	29.5	35.0	34	26	45	22.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	20.0	22.0	19.0	7.5	(8) 1.5		
22*	33	31	37	3	29.5	35.0	36	28	45	21.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	21.5	23.5	20.5	7.5	(8) 1.5		
24*	35	33	39	3	32.0	38.0	38	30	50	23.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	23.0	25.0	22.0	7.5	(8) 1.5		
25*	36	34	40	3	32.0	38.0	39	31	50	26.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	24.5	26.5	23.5	7.5	(8) 1.5		
26	37	-	-	-	34.0	40.0	40	32	-	-	-	-	9.0	-	-	-	13.0	9.0	10.0	8.0	1.5	5.0	24.5	26.5	23.5	-	1.5		
28*	40	37	43	3	36.0	42.0	42	35	50	26.5	2.0	5	9.0	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5.0	24.5	26.5	24.5	7.5	(8) 1.5		
30*	43	39	45	3	39.2	45.0	44	37	50	26.5	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	24.5	25.0	24.5	7.5	(8) 1.5		
32*	46	42	48	3	42.2	48.0	46	39	55	28.5	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	28.0	28.5	28.0	7.5	(8) 1.5		
33*	47	42	48	3	-	-	47	40	55	28.5	2.0	5	9.0	19.5	11.5	8.5	-	12.0	-	-	-	-	-	-	-	-	7.5	(8) 1.5	
35*	49	44	50	3	46.2	52.0	49	43	55	28.5	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	28.0	28.5	28.0	7.5	(8) 1.5		
38*	53	49	56	4	49.2	55.0	54	45	55	33.5	2.0	6	9.0	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5.0	31.0	32.2	31.0	9.0	7.5	1.5	
40*	56	51	58	4	52.2	58.0	56	49	55	36.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5.0	34.0	34.7	34.0	9.0	(8) 1.5		
42	59	-	-	-	53.3	62.0	58	52	-	-	-	-	9.0	-	-	-	17.0	13.2	14.3	12.0	2.0	6.0	35.0	37.3	35.0	-	2.5		
43*	59	54	61	4	-	-	59	52	60	38.5	2.0	6	9.0	22.0	14.0	10.0	-	13.2	-	-	2.0	-	-	-	-	-	9.0	7.5	2.5
45*	61	56	63	4	55.3	64.0	61	55	60	39.5	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	36.5	39.2	36.5	9.0	(8) 2.5		
48*	64	59	66	4	59.7	68.4	64	58	60	46.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	42.0	44.7	42.0	9.0	(8) 2.5		
50*	66	62	70	4	60.8	69.3	66	61	60	45.0	2.5	6	9.0	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6.0	43.0	45.7	43.0	9.5	(8) 2.5		
53*	69	65	73	4	-	-	69	64	70	47.0	2.5	6	9.0	23.0	15.0	12.0	-	13.5	-	-	-	-	-	-	-	-	11.0	8.0	2.5
55*	71	67	75	4	66.5	75.4	71	66	70	49.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	47.0	49.0	47.0	11.0	(8) 2.5		
58*	76	70	78	4	69.5	78.4	76	69	70	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	50.0	52.0	50.0	11.0	(8) 2.5		
60*	78	72	80	4	71.5	80.4	79	71	70	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	51.0	53.0	51.0	11.0	(8) 2.5		
63*	83	75	83	4	-	-	83	74	70	55.0	2.5	6	9.0	23.0	15.0	12.0	-	14.2	-	-	-	-	-	-	-	-	11.0	(8) 2.5	
65*	84	77	85	4	76.5	85.4	85	77	80	55.0	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6.0	52.0	54.3	52.0	11.0	(8) 2.5		
68*	88	81	90	4	82.7	91.5	88	80	80	55.0	2.5	7	9.0	26.0	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6.0	53.0	55.3	52.7	11.3	(8) 2.5		
70*	90	83	92	4	83.0	92.0	90	83	80	57.0	2.5	7	9.0	26.0	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6.0	54.0	56.3	54.0	11.3	(10) 2.5		
75*	98	88	97	4	90.2	99.0	98	88	80	62.0	2.5	7	9.0	26.0	18.0	12.5	18.0	15.2	15.3	14.0	2.0	6.0	55.0	56.3	54.0	11.3	(10) 2.5		
80*	100	95	105	4	95.2	104.0	103	93	90	61.8	3.0	7	9.0	26.2	18.2	13.0	19.0	16.2	16.3	15.0	2.0	6.0	58.0	59.3	58.0	12.0	10.0	2.5	

¹⁾Fitting dimensions d_{11} and d_{12} only apply to type M37G with $D_1 > 16$ mm

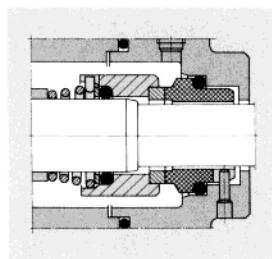
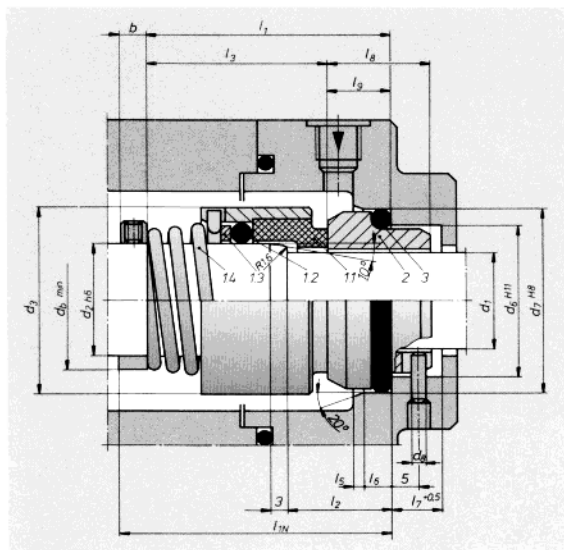
²⁾Dimensions in brackets lie either above or below L_{12}

³⁾According to DIN 24960

For the spring-loaded unit the following dimensions apply

M3-series: 121; M32-series: 122; M3...series: 123; M3..N-series: 13.

H12N



H17 GN

Dimensions, item no's and descriptions as for H12 N, but with the seal face (carbide) shrink-fitted into the seal face housing (Item no. 1.1).

H17GN是H12的派生系列, 动环由碳化钨镶装, 静止环为G9型石墨。

- ▶ **Single seal**
- ▶ **Balanced**
- ▶ **Conical spring**
- ▶ **Dependent on direction of rotation**
- ▶ **To DIN 24960**

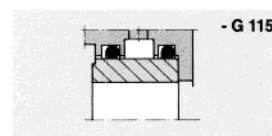
Mechanical seals of the H12 N series are a cost effective version of a balanced seal. They feature the same rugged and reliable construction as the unbalanced spring seals in the Burgmann range. These seals are primarily used in the chemical sector and in water pumps.

- ▶ 单端面密封
- ▶ 平衡型
- ▶ 锥形弹簧
- ▶ 旋转方向固定

- ▶ 符合 DIN 24960 标准

H12系列机械密封是应用广泛的平衡型结构。特点与M3系列相同, 结构可靠。适用于化工和水泵行业。

Stationary seat alternative 可改变静止环结构



The H12 N is delivered with a type G9 stationary seat. Type G115 with shrink-fitted carbide face material (Q₁) for cooling is available by special request for hot-water applications. In this case, the dimensions of the H12 N rotating unit are modified. Please ask about seal designation H127 G115.

