

# M3N



## Operating range

Shaft diameter:

$d_1 = 6 \dots 80 \text{ mm}$  (0,24" ... 3,15")

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

Temperature:

$t = -20 \text{ }^\circ\text{C} \dots +140 \text{ }^\circ\text{C}$  (-4 °F ... +355 °F)

Sliding velocity:  $v_g = 15 \text{ m/s}$  (50 ft/s)

Axial movement:  $\pm 1.0 \text{ mm}$

## Materials

Seal face: Special cast CrMo steel (S)

Seat G9: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)

## Recommended applications

- Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Building services industry
- Food and beverage industry
- Sugar industry
- Low solids content media
- Water and sewage water pumps
- Submersible pumps
- Chemical standard pumps
- Eccentric screw pumps
- Cooling water pumps
- Basic sterile applications

## Features

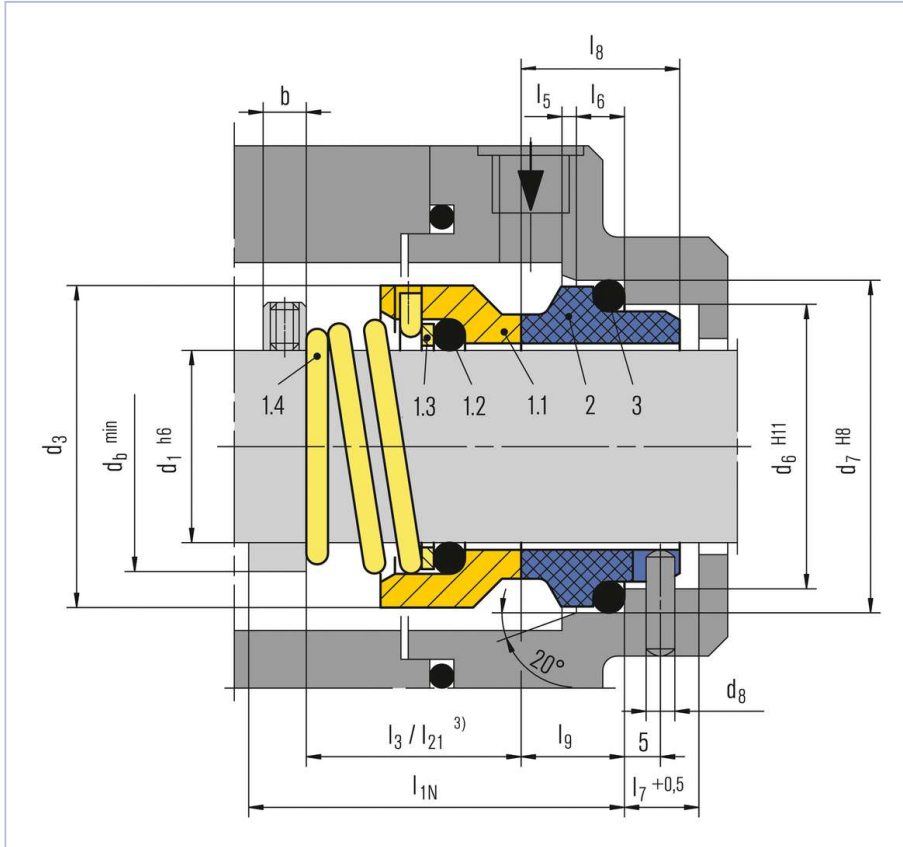
- For plain shafts
- Single seal
- Unbalanced
- Rotating conical spring
- Dependent on direction of rotation

## Advantages

- Universal application opportunities
- Insensitive to low solids content
- No damage of the shaft by set screws
- Large choice of materials
- Short installation lengths possible (G16)
- Variants with shrink-fitted seal face available

