

RELY ON EXCELLENCE

## MFL85N

Mechanical Seals | Mechanical seals for pumps | Metal Bellow seals



### Features

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Metal bellows rotating

### Advantages

- For extreme temperature ranges
- No dynamically loaded O-Ring
- Self cleaning effect
- Short installation length possible
- Pumping screw for highly viscous media available (dependent on direction of rotation).

### Operating range

Shaft diameter:

d1 = 16 ... 100 mm (0.63" ... 4")

Externally pressurized:

p1 = ... 25 bar (363 PSI)

Internally pressurized:

p1 < 120 °C (248 °F) 10 bar (145 PSI)

p1 < 220 °C (428 °F) 5 bar (72 PSI)

Temperature: t = -40 °C ... +220 °C  
(-40 °F ... 428 °F),

Stationary seat lock necessary.

Sliding velocity: vg = 20 m/s (66 ft/s)

### Materials

Seal face: Carbon graphite antimony impregnated (A), Silicon carbide (Q12)

Seat: Silicon carbide (Q1)

Bellows: Inconel® 718 hardened (M6), Hastelloy® C-276 (M5)

Metal parts: CrNiMo steel (G), Duplex (G1), Hastelloy® C-4 (M)

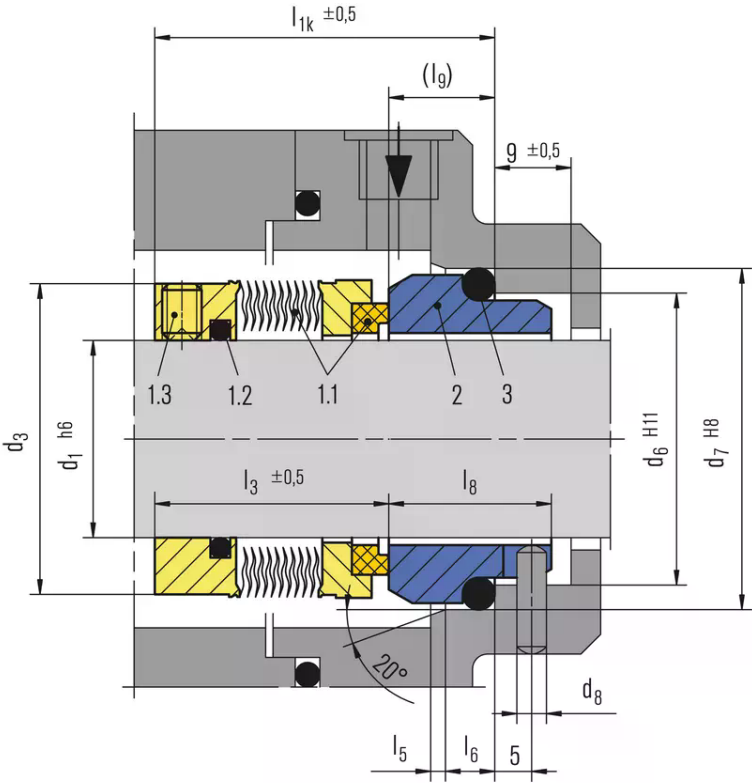
### Standards and approvals

- EN 12756

### Recommended applications

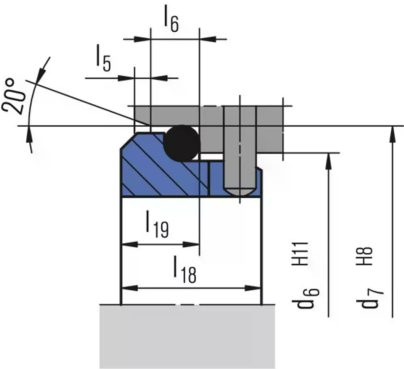
- Hot media
- Cold media
- Highly viscous media
- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Pumps
- Special rotating equipment

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Item	Part no. DIN 24250	Description
1.1	472/481	Seal face with bellows unit
1.2	412.1	O-Ring
1.3	904	Set screw
2	475	Seat (G9)
3	412.2	O-Ring

### Seat alternatives



**G16**  
(l1k shorter than specified by EN 12756)

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## Product variants

### MFL90N

Shaft diameter:

$d_1 = 20 \dots 100 \text{ mm (0.79" ... 4")}$

Internally pressurized:

$p_1 = \dots 16 \text{ bar (232 PSI)}$ ,  
stationary seat lock necessary.

