

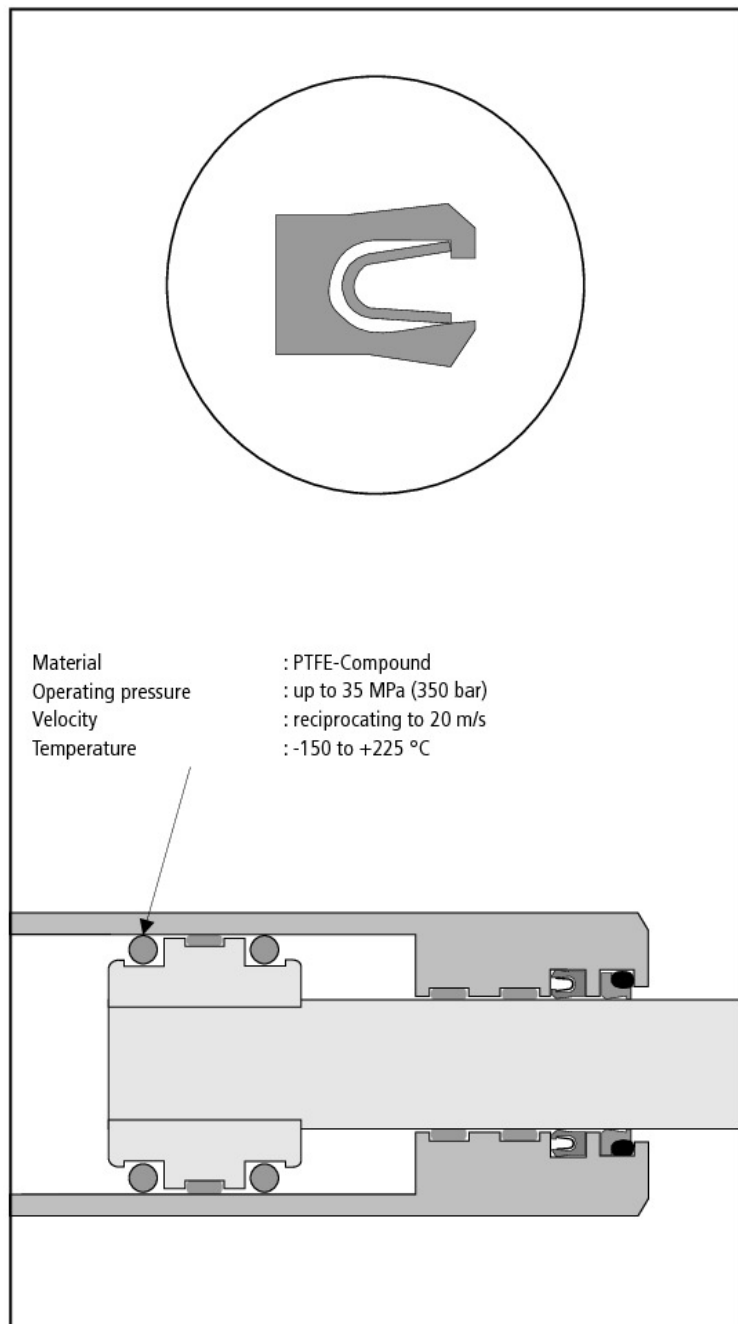


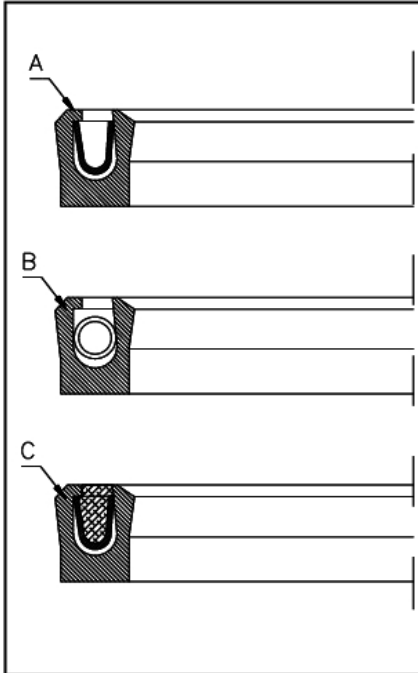
These Flexiseals provide a solution where conventional elastomer seals are inadequate due to their limited chemical and thermal characteristics.

Flexiseals HK 170 and HK 171 are spring prestressed single acting piston seals. Different materials for profile gasket and spring allow for a very wide range of applications, preferably in chemicals, pharmacy, foodstuffs, equipment and construction.

Special Features::

- High chemical resistance to most fluids, gases and other chemicals
- Very good shear characteristics, no stick-slip effect
- Low friction and good resistance to galling
- Very wide temperature range of application
- Suitable to O-ring grooves as per DIN ISO 3771 and MIL-G-5514F
- Available for piston diameters up to 2500 mm





Profile Gasket with Spring

Seal consists of a U shaped profile gasket, in which a metallic spring is incorporated as a pre-stressing element. To enhance impermeability and service life, the (external) dynamic sealing lip is designed in a somewhat more robust and strengthened manner than the (internal) static one.

All profile gaskets are produced from specially modified PTFE materials. Standard material for general applications is Compound 51 in combination with a pre-loaded spring from stainless steel.

Material Overview:

31: Modified PTFE + carbon fiber- Good chemical and thermal resistance. Intermediate level applications. Also used in water-oil emulsions.

12: Modified PTFE - Outstanding shear characteristics, abrasion resistance, inherent stability. Very good chemical resistance, large tolerance to temperatures. Specialty light to medium duty applications.

