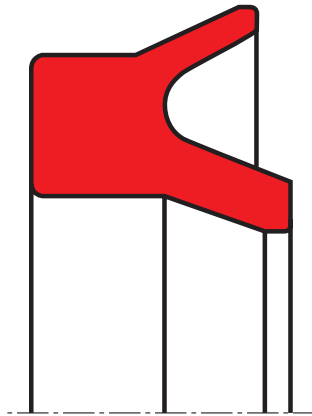


piston seal K05-SA

seal spec



description

a dynamic lip with no sharp edges which facilitates sliding. increased depth within the u-profile to increase flexibility.
the use of a urethane resin instead of rubber to increase seal life and facilitate the use of non-lubricated air.

application



category of profile

machined or molded/standard/trade product.

area of application: pneumatic

single acting

the K05-SA seal is designed for use as a piston seal - either single or double acting where two seals are used 'back to back'

operating parameters & material

the standard material is a polyurethane with a very high wear resistance and good flexibility at low temperatures.

| material | temperature | max. surface | max. pressure ¹ | remarks |
|------------------------|------------------|--------------|----------------------------|----------------------|
| s-mart PU (90 Shore A) | -30°C ... + 80°C | 1 m/s | 16 bar (1,6 MPa) | standard material |
| s-mart PU (85 Shore A) | -30°C ... + 80°C | 1 m/s | 16 bar (1,6 MPa) | alternative material |

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.

fitting & installation

it is important to remove all sharp edges from the groove and piston to prevent damaging the seal.
the seals can be installed more easily if they are greased or oiled.

gap dimension

referring to the low pressure range in standard pneumatic applications the extrusion gap depends only on cross section and temperature. the maximum value of the permissible extrusion gap is reached when the piston touches one side of the cylindrical tube or the guide. the extrusion gap should not exceed 10% of the cross section for an operating temperature of 70°C, influences due to thermal expansion and manufacturing tolerances have to be considered.

surface quality

| parameter | surface roughness µm | |
|-----------|-------------------------------|----------------|
| | mating surface (polyurethane) | groove surface |
| Rmax | 1.0 - 4.0 | ≤ 16 |
| Rz DIN | 6,3 - 2,5 | ≤ 10 |
| Ra | 0.1 - 0.4 | ≤ 1.6 |

the material contact area Rmr should be approx. 50 to 70%, determined at a cut depth c = 0.25 x Rz, relative to a reference line of Cref. 5%.



tolerance recommendation

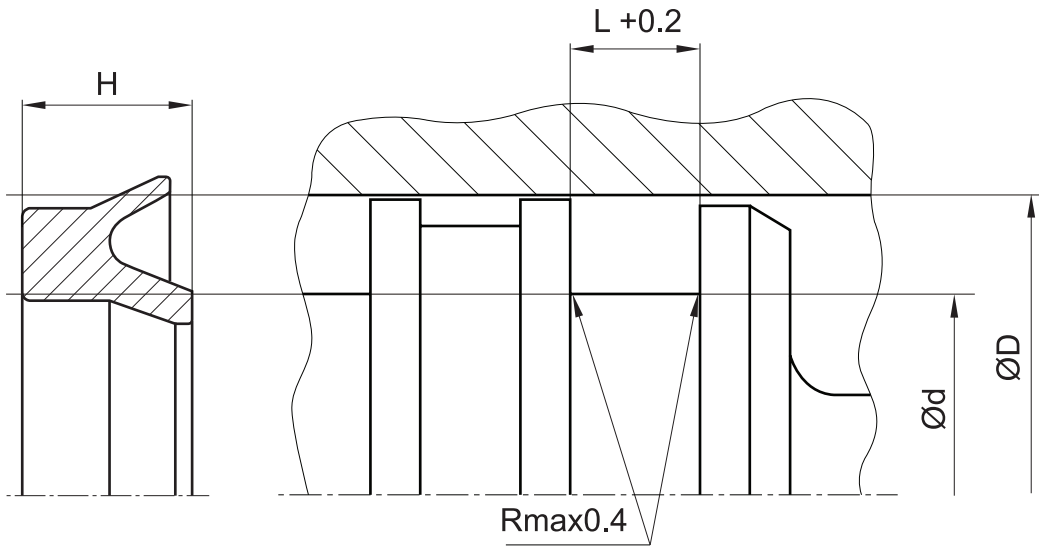
seal housing tolerances

$\varnothing d$ h10

$\varnothing D$ H10

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.