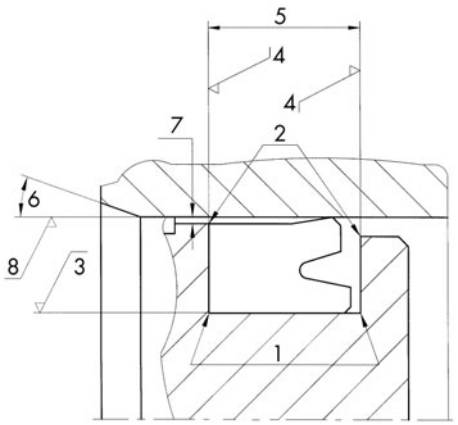
Installation housing

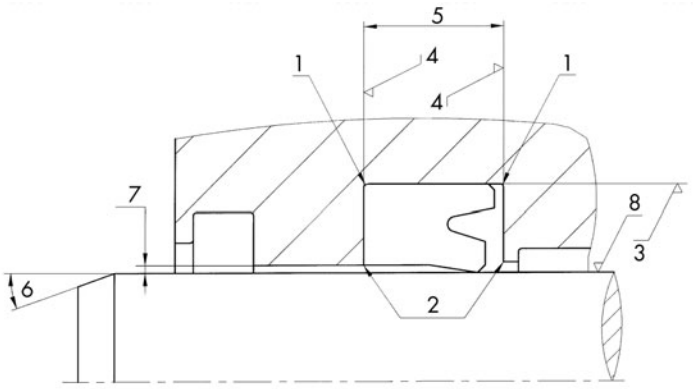
The parameters for installation housings such as dimensions, tolerances, surface finish, radius or chamfers are specified by the original cylinder manufacturer. Before replacing a seal the installation housing must be inspected for any wear and tear caused during operation in excess of the manufacturer's service recommendation and refurbished accordingly, with particular care being applicable to the required surface finishes.

Any refinishing of the rod can lead to an increased gap dimension and thereby the possibility of gap extrusion. To compensate for this a back up ring can be used on the opposite side to the direction of the pressure.

The following basic rules apply to the design of all installation housings: rounded edges in the groove base (1) ensure the correct fit of the hydraulic seals and radiused groove edges (2) ensure that the risk of the seal moving into the metallic gap is minimised.



The appropriate surface finish of the groove base (3) and groove sides (4), correct tolerances for the groove width (5), the installation chamfer (6) and the optimum dimensions of the sealing gap on the side facing away from the pressure (7), as well as the correct surface finishes of the counter surface (8) are essential factors for the optimal lifetime and good sealing function of seals.



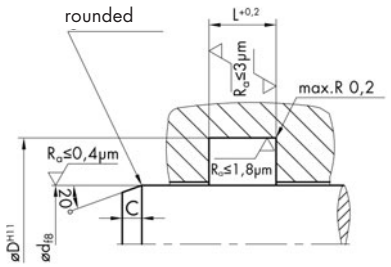
The above basic rules should always be adhered to for trouble-free operation in service. As most seals are unable to function without sufficient guidance, the piston and rod must be provided with adequate guidance elements to ensure the functioning security of seals in operation

On the following pages, you will find examples for the application of our designs in predetermined installation housings.

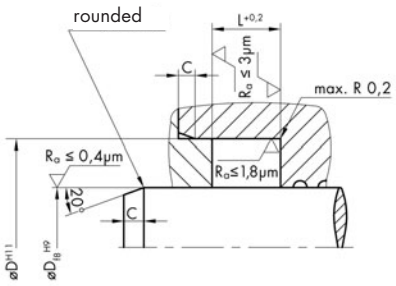
Examples of applications in predetermined installation housings

