

Merkel U-Ring NI 400

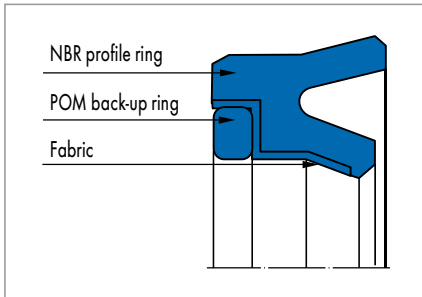


Fig. 1 Merkel U-Ring NI 400

Product description

Merkel U-ring with asymmetrical profile of the sealing lips, fabric reinforcement on the dynamic sealing side and back-up ring as a gap sealing component.

Product advantages

Single-acting rod seal for medium loads, predominantly for spare parts requirements.

Application

Heavy duty earth moving equipment, industrial vehicles, presses, control and regulation equipment.

Material

Sealing component

Material	Code	Hardness
Nitrile rubber NBR	80 NBR 878	80 Shore A

Back-up ring

Material	Code
Polyacetal	POM 992020

Operating conditions

Material	80 NBR 878/POM
	Temperature range in °C
Hydraulic oils HL, HLP	-30 ... +100
HFA fluids	+5 ... +60
HFB fluids	+5 ... +60
HFC fluids	-30 ... +60
HFD fluids	-
Water	+5 ... +90
HETG (rapeseed oil)	-30 ... +80
HEES (synthetic ester)	-
HEPG (glycol)	-30 ... +60
Mineral greases	-30 ... +100
Pressure p in MPa	40
Running speed v in m/s	0,5

Surface quality

Surface roughness	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_v >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.

Profile	Max. permissible gap dimension			
	16 MPa	26 MPa	32 MPa	40 MPa
≤80	0,60	0,50	0,40	0,35
>80	0,65	0,55	0,45	0,40

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.

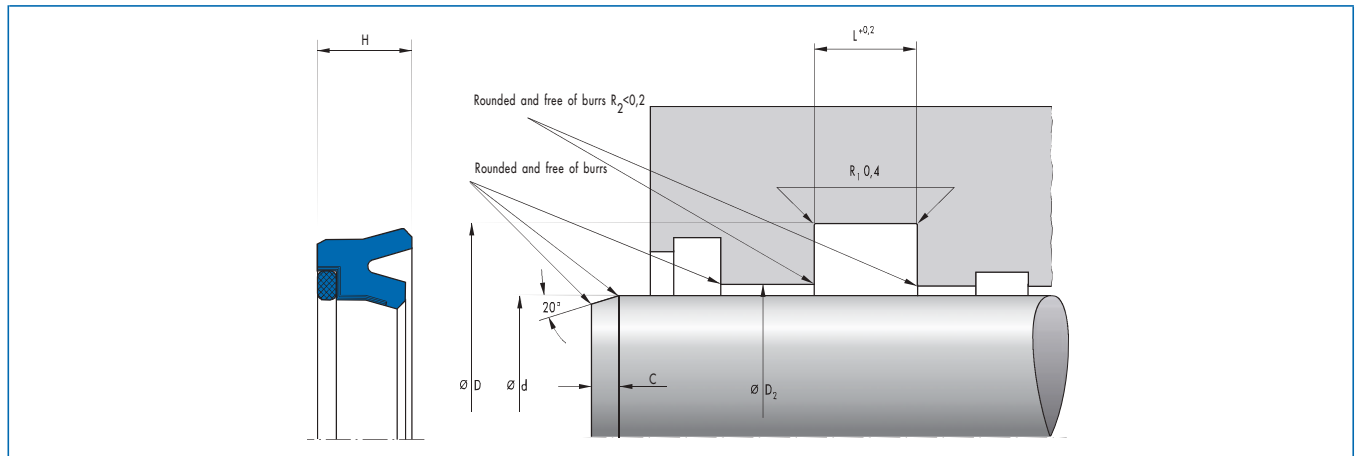
Nominal Ø d	d	D
≤360	f8	H11

Fitting & installation

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

→ Technical Manual.

