

# CASSETTE SEALS

## QLF

### DESCRIPTION

The QLF profile is a modular rotary seal composed of a TC9 shaft seal with rubber external stop and a metal sleeve with a rubber coating. It is possible to separate the 2 elements for assembly.

### ADVANTAGES

Fit the 2 elements separately if necessary

### APPLICATIONS

- Axles
- Pinions
- Hubs
- Construction
- Agriculture

### 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

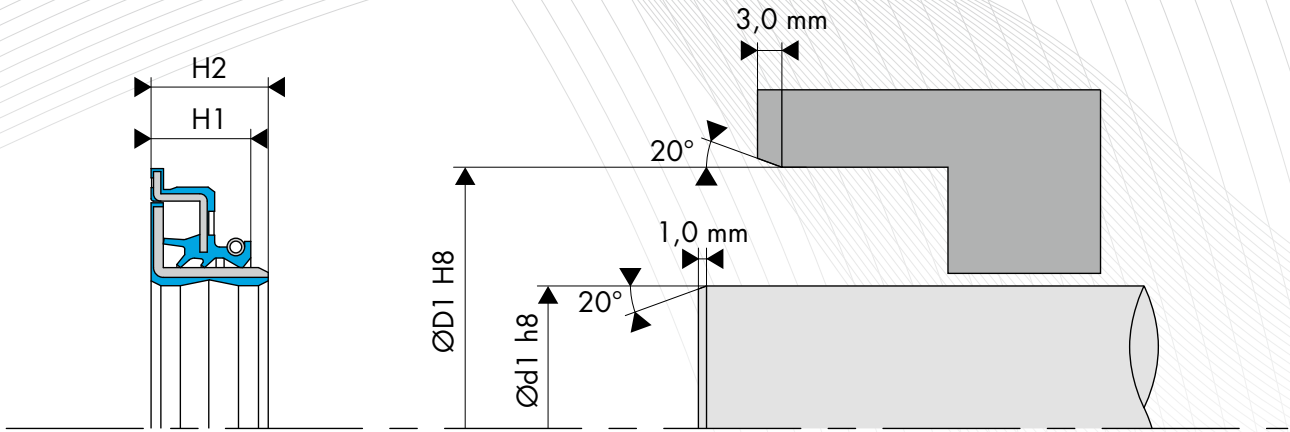
Steel - AISI 1070 - 1090

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/+120°C	-25°C/+110°C	-30°C/+110°C
Speed	5 m/s	7 m/s	6 m/s	6 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

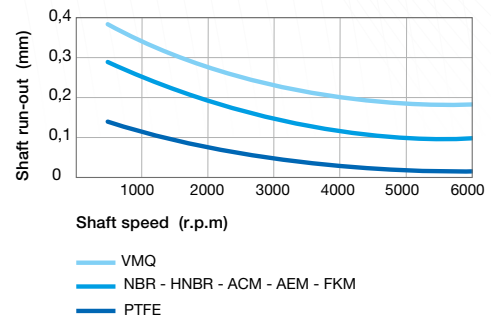
### Housing tolerance

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

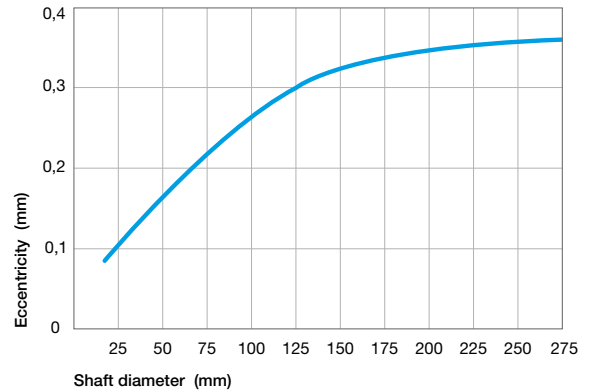
### Surface roughness

Ra	0.8 to 3.2 µm
Rmax	10.0 to 16.0 µm

### Shaft run out



### Eccentricity



### Chamfers and radius

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