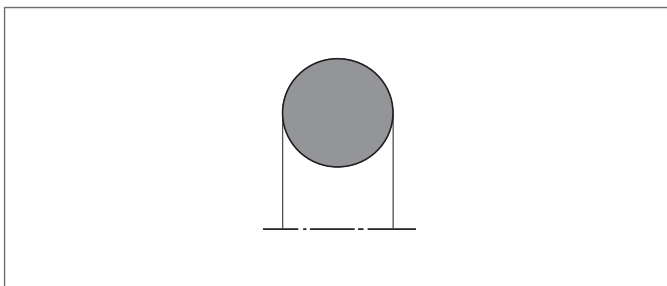


MERKEL O-RINGS



Merkel O-rings are widely used seals, preferably as static sealing elements.



Applications

Merkel O-rings are mainly used to seal stationary machine components – static case – against fluid and gaseous media. In certain conditions, they can also be used as a dynamic sealing component for axial, rotating and oscillating movement.

Material

In order to cover the widest possible range of technical applications, Merkel O-rings are supplied in various different material qualities.

Surface finish

Peak-to-valley heights	R_s	R_{max}
Sliding surface	<1,6 μm	<6,3 μm
Groove base	<1,6 μm	<6,3 μm
Groove sides	<6,3 μm	<10,0 μm
Lead-in chamfer	<0,6 μm	<5,0 μm

VALUE TO THE CUSTOMER

O-rings are subjected to a permanent compression set. Because O-rings with a small cord diameter ($\varnothing d_2$) have a very high compression set, it is preferable to use O-rings with the largest possible cord diameter. The table shows the recommended cord diameters d_2 as a function of the housing diameters d and D .



FEATURES AND BENEFITS

Recommended cord diameter

Ø d / Ø D [mm]	Cord diameter [mm]															
	1,5	1,78	2	2,5	2,62	3	3,5– 3,53	4	5	5,33	6	6,99– 7,0	8	8,4	10	13
18	+	o	+	+	+	+	+									
>18 ... 30	+	+	+	+	o	+	+									
>30 ... 35		+	+	+	o	+	+									
>35 ... 45			+	+	o	+	+									
>45 ... 50				+	o	+	+									
>50 ... 63				+	+	+	o									
>63 ... 80						+	o	+								
>80 ... 100						+	+	+	+	o						
>100 ... 200						+	+	+	+	o	+					
>200 ... 250								o	+	o	+	+	+	+	+	
>250 ... 300									+	+	+	o	+	+	+	
>300 ... 400										+	+	o	+	+	+	
>400 ... 500											+	o	+	+	+	
>500											+	+	+	o	o	o

o = recommended dimension; + = other usable dimension



FEATURES AND BENEFITS

The t and b housing dimensions depend on the O-ring cord diameter d2. If anti-extrusion rings are used, dimension b should be increased accordingly.

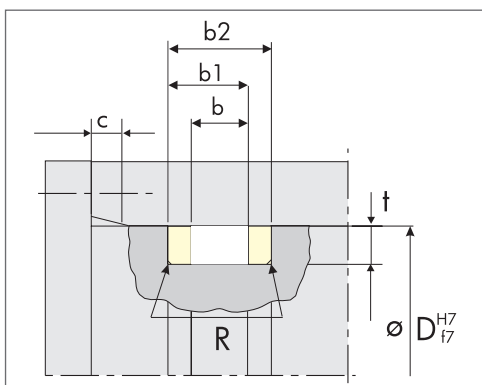
Ø d [mm]	Type of Installation 1 resp. 2				Type of Installation 3		R [mm]		c [mm]
	t +0,05	b +0,25	b1 +0,25	b2 +0,25	t +0,05	b +0,25	R'	R''	
1,50	1,20	2,10	3,50	4,90	1,10	2,30	0,30	0,30	1,50
1,78	1,40	2,40	3,80	5,20	1,30	2,60	0,30	0,30	1,50
2,00	1,60	2,60	4,00	6,00	1,50	2,80	0,30	0,30	2,00
2,50	2,00	3,40	4,80	6,20	1,90	3,60	0,30	0,30	2,00
2,62	2,10	3,60	5,00	6,40	2,00	3,80	0,30	0,30	2,00
3,00	2,40	4,00	5,40	6,80	2,30	4,20	0,60	0,40	2,50
3,50	2,80	4,70	6,10	7,50	2,70	4,90	0,60	0,40	2,50
3,53	2,80	4,80	6,20	7,60	2,70	5,00	0,60	0,40	2,50
4,00	3,20	5,40	6,80	8,20	3,10	5,60	0,60	0,40	3,00
5,00	4,10	6,60	8,50	10,40	4,00	6,80	0,60	0,40	3,00
5,33	4,30	7,10	9,00	10,90	4,20	7,30	1,00	0,60	4,00
6,00	4,90	8,00	10,80	13,60	4,70	8,20	1,00	0,60	4,00
6,99	5,80	9,50	12,30	15,10	5,70	9,70	1,00	0,60	4,00
7,00	5,80	9,50	12,30	15,10	5,70	9,70	1,00	0,60	4,00
8,00	6,70	10,80	13,60	16,40	6,50	11,00	1,00	0,60	5,00
8,40	7,10	11,40	14,20	17,00	6,90	11,60	1,00	0,60	5,00
10,00	8,50	13,50	16,30	19,10	8,30	13,70	1,00	0,60	5,00
12,00	10,40	15,80	18,60	21,40	10,20	16,00	1,00	0,60	7,00

R' = without anti-extrusion ring

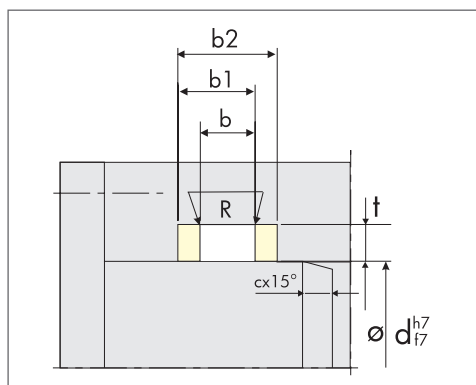
R'' = with anti-extrusion ring

c = lead-in chamfer

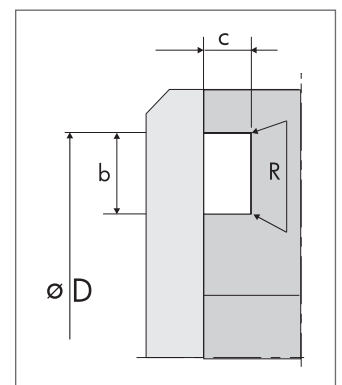
Type of installation 1



Type of installation 2



Type of installation 3



If the pressure exceeds 0,6 MPa, an anti-extrusion ring is necessary.
Housing dimensions are only applicable for static applications.

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