

Merkel Compact Seal S 8

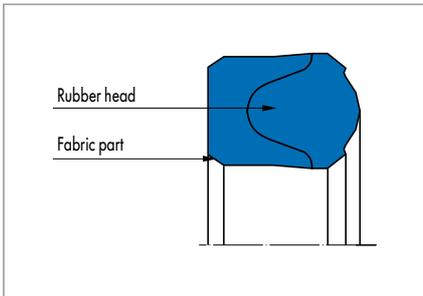


Fig. 1 Merkel Compact Seal S 8

Product description

Single-piece rod seal with a rubber head set in the fabric part.

Product advantages

Compact rod seal, also for standardised housings according to ISO 5597

- Easy to fit
- Excellent sealing effect also in the lower pressure range
- Low friction due to the fabric part.

Application

Standard cylinders, telescopic cylinders, machine tools, spindle seals.

Material

Material	Code	Hardness
Nitrile rubber NBR	70 NBR B209	70 Shore A

Operating conditions

Material	70 NBR B209
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 ... +100
HETG (rapeseed oil)	-30 ... +80
HEES (synthetic esters)	-30 ... +80
HEPG (glycol)	-30 ... +60
Mineral greases	-30 ... +100
Pressure p in MPa	25
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_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. In the case of larger gap dimensions than specified in the table full-surface back-up ring of plastic should be used behind the seal.

Profile	Max. permissible gap dimension	
	16 MPa	25 MPa
≤6	0,2	0,1
>6 ... 10	0,2	0,1
>10 ... 15	0,2	0,1

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
≤80	f8	H11
>80 ... 120	f8	H11
>120 ... 340	f7	H11

