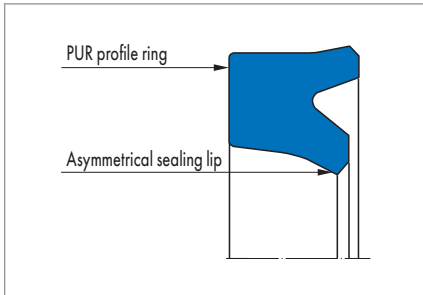


Merkel U-Ring T 20



Product description

Merkel U-ring with asymmetrical profile, inner lip set back and press fit at the outside diameter.

Product advantages

Single-acting rod seal for standardised housings, amongst others, according to ISO 5597, very suitable as a secondary seal within a sealing system.

- Good media resistance
- Wide operating temperature range
- Very good static and dynamic tightness
- Low breakaway force (in comparison to compact seals or U-rings with secondary sealing edge in corresponding material)
- Dynamic deformation value

Application

- Earth moving equipment
- Fork-lift trucks
- Loading platforms
- Agricultural machinery
- Cranes
- Injection moulding machines
- Standard cylinders
- Support cylinders

Material

<500 mm

Material	Code	Hardness	Colour
Polyurethane	95 AU V142	95 Shore A	Blue

>500 mm

Material	Code	Hardness	Colour
Polyurethane	93 AU V167	93 Shore A	Red

Operating conditions

Pressure p	40 MPa
Running speed v	0,5 m/s

If a Merkel U-Ring T 20 is used as a secondary seal, higher running speeds may be permitted.

Medium/ Temperature	93 AU V167	95 AU V142
Hydraulic oils HL, HLP	-25 °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	-25 °C	-30 °C ... +40 °C
HFD fluids	-	-
Water	+5 °C ... +60 °C	+5 °C ... +50 °C
HETG (rapeseed oil)	-25 °C ... +60 °C	-30 °C ... +60 °C
HEES (synthetic ester)	-25 °C ... +80 °C	-30 °C ... +80 °C
HEPG (glycol)	-25 °C ... +50 °C	-30 °C ... +50 °C
Mineral greases	-25 °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.

Profile dimension	16 MPa	26 MPa	32 MPa	40 MPa
<5,0 mm	0,45 mm	0,40 mm	0,35 mm	-
>5,0 mm ... ≤7,5 mm	0,50 mm	0,45 mm	0,40 mm	0,35 mm
>7,5 mm ... ≤12,5 mm	0,55 mm	0,50 mm	0,45 mm	0,40 mm
15,0 mm	0,60 mm	0,55 mm	0,45 mm	0,40 mm
>15,0 mm ... ≤20,0 mm	0,65 mm	0,60 mm	0,50 mm	0,45 mm
>20,0 mm ... ≤25,0 mm	0,65 mm	0,60 mm	0,50 mm	0,45 mm

The dimensions D1 and DF are to be viewed in connection with the guide elements used.

Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing D2. → Technical Manual.

Nominal Ø d	D
≤400 mm	H11
>400 mm	+0,4

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Fitting & installation

Careful fitting is a prerequisite for the correct function of the seal.

→ Technical Manual.