## Standards and approvals

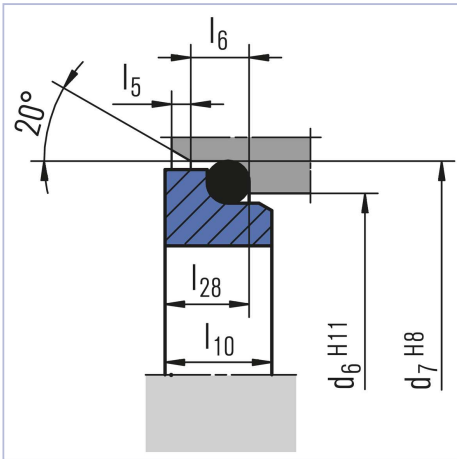
- EN 12756



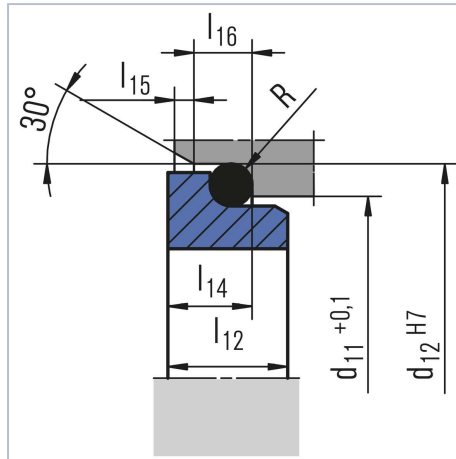
**Item Part no. to  
DIN 24250**

Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	412.1	O-Ring
1.3	474	Thrust ring
1.4	478	Righthand spring
1.4	479	Lefthand spring
2	475	Seat (G9)
3	412.2	O-Ring

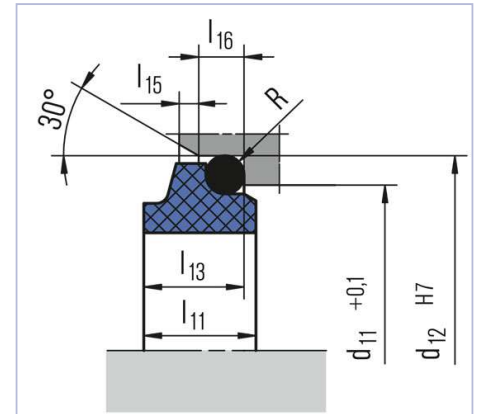
## Seat alternatives



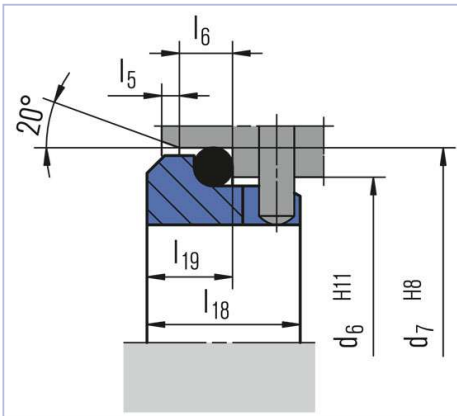
G6 (EN 12756)



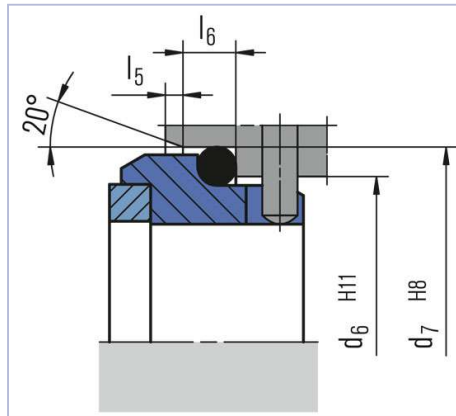
G4



G13

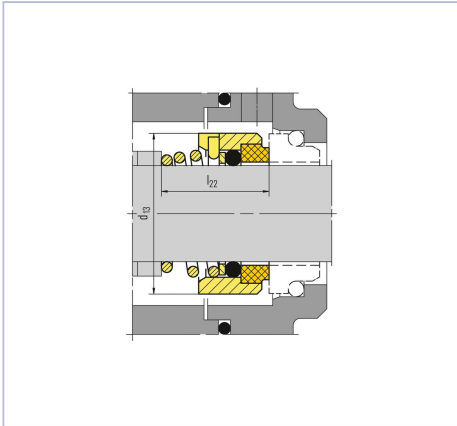


G16 (EN 12756)



G9 (EN 12756)

## Product variants



### M32

Items and descriptions as for type M3N, but with carbon graphite seal face shrink-fitted to the seal face carrier (Item no. 1.1).

