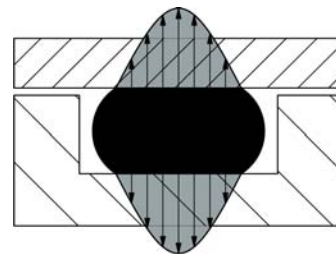


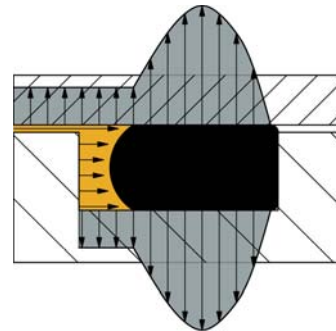
Function

The sealing action of an O-ring is due to the compression of the cross-section of the O-ring between two sealing surfaces. When the sealed machine parts are installed, the cross-section of the O-ring is compressed within a geometrically defined installation groove in such a way that it completely closes the gap between the machine parts. The resulting forces produce the initial preload between the O-ring and the sealing surface and therefore the sealing action in depressurized state.

When pressure builds in the sealed medium, the sealing action „automatically“ also increases. The O-ring is pressed against the non-pressure side of the groove and also comes under pressure. The initial preload is blanketed by the media pressure and thereby is automatically raised to a level that is always higher than the media pressure.



initial preload after installation



O-ring under pressure

Installation types

The type of application is important to the selection of the right installation groove for an O-ring:

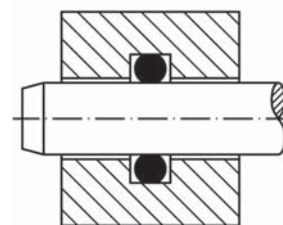
Static sealing

(no relative movement between the sealed machine parts)

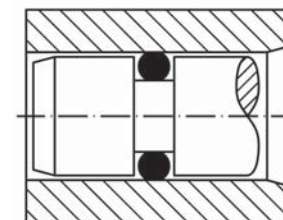
Dynamic sealing

(the sealed machine parts move relative to each other: reciprocating, rotating or oscillating movement)

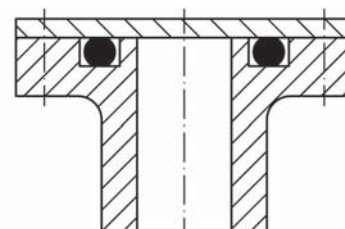
In addition, the types of installation depend on the direction in which the O-ring is deformed and on the location of the installation groove (in the inner or outer part). Accordingly, there are the following installation types:



radial compression, inside sealing



radial compression, outside sealing



axial compression