Article list



d	D	H	L	Profile	C	Fitting	Material	Article No.	
20	30	8	9	5	4,5		80 NBR M00878	24338	●
20	35	10	11	7,5	5,5		80 NBR M00878	24341	○
22	32	8	9	5	4,5		80 NBR M00878	24349	○
25	35	8	9	5	4,5		80 NBR M00878	24398	●
25	40	10	11	7,5	5,5		80 NBR M00878	24408	○
28	38	8	9	5	4,5		80 NBR M00878	24426	○
30	45	10	11	7,5	5,5		80 NBR M00878	4450	●
32	47	10	11	7,5	5,5		80 NBR M00878	24466	●
35	50	10	11	7,5	5,5		80 NBR M00878	3967	○
36	51	10	11	7,5	5,5		80 NBR M00878	24467	●
40	55	10	11	7,5	5,5		80 NBR M00878	24468	●
40	60	12	13	10	6		80 NBR M00878	24479	○
45	60	10	11	7,5	5,5		80 NBR M00878	24489	●
45	65	12	13	10	6		80 NBR M00878	24541	○
50	65	10	11	7,5	5,5		80 NBR M00878	24575	●
50	70	12	13	10	6		80 NBR M00878	24591	●
55	75	12	13	10	6		80 NBR M00878	4459	○
56	71	10	11	7,5	5,5	W	80 NBR M00878	24600	○
60	75	10	11	7,5	5,5	W	80 NBR M00878	3612	●
60	80	12	13	10	6		80 NBR M00878	30007	○
63	78	10	11	7,5	5,5	W	80 NBR M00878	24619	○
63	83	12	13	10	6		80 NBR M00878	24624	○
65	85	12	13	10	6		80 NBR M00878	4479	○
70	85	10	11	7,5	5,5	W	80 NBR M00878	24632	●
70	90	12	13	10	6		80 NBR M00878	24633	●
75	90	10	11	7,5	5,5	W	80 NBR M00878	30946	○
80	95	10	11	7,5	5,5	W	80 NBR M00878	24638	●
80	100	12	13	10	6	W	80 NBR M00878	24647	●
80	105	15	16	12,5	6,5		80 NBR M00878	24648	○
90	110	12	13	10	6	W	80 NBR M00878	24651	●
90	115	15	16	12,5	6,5	H	80 NBR M00878	24655	○
100	120	12	13	10	6	W	80 NBR M00878	24670	●
100	125	15	16	12,5	6,5	W	80 NBR M00878	24721	○
110	130	12	13	10	6	H	80 NBR M00878	24722	○
110	135	15	16	12,5	6,5	W	80 NBR M00878	24724	○

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

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

d	D	H	L	Profile	C	Fitting	Material	Article No.	
115	140	15	16	12,5	6,5	W	80 NBR M00878	24225	○
125	145	12	13	10	6	H	80 NBR M00878	24725	●
125	150	15	16	12,5	6,5	W	80 NBR M00878	24726	○
140	160	12	13	10	6	H	80 NBR M00878	24728	○
140	165	15	16	12,5	6,5	H	80 NBR M00878	24729	○
150	180	18	19	15	7,5	W	80 NBR M00878	4484	○
160	185	15	16	12,5	6,5	H	80 NBR M00878	4496	○
170	200	18	19	15	7,5	H	80 NBR M00878	3624	○
180	205	15	16	12,5	6,5	H	80 NBR M00878	4503	○
200	225	15	16	12,5	6,5	H	80 NBR M00878	4506	○
220	245	15	16	12,5	6,5	H	80 NBR M00878	4515	○
220	250	18	19	15	7,5	H	80 NBR M00878	4516	○
360	400	23	24	20	11	H	80 NBR M00878	4560	○

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