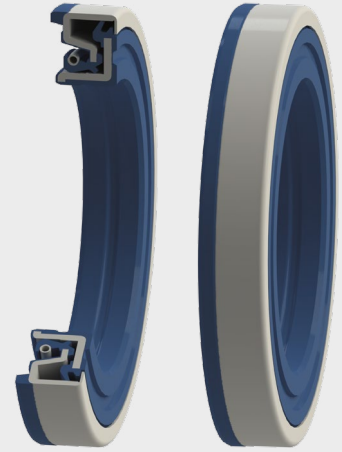


CASSETTE SEALS UA18



DESCRIPTION

The UA18 is a cassette seal, where the sealing is through a simplified labyrinth system. The upper part is static with the housing and the lower part is designed to operate in rotation with the shaft.

ADVANTAGES

- Low friction coefficient
- Standard protection against fouling
- Reduced need for maintenance
- Easy to fit with low risk of seal deterioration

APPLICATIONS

- Axles
- Pinions
- Hubs
- Construction
- Agriculture
- Commercial vehicles

MATERIALS

Rubber

- ACM 70 - 75 Shore A
- FKM 70 - 75 Shore A
- HNBR 70 - 75 Shore A
- NBR 70 - 75 Shore A

Metal cage

- Steel - AISI 1010
- Stainless steel - AISI 304
- Stainless steel - AISI 316

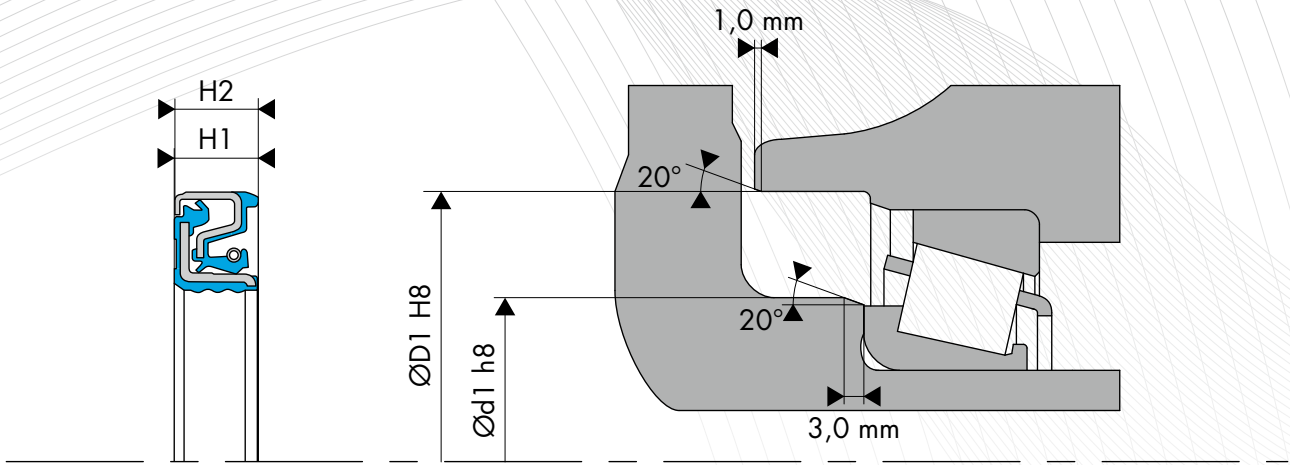
Spring

- Steel - AISI 1070 - 1090
- Stainless steel - AISI 316

TECHNICAL DATA

| Technical data | NBR 70 - 75 Shore A | FKM 70 - 75 Shore A | ACM 70 - 75 Shore A | HNBR 70 - 75 Shore A |
|--------------------|---------------------|---------------------|---------------------|----------------------|
| Temperature | -30°C / +80°C | -20°C/+100°C | -25°C/+90°C | -30°C/+90°C |
| Speed | 7 m/s | 9 m/s | 8 m/s | 8 m/s |
| Pressure | 0.02 - 0.05 MPa | 0.02 - 0.05 MPa | 0.02 - 0.05 MPa | 0.02 - 0.05 MPa |
| Level of pollution | Normal | Normal | Normal | Normal |

The figures above indicate the maximum values and may not be cumulated. They may be developed, depending on the materials used.



