

Merkel Compact Seal KI 310

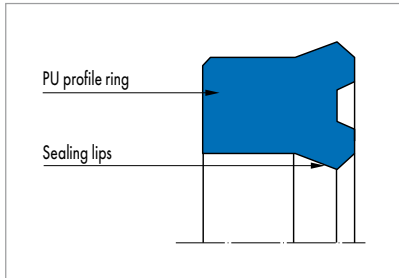


Fig. 1 Merkel Compact Seal KI 310

Product description

Merkel compact seal with asymmetrical profile and press fit at the outside diameter.

Product advantages

Single-acting rod seal for standardised housings, amongst others, according to ISO 5597

- Very good static and dynamic tightness
- Compact compression, higher surface roughness in the groove base is permitted
- Designed for radially restricted housings.

Application

Earth moving equipment, industrial vehicles, agricultural machinery, cranes, injection moulding machines, telescopic cylinders, steering cylinders, loading platforms.

Material

Material	Code	Hardness
Polyurethane	94 AU 925	94 Shore A

Operating conditions

Material	94 AU 925
	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 ... +40
HETG (rapeseed oil)	-30 ... +60
HEES (synthetic ester)	-30 ... +80
HEPG (glycol)	-30 ... +40
Mineral greases	-30 ... +110
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	≤2 µm	≤10,0 µm
Groove flanks	≤3 µm	≤15,0 µm

Percentage contact area M_r >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
≤4,0	0,45	0,35	0,30	0,25
>4,0 ... 6,0	0,50	0,40	0,35	0,30

Tolerance recommendation and dimension D2

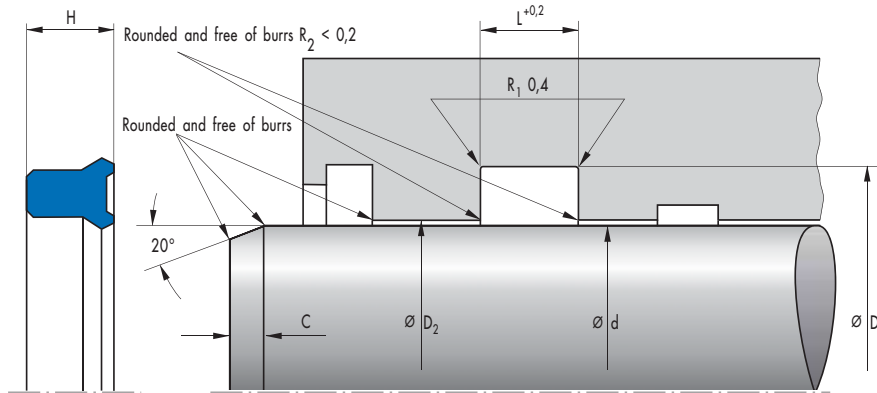
The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing D2. → Technical Manual.

Nominal Ø d	d	D
0 ... 145	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	Housing	Material	Article No.	
10	18	5,5	6,3	4	3,5		ISO	94 AU P00925	401992	●
12	20	5,5	6,3	4	3,5		ISO	94 AU P00925	401994	●
14	22	5,5	6,3	4	3,5		ISO	94 AU P00925	401997	●
16	24	6	7	4	3,5			94 AU P00925	325753	●
18	25	5	5,8	3,5	3			94 AU P00925	327022	●
18	26	6	7	4	3,5			94 AU P00925	325755	●
20	26	5	5,8	3	3	W		94 AU P00925	310005	●
20	28	6	7	4	3,5	W		94 AU P00925	325756	●
22	28	4,5	5,3	3	3	W		94 AU P00925	310004	●
22	29	5	5,8	3,5	3	W		94 AU P00925	332052	●
22	30	6	7	4	3,5	W		94 AU P00925	325917	●
22	30	7	8	4	3,5	W	ISO	94 AU P00925	310003	●
22	32	8	9	5	4			94 AU P00925	326246	●
24	30	8	9	3	3	W		94 AU P00925	326245	○
24	32	6	7	4	3,5	W		94 AU P00925	310002	●
25	33	6	7	4	3,5	W		94 AU P00925	325918	●
25	33	8	9	4	3,5	W		94 AU P00925	310001	●
28	36	6	7	4	3,5	W		94 AU P00925	326252	●
28	36	8	9	4	3,5	W		94 AU P00925	326244	●
30	38	6	7	4	3,5	W		94 AU P00925	325919	●
30	38	8	9	4	3,5	W		94 AU P00925	310000	●
32	40	6	7	4	3,5	W		94 AU P00925	326253	●
32	40	8	9	4	3,5	W		94 AU P00925	326239	●
32	42	8	9	5	4	W		94 AU P00925	311592	●
35	43	6	7	4	3,5	W		94 AU P00925	309999	●
36	44	6	7	4	3,5	W		94 AU P00925	325920	●
36	44	8	9	4	3,5	W		94 AU P00925	326241	●
38	45	6	7	3,5	3	H		94 AU P00925	326242	●
40	48	6	7	4	3,5	H		94 AU P00925	325921	●
40	48	8	9	4	3,5	H		94 AU P00925	309998	●
42	50	6	7	4	3,5	H		94 AU P00925	325757	●
45	53	8	9	4	3,5	H		94 AU P00925	309997	●
45	55	7	8	5	4	W	ISO	94 AU P00925	331369	●
47	55	8	9	4	3,5	H		94 AU P00925	326243	○
50	58	8	9	4	3,5	H		94 AU P00925	309996	●

