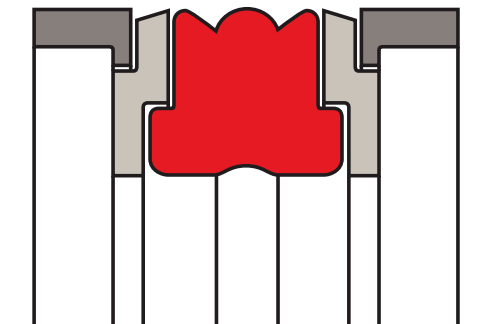


## piston seal K09-SB

## seal spec



### description

the K09-SB is a double-acting seal and guide element comprising an elastomeric profile seal ring, two back-up rings and two guide rings. the profile seal ring seals in both the static and dynamic range whilst the back-up rings prevent extrusion into the sealing gap. the function of the guide rings is to guide the piston in the cylinder tube and to absorb transverse forces. the design provides a compact seal and guide combination for a closed or split installation groove.

this type is characterized by a Z-shaped back-up ring which forms a chamber with the elastomer seal ring on the inside and is centered on the outside by the guide ring. for many piston diameters, the width of the guide ring (dimension L2) can be selected due to side loads. due to the larger groove depth, the profile of the seal ring is more rigid than that of K09-SA and requires higher installation forces.

### application



not bolded symbols; please consult our technical for application limitations

### category of profile

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

### double acting

the K09-SB seal is designed for use as a piston seal.

### area of application: hydraulics

the K09-SA are the recommended sealing element for double acting pistons of hydraulic components such as:

- machine tools
- truck cranes
- forklifts & handling machinery
- agriculture equipment

### advantages

- good sealing effect, also suitable for holding cylinders.
- capable of installation in closed grooves for reduced machining costs.
- economic sealing and guiding solution.
- simple snap installation.

### operating parameters & material

material			temperature	max. surface speed	max. pressure <sup>1</sup>
sealing element	back up ring	guide ring			
s-mart NBR (80 Shore A)	polyester elastomer	s-mart POM <sup>2</sup>	-30 °C ... +100 °C	0,5 m/s	400 bar (40 MPa)

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.

<sup>1</sup> pressure ratings are dependent on the size of the extrusion gap.

<sup>2</sup> POM up to ø260 mm, PA above ø260 mm

media: mineral oil-based hydraulic fluids, flame retardant hydraulic fluids, HFA, HFB, HFC (< +40°C)

**surface quality**

surface roughness	material	Rtmax [ $\mu\text{m}$ ]	Rz DIN [ $\mu\text{m}$ ]	Ra [ $\mu\text{m}$ ]
mating surface	PTFE + .....	0.63 - 2.50	0.40 - 1.60	0.05 - 0.20
	PU & Rubber	1.00 - 4.00	0.63 - 2.50	0.10 - 0.40
groove surface		< 16	< 10.0	< 1.6

**gap dimension**

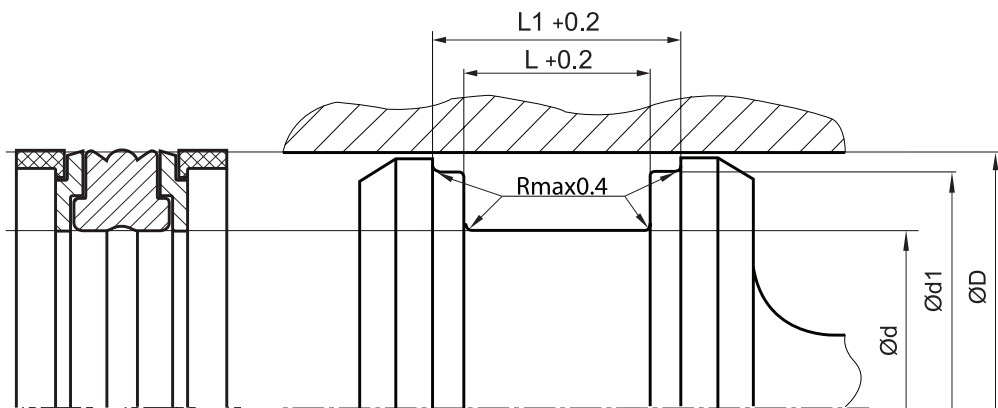
the largest gap dimension occurring on the non-pressurised side of the seal in operation is of vital importance for the function of the seal.

**tolerance recommendation**

seal housing tolerances	
$\varnothing d$	h9
$\varnothing d1$	h9
$\varnothing D$	H9

**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.