静止环由G9换成G115, 由SiC镶入环座上, 能有效冷却, 可用于热水系统中, 派生型号为H127G115。

Operating limits 运行参数

d₁ = 10 ... 80 mm 0.4" ... 3.125"
p₁ = 25 bar 360 PSI
H12N:
t = -80 ... 220 °C
-175 °F ... 430 °F
H17GN:
t = -20 ... 180 °C
-4 °F ... 356 °F
v_g = 15 m/s 50 ft/s
Axial movement 轴向窜动量: ±1.0mm

Combination of materials and seal types 材料组合与密封型号

Rotating unit 旋转环部件	G9 stationary seats 静止环				
	S	V	Q ₁ (Q ₂)	A	B
H12 N (A)	●	●	●	-	-
H17 GN (Q ₁₂)	-	-	●	●	●

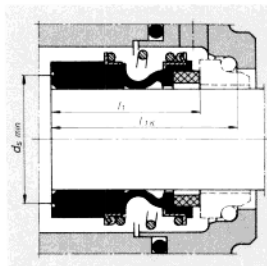
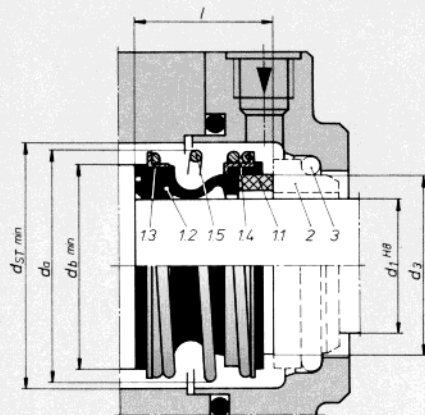


d ₁	d ₂	d ₃	d ₆	d ₇	d ₈	d ₉	l _{1N}	l ₁	l ₂	l ₃	l ₅	l ₆	l ₇	l ₈	l ₉	b ²⁾
10	14	24	17	21	3	18	50	35.5	18	25.5	1.5	4	8.5	17.5	10.0	8.0
12	16	26	19	23	3	21	50	36.5	18	26.5	1.5	4	8.5	17.5	10.0	8.0
14	18	31	21	25	3	23	55	39.5	18	29.5	1.5	4	8.5	17.5	10.0	8.0
16	20	34	23	27	3	26	55	41.0	18	31.0	1.5	4	8.5	17.5	10.0	8.0
18	22	36	27	33	3	28	55	44.0	20	32.5	2.0	5	9.0	19.5	11.5	8.0
20	24	38	29	35	3	30	60	44.0	20	32.5	2.0	5	9.0	19.5	11.5	8.0
22	26	40	31	37	3	31	60	44.0	20	32.5	2.0	5	9.0	19.5	11.5	8.0
24	28	42	33	39	3	35	60	44.0	20	32.5	2.0	5	9.0	19.5	11.5	8.0
25	30	44	34	40	3	37	60	45.0	20	33.5	2.0	5	9.0	19.5	11.5	8.0
28	33	47	37	43	3	40	65	47.0	20	35.5	2.0	5	9.0	19.5	11.5	8.0
30	35	49	39	45	3	43	65	47.0	20	35.5	2.0	5	9.0	19.5	11.5	8.0
32	38	54	42	48	3	45	65	51.0	20	39.5	2.0	5	9.0	19.5	11.5	7.5
33	38	54	42	48	3	45	65	51.0	20	39.5	2.0	5	9.0	19.5	11.5	7.5
35	40	56	44	50	3	49	65	55.0	20	43.5	2.0	5	9.0	19.5	11.5	8.0
38	43	59	49	56	4	52	75	60.0	23	46.0	2.0	6	9.0	22.0	14.0	7.5
40	45	61	51	58	4	55	75	62.0	23	48.0	2.0	5	9.0	22.0	14.0	8.0
43	48	64	54	61	4	58	75	65.0	23	51.0	2.0	6	9.0	22.0	14.0	8.0
45	50	66	56	63	4	61	75	69.0	23	55.0	2.0	6	9.0	22.0	14.0	(8)
48	53	69	59	66	4	64	85	69.0	23	55.0	2.0	6	9.0	22.0	14.0	8.0
50	55	71	62	70	4	66	85	73.0	25	58.0	2.5	6	9.0	23.0	15.0	8.0
53	58	78	65	73	4	69	85	75.0	25	60.0	2.5	6	9.0	23.0	15.0	8.0
55	60	79	67	75	4	71	85	75.0	25	60.0	2.5	6	9.0	23.0	15.0	8.0
58	63	83	70	78	4	74	85	75.0	25	60.0	2.5	6	9.0	23.0	15.0	8.0
60	65	85	72	80	4	77	95	75.0	25	60.0	2.5	6	9.0	23.0	15.0	8.0
63	68	88	75	83	4	80	95	75.0	25	60.0	2.5	6	9.0	23.0	15.0	8.0
65	70	90	77	85	4	83	95	76.0	25	61.0	2.5	6	9.0	23.0	15.0	10.0
68 ¹⁾																
70	75	98	83	92	4	88	95	81.0	28	63.0	2.5	7	9.0	26.0	18.0	10.0
75	80	103	88	97	4	93	105	86.0	28	68.0	2.5	7	9.0	26.0	18.0	10.0
80	85	109	95	105	4	98	105	86.0	28	68.0	3.0	7	9.0	26.2	18.2	10.0

¹⁾No provision for balanced type to DIN

²⁾Figure in brackets means installation length is longer than l_{1N} specified by DIN 24960.

MG1



MG12

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the fitting length l_{1k} according to DIN 24960 in combination with seat G 6 or G 60. ($d_{4 \min}$ acc. to DIN 24960 is exceeded).

较 MG1 大的安装长度见表中 l_{1k}

- ▶ Single seal
- ▶ Unbalanced
- ▶ Independent of direction of rotation
- ▶ Elastomer bellows

Mechanical seals of the MG series are amongst the most commonly used. The bellows is not subjected to any torsional stress and its ingenious design incorporates several functions, as seal face carrier, secondary sealing element and drive collar. The seal face is driven through the spring and "L"-rings. There are no bonded joints and all the face materials are interchangeable without having to modify any dimensions. Highly recommended for duties with media containing solids eg. in waste water and sewage applications.

- ▶ 单端面密封
- ▶ 非平衡型
- ▶ 任意旋向

- ▶ 橡胶波纹管

MG 系列是最常用的密封。橡胶波纹管不能承受扭力。它设计精巧,具有多种功能。如:推动动环,既是次级密封件,又作为动环的驱动件。动环通过 L 环和弹簧传动,不用粘结。动环可更换成各种材料。可在含有颗粒的废水、污水中应用。

Operating limits 运行参数

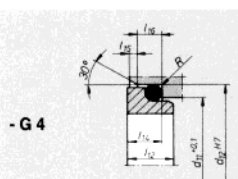
$d_1 = 10 \dots 100 \text{ mm } 0.4 \dots 4"$
 $p_1 = 12 (16) \text{ bar } 170 (230) \text{ PSI}$
 $t = -20 \dots 120 (140) ^\circ\text{C}$
 $-4 ^\circ\text{F} \dots 250 (284) ^\circ\text{F}$
 $v_g = 10 \text{ m/s } 33 \text{ ft/s}$

Materials

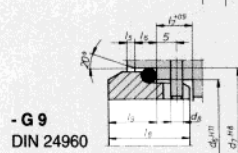
材料

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

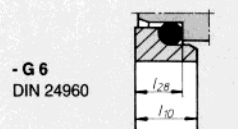
Stationary seats 静止环



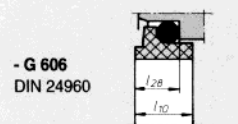
- G 4



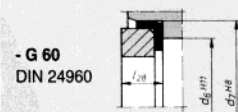
- G 9
DIN 24960



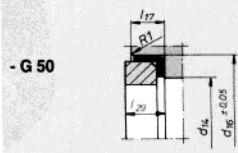
- G 6
DIN 24960



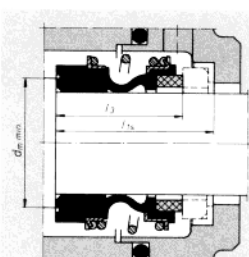
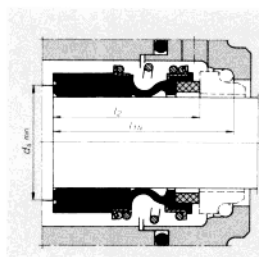
- G 606
DIN 24960



- G 60
DIN 24960



- G 50



MG13

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the **fitting length** l_{1K} according DIN 24 960 in combination with seat G 6 or G 60. ($d_{4\text{ min}}$ acc. to DIN 24 960 is exceeded).

