

RELY ON EXCELLENCE

## H7N

Mechanical seals | Mechanical seals for pumps | Pusher seals



### Features

- For stepped shafts
- Single seal
- Balanced
- Super-Sinus-spring or multiple springs rotating
- Independent of direction of rotation
- Integrated pumping device available (H7F, H75F)
- Variant with seat cooling available (H75G115)

### Advantages

- Universal application opportunities (standardization)
- Efficient stock keeping due to easily interchangeable faces
- Extended selection of materials
- Flexibility in torque transmissions
- Self cleaning effect
- Short Installation length possible (G16)

### Operating range

Shaft diameter:

$d_1 = 14 \dots 100 \text{ mm}$  (0.55" ... 3.94")

(Single spring:  $d_1 = \text{max. } 100 \text{ mm}$  (3.94"))

Pressure:

$p_1 = 80 \text{ bar}$  (1,160 PSI) for  $d_1 = 14 \dots 100 \text{ mm}$ ,

$p_1 = 25 \text{ bar}$  (363 PSI) for  $d_1 = 100 \dots 200 \text{ mm}$ ,

$p_1 = 16 \text{ bar}$  (232 PSI) for  $d_1 > 200 \text{ mm}$

Temperature:

$t = -50 \text{ }^\circ\text{C} \dots 220 \text{ }^\circ\text{C}$  (-58 °F ... 428 °F)

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

Axial movement:

$d_1$  up to 22 mm:  $\pm 1.0 \text{ mm}$

$d_1$  24 up to 58 mm:  $\pm 1.5 \text{ mm}$

$d_1$  from 60 mm:  $\pm 2.0 \text{ mm}$

### Materials

Seal face: Silicon carbide (Q1, Q2), Carbon

graphite antimony impregnated (A),

Aluminium oxide (V), CrMo cast steel (S)

Seat G9: Carbon graphite antimony

impregnated (A), Carbon graphite resin

impregnated (B), Silicon carbide (Q1\*, Q2\*)

Secondary seals: EPDM (E), NBR (P), FKM (V),

FFKM (K)

Springs: CrNiMo steel (G)

Metal parts: CrNiMo steel (G), Duplex (G1)

\* Cannot be combined with seal face made of S

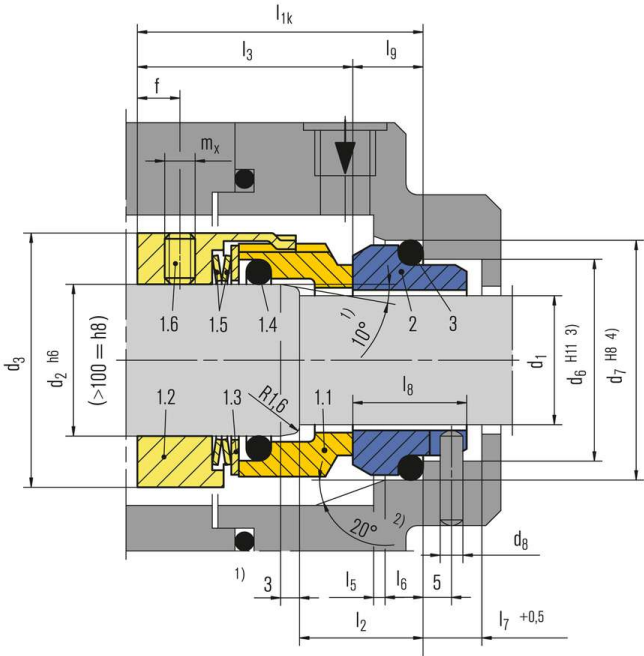
### Standards and approvals

- EN 12756

### Recommended applications

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps

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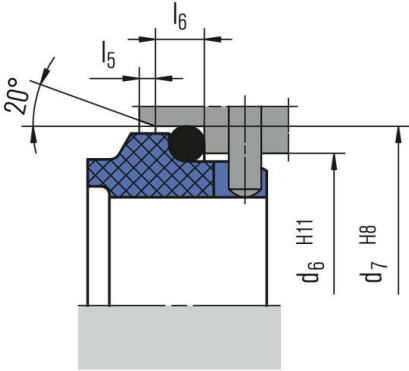


Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	485	Drive collar
1.3	474	Thrust ring
1.4	412.1	O-Ring
1.5	477	Spring
1.6	904	Set screw
2	475	Seat (G9)
3	412.2	O-Ring

