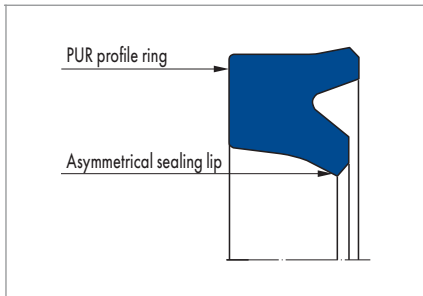


# MERKEL U-RING T 20



## 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
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Running speed v	0,5 m/s
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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 <sub>a</sub>	R <sub>max</sub>
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<sub>p</sub> >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

## FITTING & INSTALLATION

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

→ Technical Manual.