



INSTALLATION GUIDE

Piston Seals

General information on Piston Seal Installation

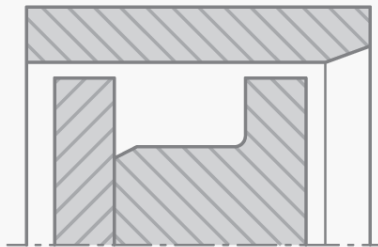
The following points should be observed before installation of the seals. Ensure the cylinder tube has a lead in chamfer; if not, use an installation sleeve. Deburr and chamfer or round sharp edges and cover the tips of screw threads. Remove machining residues such as chips, dirt and other foreign particles and carefully clean all parts.

The seals can be installed more easily if they are greased or oiled. Attention must be paid to the compatibility of the seal materials with these lubricants. Use only grease without solid additives (e.g. molybdenum disulphide or zinc sulphide). Use no sharp-edged installation tools.

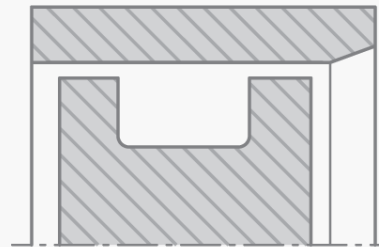
For O-Ring energized elastomeric seals, there are two types of grooves generally encountered:

- Split grooves
- Solid (closed) grooves

Split Piston

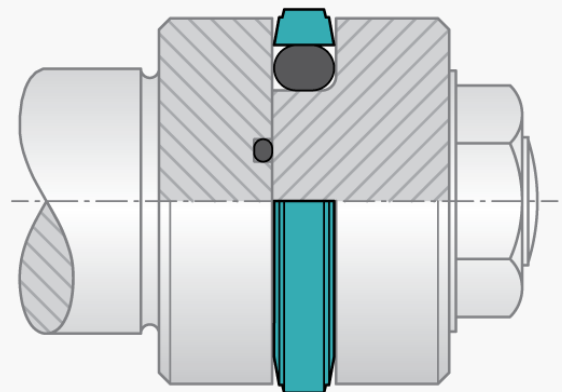


Solid Piston



Installation in Split Grooves

Installation in split grooves is simple. The sequence of installation corresponds to the configuration of the seal. Individual seal elements must not be allowed to twist.



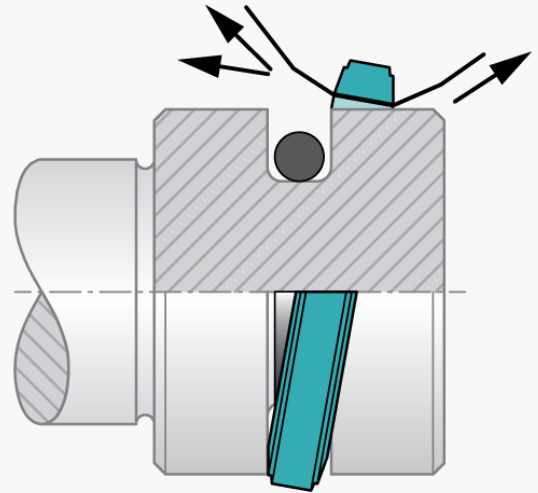


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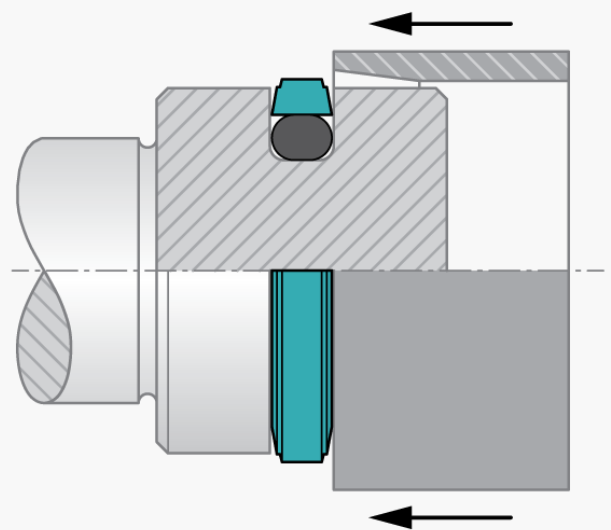
Installation in Closed Grooves

For Turcon® and Zurcon® seals, the use of installation aids is recommended. If installation has to be performed without installation aids, however, the following points should be observed. Turcon® seals can be installed more easily by heating in oil, water or using a hot air fan to approx. 80 °C to 100 °C (expanding and then shrinking back to the original form). Use no sharp edged tools to expand the seal rings.



Re-sizing

During final installation (installation of the piston in the cylinder), elastomer or spring-preloaded seals must be sized. The corresponding cylinder barrel can be used for this purpose, provided it has a long lead-in chamfer. However, a sizing sleeve is preferable. Sizing of the seal ring is achieved with a separate sizing sleeve, or with the cylinder tube provided this has lead-in chamfers equivalent to 2 x the values from Table below.

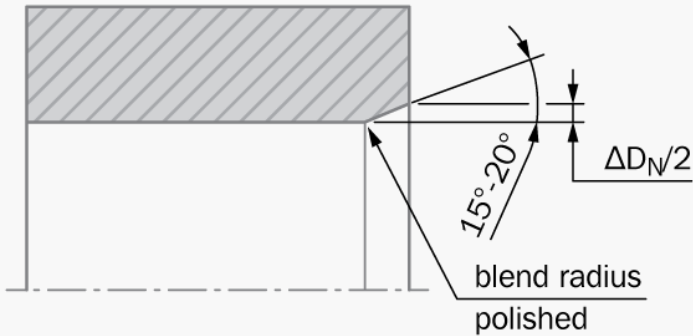




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Lead-in chamfer



Elastomer Energized Seals

Lead-in chamfer Diameter increase $\Delta D_{N \text{ min.}}$	Groove Width L1*
1.1	2.2
1.4	3.2
1.9	4.2
2.7	6.3
3.5	8.1
4.0	9.5
5.5	13.8

* The groove width can be found in table "Installation dimensions" for Turcon® AQ-Seal® 5, Turcon® AQ-Seal®, Turcon® Stepseal® 2K, Turcon® Stepseal® V and Zurcon® Wynseal.

Important Note

Installation suggestions, material recommendations, parameters and further data provided are always subject to the particular field of use and the application in which the seal is intended to be used, in particular the interaction of the seal with other components of the application. Therefore they neither constitute an agreement on the legal and factual nature nor a guarantee of quality. Technical changes and errors remain reserved.