U-rings
Designs N, NA, NI

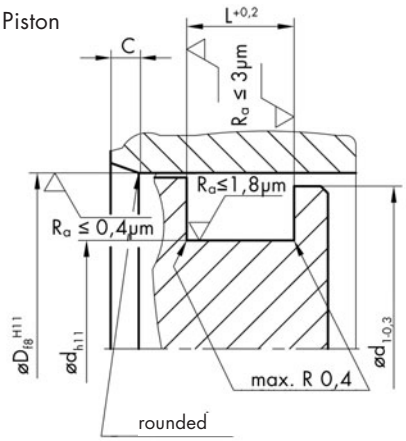
Rod d > 25mm



Rod d < 25mm

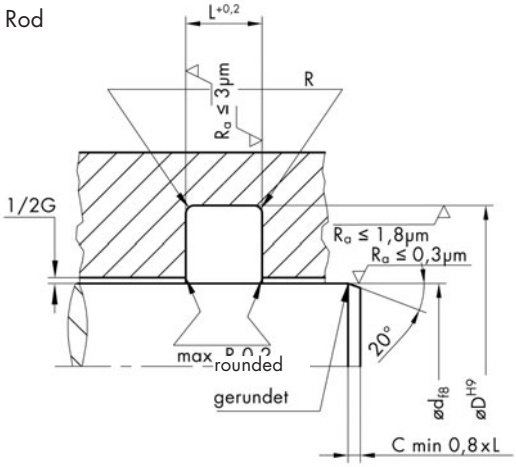


Piston

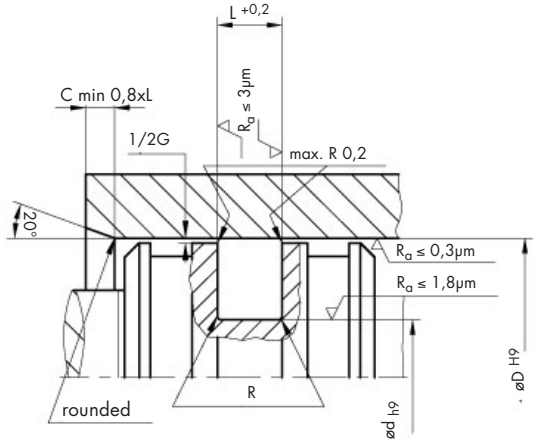


Designs POR, PUOR

Rod

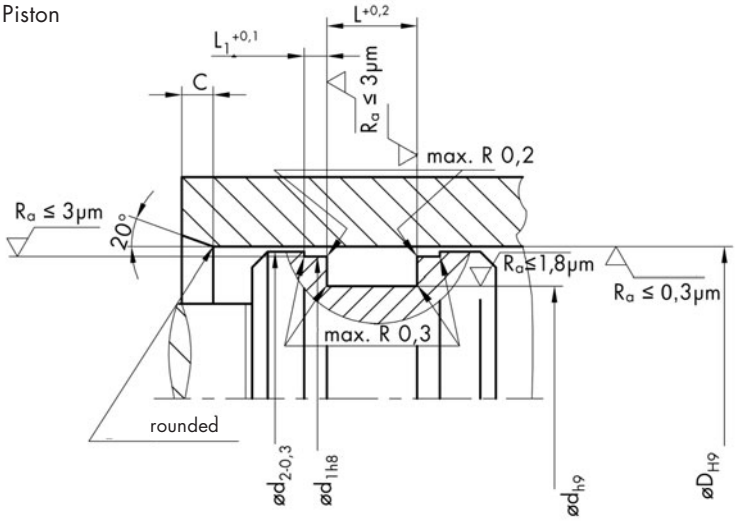


Piston



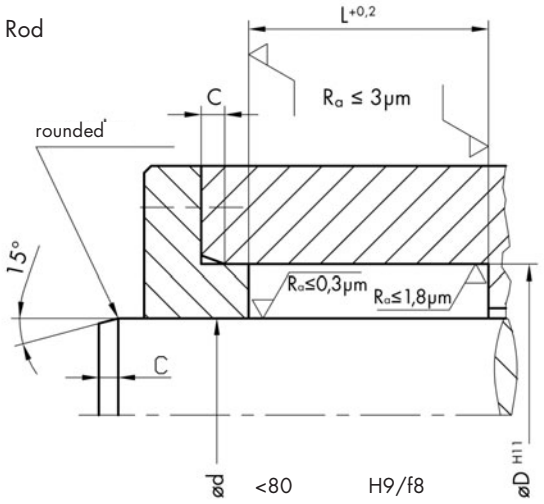
Compact seal
Design K

Piston



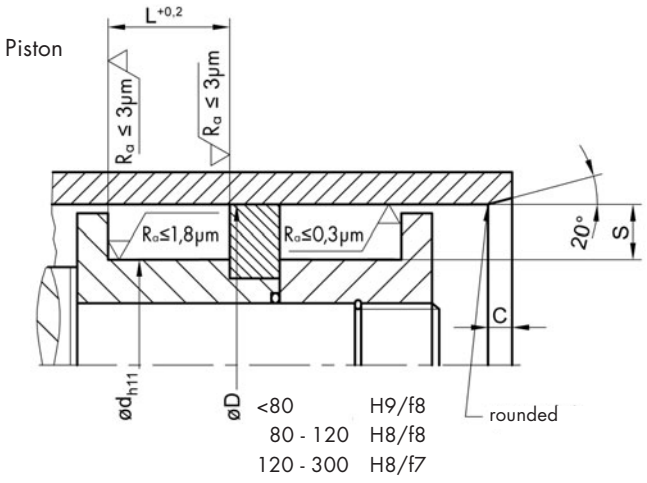
V-packing sets
Designs KDS 01, SDS 01

Rod



			<80	H9/f8	
			80 - 120	H8/f8	
			120 - 300	H8/f7	
Profile width	B	6	7.5-10	12.5-15	(mm)
Installation chamfer	C	3	5	7.5	

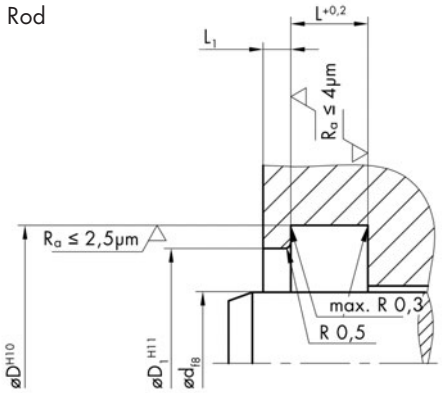
Piston

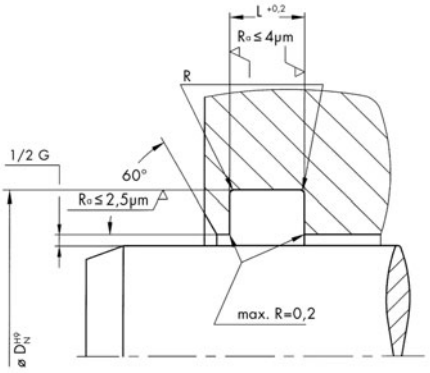


			<80	H9/f8	
			80 - 120	H8/f8	
			120 - 300	H8/f7	
Profile width	B	6	7.5-10	12.5-15	(mm)
Installation chamfer	C	3	5	7.5	

Wipers
Designs AE, AD

Rod





The radius R in the wiper designs AE 40 and AE 42 is dependant on the height of the wiper, as follows:

H (mm)	≤12	16	18
R (mm)	1	1.5	3

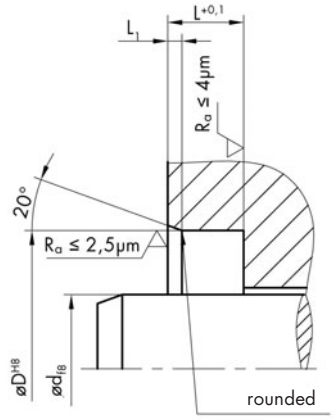