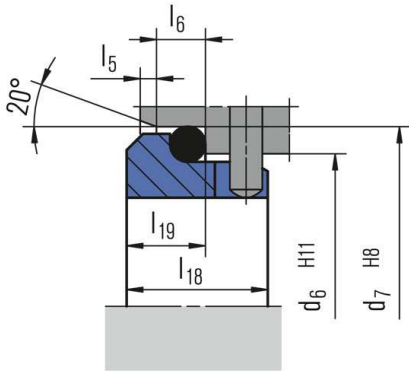
- 1) d1 > 100 mm: 2 mm x 30°
- 2) d1 > 100 mm: 30°
- 3) d1 > 100 mm: +0.1
- 4) d1 > 100 mm: H7

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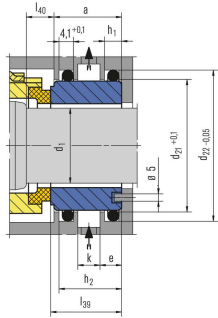
**Seat alternatives**



**G9**  
(EN 12756)



**G16**  
(EN 12756, but  $l_{1k}$  and  $l_2$  are shorter than specified)

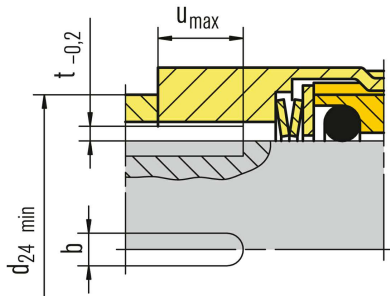
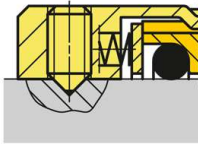


**G115**  
Cooled seat especially for hot water applications.

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### Torque transmissions

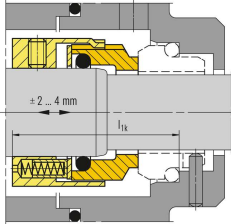
$d_1 > 100 \text{ mm}$  (3.94") Torque transmission by **4 set screws** with cone point. Offset:  $90^\circ$



**Drive key**  
(H7S2 / H75S2)

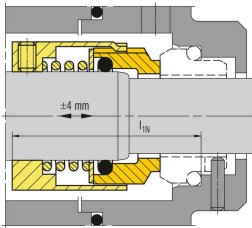
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### Product variants



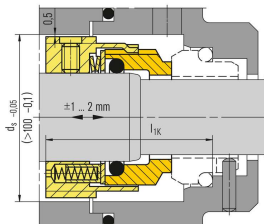
#### H75

Shaft diameter:  $d_1 = 28 \dots 200 \text{ mm}$  (1.10" ... 7.87")  
 As H7N, but with multiple springs in sleeves (Item no. 1.5)  
 Axial movement:  $\pm 2 \dots 4 \text{ mm}$ , dependent on diameter.



#### H76

Shaft diameter:  $d_1 = 14 \dots 100 \text{ mm}$  (0.55" ... 3.94")  
 Dimensions, items and description as for H7N, but with special single spring (Item no. 1.5) for compensating large axial movements ( $\pm 4 \text{ mm}$ ).



#### H7F

Shaft diameter:  $d_1 = \text{max. } 100 \text{ mm}$  (3.94")  
 Dimensions, items and descriptions as for H7N, but with single spring and pumping screw.  
 Dependent on direction of rotation. (Viscosity  $\leq$  ISO VG10).

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### H75F

Shaft diameter: d1 = 28 ... 200 mm (1.10" ... 7.87")

Dimensions, items and descriptions as for H7N, but with single spring and pumping screw.

Dependent on direction of rotation.  
(Viscosity  $\leq$  ISO VG10).



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d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>6</sub>	d <sub>7</sub>	d <sub>8</sub>	d <sub>24</sub>	d <sub>21</sub>	d <sub>22</sub>	d <sub>s</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>8</sub>	l <sub>9</sub>	l <sub>39</sub>	l <sub>40</sub>	A	b	e	f	h <sub>1</sub>	h <sub>2</sub>	k	m <sub>x</sub>	u <sub>max.</sub>	t
190*	200	236	217.5	229.3	5	203	217.30	223.20	241	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
195*	205	245	222.5	234.2	5	208	225.30	231.20	250	94.0	-	43	66.0	2.0	12	-	38.0	28.0	37.0	17.5	34.5	12	10.0	14.0	7.1	32.1	16	M10	22	2.1
200*	210	250	227.5	239.3	5	213	230.30	236.20	255	94.0	-	43	66.0	2.0	12	-	38.0	28.0	37.0	17.5	34.5	12	10.0	14.0	7.1	32.1	16	M10	22	2.1

Dimensions in millimeter

\* EN 12756