较MG1 更大的安装长度见表中 l_{1N}

MG1S20

Dimensions, items and designations same as for MG1, but with an extended bellows tail to achieve the **special fitting length** l_{1S} in combination with seat G 50.

特殊设计的安装长度见表中 l_{1S}

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 G 606.

热水泵专用, 120 °C、25bar或 140 °C、16bar, $d_1=12 \sim 38\text{mm}$. 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.

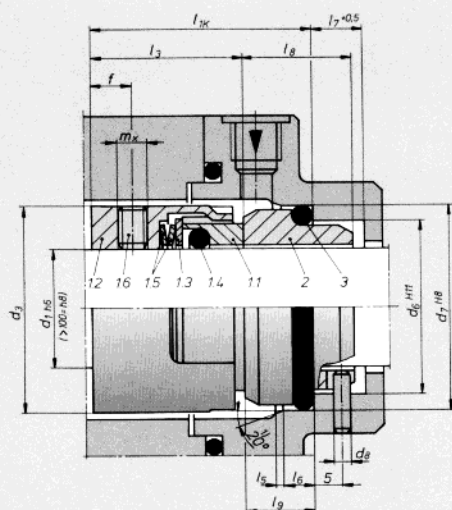
MG1 也可用于串联式或背对背式的两端面密封。

d1	d3	d6	d7	d8	d11	d12	d14	d16	da	db	dm	ds	dST	l	l1	l1K	l1N	l2	l3	l5	l6	l7	l8	l9	l10	l12	l14	l15	l16	l17	l28	l29	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	-	-	-	-	-	-	-	-	-	-	-	-	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	23.0	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	53.3	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	12.0	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	48.0	60.0	90	76.0	56	3.0	7	9.0	26.2	18.2	13.0	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	

Dimensions in mm.

Fitting length tolerances: $d_{10} \dots$

M7N



- **Single seal**
- **Unbalanced**
- **Independent of direction of rotation**
- **To DIN 24960***

The M7 mechanical seal range is designed for universal application and ideal suited for standardisation. The loosely inserted seal faces are easily exchanged, permitting all combinations of materials and stock rationalisation.

Operating limits 运行参数

$d_1 = 14 \dots 200 \text{ mm } 0.55'' \dots 8''$
 $p_1 = 16 \text{ (25) bar } 230 \text{ (360) PSI}$
 $t = -50 \dots 220^\circ \text{C}$
 $-58^\circ \text{F} \dots 430^\circ \text{F}$
 $v_g = 20 \text{ m/s } 66 \text{ ft/s}$

Axial movement: 轴向窜动量:

d_1 up to 25 mm: $\pm 1.0 \text{ mm}$
 d_1 28 to 63 mm: $\pm 1.5 \text{ mm}$
 d_1 65 mm and above: $\pm 2.0 \text{ mm}$

- 单端面密封
- 非平衡型
- 任意旋向
- 符合 DIN 24960 标准

M7N系列应用广泛, 互换性强, 密封环非紧嵌入, 替换方便。推环由传动搭子卡住, 防止弹簧脱落。静环可以限位, 弹簧行程受限制, 避免碳环过度磨损。

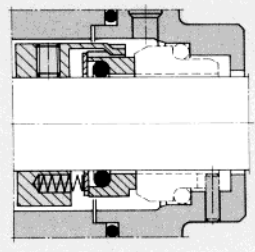
Combination of materials 材料组合

Seal faces 旋转环	Stationary seats 静止环			
	G 4	G 13	G 9	G 6
Q_1	Q_1	A, B	A, B	Q_1
Q_2	(Q_2)		(Q_2)	
S	-	●	●	-
V	-	●	●	-
Q_1	●	●	●	●
Q_2	●	●	●	●

Only M 78 N:

	G 9		
	S	V	Q_1
B	●	●	●
A	●	●	●
Q_1	-	-	●

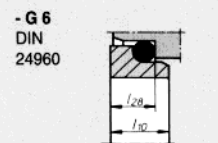
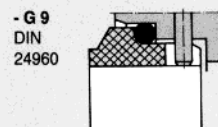
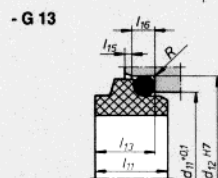
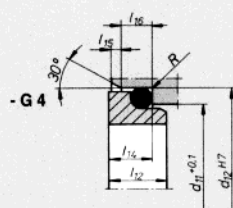
(Designations to DIN 24960, see inside the back cover of this manual)



M 74多弹簧结构

Dimensions, item no's and descriptions as for M7N, but with **multiple springs** (item no. 15). Preferably for $d_1 > 100 \text{ mm}$.

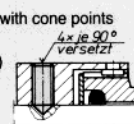
Stationary seats 静止环



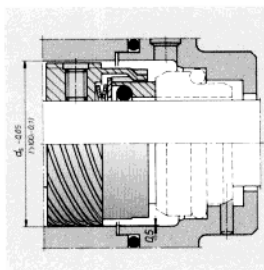
Torque transmission 扭矩传递

$d_1 > 100 \text{ mm}$

4 set screws with cone points (standard arrangement)

