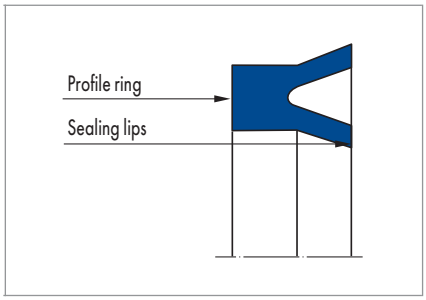
MERKEL U-RING N 1, AUN 1



PRODUCT DESCRIPTION

Merkel U-ring with symmetrical profile for rods/pistons.

PRODUCT ADVANTAGES

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

APPLICATION

- Loading platforms
- Agricultural machinery
- Cranes
- Injection moulding machines
- Standard cylinders
- Special cylinders

MATERIAL

N1

Material	Code	Hardness
Nitrile rubber	90 NBR 109	90 Shore A

AUN1

Material	Code	Hardness
Polyurethane	94 AU 925	94 Shore A

OPERATING CONDITIONS

Pressure p (NBR)	10 MPa
Pressure p (AU)	20 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	≤2,5 µm
Groove base	≤1,6 µm	≤6,3 µm
Groove flanks	≤3,0 µm	≤15,0 µm

Percentage contact area M_r >50% to max. 90% at cutting depth c = Rz/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 1 (material 90 NBR 109)

Profile dimension	2,5 MPa	5 MPa	7,5 MPa	10 MPa
≤5 mm	0,45 mm	0,35 mm	0,30 mm	0,25 mm
>5 mm	0,50 mm	0,40 mm	0,35 mm	0,30 mm

AUN 1 (material 94 AU 925)

Profile dimension	5 MPa	10 MPa	20 MPa
≤5 mm	0,55 mm	0,40 mm	0,35 mm
>5 mm	0,66 mm	0,45 mm	0,40 mm

Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing D2 (rod seal) or d2 (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.