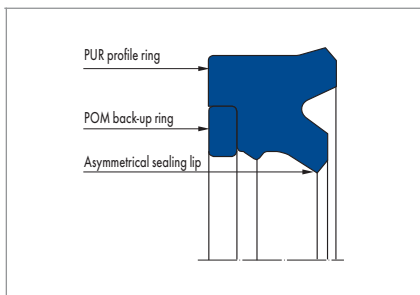


# MERKEL U-RING T 23



## PRODUCT DESCRIPTION

Two-piece Merkel seal set with shortened inner lip and active back-up ring with press fit at the outside diameter.

## PRODUCT ADVANTAGES

The Merkel U-Ring T 23 is mainly used with high pressures and is designed for housings according to ISO 5597.

- Bridges large gaps even with high pressures
- Wide operating temperature range
- Very good static and dynamic tightness
- High resistance to wear

## APPLICATION

- Earth moving equipment
- Marine hydraulics
- Scrap cutters
- Steel hydraulics engineering
- Support cylinders
- Heavy-duty mobile hydraulics

## MATERIAL

| Material     | Code       | Hardness   | Colour |
|--------------|------------|------------|--------|
| Polyurethane | 95 AU V142 | 95 Shore A | Blue   |
| Polyacetal   | POM PO202  | -          | Red    |

## OPERATING CONDITIONS

|                 |         |
|-----------------|---------|
| Pressure p      | 50 MPa  |
| Running speed v | 0,1 m/s |

| Medium/<br>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 <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.

| BR     | 16 MPa  | 26 MPa  | 32 MPa  | 40 MPa  |
|--------|---------|---------|---------|---------|
| 3,5 mm | 0,80 mm | 0,70 mm | 0,50 mm | 0,40 mm |
| 5,0 mm | 1,20 mm | 1,00 mm | 0,65 mm | 0,50 mm |
| 7,5 mm | 1,80 mm | 1,40 mm | 0,90 mm | 0,70 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. → Technical Manual. Dimensions D1 and DF must be considered in connection with the guide element used.

| Nominal Ø d | D   | d  |
|-------------|-----|----|
| ≤400 mm     | H10 | f8 |

## FITTING & INSTALLATION

Careful fitting is a prerequisite for the correct function of the seal. → Technical Manual. Dimensions listed in the table of dimensions with "h" can be fitted by hand into plunge-cut grooves. Articles identified with "w" can be easily fitted into plunge-cut grooves with a fitting tool. We will be pleased to supply a design drawing for this on enquiry.