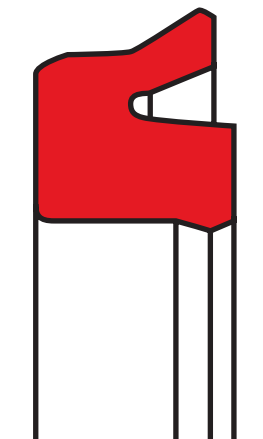


piston seal K05-SC

seal spec



description

the profile K05-SC piston seal is a lip seal specially developed for use in pneumatics. the dimensions of the profile K05-SC standard series correspond to the cylinder diameters according to ISO 3320, CETOP RP 52 P, RP 43 P and RP 53 P. profile K05-SC is fully interchangeable with the profile K05-SD standard series formerly used in pneumatics. due to their special structural design, the profile K05-SC piston seals offer the following advantages when used in pneumatic equipment.

- sealing lip geometry designed to operate with lubricated air as well as dry and oil-free air.
- robust design based on favourable dimensions of seal cross-section.
- tight fit into the groove ensures reliable operation.
- optimal friction characteristics after careful initial lubrication obtained by sealing lip geometry retaining lubrication film.
- suitable for cylinders with cushioning.
- extended service life due to the use of proven elastomers.
- suitable for cylinders with cushioning.
- easy snap assembly in grooves of simple design.

application



category of profile

machined or molded/standard/trade product.

area of application: pneumatic

medium: lubricated air as well as dry air and oil-free air (after initial lubrication on assembly).

single acting

the K05-SC 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

material	temperature	max. surface	max. pressure ¹
s-mart NBR (78 Shore A)	-30°C ... + 80°C	1 m/s	16 bar (1,6 MPa)
s-mart PU (90 Shore A)	-35°C ... + 80°C	1 m/s	16 bar (1,6 MPa)

for high and/or low temperature applications special compounds are available.

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

the profile K05-SC lip seals are simply pulled over the piston into the groove. to avoid damaging the seal lips during installation, sharp edges should be removed from the piston and the cylinder tube. under non-lubricated conditions it is important to obtain a solid lubrication film inside the cylinder tube. this must be achieved before assembly to ensure a long service life of the seal. for piston guidance we recommend the profile F01 piston guidance tape. please refer to our profile F01 for details of the piston outside diameter and the gap measurements.

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

surface roughness	Rtmax (µm)	Ra (µm)
running surface	0,8 - 2,5	0,28 - 0,60
bottom of groove	≤ 6,3	≤ 1,59
side of groove	≤ 15	≤ 4,0

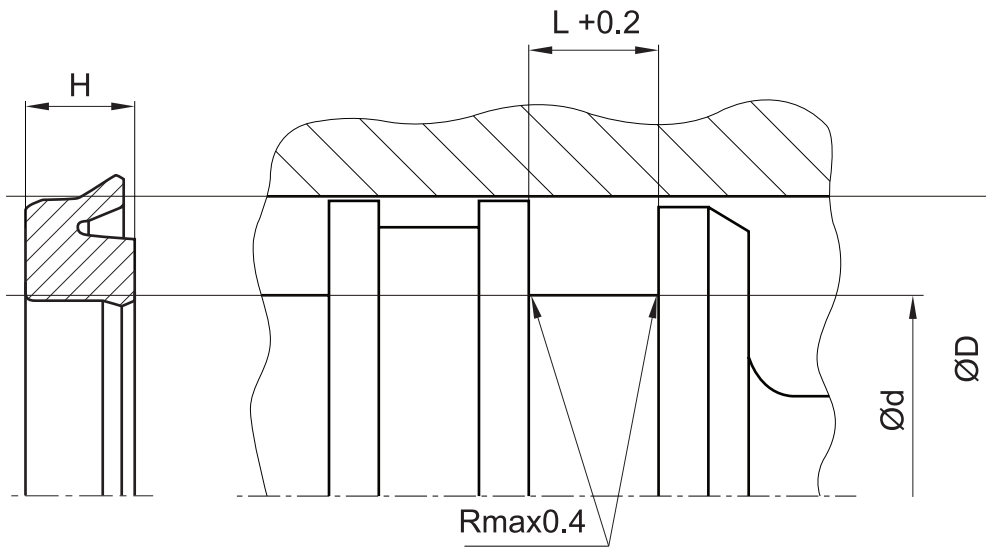
tolerance recommendation

seal housing tolerances	
Ød	h9
ØD	H11



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.