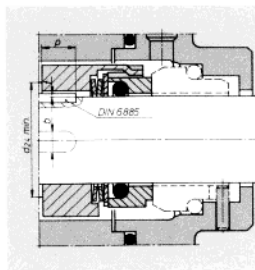


由四只螺钉拧入凹坑。



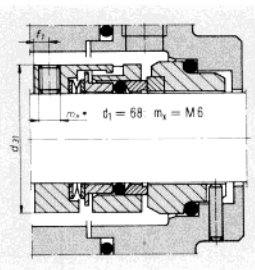
M7F 带螺纹泵

d_1 max. 100 mm



M7S2 键驱动

d_1 max. 100 mm



M78N 旋转环用镶嵌结构

$d_1 = 18 \dots 100$ mm

t max. 180 °C



M74F 多弹簧带螺纹泵

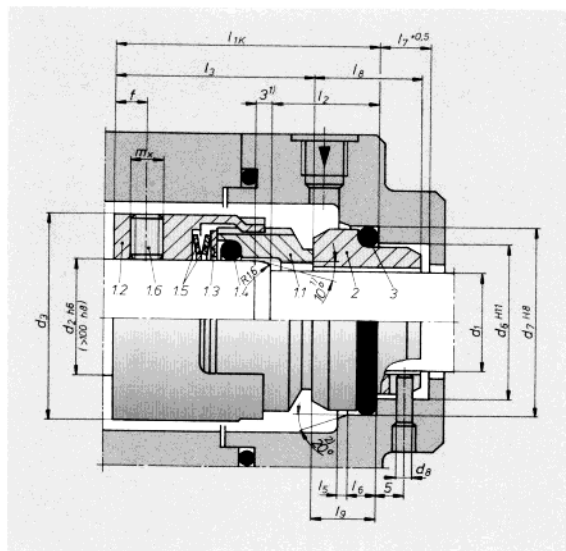
$d_1 = 14 \dots 200$ mm

M74S2 多弹簧键驱动

$d_1 = 28 \dots 200$ mm

d1	d3	d6	d7	d8	d11	d12	d24	d31	d5	h_K	l3	l5	l6	l7	l8	l9	l10	l11	l12	l13	l14	l15	l16	l28	b	f	f1	m_x	p_max	t		
14*	25	21.0	25.0	3	20.5	24.6	16	-	34	35.0	25.0	1.5	4	8.5	17.5	10.0	7.5	10.0	6.5	7.6	5.6	1.2	3.8	6.6	4	6	-	M5	10	1.5		
16*	27	23.0	27.0	3	22.0	28.0	18	-	36	35.0	25.0	1.5	4	8.5	17.5	10.0	7.5	11.5	8.5	9.0	7.5	1.2	3.8	6.6	4	6	-	M5	10	1.5		
18*	33	27.0	33.0	3	24.0	30.0	20	32	38	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5.0	7.5	5	7	3.5	M5	12	1.1		
20*	35	29.0	35.0	3	29.5	35.0	22	34	40	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	5	7	3.5	M5	12	1.1		
22*	37	31.0	37.0	3	29.5	35.0	24	36	42	37.5	26.0	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	7	3.5	M5	12	1.5		
24*	39	33.0	39.0	3	32.0	38.0	26	38	44	40.0	28.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	8	3.5	M5	12	1.5		
25*	40	34.0	40.0	3	32.0	38.0	27	39	45	40.0	28.5	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	7.5	6	8	3.5	M5	12	1.5		
28*	43	37.0	43.0	3	36.0	42.0	30	42	47	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5.0	7.5	6	8	4.0	M6	16	1.5		
30*	45	39.0	45.0	3	39.2	45.0	32	44	49	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	7.5	6	8	4.0	M6	16	1.5		
32*	47	42.0	48.0	3	42.2	48.0	34	46	51	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	7.5	6	8	4.0	M6	16	1.5		
33*	48	42.0	48.0	3	44.2	50.0	35	47	51	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	10.5	1.5	5.0	7.5	6	8	4.0	M6	16	1.5		
35*	50	44.0	50.0	3	46.2	52.0	37	49	54	42.5	31.0	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	7.5	6	8	4.0	M6	16	1.5		
38*	55	49.0	56.0	4	49.2	55.0	40	54	59	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5.0	9.0	6	8	4.0	M6	16	1.5		
40*	57	51.0	58.0	4	52.2	58.0	42	56	61	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5.0	9.0	6	8	4.0	M6	16	1.5		
43*	60	54.0	61.0	4	53.3	62.0	45	59	65	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	13.2	14.3	12.0	2.0	6.0	9.0	6	8	4.0	M6	16	1.5		
45*	62	56.0	63.0	4	55.3	64.0	47	61	66	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	9.0	6	8	4.0	M6	16	1.5		
48*	65	59.0	66.0	4	59.7	68.4	50	64	69	45.0	31.0	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	9.0	6	8	4.0	M6	16	1.5		
50*	67	62.0	70.0	4	60.8	69.3	52	66	71	47.5	32.5	2.5	6	9.0	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6.0	9.5	6	8	4.5	M6	16	1.5		
53*	70	65.0	73.0	4	63.8	72.3	55	69	75	47.5	32.5	2.5	6	9.0	23.0	15.0	12.0	17.0	13.5	14.3	12.3	2.0	6.0	11.0	6	8	4.5	M6	16	1.5		
55*	72	67.0	75.0	4	66.5	75.4	57	71	76	47.5	32.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	6	8	4.5	M6	16	1.5		
58*	79	70.0	78.0	4	69.5	78.4	60	78	83	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	8	9	5.5	M8	16	1.9		
60*	81	72.0	80.0	4	71.5	80.4	62	80	85	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	11.0	8	9	5.5	M8	16	1.9		
63*	84	75.0	83.0	4	74.5	83.4	65	83	88	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.3	2.0	6.0	11.0	8	9	5.5	M8	16	1.9		
65*	86	77.0	85.0	4	76.5	85.4	67	85	95	52.5	37.5	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6.0	11.0	8	9	5.5	M8	16	1.9		
68*	89	81.0	90.0	4	82.7	91.5	70	88	93	52.5	34.5	2.5	7	9.0	26.0	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6.0	11.3	8	9	4.0	M8	16	1.9		
70*	91	83.0	92.0	4	83.0	92.0	72	90	95	60.0	42.0	2.5	7	9.0	26.0	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6.0	11.3	8	9	5.5	M8	16	1.9		
75*	99	88.0	97.0	4	90.2	99.0	77	99	105	60.0	42.0	2.5	7	9.0	26.0	18.0	12.5	18.0	15.2	15.3	14.8	2.0	6.0	11.3	8	10	5.5	M8	16	1.9		
80*	104	95.0	105.0	4	95.2	104.0	82	104	109	60.0	41.8	3.0	7	9.0	26.2	18.2	13.0	19.0	16.2	16.3	14.8	2.0	6.0	12.0	8	10	5.5	M8	16	1.9		
85*	109	100.0	110.0	4	100.2	109.0	87	109	114	60.0	41.8	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	14.0	10	10	8.0	M8	27	2.3		
90*	114	105.0	115.0	4	105.2	114.0	92	114	119	65.0	46.8	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	14.0	10	10	8.0	M8	27	2.3		
95*	119	110.0	120.0	4	111.6	120.3	97	119	124	65.0	47.8	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	14.0	10	10	8.0	M8	27	2.3		
100*	124	115.0	125.0	4	114.5	123.3	102	124	129	65.0	47.8	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	14.0	10	10	8.0	M8	27	2.3		
105	138	122.2	134.3	5	-	-	108	-	143	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
110	143	128.2	140.3	5	-	-	113	-	148	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
115	148	136.2	148.3	5	-	-	118	-	153	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
120	153	138.2	150.3	5	-	-	123	-	158	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M6	20	2.3
125	158	142.2	154.3	5	-	-	128	-	163	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
130	163	146.2	158.3	5	-	-	133	-	168	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
135	168	152.2	164.3	5	-	-	138	-	173	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
140	173	156.2	168.3	5	-	-	143	-	178	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
145	178	161.2	173.3	5	-	-	148	-	183	67.0	47.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
150	183	168.2	180.3	5	-	-	153	-	188	69.0	47.0	2.0	10	-	32.0	22.0	-	-	-	-	-	-	-	-	-	-	10	10	-	M8	20	2.3
155	191	173.2	185.3	5	-	-	158	-	196	80.0	56.0	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1
160	196	178.2	190.3	5	-	-	163	-	201	80.0	56.0	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1
165	201	183.2	195.3	5	-	-	168	-	206	80.0	56.0	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1
170	206	188.2	200.3	5	-	-	173	-	211	80.0	56.0	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1
175	211	193.2	205.3	5	-	-	178	-	216	80.0	56.0	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1
180	216	207.5	219.3	5	-	-	183	-	221	84.0	56.0	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	-	12	12	-	M8	24	2.1

H7N



- **Single seal**
- **Balanced**
- **Independent of direction of rotation**
- **To DIN 24 960***

The H7N mechanical seal range is designed for universal application and the interchangeable parts concept is ideal for stock rationalisation. The seal faces are loosely inserted and can be easily exchanged, the thrust ring is retained by the drive lugs preventing the springs falling out.