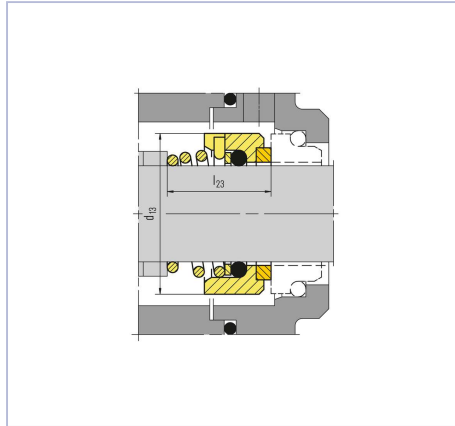
Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)

Seat G4: special cast CrMo steel (S), Silicon carbide (Q1, Q2)

Seat G6 (M32N4): Special cast CrMo steel (S), Silicon carbide (Q1, Q2)

Seat G9 (M32N): Silicon carbide (Q1, Q2)

Seat G6 also available in A, B = G30 (longer installation length than G6)



### M37G

Items and descriptions as for type M3N, but with shrink fitted silicon carbide seal face to the seal face carrier (Item no. 1.1).

Shaft diameter:

$d1 = 16 \dots 80 \text{ mm} (0.63" \dots 3.15")$

Temperature:

$t = -20 \text{ °C} \dots +180 \text{ °C} (-4 \text{ °F} \dots +355 \text{ °F})$

Sliding velocity:  $vg = 10 \text{ m/s} (33 \text{ ft/s})$

Seal face: Silicon carbide (Q12, Q22), Tungsten carbide (U22)

Seat G4: Silicon carbide (Q1, Q2)

Seat G13: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)

Seat G6 (M37GN4): Silicon carbide (Q1, Q2)

Seat G9 (M37GN): Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1, Q2)

Seat G6 also available in A, B = G30 (longer installation length than G6)

### M3

Items and description as M3N.

Seal face: Special cast CrMo steel (S)

Seat G13: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B)

## Dimensions

d <sub>1</sub>	d <sub>3</sub>	d <sub>6</sub>	d <sub>7</sub> d <sub>8</sub>	d <sub>11</sub> <sup>1)</sup>	d <sub>12</sub> <sup>1)</sup>	d <sub>13</sub>	d <sub>b</sub>	l <sub>1N</sub>	l <sub>3</sub> <sup>3)</sup>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	l <sub>10</sub>	l <sub>11</sub>	l <sub>12</sub>	l <sub>13</sub>	l <sub>14</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>18</sub>	l <sub>19</sub>	l <sub>21</sub> <sup>3)</sup>	l <sub>22</sub>	l <sub>23</sub>	l <sub>28</sub>	b <sup>2)</sup>	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	8.5	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	15	7.0	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	15	7.0	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	15	7.0	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	15	7.0	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	15	7.0	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	15	7.0	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	15	7.0	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	15	7.0	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	-	-	-	-	15	7.0	-	-	-	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	15	7.0	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	16	8.0	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	16	8.0	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	-	16	8.0	-	-	-	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	16	8.0	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	16	8.0	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	17	9.5	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	-	-	-	-	17	9.5	-	-	-	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	17	9.5	47.0	49.0	47.0	11.0	(8)	2.5
58*	76	70	78	4	69.5	78.4	78	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	18	10.5	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	18	10.5	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	-	-	-	-	18	10.5	-	-	-	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	18	10.5	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	18,5	11.0	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	19	11.5	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	19	11.5	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	19	11.5	58.0	59.3	58.0	12.0	10.0	2.5

Dimensions in millimeter

1) Fitting dimensions d<sub>11</sub> and d<sub>12</sub> only apply to type M37G with d<sub>1</sub> >16 mm

2) Dimensions in brackets lie either above or below l<sub>1N</sub>

3) l<sub>3</sub> valid for M3...N, l<sub>21</sub> valid for M3

\*) According to EN 12756