For the wiper designs AE 41, AE 47, AD 48 and AD 51 the radius is always R= 0.5 irrespective of the wiper height.

For wipers with small diameters, axially accessible installation housings are required. With larger diameters, cut housing grooves can be utilised, however subsequent recalibration of the wiper is recommended. The following table gives the dimension G and the radius R:

L	3.7	5	6	8.4	11	14
G	1.5	1.5	1.5	2.0	2.0	2.5
R	0.4	0.8	1.0	1.2	1.5	2.0

When using double wipers, depending on the associated seal arrangement, a leakage hole may be necessary, through which the retained oil is returned to the system.

Wipers
Designs AM, ADM

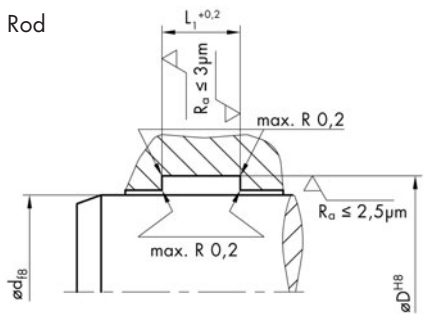


These wipers are easily installed in axially accessible housings provided the lead-in chamfer L is in accordance with the following table:

H (mm)	L_1 (mm)
≤ 4.5	0.6
5	0.6
6	0.8
7	0.8
8	1
9	1
10	1.4
12	1.8
14	2
16	2.4

Guiding elements
Designs FB, FRK, FRS

Rod



Piston