Operating limits

运行参数

d_1 = 14 ... 200 mm 0.55" ... 8"
 p_1 = 25 (40) bar*) 360 (580) PSI
 t = -50 ... 220°C -58°F ... 430°F
 v_g = 20 m/s 66 ft/s

- 单端面密封
- 平衡型
- 任意旋向
- 符合 DIN 24960 标准

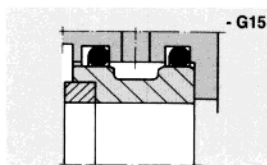
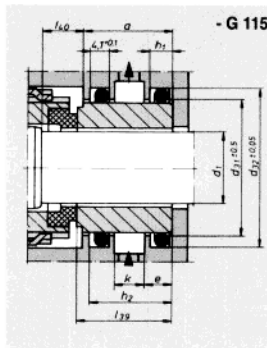
H7N 系列密封应用广泛、互换性好。静环采用浮动式，安装方便，推环由传动搭子卡住，防止弹簧落出。其他特殊的技术处理包括静环可限位及限制弹簧行程，避免碳环过度磨损。

Combination of materials 材料组合

Seal faces 旋转环	Stationary seats 静止环			
	- G9		- G15	
	A, B	Q ₂	Q ₁	Q ₁₂
A ¹⁾	-	●	●	●
Q ₁	●	●	●	-
Q ₂	●	-	●	-
V	●	-	-	-
S	●	-	-	-

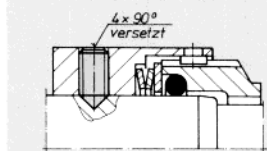
¹⁾ only in the shrink-fitted version for H75N, H76N, H75G16

Stationary seat alternatives 可改变静止环结构



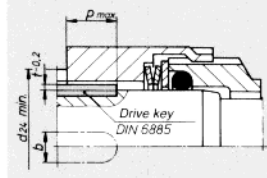
Torque transmission 扭矩传递

For $d_2 > 100$ mm: via 4 set screws with cone points (standard arrangement)

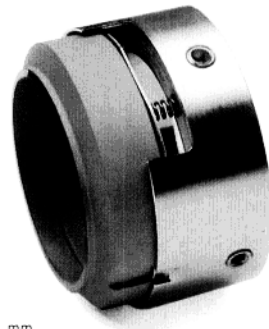
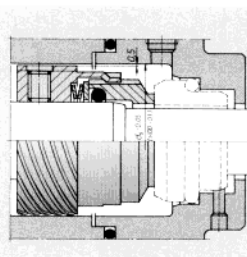
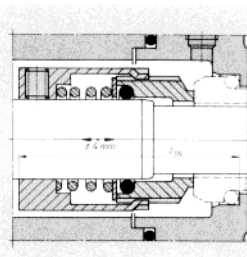
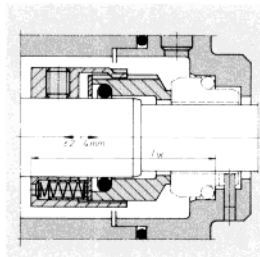


当 $d_2 > 100$ mm 时用四只螺钉拧入凹坑。

Torque transmission by key is possible for all types in the H7 range (no item no. 1.6). Seal code e.g. H7S2/d₁.



H7 系列的各类密封均可采用以键传递扭矩的方式。如 H7S2/d₁。



H75 多弹簧结构

$d_1 = 28 \dots 200$ mm

As H7N, but with **multiple springs in sleeves** (Item no. 1.5) axial movements ± 2 to 4 mm, dependent on diameter.

H76 单弹簧结构

$d_1 = 14 \dots 100$ mm

Dimensions, item no's and descriptions as for H7N, but with special **single spring** (Item no. 1.5) for compensating large axial movements (± 4 mm).

H7F 带螺纹泵

d_1 max. 100 mm; Axial movement ± 0.5 mm.

H75F

$d_1 = 28 \dots 200$ mm

Axial movement 轴向窜动量

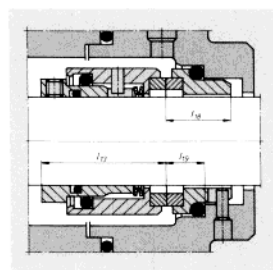
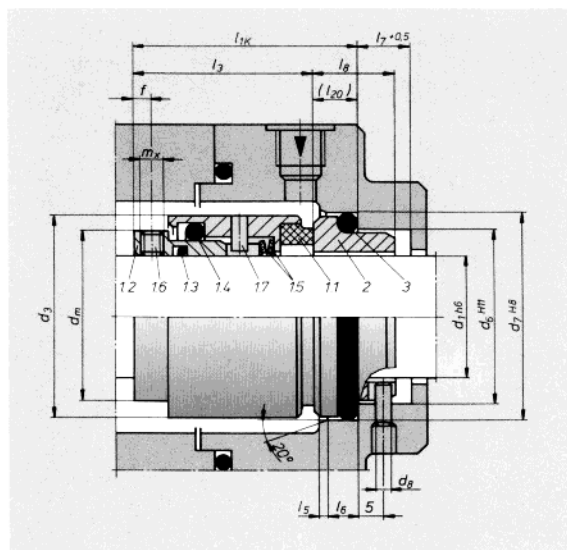
d_1 28 ... 55 = ± 2 mm,

d_1 58 ... 100 = ± 3 mm,

d_1 105 ... 200 = ± 4 mm.

d ₁	d ₂	d ₃	d ₆	d ₇	d ₈	d ₂₄	d ₃₁	d ₃₂	d ₅	l _{1K}	l _{1N}	l ₂	l ₃	l ₅	l ₆	l ₇	l ₈	l ₉	l ₃₉	l ₄₀	a	b	e	f	h ₁	h ₂	k	m _x	p _{max}	t	
14*	18	33	21.0	25.0	3	20	-	-	38	42.5	-	18	32.5	1.5	4	8.5	17.5	10.0	-	-	-	5	-	6.0	-	-	-	-	M5	9	1.1
16*	20	35	23.0	27.0	3	22	-	-	40	42.5	-	18	32.5	1.5	4	8.5	17.5	10.0	-	-	-	5	-	6.0	-	-	-	-	M5	9	1.1
18*	22	37	27.0	33.0	3	24	-	-	42	45.0	55	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	7.0	-	-	-	-	M5	9	1.5
20*	24	39	29.0	35.0	3	26	-	-	44	45.0	60	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	-	M5	9	1.5
22*	26	41	31.0	37.0	3	28	-	-	45	45.0	80	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	8.0	-	-	-	-	M5	9	1.5
24*	28	43	33.0	39.0	3	30	-	-	47	47.5	60	20	36.0	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	-	M6	9	1.5
25*	30	45	34.0	40.0	3	32	-	-	49	47.5	60	20	36.0	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	-	M6	9	1.5
28*	33	48	37.0	43.0	3	35	44.65	50.57	51	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.0	8.5	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
30*	35	50	39.0	45.0	3	37	47.83	53.75	54	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
32*	38	55	42.0	48.0	3	40	47.83	53.75	59	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
33*	38	55	42.0	48.0	3	40	47.83	53.75	59	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
35*	40	57	44.0	50.0	3	42	51.00	56.92	61	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
38*	43	60	49.0	56.0	4	45	54.18	60.10	65	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
40*	45	62	51.0	58.0	4	47	60.53	66.45	66	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
43*	48	65	54.0	61.0	4	50	63.70	69.62	69	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
45*	50	67	56.0	63.0	4	52	63.70	69.62	71	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
48*	53	70	59.0	66.0	4	55	66.88	72.80	75	52.5	85	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
50*	55	72	62.0	70.0	4	57	70.05	75.97	76	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	26.5	12.5	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5	
53*	58	79	65.0	73.0	4	60	76.40	82.32	83	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	26.5	12.5	24.0	8	8.0	9.0	6.6	22.6	9	M8	12	1.9	
55*	60	81	67.0	75.0	4	62	76.40	82.32	85	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	12	1.9	
58*	63	84	70.0	78.0	4	65	79.58	85.50	88	32.5	85	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9	
60*	65	86	72.0	80.0	4	67	82.75	88.67	95	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	23.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9	
63*	68	89	75.0	83.0	4	70	85.93	91.85	93	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9	
65*	70	91	77.0	85.0	4	72	85.93	91.85	95	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9	
70*	75	99	83.0	92.0	4	77	89.10	95.05	105	70.0	95	28	52.0	2.5	7	9.0	26.0	18.0	30.5	14.5	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9	
75*	80	104	88.0	97.0	4	82	98.63	104.55	109	70.0	105	28	52.0	2.5	7	9.0	26.0	18.0	30.5	14.5	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9	
80*	85	109	95.0	105.0	4	87	101.80	107.72	114	70.0	105	28	51.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9	
85*	90	114	100.0	110.0	4	92	108.15	114.07	119	75.0	105	28	56.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	23	2.3	
90*	95	119	105.0	115.0	4	97	114.50	120.42	124	75.0	105	28	56.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	23	2.3	
95*	100	124	110.0	120.0	4	102	117.68	123.60	129	75.0	105	28	57.8	3.0	7	9.0	25.2	17.2	29.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	23	2.3	
100*	105	129	115.0	125.0	4	107	124.03	129.95	134	75.0	105	28	57.8	3.0	7	9.0	25.2	17.2	29.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	23	2.3	
105	115	148	122.2	134.3	5	118	128.98	134.90	153	73.0	-	32	53.0	2.0	10	-	30.0	20.0	29.2	15.2	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3	
110	120	153	128.2	140.3	5	123	135.30	141.20	158	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
115	125	158	136.2	148.3	5	128	140.30	146.20	163	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
120	130	163	138.2	150.3	5	133	145.30	151.20	168	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
125	135	168	142.2	154.3	5	138	150.30	156.20	173	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
130	140	173	146.2	158.3	5	143	155.30	161.20	178	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
135	145	178	152.2	164.3	5	148	160.30	166.20	183	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
140	150	183	156.2	168.3	5	153	165.30	171.20	188	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3	
145	155	191	161.2	173.3	5	158	172.30	178.20	196	83.0	-	34	63.0	2.0	10	-	30.0	20.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1	
150	160	196	168.2	180.3	5	163	177.30	183.20	201	85.0	-	36	63.0	2.0	10	-	32.0	22.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1	
155	165	201	173.2	185.3	5	168	182.30	188.20	206	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1	
160	170	206	178.2	190.3	5	173	187.30	193.20	211	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1	
165	175	211	183.2	195.3	5	178	192.30	198.20	216	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1	
170	180	216	188.2	200.3	5	183	197.30	203.20	221	87.0	-	38	63.0	2.0	12	-	34.0	24.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1	
175	185	221	193.2	205.3	5	188	202.30	208.20	226	87.0	-	38	63.0	2.0	12	-	34.0	24.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1	
180	190	226	207.5	219.3	5	193	207.30	213.20	231	91.0	-	42	63.0	2.0	12	-	38.0	28.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1	
185	195	231	212.5	224.3	5	198	212.30	218.2																							

