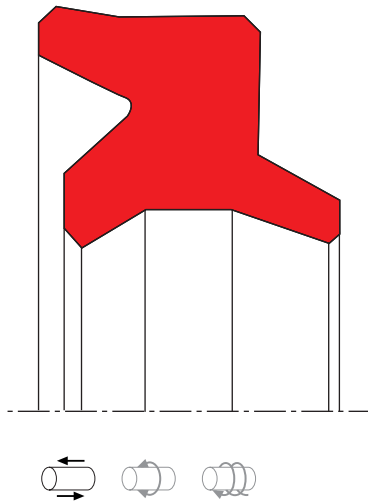


# SEAL SPEC A11-A

seal-mart | 



## description

wiper including additional sealing lip used in combination with o-ring activated PTFE seals (tandem) to reduce residual oil film. also used as complete solution for pneumatic applications in small diameter range. max. allowed pressure load: 16 bar (230 psi).

- + the seal profile and close machining tolerances provide a good static seal for the outside diameter, assisting in the prevention of ingress of humidity and foreign matter via the outside diameter.
- + the design of the wiping lip aids recovery of the residual oil film; any dirt is wiped off reliably.
- + no special retainers or narrow housing fits are necessary.
- + in addition, the sealing lip reduces the residual oil film on the side of the medium if composite seals, on PTFE basis, (e.g. S09) are used (tandem arrangement).
- + this design is also used as a complete seal for pneumatic applications with small diameters and leads to a simplification of the sealing structure. in the standard design, pressurisation should be limited to 16 bar.

## category of profile

machined or molded/standard/trade product.

## double acting

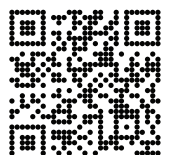
the A11-A seal is designed for use as a wiper.

## area of application; hydraulics/pneumatic

- double wiper rings profil A11-A are designed for axially operated rods in hydraulic and pneumatic cylinders, lifters, and rod guidances.
- reciprocating rods on hydraulic cylinders.
- push rods and valve stems.
- materials must be selected according to operating requirements.
- use the A11-I design mounting space according to ISO 6195-1986 type C.
- medium to heavy dirt load.

## function

A11-A and A11-I wipers are designed to keep dust, dirt, sand and metal chips away from the sealing and guiding elements, thereby avoiding abrasive damage caused by external contamination. slave sealing applications are possible.



# SEAL SPEC A11-A

## operating parameter & material

sealing element	material energizer	back-up ring	temperature	max surface speed	max pressure <sup>1</sup>	hydrolysis	dry running	wear resistance
PU			-30 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	-	+	++
HPU			-20 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	++	+	++
LTPU			-30 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	-	+	++
SPU			-20 °C ... +100 °C	5 m/s	16 bar (1,6 MPa)	++	++	++
GPU			-30 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	++	+	++
NBR			-20 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	-	-	o
FKM			-30 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	-	-	o
EPDM			-20 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	++	-	o
HNBR			-30 °C ... +100 °C	4 m/s	16 bar (1,6 MPa)	+	o	+

<sup>1</sup> pressure ratings are dependent on the size of the extrusion gap.  
attention: not suitable for mineral oils!

++ particularly suitable

+ suitable

o conditional suitable

- not suitable

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.

for detailed information regarding chemical resistance please refer to our "list of resistance". for increased chemical and thermal resistance rubber materials are to be preferred, polyurethan materials increase wear resistance.

## surface quality

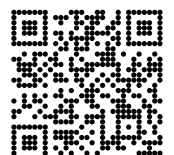
surface roughness	Rtmax (µm)	Ra (µm)
sliding surface	according to seal data	
bottom of groove	≤6,3	≤1,6
groove face	≤15	≤3

## mode of installation

the prerequisites for perfect functioning are careful fitting and an accurately dimensioned mounting space. in general, wipers snap easily into their housings when distorted into a kidney shape (over 20mm diameter).

## tolerance recommendation

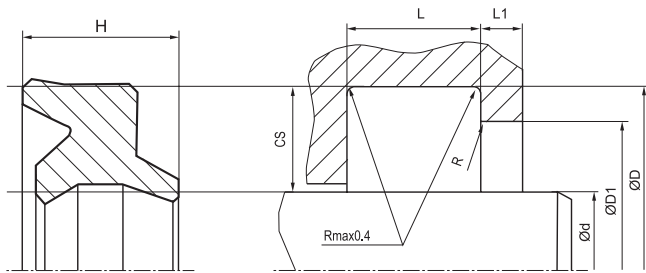
seal housing tolerance		cs	R[mm]
L < 10 mm	0,2	≤ 5	max. 0,3
L ≥ 10 mm	0,3	>5.....≤ 7,5	max. 0,4
D1	H11	>7,5...≤ 10	max. 0,6
D	H11	> 10	max. 0,8



# SEAL SPEC A11-A

## 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...



## fitted