DESIGN RECOMMENDATIONS

Shaft hardness

| Rotation speed | Hardness in HRC |
|-------------------------|-----------------|
| $s \leq 4.0$ m/sec | 45 HRC |
| $4.0 < s \leq 10.0$ m/s | 55 HRC |
| $s > 10.0$ m/sec | 60 HRC |

Shaft tolerance

| Shaft diameter Ød1 (mm) | Tolerance h8 (mm) |
|---------------------------------|-------------------|
| $\text{Ød1} \leq 3.0$ | -0.014 / 0 |
| $3.0 < \text{Ød1} \leq 6.0$ | -0.018 / 0 |
| $6.0 < \text{Ød1} \leq 10.0$ | -0.022 / 0 |
| $10.0 < \text{Ød1} \leq 18.0$ | -0.027 / 0 |
| $18.0 < \text{Ød1} \leq 30.0$ | -0.033 / 0 |
| $30.0 < \text{Ød1} \leq 50.0$ | -0.039 / 0 |
| $50.0 < \text{Ød1} \leq 80.0$ | -0.046 / 0 |
| $80.0 < \text{Ød1} \leq 120.0$ | -0.054 / 0 |
| $120.0 < \text{Ød1} \leq 180.0$ | -0.063 / 0 |
| $180.0 < \text{Ød1} \leq 250.0$ | -0.072 / 0 |
| $250.0 < \text{Ød1} \leq 315.0$ | -0.081 / 0 |
| $315.0 < \text{Ød1} \leq 400.0$ | -0.089 / 0 |
| $400.0 < \text{Ød1} \leq 500.0$ | -0.097 / 0 |

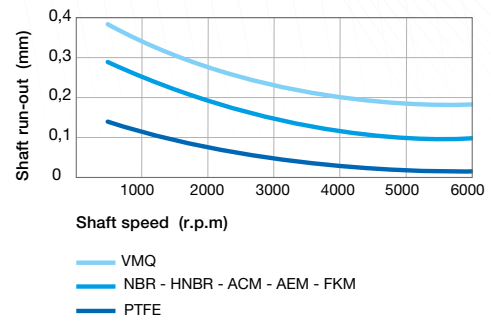
Housing tolerance

| Bore diameter ØD1 (mm) | Tolerance H8 (mm) |
|---------------------------------|-------------------|
| $3.0 < \text{ØD1} \leq 6.0$ | 0 / +0.018 |
| $6.0 < \text{ØD1} \leq 10.0$ | 0 / +0.022 |
| $10.0 < \text{ØD1} \leq 18.0$ | 0 / +0.027 |
| $18.0 < \text{ØD1} \leq 30.0$ | 0 / +0.033 |
| $30.0 < \text{ØD1} \leq 50.0$ | 0 / +0.039 |
| $50.0 < \text{ØD1} \leq 80.0$ | 0 / +0.046 |
| $80.0 < \text{ØD1} \leq 120.0$ | 0 / +0.054 |
| $120.0 < \text{ØD1} \leq 180.0$ | 0 / +0.063 |
| $180.0 < \text{ØD1} \leq 250.0$ | 0 / +0.072 |
| $250.0 < \text{ØD1} \leq 315.0$ | 0 / +0.081 |
| $315.0 < \text{ØD1} \leq 400.0$ | 0 / +0.089 |
| $400.0 < \text{ØD1} \leq 500.0$ | 0 / +0.097 |
| $500.0 < \text{ØD1} \leq 630.0$ | 0 / +0.110 |

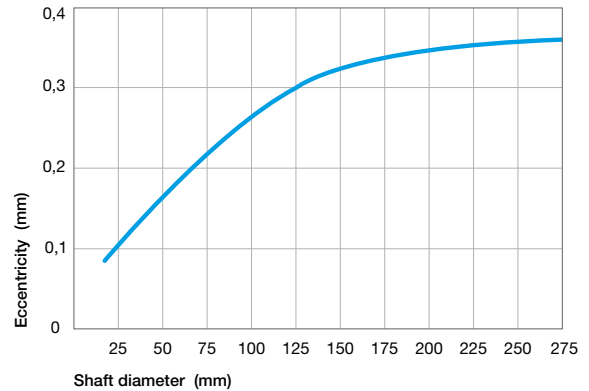
Surface roughness

| | |
|------|-----------------|
| Ra | 0.8 to 3.2 µm |
| Rmax | 10.0 to 16.0 µm |

Shaft run out



Eccentricity



Axial movement

The cassette seals can tolerate axial movements greater than +/- 0.1 mm. However, this can lead to premature wear in the system.

Chamfers and radius

| | |
|---------|--------------------|
| Shaft | 20° (+/-5°) x 3 mm |
| Housing | 20° (+/-5°) x 1 mm |