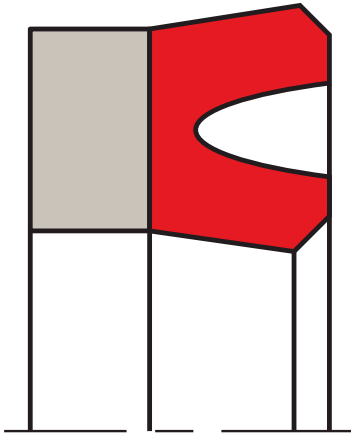


piston seal K83

seal spec



description

piston and piston rod seal with symmetrical sealing lips which are cut at an angle of less than 45°. the lip segment made of elastomer and the fabric block at the back are vulcanized together to form a single unit.

application



not bolded symbols; please consult our technical for application limitations

category of profile

molded/standard/trade product or machined with minor design change.

single acting

the K83 seal is designed for use as a piston seal for medium load, preferably for spare parts requirement - either single or double acting where two seals are used 'back to back'

area of application: hydraulics

reciprocating movements

function

the K83 is a single function piston and piston rod seal in the form of a U-ring. its sealing function is very effective due to the sealing lips being provided with radial self energising which is activated by the system pressure.

due to the symmetrical sealing lips and the proportion of fabric in the seal profile, this U-ring displays much less frictional behaviour than the classic elastomer seal. the fabric back stabilises the profile and in addition, provides very effective protection against fission extrusion.

media

hydraulic oils acc. DIN 51524/51525, lubricating oils, mineral oil based lubricating fats, non-flammable hydraulic fluids HFA, HFB, HFC acc. VDMA 24317.

operating parameters & material

material		temperature	max. surface speed	max. pressure ¹
sealing element	energizer			
NBR (fabric)	s-mart NBR	-30°C ... + 100°C	0,5 m/s	180 bar (18 MPa)
NBR - impregnated cotton fabric				

the stated operation conditions represent general indications. it is recommended not to use all maximum values simultaneously. surface speed limits apply only to the presence of adequate lubrication film.

¹ pressure ratings are dependent on the size of the extrusion gap.

**surface quality**

surface roughness	Rtmax (µm)	Ra (µm)
running surface	≤ 3.0	≤ 0.4
bottom of groove	≤ 10.0	≤ 1.8
side of groove	≤ 16	≤ 3.0

tolerance recommendation

seal housing tolerances	
Ød	h9
ØD	H11

fitting & installation

the K83 can only be installed by hand in axially accessible housing. with an inner diameter greater than 25mm and a thinner profile, it can also be inserted in a cut piston rod groove. to push the piston body and seal into the cylinder pipe or over the piston rod without damaging it, a lead-in chamfer acc. to the following table is required:

cs (mm)	chamfer (mm)
4	2
5	2,5
7,5	4
10	5
12,5	6,5
15	7,5
20	10
25	10

gap dimension

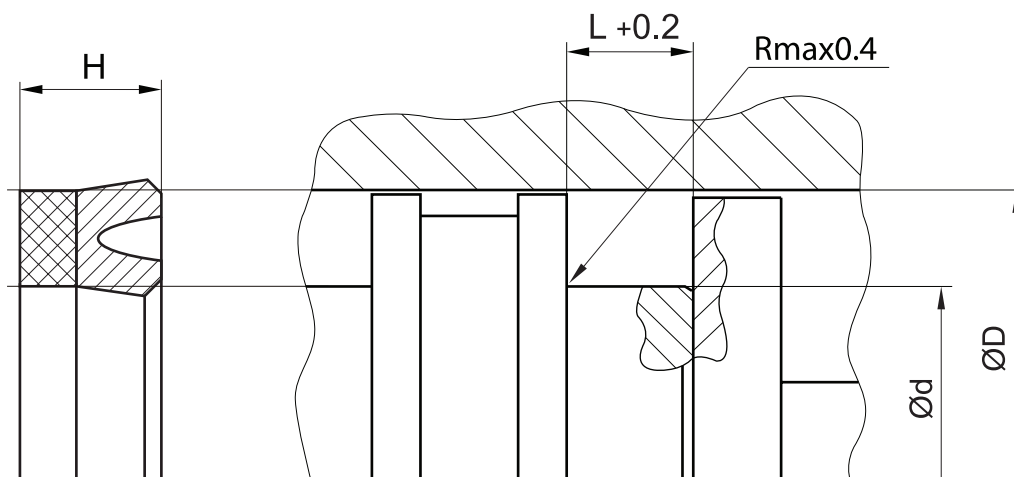
if the housing is provided with a metallic fitting on the side opposite the pressure, the service life of the seal is lengthened. within the operating parameters given above, depending on the pressure, a metallic wedge can be fitted between the cylinder head and piston rod or cylinder pipe and piston acc. to the following table:

operating pressure (MPa)	safe extrusion gap (mm)
5	0,5
10	0,3
18	0,2

the piston diameter should generally be 1,5 mm smaller than the ØD diameter provided.

seal & housing recommendations

please note that we are able to produce those profiles to your specific need or any non standard housing. for detail measurements, please see seal-mart catalog...



don't hesitate to contact our technical department for further information or for special requirements (temperature, speed etc.), so that suitable materials and/or designs can be recommended.