

V-rings



PTFE V-rings are primarily used to provide sealing at plungers and pistons in hydraulic cylinders, presses, valve shafts and control slide valves. Very good sealing performance is achieved through multiple sealing lips and the longer contact surface.

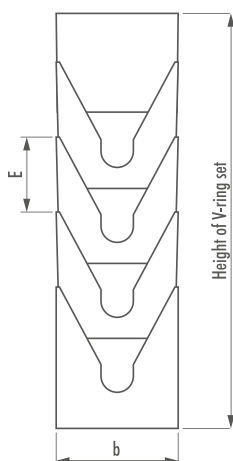
The sealing sets consist of a pressure ring, a support ring and V-rings which are specifically matched in number and design to the relevant operating conditions. This makes them less susceptible than other single-lip seals to contamination from the operating media. Further key advantages of the V-rings are their form stability, which makes them resistant to pressure peaks, and their adjustable pressurization (spacer plates, springs). In addition, they have a higher breakaway torque capability even after long downtimes.

Depending on the application field, pure PTFE or PTFE with filler materials are used to manufacture standard profiles. There is an elastic type for the low pressure range designed for use in a broad spectrum of products where the sealing capability results from a wedging effect, and a pressure stable, relatively rigid, version for applications under harsh operating conditions. Since the V-ring seal sets are machined, it is possible to produce them with a variety of diameters and heights.

Low pressure V-ring set (LVR)

- Pressure range: < 50 bar

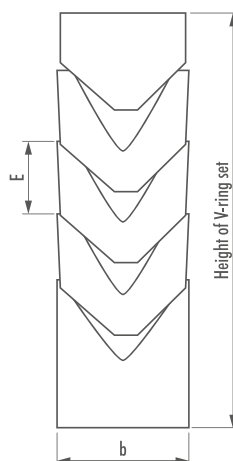
- Elastic profile design



High pressure V-ring set (HVR)

- Pressure range: 50 bar to 100 bar

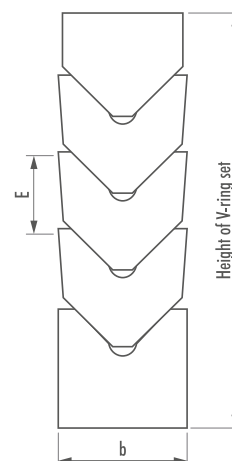
- Profile relatively rigid, seals via wedging



Max. pressure V-ring set (MVR)

- Pressure range: 100 bar to 250 bar

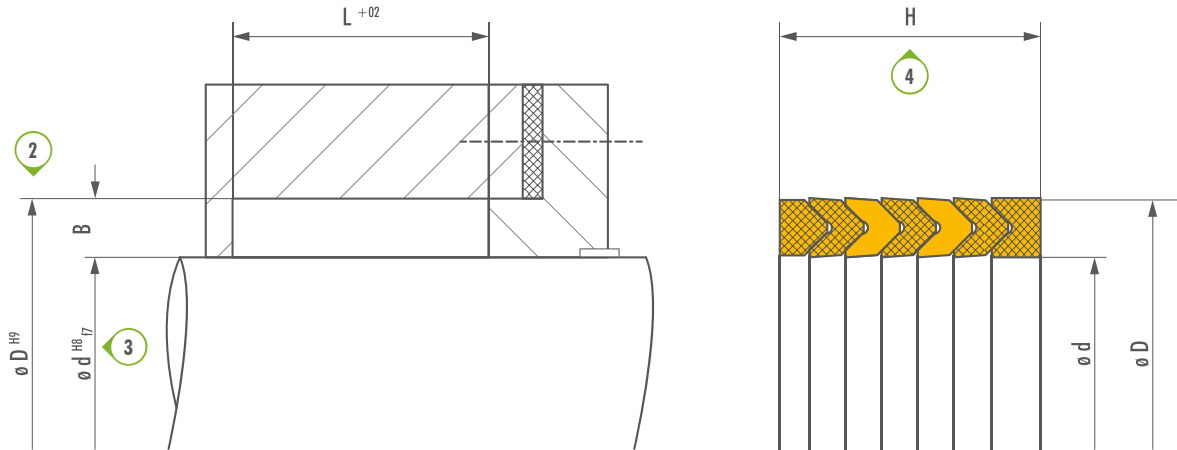
- Preferred for static sealing and intermittent pressures





Recommended installation dimensions

ØD - Housing diameter | Ød - Plunger diameter | H - Height of V-ring set



Materials

PTFE pure	Low friction coefficient, low gas permeability, low thermal conductivity, limited abrasion resistance, application in food environments
PTFE glass fiber	Enhanced pressure stability, improved wear resistance, not alkaline-resistant, application especially in food environments
PTFE carbon	Good pressure stability, improved thermal conductivity, good wear resistance, suited especially for water as medium, filler material can be attacked by oxidizing media
PTFE graphite	Good sliding and lubrication properties, protects counterfaces, especially suited for soft counterfaces, very good in steam-driven applications, not suited for hard metals, filler material can be damaged by oxidizing media
PTFE bronze	High pressure stability, good thermal conductivity, good running performance, filler material can be damaged by acids

Application limitations

Pressure	300 bar max.
Stroke speed	Continuous operation: 0.5 m/s Intermittent operation: 1.2 m/s
Temperature	- 200 °C to + 240 °C

Surface quality

Roughness	Ra
Dynamic sealing surfaces	≤ 0.2 µm
Static sealing surfaces	≤ 1.6 µm
Lead-in chamfers, groove flanks	≤ 3.2 µm

Contact surface hardness

PTFE pure (CCN-01)	≥ 30 HRC
PTFE compounds	≥ 50 HRC

To place a quick order for the correct product, please use the order information system below.

SYSTEM: **VR set Cylinder diameter D x Rod diameter d x Set height H » Material**



EXAMPLE: **L VR set 50 x 38 x 19.5 (5-part) PTFE pure**

