

# Merkel Rotomatic M 17

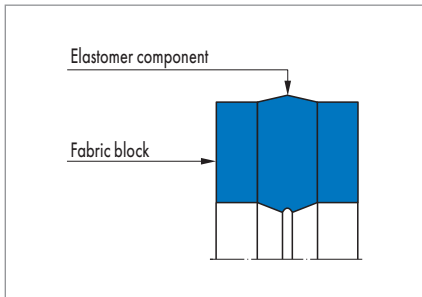


Fig. 1 Merkel Rotomatic M 17

## Product description

Single-piece Merkel sealing ring comprising an elastomer part firmly set by fabric blocks on both sides which is provided with an oil groove at the contact area.

## Product advantages

Double-acting rod seal for pivoting motions in hydraulic systems, preferably for usage in hydraulic joints and rotary joints

- Wear-resistant
- Secure static sealing.

## Application

Excavators, grippers, rotary joints.

## Material

Material	Code
Nitrile rubber NBR	80 NBR B246/BI-NBR B3B248

## Operating conditions

Material	80 NBR B246/BI-NBR B3B248
	Temperature range in °C
Hydraulic oils HL, HLP	-30 ... +80
HFA fluids	+5 ... +60
HFB fluids	+5 ... +60
HFC fluids	-30 ... +60
HFD fluids	-
Water	+5 ... +80
HETG (rapeseed oil)	-30 ... +80
HEES (synthetic esters)	-30 ... +80
HEPG (glycol)	-30 ... +60
Mineral greases	-30 ... +80
Pressure p in MPa	20
Running speed v in m/s	0,1

If the seal set is to be used for permanent rotational movement, please consult us first. Other material combinations are available on request.

## Surface quality

Surface roughness	$R_a$	$R_{max}$
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	$\leq 3,0 \mu\text{m}$	$\leq 15,0 \mu\text{m}$

The surface hardness must be approx. 45 to 60 HRC (depth of hardening min. 0,5 mm). Percentage contact area  $M_c$  >50% to max 90% at cutting depth  $c = Rz/2$  and reference line  $C_{ref} = 0\%$ . Abrasive surfaces, ridges, scratches and blow-holes are to be avoided.

## Design notes

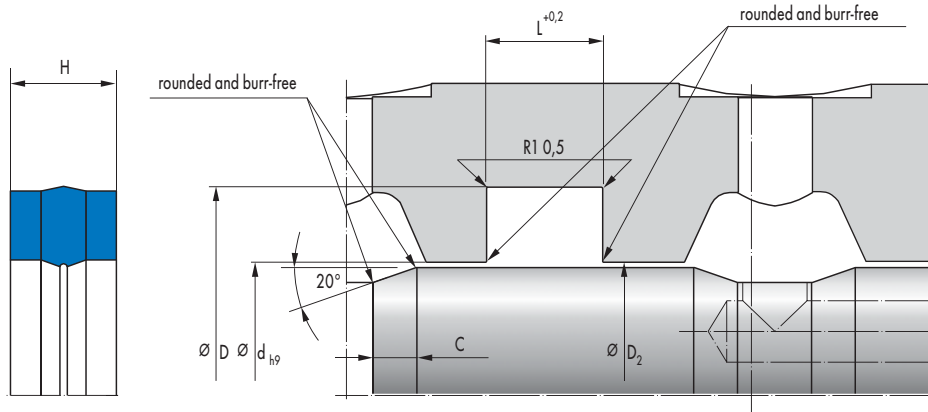
Please observe our general design notes in → Technical Manual.

## Tolerance recommendation

Recommended fit for pressures up to 20 MPa

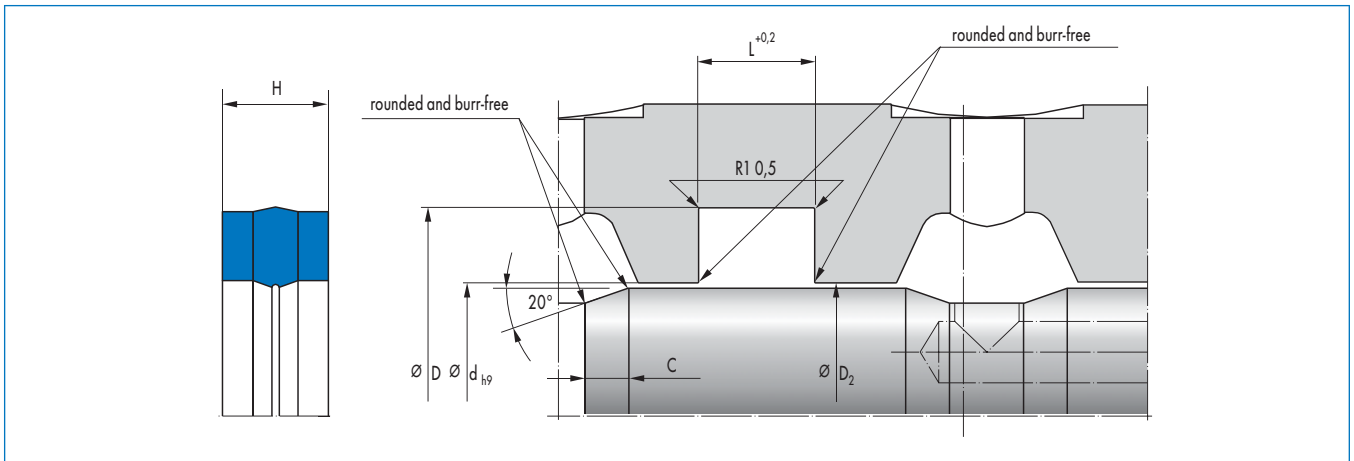
Nominal $\varnothing d$	Borehole	Shaft	Groove base
... 60	H8	f8	H9
>60	H7	f7	H9

