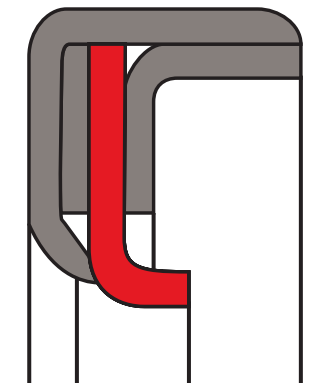


oil seal R99

seal spec



description

rotary shaft seal with a PTFE sealing lip and an elastomer pre-tension ring which is clamped between two metal cages. non mould production.

application



category of profile

molded/standard/trade product only.

single acting rotary shaft seal

area of application

sealing of rotating machine elements, such as shafts, hubs and axles at high peripheral speeds, high pressures and/or high temperatures. sealing of aggressive chemicals due to the excellent chemical resistance of PTFE. for dry operation or applications with insufficient lubrication due to the very good friction coefficient of PTFE.

function

the R99 is a single action rotary shaft seal for rotating or pivoting shafts with a very long lifespan. good sealing action is guaranteed by the pre-stressed PTFE sealing lip on the shaft. the very low friction coefficient of the PTFE material prevents a stick-slip effect, lowers the starting resistance and is therefore also a good choice for dry operation or applications with insufficient lubrications. the R99 can be used at high peripheral speeds as limited thermal development occurs. it is suitable for large pressure loads, optionally 5/10/25 bar. tight and accurate fitting is achieved by the metal outer casing. the R99 design has limited sealing action with thin fluid and gaseous media and in split housings. to guarantee a high degree of static sealing on the outer surface, better surface treatment of the housing bore is required or an additional coat of paint should be applied to the metal outer casing.

media

all type of oil, water, water/oil emulsion, hot air, broadest chemical resistance to almost all aggressive media.

operating parameters & material

material			temperature	max. surface speed	max. pressure ¹
sealing element	elastomer ring	metal cages			
s-mart PTFE glass	FKM	steel 1.4404 (AISI 316L)	-90 °C ... +250 °C	40 m/s	25 bar (2,5 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.

**surface quality**

surface roughness	Rtmax [μm]	Rz (μm)	Ra (μm)
shaft	$\leq 6,3$	$\leq 1,0-5,0$	$\leq 0,2-0,8$
bottom of groove	≤ 25	$\leq 10-25$	$\leq 1,6-6,3$

hardness 45 ... 60 HRC

tolerance recommendation

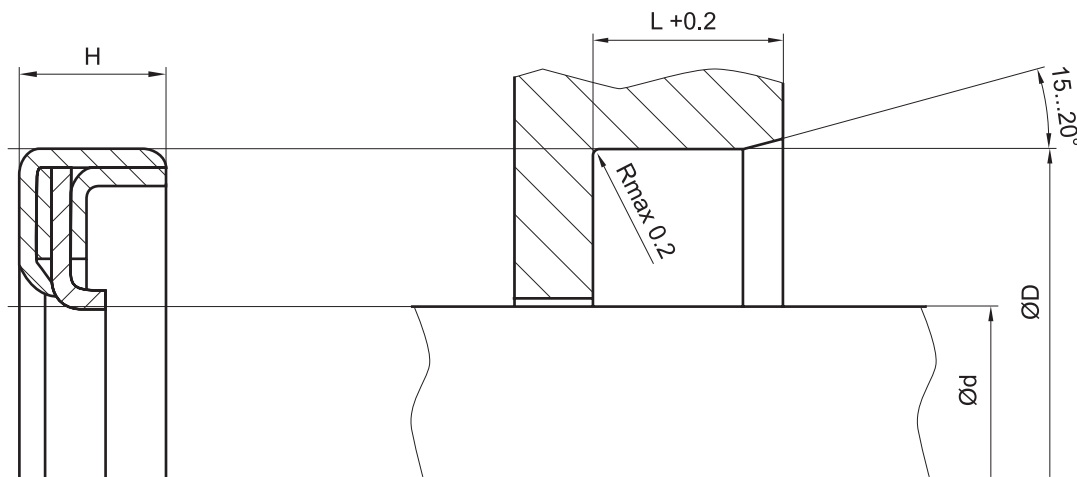
seal housing tolerances	
$\varnothing d$	f8/h11
$\varnothing D$	H8

fitting & installation

the outer diameter of the metal outer casing is centralised in the housing by press-fitting. the installation housing tolerances are in accordance with those in DIN 3760. suitable tools should be used for installation. it is recommended that the installation housing is designed to provide the rotary shaft seal with axial support. the PTFE sealing lip must not be damaged during installation. for this reason, we recommend using an installation cone.

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.