HJ92N



HJ977 GN

Item no's and descriptions as for HJ 92 N, but with the seal face (Item No. 1.1) and the stationary seat (Item No. 2) made of carbide and shrink-fitted. The stationary seat is type G 46.

Unquoted dimensions as for HJ 92 N.

由HJ92N改型,动静环采用镶装碳化物。静环选用G46,其尺寸与HJ92N相同。

- ▶ **Single seal**
- ▶ **Balanced**
- ▶ **Independent of direction of rotation**
- ▶ **Spring product protected**
- ▶ **To DIN 24960**

Mechanical seals of the HJ series are designed for media containing solids or with high viscosity e. g. sugar, paper, sewage and waste water industry. The springs are product protected. There is no sticking or clogging making the design rugged and reliable.

- ▶ **单端面密封**
- ▶ **平衡型**
- ▶ **任意旋向**

- ▶ **弹簧与介质隔离**
- ▶ **符合 DIN 24960 标准**

HJ 系列机械密封适用于含固体颗粒和高粘度介质,如制糖、造纸、污水等工业。弹簧在上述介质中被保护,不会产生粘住和阻尼的情况,这使得该设计稳定,安全可靠。

Operating limits 运行参数

$d_1 = 18 \dots 100 \text{ mm} \quad 0.625'' \dots 4''$

$p_1^{(1)} = 0.2 \dots 25 \text{ bar} \quad 3 \dots 360 \text{ PSI}$

HJ92N:

$t = -50 \dots 220^\circ\text{C}$
 $-58^\circ\text{F} \dots 430^\circ\text{F}$

$v_g = 20 \text{ m/s} \quad 66 \text{ ft/s}$

HJ977GN:

$t = -20 \dots 180^\circ\text{C}$
 $-4^\circ\text{F} \dots 356^\circ\text{F}$

$v_g = 10 \text{ m/s} \quad 33 \text{ ft/s}$

¹⁾An integral stationary seat lock is not needed within the permissible low pressure range. For prolonged operation under vacuum it is necessary to arrange for quenching on the atmospheric side. Axial movement $\pm 0.5 \text{ mm}$.

在低压力时静环不必锁紧,在真空工况下运行大气端需加阻封。轴向窜动量: $\pm 0.5 \text{ mm}$ 。

Combination of materials and seal types

材料组合与密封型号

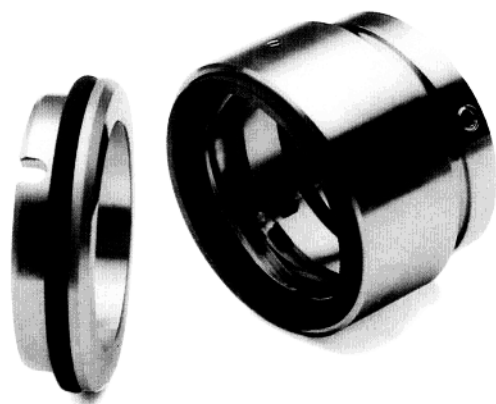
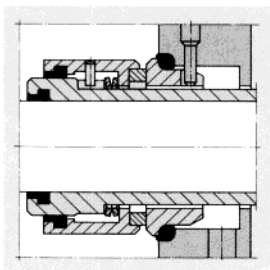
Rotating unit 旋转环	Stationary seats 静止环	
	G 16	G 46
	V; Q ₁	Q ₁₂
HJ92 (A; B ₁)	HJ92N	HJ927GN ²⁾
HJ97G (Q ₁₂)	HJ97GN ⁵⁾	HJ977GN

¹⁾Installation length l_{12} is shorter than l_K

²⁾Installation length l_{11} is longer than l_K

All material designations to DIN 24 960.

See inside the back cover of this manual.



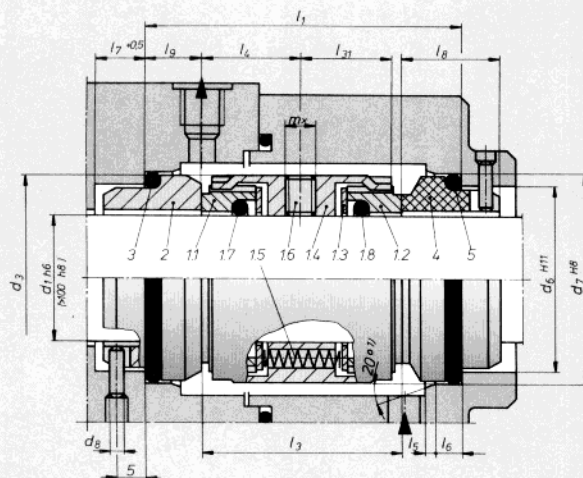
Special design SHJ 97 G

For use in sterile processes. With smooth, electropolished surfaces, specially designed O-ring grooves for special elastomeric seal-rings and O-rings bearing no gaps, plus many other features. Please enquire for details.

