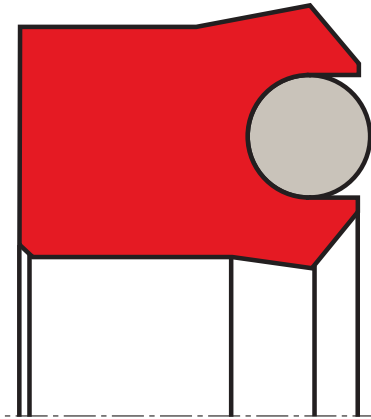


rod seal S07-SA

seal spec



description

profile S07-SA is the consequence of a further development of the lipseal. it combines the advantages of a highly elastic O-ring and the abrasion resistance of a lipseal compound.

this special seal is mainly used in the mobile hydraulic industry because of its special feature the fitted O-ring. the O-ring guarantees the preloading of the seal lips under low pressure or vacuum; this is necessary for the sealing function.

the sealing force is largely independent of temperature variations, and it ensures the necessary preloading even if a certain amount of abrasion takes place. the lip is loaded according to increasing system pressure, transmitted through the pressure-dependent deformation of the O-ring.

rod & piston rod seal with symmetrical seal lips which are cut at an angle of less than 45°. an energising element is integrated in the seal lip area.

application



not bolded symbols; please consult our technical for application limitations

category of profile

machined or molded/standard/trade product.

single acting

the S07-SA seal is designed for use as a rod seal.

area of application: hydraulics

hydraulic, reciprocating movements and high loads.

advantages

- unusually high wear resistance.
- insensibility against shock loads and pressure peaks
- high resistance to extrusion.
- perfect sealing action in no load and low temperature conditions.
- suitable for the most difficult working conditions.
- easy installation.

function

the S07-SA is a single function piston rod seal in the form of a compact U-ring which, due to its symmetrical seal lips, can be used as a rod and piston rod seal. its excellent suitability for extreme loads is provided by the synergy between the geometric of this seal and the special material characteristics of polyurethane. it guarantees effective sealing at low and zero pressures as well as the most difficult operational conditions which would overload conventional elastomer or fabric seals.

operating parameters & material

| material | | temperature | max. surface speed | max. pressure ¹ |
|------------------------|----------------|-------------------|--------------------|----------------------------|
| sealing element | energizer | | | |
| s-mart PU (92 shore A) | NBR 70 shore A | -40°C ... + 100°C | ≤ 0.5 m/s | 400 bar (40 MPa) |
| s-mart PU (93 shore A) | NBR 70 shore A | -35°C ... + 110°C | ≤ 0.5 m/s | 350 bar (35 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.

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

**media**

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

gap dimension

| operating pressure | (ØD - Ød)/2 mm | |
|--------------------|-------------------------|-------|
| | ≤ 7,5 | > 7,5 |
| | safe extrusion gap (mm) | |
| 100 bar (10 MPa) | 0,30 | 0,40 |
| 200 bar (20 MPa) | 0,25 | 0,30 |
| 350 bar (35 MPa) | 0,20 | 0,25 |

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.

surface quality

| surface roughness | Rtmax (µm) | Ra (µm) |
|-------------------|------------|---------|
| running surface | ≤ 2.5 | ≤ 0.6 |
| bottom of groove | ≤ 6.3 | ≤ 1.6 |
| side of groove | ≤ 15 | ≤ 4.0 |

tolerance recommendation

| seal housing tolerances | |
|-------------------------|----|
| Ød | f8 |
| ØD | H9 |

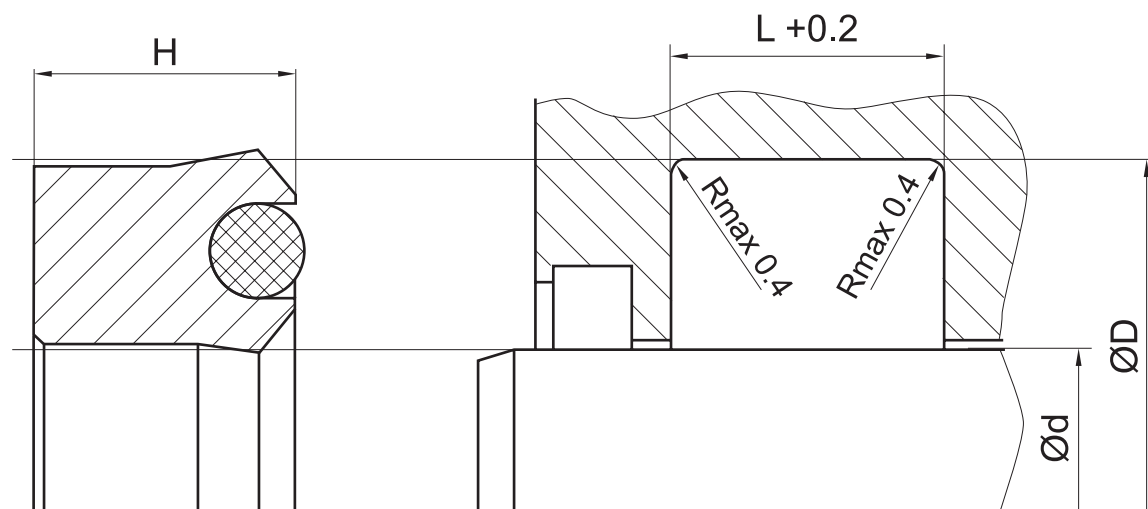
fitting & installation

the S07-SA, with an inner diameter of 25 mm and a thinner profile can always be installed in cut housing. due to the high tensile resistance of polyurethane, it is necessary to use installation tools for thick seals. with an inner diameter of less than 25 mm, we recommend axially accessible housing. to push the cylinder head and seal over the piston rod or the piston rod and seal into the cylinder without damaging the seal, an lead-in chamfer C acc. to the following table is required;

| profile width (mm) | lead-in chamfer C (mm) |
|--------------------|------------------------|
| 4 | 2 |
| 5 | 2,5 |
| 7,5 | 4 |
| 10 | 5 |
| 12,5 | 6,5 |
| 15 | 7,5 |
| 20 | 10 |
| 25 | 10 |

**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.