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d	D	H	L	Profile	C	Fitting	Housing	Material	Article No.	
50	60	7	8	5	4	H	ISO	94 AU P00925	326519	●
52	60	5,5	6,3	4	3,5	H		94 AU P00925	366034	○
55	63	8	9	4	3,5	H		94 AU P00925	309995	●
55	65	7,5	8,5	5	4	H		94 AU P00925	325922	●
55	65	10	11	5	4	H		94 AU P00925	326238	●
55	65	12	13	5	4	H		94 AU P00925	349885	●
60	68	8	9	4	3,5	H		94 AU P00925	310022	●
60	68	13	14	4	3,5	H		94 AU P00925	323085	●
60	70	7,5	8,5	5	4	H		94 AU P00925	326236	●
63	71	8	9	4	3,5	H		94 AU P00925	325758	●
64	72	8	9	4	3,5	H		94 AU P00925	326233	○
65	73	8	9	4	3,5	H		94 AU P00925	326232	●
65	73	11,5	12,5	4	3,5	H		94 AU P00925	310024	○
65	75	12	13	5	4	H		94 AU P00925	326231	●
65	77	9	10	6	5	H		94 AU P00925	325759	●
70	78	8	9	4	3,5	H		94 AU P00925	325923	●
70	82	9	10	6	5	H		94 AU P00925	325760	●
71	79	8	9	4	3,5	H		94 AU P00925	310023	○
73	80	8	9	3,5	3	H		94 AU P00925	326249	○
75	83	8	9	4	3,5	H		94 AU P00925	326584	●
75	87	9	10	6	5	H		94 AU P00925	325761	●
78	86	8	9	4	3,5	H		94 AU P00925	310025	●
80	88	8	9	4	3,5	H		94 AU P00925	325924	●
80	90	10	11	5	4	H		94 AU P00925	349890	●
80	92	9	10	6	5	H		94 AU P00925	325762	●
81	89	8	9	4	3,5	H		94 AU P00925	310026	●
85	93	6,5	7,5	4	3,5	H		94 AU P00925	329399	○
85	94	15	16	4,5	3,5	H		94 AU P00925	326251	○
85	97	9	10	6	5	H		94 AU P00925	325763	○
87	95	8	9	4	3,5	H		94 AU P00925	310027	●
90	98	8	9	4	3,5	H		94 AU P00925	325764	●
90	102	9	10	6	5	H		94 AU P00925	325765	●
97	105	8	9	4	3,5	H		94 AU P00925	310028	●
97	105	13	14	4	3,5	H		94 AU P00925	326228	○
100	108	8	9	4	3,5	H		94 AU P00925	325766	●
103	111	10	11	4	3,5	H		94 AU P00925	326226	○
105	113	6,5	7,5	4	3,5	H		94 AU P00925	329397	○
107	115	8	9	4	3,5	H		94 AU P00925	353716	○
115	124	15	16	4,5	3,5	H		94 AU P00925	310030	●
118	126	13	14	4	3,5	H		94 AU P00925	323088	○
125	133	6,5	7,5	4	3,5	H		94 AU P00925	329398	○
143	151	13	14	4	3,5	H		94 AU P00925	323089	○
145	153	6,5	7,5	4	3,5	H		94 AU P00925	329396	○

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