特殊设计的 SHJ97G

d ₁	d ₃	d ₆	d ₇	d ₈	d _m	l _{1K}	l ₃	l ₅	l ₆	l ₇	l ₈	l ₂₀	l ₁₁	l ₁₂	l ₁₃	l ₁₈	l ₁₉	f	m _x
18	32	27	33	3	26.0	37.5	30.5	2.0	5	9	15.0	7.0	39.5	35.5	28.5	17.0	9.0	3.0	M4
20	34	29	35	3	28.0	37.5	30.5	2.0	5	9	15.0	7.0	39.5	35.5	28.5	17.0	9.0	3.0	M4
22	36	31	37	3	30.0	37.5	30.5	2.0	5	9	15.0	7.0	39.5	35.5	28.5	17.0	9.0	3.0	M4
24	38	33	39	3	32.5	40.0	33.0	2.0	5	9	15.0	7.0	42.0	38.0	31.0	17.0	9.0	3.5	M5
25	39	34	40	3	33.5	40.0	33.0	2.0	5	9	15.0	7.0	42.0	38.0	31.0	17.0	9.0	3.5	M5
28	42	37	43	3	36.5	42.5	35.5	2.0	5	9	15.0	7.0	45.0	40.0	33.0	17.5	9.5	3.5	M5
30	44	39	45	3	38.5	42.5	35.5	2.0	5	9	15.0	7.0	45.0	40.0	33.0	17.5	9.5	3.5	M5
32	47	42	48	3	41.5	42.5	35.5	2.0	5	9	15.0	7.0	45.0	40.0	33.0	17.5	9.5	3.5	M5
33	47	42	48	3	41.5	42.5	35.5	2.0	5	9	15.0	7.0	45.0	40.0	33.0	17.5	9.5	3.5	M5
35	49	44	50	3	43.5	42.5	35.5	2.0	5	9	15.0	7.0	45.0	40.0	33.0	17.5	9.5	3.5	M5
38	54	49	56	4	47.5	45.0	37.0	2.0	6	9	16.0	8.0	47.5	42.5	34.5	18.5	10.5	4.0	M5
40	56	51	58	4	49.5	45.0	37.0	2.0	6	9	16.0	8.0	47.5	42.5	34.5	18.5	10.5	4.0	M5
43	59	54	61	4	52.5	45.0	37.0	2.0	6	9	16.0	8.0	47.5	42.5	34.5	18.5	10.5	4.0	M5
45	61	56	63	4	54.5	45.0	37.0	2.0	6	9	16.0	8.0	47.5	42.5	34.5	18.5	10.5	4.0	M5
48	64	59	66	4	57.5	45.0	37.0	2.0	6	9	16.0	8.0	47.5	42.5	34.5	18.5	10.5	4.0	M5
50	66	62	70	4	59.5	47.5	38.0	2.5	6	9	17.0	9.5	50.0	45.0	35.5	19.5	12.0	4.5	M6
53	69	65	73	4	62.5	47.5	38.0	2.5	6	9	17.0	9.5	50.0	45.0	35.5	19.5	12.0	4.5	M6
55	71	67	75	4	64.5	47.5	38.0	2.5	6	9	17.0	9.5	50.0	45.0	35.5	19.5	12.0	4.5	M6
58	78	70	78	4	68.5	52.5	42.0	2.5	6	9	18.0	10.5	55.0	50.0	39.5	20.5	13.0	4.5	M6
60	80	72	80	4	70.5	52.5	42.0	2.5	6	9	18.0	10.5	55.0	50.0	39.5	20.5	13.0	4.5	M6
63	83	75	83	4	73.5	52.5	42.0	2.5	6	9	18.0	10.5	55.0	50.0	39.5	20.5	13.0	4.5	M6
65	85	77	85	4	75.5	52.5	42.0	2.5	6	9	18.0	10.5	55.0	50.0	39.5	20.5	13.0	4.5	M6
68	88	81	90	4	78.5	52.5	41.5	2.5	7	9	18.5	11.0	55.0	50.0	39.0	21.0	13.5	4.5	M6
70	90	83	92	4	80.5	60.0	48.5	2.5	7	9	19.0	11.5	62.5	57.5	46.0	21.5	14.0	5.0	M6
75	99	88	97	4	89.0	60.0	48.5	2.5	7	9	19.0	11.5	62.5	57.5	46.0	21.5	14.0	5.5	M8
80	104	95	105	4	94.0	60.0	48.5	3.0	7	9	19.0	11.5	62.5	57.5	46.0	21.5	14.0	5.5	M8
85	109	100	110	4	99.0	60.0	48.5	3.0	7	9	19.0	11.5	62.5	57.5	46.0	21.5	14.0	5.5	M8
90	114	105	115	4	104.0	65.0	52.0	3.0	7	9	20.5	13.0	67.5	62.5	49.5	23.0	15.5	5.5	M8
95	119	110	120	4	109.0	65.0	52.0	3.0	7	9	20.5	13.0	67.5	62.5	49.5	23.0	15.5	5.5	M8
100	124	115	125	4	114.0	65.0	52.0	3.0	7	9	20.5	13.0	67.5	62.5	49.5	23.0	15.5	5.5	M8

M74-D



- ▶ **Double seal**
- ▶ **Unbalanced**
- ▶ **Independent of direction of rotation**
- ▶ **Multiple springs**

Double seals in the M 74-D series have the same design-features as the "M 7" family of single seals (easy-to-replace seal faces, etc.). Apart from the installation length of the drive collar, all fitting dimensions ($d_1 < 100 \text{ mm}$) conform with DIN 24960.

Operating limits 运行参数

$d_1 = 18 \dots 200 \text{ mm}$ $0.625'' \dots 8''$
 $p_1 = 16 \text{ (25) bar}$ 230 (360) PSI
 $t = -50 \dots 220^\circ\text{C}$ $(-20 \dots 180^\circ\text{C}^*)$
 $v_g = 20 \text{ m/s (10 m/s}^*)$ 66 (33) ft/s

*Limit for shrink-fitted carbide seal faces with $d_1 \geq 105 \text{ mm}$

Axial movement 轴向窜动量:

$d_1 \leq 100 \text{ mm} \pm 0.5 \text{ mm}$
 $d_1 > 100 \text{ mm} \pm 2.0 \text{ mm}$

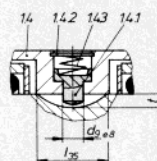
- ▶ 双端面密封
- ▶ 非平衡型
- ▶ 任意旋向

- ▶ 多弹簧结构

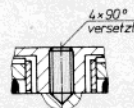
具有与“M7”系列同样设计性能，除驱动座的安装长度外，其它安装尺寸 ($d_1 < 100 \text{ mm}$) 符合 DIN 24960 标准。

Torque transmission. 扭矩传递

Spring loaded drive pin: M 74-D 22

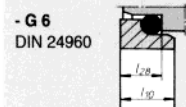
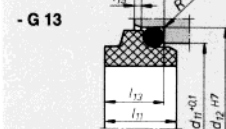
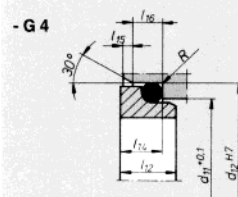


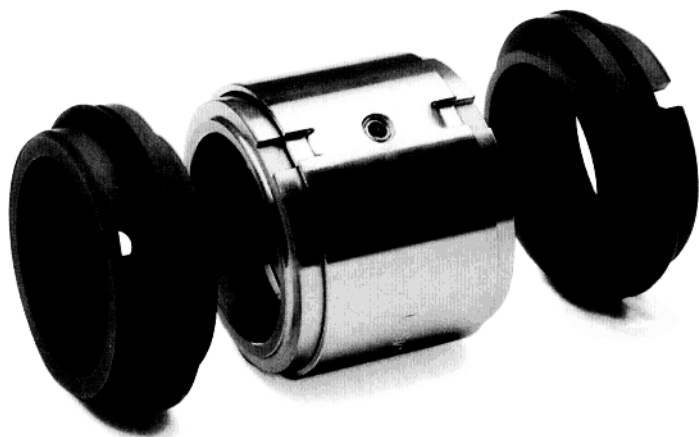
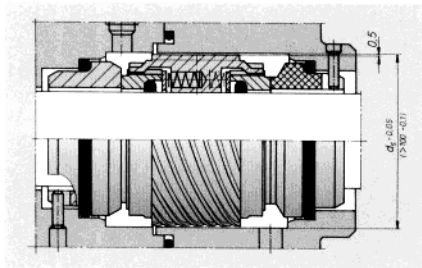
For $d_1 > 100 \text{ mm}$: 4 set screws with cone points (standard arrangement)



