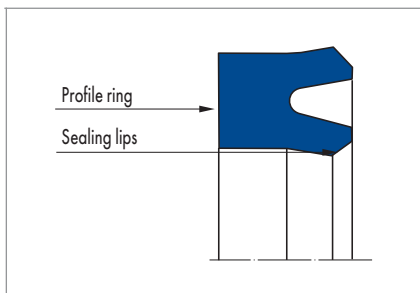


MERKEL U-RING N 100, AUN 100



PRODUCT DESCRIPTION

Merkel U-ring with symmetrical profile and set back sealing edges for rods/ pistons.

PRODUCT ADVANTAGES

Single-acting piston or rod seal, preferably for spare parts requirements.

APPLICATION

- Forestry equipment
- Loading platforms
- Agricultural machinery
- Injection moulding machines
- Standard cylinders
- Special cylinders

MATERIAL

N 100

Werkstoff	Bezeichnung	Härte
Nitrile rubber	90 NBR 109	90 Shore A

AUN 100

Werkstoff	Bezeichnung	Härte
Polyurethane	94 AU 925	94 Shore A

OPERATING CONDITIONS

Pressure p (NBR)	10 MPa
Pressure p (AU)	30 MPa
Running speed v	0,5 m/s

Medium/ Temperature	90 NBR 109	94 AU 925
Hydraulic oils HL, HLP	-30 °C ... +100 °C	-30 °C ... +110 °C
HFA fluids	+5 °C ... +60 °C	+5 °C ... +50 °C
HFB fluids	+5 °C ... +60 °C	+5 °C ... +50 °C
HFC fluids	-30 °C ... +60 °C	-30 °C ... +40 °C
HFD fluids	-	-
Water	+5 °C ... +90 °C	+5 °C ... +40 °C
HETG (rapeseed oil)	-30 °C ... +80 °C	-30 °C ... +60 °C
HEES (synthetic ester)	-	-30 °C ... +60 °C
HEPG (glycol)	-30 °C ... +60 °C	-30 °C ... +40 °C
Mineral greases	-30 °C ... +100 °C	-30 °C ... +110 °C

DESIGN NOTES

Please observe our general design notes in → Technical Manual.

Surface quality

Peak-to-valley heights	R_a	R_{max}
Sliding surface	0,05 ... 0,3 μm	$\leq 2,5 \mu\text{m}$
Groove base	$\leq 1,6 \mu\text{m}$	$\leq 6,3 \mu\text{m}$
Groove flanks	$\leq 3,0 \mu\text{m}$	$\leq 15,0 \mu\text{m}$

Percentage contact area M_v >50% to max. 90% at cutting depth $c = R_z/2$ and reference line $C_{ref} = 0\%$.

Admissible gap dimension

The decisive factor for the function of the seal is the largest gap dimension occurring during operation on the non-pressurised side of the seal. → Technical Manual.

N 100 (material 90 NBR 109)

Profile dimension	5 MPa	10 MPa	16 MPa
$\leq 5 \text{ mm}$	0,45 mm	0,25 mm	0,15 mm
$> 5 \text{ mm}$	0,50 mm	0,30 mm	0,20 mm

AUN 100 (material 94 AU 925)

Profile dimension	10 MPa	16 MPa	30 MPa
$\leq 5 \text{ mm}$	0,45 mm	0,35 mm	0,25 mm
$> 5 \text{ mm}$	0,50 mm	0,40 mm	0,30 mm

Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing D_2 (rod seal) or d_2 (piston seal).[®] Technical Manual.

FITTING & INSTALLATION

Careful fitting is a prerequisite for the correct function of the seal. → Technical Manual. Note: the use of male adaptors increases the reliability. Further information is available on enquiry.