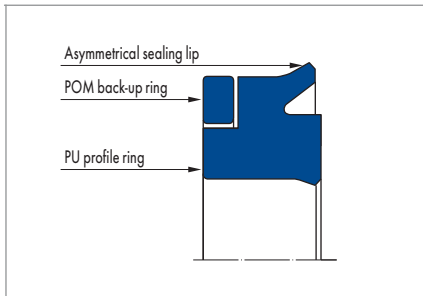


# MERKEL U-RING T 18



## PRODUCT DESCRIPTION

Merkel U-ring with integrated back-up ring, asymmetrical profile with pressure-relieving grooves, outer lip set back and press fit at the inside diameter.

## PRODUCT ADVANTAGES

Single-acting piston seal also for standardised housings according to ISO 5597.

- Very good static and dynamic tightness
- High extrusion resistance (back-up ring)
- "back-to-back" arrangement for pistons with pressure on both sides
- High reliability
- Relief grooves against dynamic drag pressure

## APPLICATION

- Earth moving equipment
- Scrap presses
- Heavy duty earth moving equipment

## MATERIAL

### Profile ring

Material	Code	Hardness
Polyurethane	95 AU V142	95 Shore A

### Back-up ring

Material	Code	Hardness
Polyacetal	POM PO202	–

Other materials are available on request.

## OPERATING CONDITIONS

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

Medium/ Temperature	95 AU V142/POM PO202
Hydraulic oils HL, HLP	–30 °C ... +110 °C
HFA fluids	+5 °C ... +50 °C
HFB fluids	+5 °C ... +50 °C
HFC fluids	–30 °C ... +40 °C
HFD fluids	–
Water	+5 °C ... +50 °C
HETG (rapeseed oil)	–30 °C ... +60 °C
HEES (synthetic ester)	–30 °C ... +80 °C
HEPG (glycol)	–30 °C ... +50 °C
Mineral greases	–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 $\mu\text{m}$	$\leq 2,5 \mu\text{m}$
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  $c = Rz/2$  and reference line  $C_{ref} = 0\%$ .

### Admissible gap dimension

The largest gap dimension occurring on the non-pressurised side of the seal in operation is of vital importance for the function of the seal. → Technical Manual. Regard must be paid to the dimensions  $d_1$  and  $d_f$  in relation with the guide element used.

Profile dimension	16 MPa	26 MPa	32 MPa	40 MPa
7,5 mm	0,80 mm	0,70 mm	0,50 mm	0,40 mm
>7,5 mm	1,05 mm	0,90 mm	0,85 mm	0,80 mm

### Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing  $d_2$ . → Technical Manual.

Nominal $\varnothing D$	D	d
$\leq 400 \text{ mm}$	H8	h11

## FITTING & INSTALLATION

We recommend the use of a fitting tool for the fitting. Careful fitting is a prerequisite for the correct function of the seal. → Technical Manual.