弹簧推入的驱动销
 当 $d_1 > 100 \text{ mm}$ 用四只螺钉拧入凹坑。

Stationary seats 静止环





M74F-D 带螺纹泵

Dimensions, item no's and descriptions
as for type M74-D, but with **pumping
screw** (Item no. 1.4). Dependent on
direction of rotation!

d1	d3	d6	d7	d8	d9	d11	d12	d5	l1	l3	l4	l5	l6	l7	l8	l9	l10	l11	l12	l13	l14	l15	l16	l28	l31	l35	m _x	t	
18	33	27.0	33.0	3	4	24.0	30.0	-	61.0	38	19.0	2.0	5	9	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5	7.5	17.0	15	M5	3.5	
20	35	29.0	35.0	3	4	29.5	35.0	-	61.0	38	19.0	2.0	5	9	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5	7.5	17.0	15	M5	3.5	
22	37	31.0	37.0	3	4	29.5	35.0	42	61.0	38	19.0	2.0	5	9	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5	7.5	17.0	15	M5	3.5	
24	39	33.0	39.0	3	4	32.0	38.0	44	61.0	38	19.0	2.0	5	9	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5	7.5	17.0	15	M5	3.5	
25	40	34.0	40.0	3	4	32.0	38.0	45	61.0	38	19.0	2.0	5	9	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5	7.5	17.0	15	M5	3.5	
28	43	37.0	43.0	3	4	36.0	42.0	47	62.0	39	19.5	2.0	5	9	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5	7.5	17.5	15	M6	3.5	
30	45	39.0	45.0	3	4	39.2	45.0	49	62.0	39	19.5	2.0	5	9	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5	7.5	17.5	15	M6	3.5	
32	47	42.0	48.0	3	4	42.2	48.0	51	62.0	39	19.5	2.0	5	9	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5	7.5	17.5	15	M6	3.5	
33	48	42.0	48.0	3	4	44.2	50.0	51	62.0	39	19.5	2.0	5	9	19.5	11.5	8.5	14.5	12.0	11.5	10.5	1.5	5	7.5	17.5	15	M6	3.5	
35	50	44.0	50.0	3	4	46.2	52.0	54	62.0	39	19.5	2.0	5	9	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5	7.5	17.5	15	M6	3.5	
38	55	49.0	56.0	4	4	49.2	55.0	59	69.0	41	20.5	2.0	6	9	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5	9.0	18.5	15	M6	3.5	
40	57	51.0	58.0	4	4	52.2	58.0	61	70.0	42	21.0	2.0	6	9	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5	9.0	19.0	15	M6	3.5	
43	60	54.0	61.0	4	4	53.3	62.0	65	70.0	42	21.0	2.0	6	9	22.0	14.0	10.0	17.0	13.2	14.3	12.0	2.0	6	9.0	19.0	15	M6	3.5	
45	62	56.0	63.0	4	4	55.3	64.0	66	70.0	42	21.0	2.0	6	9	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6	9.0	19.0	15	M6	3.5	
48	65	59.0	66.0	4	4	59.7	68.4	69	70.0	42	21.0	2.0	6	9	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6	9.0	19.0	15	M6	3.5	
50	67	62.0	70.0	4	4	60.8	69.3	71	73.0	43	21.5	2.5	6	9	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6	9.5	19.5	15	M6	3.5	
53	70	65.0	73.0	4	4	63.8	72.3	75	73.0	43	21.5	2.5	6	9	23.0	15.0	12.0	17.0	13.5	14.3	12.3	2.0	6	11.0	19.5	15	M6	3.5	
55	72	67.0	75.0	4	4	66.5	75.4	76	73.0	43	21.5	2.5	6	9	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6	11.0	19.5	15	M8	3.5	
58	79	70.0	78.0	4	5	69.5	78.4	83	86.0	56	28.0	2.5	6	9	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6	11.0	23.5	19	M8	3.5	
60	81	72.0	80.0	4	5	71.5	80.4	85	86.0	56	28.0	2.5	6	9	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6	11.0	23.5	19	M8	3.5	
63	84	75.0	83.0	4	5	74.5	83.4	88	86.0	55	27.5	2.5	6	9	23.0	15.0	12.0	18.0	14.2	15.3	13.3	2.0	6	11.0	24.5	19	M8	3.5	
65	86	77.0	85.0	4	5	76.5	85.4	95	86.0	55	27.5	2.5	6	9	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6	11.0	24.5	19	M8	3.5	
68	89	81.0	90.0	4	5	82.7	91.5	93	91.0	55	27.5	2.5	7	9	26.0	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6	11.3	24.5	19	M8	3.5	
70	91	83.0	92.0	4	5	83.0	92.0	95	92.0	56	28.0	2.5	7	9	26.0	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6	11.3	23.5	19	M8	3.5	
75	99	88.0	97.0	4	5	90.2	99.0	105	92.0	56	28.0	2.5	7	9	26.0	18.0	12.5	18.0	15.2	15.3	14.0	2.0	6	11.3	25.5	19	M8	3.5	
80	104	95.0	105.0	4	5	95.2	104.0	109	92.5	56	28.0	3.0	7	9	26.2	18.2	13.0	19.0	16.2	16.3	15.0	2.0	6	12.0	25.5	19	M8	3.5	
85	109	100.0	110.0	4	5	100.2	109.0	114	92.5	56	28.0	3.0	7	9	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6	14.0	25.0	19	M8	3.5	
90	114	105.0	115.0	4	5	105.2	114.0	119	92.5	56	28.0	3.0	7	9	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6	14.0	25.5	19	M8	3.5	
95	119	110.0	120.0	4	5	111.6	120.3	124	90.5	56	28.0	3.0	7	9	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6	14.0	25.0	19	M8	3.5	
100	124	115.0	125.0	4	5	114.5	123.3	129	90.5	56	28.0	3.0	7	9	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6	14.0	25.0	19	M8	3.5	
105	138	122.2	134.3	5	7	-	-	143	108.0	68	34.0	2.0	10	9	30.0	20.0	-	-	-	-	-	-	-	-	-	30.5	22	M8	3.5
110	143	128.2	140.3	5	7	-	-	148	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
115	148	136.2	148.3	5	7	-	-	153	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
120	153	138.2	150.3	5	7	-	-	158	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
125	158	142.2	154.3	5	7	-	-	163	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
130	163	146.2	158.3	5	7	-	-	168	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
135	168	152.2	164.3	5	7	-	-	173	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
140	173	156.2	168.3	5	7	-	-	178	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
145	178	161.2	173.3	5	7	-	-	183	110.0	70	35.0	2.0	10	-	30.0	20.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
150	183	168.2	180.3	5	7	-	-	188	114.0	70	35.0	2.0	10	-	32.0	22.0	-	-	-	-	-	-	-	-	-	31.5	22	M8	3.5
155	191	173.2	185.3	5	7	-	-	196	127.0	79	39.5	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
160	196	178.2	190.3	5	7	-	-	201	127.0	79	39.5	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
165	201	183.2	195.3	5	7	-	-	206	127.0	79	39.5	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
170	206	188.2	200.3	5	7	-	-	211	127.0	79	39.5	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
175	211	193.2	205.3	5	7	-	-	216	127.0	79	39.5	2.0	12	-	34.0	24.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
180	216	207.5	219.3	5	7	-	-	221	135.0	79	39.5	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
185	221	212.5	224.3	5	7	-	-	226	135.0	79	39.5	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
190	226	217.5	229.3	5	7	-	-	231	135.0	79	39.5	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
195	231	222.5	234.3	5	7	-	-	236	135.0	79	39.5	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5
200	236	227.5	239.3	5	7	-	-	241	135.0	79	39.5	2.0	12	-	38.0	28.0	-	-	-	-	-	-	-	-	-	35.5	22	M8	3.5