## Article list



d	D	L	C	Profile	Material	Article No.	
10	18	6,5	3	4	80 NBR B246	24024279	●
20	28	6,5	2,5	4	80 NBR B246	24024285	●
22	30	6,5	2,5	4	80 NBR B246	24024286	●
25	35	8	3	5	80 NBR B246	24024287	●
28	38	8	3	5	80 NBR B246	24024288	○
30	40	8	3	5	80 NBR B246	24024289	●
32	42	8	3	5	80 NBR B246	24024290	●
35	45	8	3	5	80 NBR B246	24024291	●
36	46	8	3	5	80 NBR B246	24024292	○
40	52	8	3	6	80 NBR B246	24024212	●
42	54	8	3	6	80 NBR B246	24024293	●
45	57	8	3	6	80 NBR B246	24024294	●
50	62	8	3	6	80 NBR B246	24024295	●
55	67	8	3	6	80 NBR B246	24024296	●
56	68	8	3	6	80 NBR B246	24024297	●
60	75	11	3,5	7,5	80 NBR B246	24024298	●
63	78	11	3,5	7,5	80 NBR B246	24024299	○
65	80	11	3,5	7,5	80 NBR B246	24024300	●
70	85	11	3,5	7,5	80 NBR B246	24024301	●
75	90	11	3,5	7,5	80 NBR B246	24024302	●
80	95	11	3,5	7,5	80 NBR B246	24024303	●
85	100	11	3,5	7,5	80 NBR B246	24024304	●
90	110	13	5	10	80 NBR B246	24024305	●
100	120	13	5	10	80 NBR B246	24024306	●
110	130	13	5	10	80 NBR B246	24024307	●
115	135	13	5	10	80 NBR B246	24024308	●
125	145	13	5	10	80 NBR B246	24026976	●
140	160	13	5	10	80 NBR B246	24024310	●
150	175	16	5	12,5	80 NBR B246	24024311	●
160	185	16	5,5	12,5	80 NBR B246	24024312	●
170	190	13	5	10	80 NBR B246	24024266	○
180	205	16	5,5	12,5	80 NBR B246	24024313	●
200	225	16	5,5	12,5	80 NBR B246	24024314	●
225	255	19	6	15	80 NBR B246	24127447	○
250	270	17	5	10	80 NBR B246	24024270	○
310	340	19	6	15	80 NBR B246	24035509	○

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



d	D	L	C	Profile	Material	Article No.	
320	345	13	5	12,5	80 NBR B246	24078636	○
360	378	13	5	9	80 NBR B246	24029629	○
380	400	16	5,5	10	80 NBR B246	24174996	○
440	460	13	5	10	80 NBR B246	24137980	○
500	520	16	5,5	10	80 NBR B246	24063830	○
680	720	25	7	20	80 NBR B246	24143612	○
750	790	26	7	20	80 NBR B246	24136568	○

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The catalog details are based on the experience of many years of research in the development and production of seals in the Freudenberg Group and correspond to our current level of know-how.

The sealing action of many catalog products is, however, not only created by the component itself. In many cases – depending on the specific application – it depends significantly on the other parameters, such as installation point, counter surface, pressure, operating temperature, media to be sealed, lubrication, effects of vibration and any ingress of dirt from outside. These and other unknown factors in

practical use may noticeably influence the functioning of the seals. Against this background generalised statements on the function of the catalog products are not possible. Details in this catalog merely represent general and non-binding reference values which make no claim to be valid for every application. We therefore recommend you to always discuss specific applications with our consultancy service. In the event of very high and special loads, for example due to aggressive media, the seal should be selected in co-operation with us; trials to check the functional reliability are often indispensable.



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