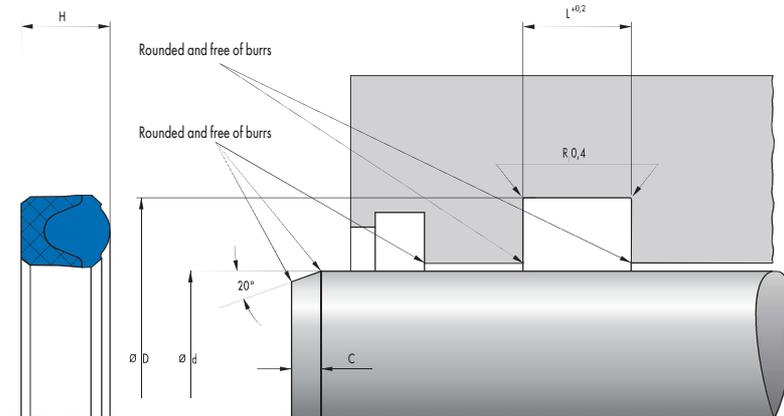
Fit example for metal guides

Nominal Ø d	d	D
≤80	H9/f8	H11
>80 ... 120	H8/f8	H11
>120 ... 340	H8/f7	H11

Fitting & installation

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

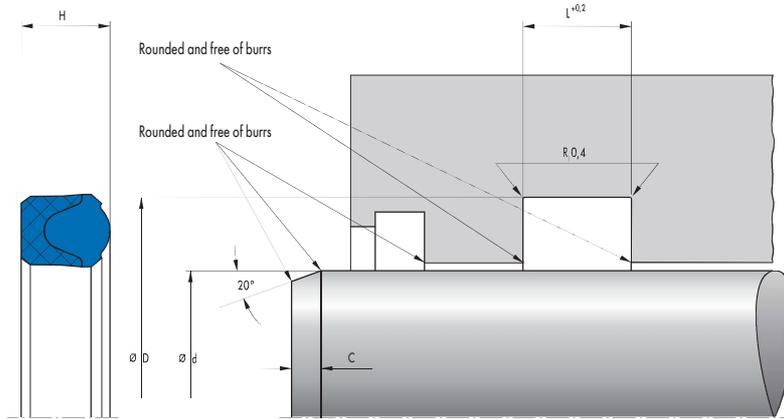
Article list



d	D	H	L	Profile	C	Housing	Fitting	Material	Article No.	
5	12	6	6,3	3,5	2,5		H	70 NBR B209	24030115	●
6	13	6	6,3	3,5	2,5			70 NBR B209	24027634	●
8	15	6	6,3	3,5	2,5			70 NBR B209	24007352	●
10	17	6	6,3	3,5	2,5			70 NBR B209	24007358	●
12	19	6	6,3	3,5	2,5			70 NBR B209	24007364	●
14	22	6	6,3	4	2,5	ISO	H	70 NBR B209	24027629	●
15	23	6	6,3	4	2,5			70 NBR B209	24007372	●
16	24	6	6,3	4	2,5	ISO	H	70 NBR B209	24027652	●
18	25	6	6,3	4	2,5		H	70 NBR B209	24030522	●
18	26	6	6,3	4	2,5	ISO		70 NBR B209	24007379	●
20	28	6	6,3	4	2,5	ISO		70 NBR B209	24007388	●
22	30	6	6,3	4	2,5	ISO		70 NBR B209	24007397	●
24	32	6	6,3	4	2,5		H	70 NBR B209	24027651	●
25	32	6	6,3	3,5	2,5			70 NBR B209	24060408	●
25	33	6	6,3	4	2,5	ISO		70 NBR B209	24007407	●
25	35	7	7,5	5	3		H	70 NBR B209	24055606	●
28	36	6	6,3	4	2,5		W	70 NBR B209	24007413	●
30	38	6	6,3	4	2,5			70 NBR B209	24027648	●
30	38	8	8,5	4	2,5			70 NBR B209	24027626	●
32	40	6	6,3	4	2,5		H	70 NBR B209	24023604	●
35	43	6	6,3	4	2,5		H	70 NBR B209	24027649	●
35	45	7,5	8	5	3		W	70 NBR B209	24007446	●
36	44	6	6,3	4	2,5		W	70 NBR B209	24007448	●
40	48	6	6,3	4	2,5		W	70 NBR B209	24007461	●
40	48	8	8,5	4	2,5		W	70 NBR B209	24073042	●
40	48	11	11,7	4	2,5		W	70 NBR B209	24007465	○
40	50	7,5	8	5	3	ISO	W	70 NBR B209	24007467	●
40	52	9	9,5	6	3		W	70 NBR B209	24030126	●
42	50	6	6,3	4	2,5		H	70 NBR B209	24007475	●
44	55	10	10,6	5,5	3		W	70 NBR B209	24094781	●
45	53	8	8,5	4	2,5		H	70 NBR B209	24060410	●
45	55	7,5	8	5	3	ISO	W	70 NBR B209	24007485	●
48	60	10	10,6	6	3		H	70 NBR B209	24055751	○
50	58	8	8,5	4	2,5		H	70 NBR B209	24117303	●
50	60	7,5	8	5	3	ISO	H	70 NBR B209	24007494	●

● 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	Housing	Fitting	Material	Article No.	
50	60	10	10,6	5	3		H	70 NBR B209	24135436	●
50	62	9	9,5	6	3		W	70 NBR B209	24091914	●
55	65	7,5	8	5	3		H	70 NBR B209	24027658	●
55	67	10	10,6	6	3		W	70 NBR B209	24007510	●
56	66	7,5	8	5	3	ISO	H	70 NBR B209	24007513	●
60	70	7,5	8	5	3		H	70 NBR B209	24007520	●
63	75	9	9,5	6	3		H	70 NBR B209	24007539	●
65	75	7,5	8	5	3		H	70 NBR B209	24142200	●
65	77	9	9,5	6	3		H	70 NBR B209	24007545	●
70	80	7	7,5	5	3		H	70 NBR B209	24084356	●
70	82	9	9,5	6	3		H	70 NBR B209	24007555	●
70	85	11,5	12,2	7,5	5	ISO	W	70 NBR B209	24007558	●
75	87	9	9,5	6	3		H	70 NBR B209	24007567	●
78	90	12	12,5	6	3		H	70 NBR B209	24068016	●
80	92	9	9,5	6	3		H	70 NBR B209	24027655	●
80	95	12	12,5	7,5	5	ISO	H	70 NBR B209	24143115	○
85	97	9	9,5	6	3		H	70 NBR B209	24007587	●
85	100	11,3	12	7,5	5		H	70 NBR B209	24007590	●
90	102	9	9,5	6	3		H	70 NBR B209	24007602	●
90	105	11,3	12	7,5	5	ISO	H	70 NBR B209	24007605	●
95	107	12	12,5	6	3		H	70 NBR B209	24070580	●
100	110	7,5	8	5	3		H	70 NBR B209	24176851	●
100	115	11,3	12	7,5	5		H	70 NBR B209	24027657	●
105	120	11,5	12,2	7,5	5		H	70 NBR B209	24007629	●
110	125	11,3	12	7,5	5		H	70 NBR B209	24027631	●
115	130	11,3	12	7,5	5		W	70 NBR B209	24007645	●
120	135	11,3	12	7,5	5		H	70 NBR B209	24084364	●
125	140	11,3	12	7,5	5		H	70 NBR B209	24027653	●
130	142	9	9,5	6	3		H	70 NBR B209	24007661	●
130	145	10,2	11	7,5	5		H	70 NBR B209	24031801	●
135	150	10	11	7,5	5		H	70 NBR B209	24027636	●
140	155	13	14	7,5	5		H	70 NBR B209	24057871	○
140	160	15	16	10	5	ISO	H	70 NBR B209	24007671	●
150	170	15	16	10	5		H	70 NBR B209	24007682	●
155	175	15	16	10	5		H	70 NBR B209	24007685	●
160	180	15	16	10	5		H	70 NBR B209	24027656	●

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d	D	H	L	Profile	C	Housing	Fitting	Material	Article No.	
165	185	15	16	10	5		H	70 NBR B209	24007694	●
170	190	15	16	10	5		H	70 NBR B209	24091141	●
180	200	15	16	10	5		H	70 NBR B209	24007703	●
180	205	18,8	20	12,5	5	ISO	H	70 NBR B209	24120564	○
200	220	15	16	10	5		H	70 NBR B209	24007710	●
210	230	16	17	10	5		H	70 NBR B209	24065708	●
220	240	15	16	10	5		H	70 NBR B209	24139773	●
225	240	15	16	7,5	5		H	70 NBR B209	24100164	○
240	260	15	16	10	5			70 NBR B209	24091143	●

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