

# Merkel U-Ring T 23

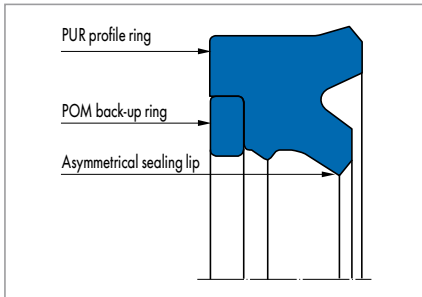


Fig. 1 Merkel U-ring T23

## 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, steel hydraulics engineering, heavy-duty mobile hydraulics, marine hydraulics, support cylinders, scrap cutters.

## Material

Material	Code	Hardness
Polyurethane	95 AU V142	95 Shore A
Material	Code	
Polyacetal	POM PO202	

## Operating conditions

Material	95 AU V142/POM PO202
	Temperature range in °C
Hydraulic oils HL, HLP	-30 ... +110
HFA fluids	+5 ... +50
HFB fluids	+5 ... +50
HFC fluids	-30 ... +40
HFD fluids	-
Water	+5 ... +50
HETG (rapeseed oil)	-30 ... +60
HEES (synthetic ester)	-30 ... +80
HEPG (glycol)	-30 ... +50
Mineral greases	-30 ... +110
Pressure p in MPa	50
Running speed v in m/s	0,1

## Surface quality

Surface roughness	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>v</sub> >50% to max. 90% at cutting depth c = Rz/2 and reference line C ref = 0%.

## Design notes

Please observe our general design notes in → Technical Manual.

### 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.

### Tolerance recommendation and dimension D2

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.

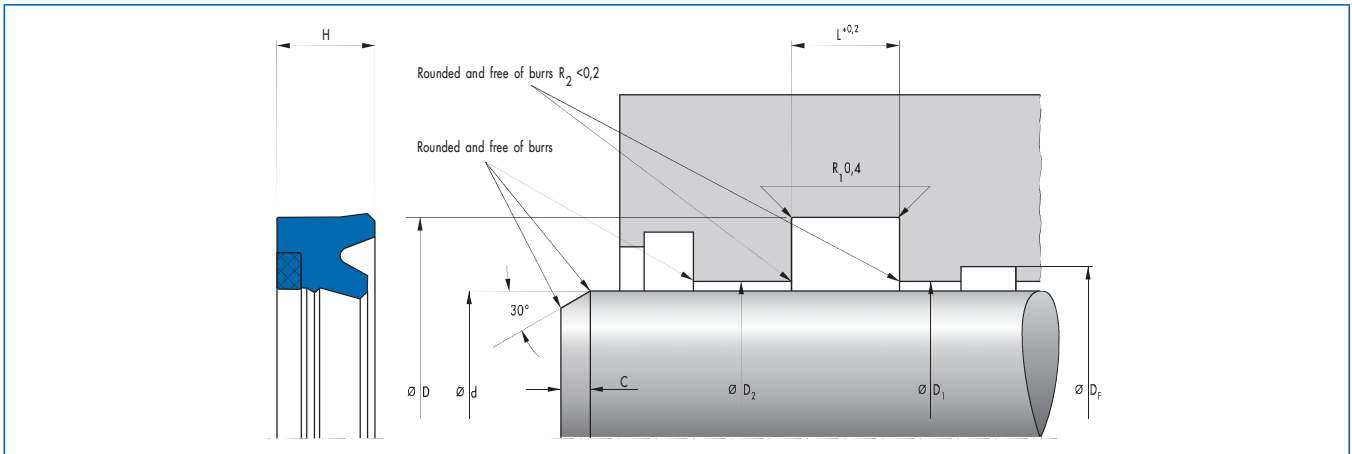
Dimensions D1 and DF must be considered in connection with the guide element used.

Nominal Ø D	Profile	16 MPa			26 MPa			32 MPa			40 MPa		
		D	d	X <sub>2</sub>	D	d	X <sub>2</sub>	D	d	X <sub>2</sub>	D	d	X <sub>2</sub>
... 180	7,5 ... 8,5 (BR 3,5)	H10	f8	0,8	H10	f8	0,7	H10	f8	0,50	H10	f8	0,4
> 180 ... 310	7,5 ... 15,0 (BR 5,0)	H10	f8	1,2	H10	f8	1,0	H10	f8	0,65	H10	f8	0,5
> 310 ... 400	12,5 ... 15,0 (BR 7,5)	H10	f8	1,8	H10	f8	1,4	H10	f8	0,90	H10	f8	0,7

## 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.

Article list



d	D	H	L	Profile	C	Fitting	Housing	Material	Article No.	
40	55	11,4	12,5	7,5	6	W	ISO	95 AU V142	24302155	○
50	65	11,4	12,5	7,5	6	W	ISO	95 AU V142	24302156	○
60	75	11,4	12,5	7,5	6	W		95 AU V142	24302157	●
70	85	11,4	12,5	7,5	6	W	ISO	95 AU V142	24295613	●
80	95	11,4	12,5	7,5	6	W	ISO	95 AU V142	24302158	●
80	100	14,6	16	10	7	W	ISO	95 AU V142	24332093	●
90	110	14,6	16	10	7	W	ISO	95 AU V142	24265875	●
100	115	14,6	16	7,5	6	W		95 AU V142	24377482	○
100	120	14,6	16	10	7	W	ISO	95 AU V142	24302127	●
110	125	14,6	16	7,5	6	W		95 AU V142	24377483	○
110	130	14,6	16	10	7	W	ISO	95 AU V142	24265876	●
120	135	14,6	16	7,5	6	W		95 AU V142	24344467	○
125	140	11,4	12,5	7,5	6	H		95 AU V142	24332131	○
125	145	14,6	16	10	7	H	ISO	95 AU V142	24302159	●
140	160	14,6	16	10	7	H	ISO	95 AU V142	24302160	●
170	185	14,6	16	7,5	6	H		95 AU V142	24306416	●
170	190	14,6	16	10	7	H		95 AU V142	24377490	○
180	195	11,4	12,5	7,5	6	H		95 AU V142	24377491	○
180	200	19,1	21	10	7	H		95 AU V142	24332132	●

● Available from stock ○ On request: Tool is available, delivery at short notice

Fitting: H = by hand; W = with fitting tool; blank = axially accessible housing