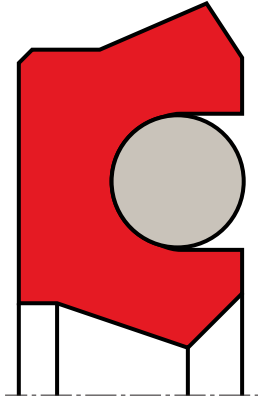


## rod seal S03-SA

## seal spec

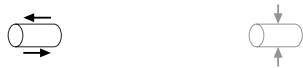


### description

additional to the machined seals the S09-SG and the S09-SF for housings due to ISO 7425/2 (rubber energised plastic seals) the S03-SA has been developed as an injection molded seal of polyurethane material to fit in the same ISO housings. the integrated NBR O-Ring improves the performance at low pressure and low temperature applications. polyurethane is a proved material for U-cups due to their good mechanical properties.

the S03-SA can be installed as a single seal for low to medium duty applications; for sealing systems, the S03-SA shall be installed mainly as a secondary seal together with the S09-SG as primary seals.

### 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 S03-SA seal is designed for use as a rod seal.

### area of application: hydraulics

- general hydraulic cylinders
- injection molding machines
- lift trucks
- agricultural machines

### method of operation

the sealing effect of the S03-SA comes from the intrinsic preload of the seal body and from the compression of the seal lip and the O-Ring during installation. in operation conditions, the radial contact forces are superimposed by the system pressure.

due to the special design and the integrated O-Ring the S03-SA have an excellent sealing behavior with and without pressure activation. the short sealing lip gives better friction values compared to common U-ring.

### advantages

- very good low pressure sealability.
- simple installation.
- lower friction compared with common U-ring.
- installation in ISO 7475/2 grooves.
- very low compression set due to O-Ring.

### operating parameters & material

material		temperature	max. surface speed	max. pressure <sup>1</sup>
sealing element	energizer			
s-mart PU (93 shore A)	NBR 70 shore A	-35°C ... + 110°C	≤ 0.5 m/s	250 bar (25 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.

**gap dimension**

operating pressure	max. safe extrusion gap (mm)
160 bar (16 MPa)	0,60
250 bar (25 MPa)	0,50

**important note:**

the above data are maximum value and can't be used at the same time. e.g. the maximum operating speed depend on material type, pressure, temperature and gap value. temperature range also dependent on medium.

they are designed for an operating temperature of 60°C. (for harsh conditions and high side loads the gap must be reduced by 50%).

**surface quality**

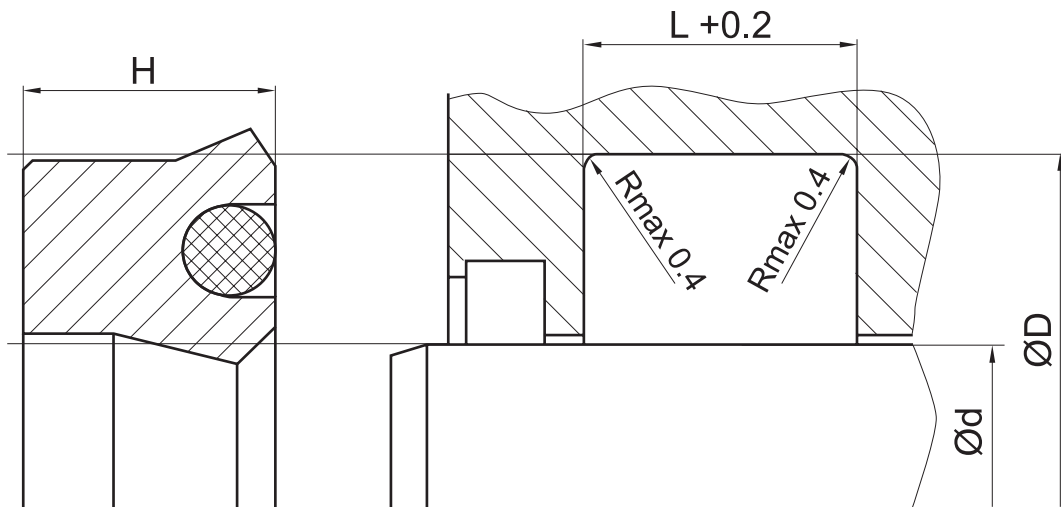
surface roughness	material	Rtmax [μm]	Rz DIN [μm]	Ra [μm]
mating surface	PTFE + .....	0.63 - 2.50	0.40 - 1.60	0.05 - 0.20
	PU & Rubber	1.00 - 4.00	0.63 - 2.50	0.10 - 0.40
groove surface		< 16	< 10.0	< 1.6

**tolerance recommendation**

seal housing tolerances	
Ød	h9
ØD	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.