67: Modified PTFE - High compression resistance, abrasion resistance, inherent stability with very good shear characteristics, good chemical and thermal resistance. Used in heavy duty applications.

Further materials can be supplied on request.

Spring Construction and Materials

0: Stainless steel for general applications (A).

1: Stainless steel for aggressive surrounding media (B).

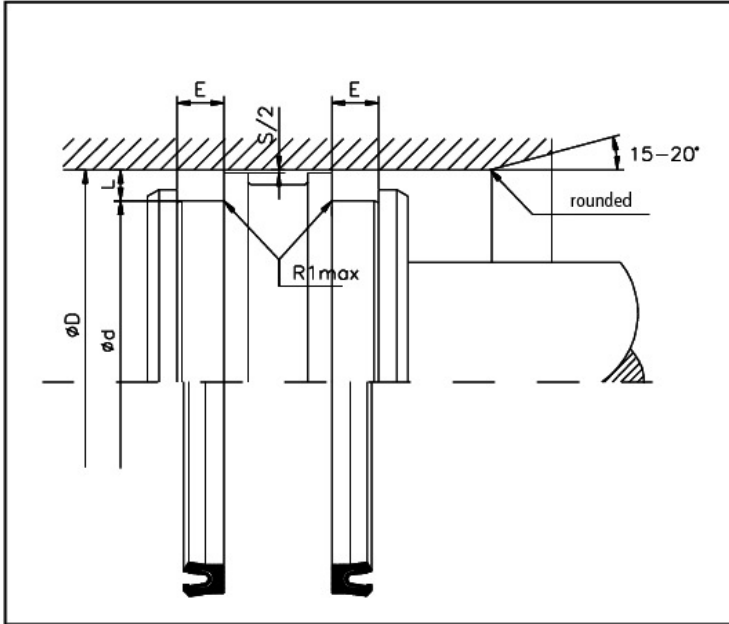
2: Stainless steel for general applications, silicon cast (C).

3: Stainless steel for aggressive surrounding media, silicon cast.

For cases 2 and 3, spring gap is filled with silicon. These seals can be sterilized and are therefore preferred in foodstuff industry.

In many cases the Hk170 / HK171 - seal is used in place of the O-ring. In that case, care is to be taken that an open or split groove is available for simple and safe assembly of seals.

Die Flexiseal wird in sehr vielen Fällen anstelle eines O-Ringes eingesetzt. Dabei ist zu beachten, daß zur einfachen und sicheren Montage der Dichtung grundsätzlich eine offene bzw. geteilte Nut erforderlich ist.



Limitations on Use	
Operating pressure	: up to 35 MPa (350 bar)
Velocity	: reciprocating to 20 m/s
Temperature	: -150 to +255 °C

Media for Use	
Mineral und synthetic pressure fluids, water, air, steam, acids, caustic solutions, various chemicals, depending on sealing and spring material.	

Surface Finish			
Surfaces	Rmax	Rz	Ra
Faces	2,5 µm	1,6 µm	0,4 µm
Groove root	10,0 µm	6,3 µm	1,6 µm
Groove flanks	16,0 µm	10,0 µm	3,2 µm

Tolerances	
Nominal diameter	D H9
Groove root diameter	d h11
Groove width	E $\begin{matrix} +0,2 \\ -0 \end{matrix}$

Recommended Assembly Dimensions for HK 170 (O-Ring Grooves without Thrust Ring)						
Section	O-Ring Equivalent mm	Recommended Diameter Standard D mm	Groove Width E mm	Groove Depth L mm	Max. Diameter Allowance S mm	Radius R1 max. mm
1	1,78	6 - 13,9	2,40	1,45	0,13	0,4
2	2,62	14 - 24,9	3,60	2,25	0,13	0,4
3	3,53	25 - 45,9	4,80	3,10	0,15	0,6
4	5,33	46 - 124,9	7,10	4,70	0,17	0,8
5	7,00	125 - 700,0	9,50	6,10	0,25	0,8

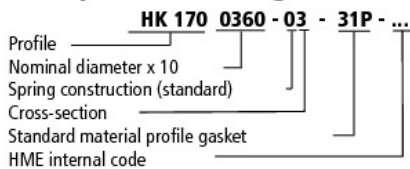
Extensive range of inch measurement diagrams available on request.

Recommended Assembly Dimensions for HK 171 (O-Ring Grooves with Thrust Ring)						
Section	O-Ring Equivalent mm	Recommended Diameter Standard D mm	Groove Width E mm	Groove Depth L mm	Max. Diameter Allowance S mm	Radius R1 max. mm
1	1,78	6 - 13,9	3,80	1,45	0,13	0,4
2	2,62	14 - 24,9	4,65	2,25	0,13	0,4
3	3,53	25 - 45,9	5,70	3,10	0,15	0,6
4	5,33	46 - 124,9	8,50	4,70	0,17	0,8
5	7,00	125 - 700,0	11,20	6,10	0,25	0,8

Further dimensions and intermediate sizes available up to Ø 2500 mm on request.



Example for ordering Piston Seal:



Material Key:

Profile gasket:
 31 - PTFE carbon
 12 - modified PTFE
 67 - modified PTFE

Spring construction:

0 - Standard
 1 - for aggressive media
 2 - Standard silicon cast
 3 - for aggressive media silicon cast

Issue

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WARNING: Limits of application stated herein are standard values. They could be individually transgressed with due consideration to respective service conditions. In the event of a large duty cycle, pulsating operation and other complex operational conditions, simultaneous transgression of these values is not recommended. Due to a large variety of service conditions that may arise in course of actual use, the company does not take responsibility of or guarantee the functional accuracy of the individual components. Rights for changes are reserved.