Externally pressurized:

$p_1 = 10 \text{ bar (145 PSI)}$

Temperature:

$t = -40 \text{ °C ... } +220 \text{ °C (-40 °F ... } +428 \text{ °F)}$

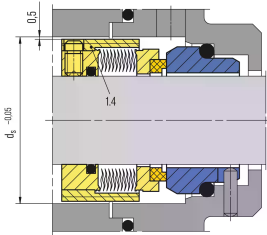
Sliding velocity:  $v_g = 20 \text{ m/s (66 ft/s)}$

### MFL85P / MFL90P

Version with pumping ring. Dependent on direction of rotation. Can be retrofitted.

### MFL85F

Dimensions, items and description as for MFL85N, but with pumping screw (item no. 1.4). Dependent on direction of rotation. The pumping screw can be retrofitted.



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### Dimensions

d <sub>1</sub>	d <sub>3</sub>	d <sub>6</sub>	d <sub>7</sub>	d <sub>8</sub>	d <sub>s</sub>	l <sub>1K</sub>	l <sub>3</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>8</sub>	l <sub>9</sub>	l <sub>18</sub>	l <sub>19</sub>	b	s
16	30.0	23	27	3	38	42.5*)	32.5	1.5	4	17.5	10.0	-	-	1.6	9.0
18	32.0	27	33	3	39	42.0	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
20	33.5	29	35	3	41	42.0	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
22	36.5	31	37	3	44	37.5	30.5	2.0	5	14.0	11.5	15.0	7.0	1.6	10.0
24	39.0	33	39	3	47	40.0	28.5	2.0	5	19.5	11.5	15.0	7.0	1.6	8.2
25	39.6	34	40	3	48	40.0	28.5	2.0	5	19.5	11.5	15.0	7.0	1.6	8.5
28	42.8	37	43	3	51	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.0
30	45.0	39	45	3	53	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	8.5
32	46.0	42	48	3	55	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.2
33	48.0	42	48	3	56	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.2
35	49.2	44	50	3	58	42.5	31.0	2.0	5	19.5	11.5	15.0	7.0	1.6	9.5
38	52.3	49	56	4	61	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
40	55.5	51	58	4	64	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
43	57.5	54	61	4	67	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
45	58.7	56	63	4	69	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.5
48	61.9	59	66	4	72	45.0	31.0	2.0	6	22.0	14.0	16.0	8.0	1.6	9.2
50	65.0	62	70	4	74	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.5
53	68.2	65	73	4	77	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.5
55	70.0	67	75	4	80	47.5	32.5	2.5	6	23.0	15.0	17.0	9.5	1.6	10.0
58	71.7	70	78	4	83	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
60	74.6	72	80	4	85	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
63	79.0	75	83	4	88	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
65	84.1	77	85	4	95	52.5	37.5	2.5	6	23.0	15.0	18.0	10.5	3.0	14.0
68	87.3	81	90	4	96	52.5	34.5	2.5	7	26.0	18.0	18.5	11.0	1.6	10.0
70	87.3	83	92	4	96	60.0	42.0	2.5	7	26.0	18.0	19.0	11.5	3.0	17.0
75	95.0	88	97	4	104	60.0	42.0	2.5	7	26.0	18.0	19.0	11.5	3.0	16.0
80	98.4	95	105	4	109	60.0	41.8	3.0	7	26.2	18.2	19.0	11.5	3.0	16.0
85	104.7	100	110	4	114	60.0	41.8	3.0	7	26.2	18.2	19.0	11.5	3.0	16.0
90	111.0	105	115	4	119	65.0	46.8	3.0	7	26.2	18.2	20.5	13.0	3.0	21.0
95	114.0	110	120	4	124	65.0	47.8	3.0	7	25.2	17.2	20.5	13.0	3.0	21.0
100	117.4	115	125	4	129	65.0	47.8	3.0	7	25.2	17.2	20.5	13.0	3.0	20.0

Dimensions in millimeter \* Installation length is longer than l~1k~ specified by EN 12756