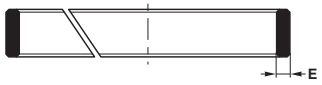
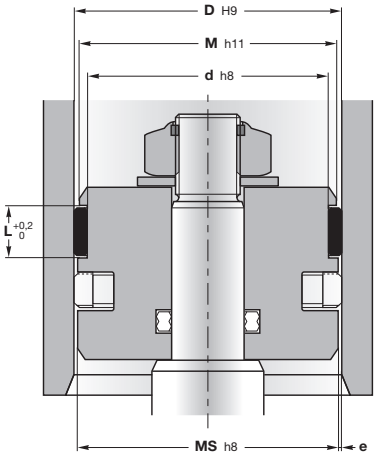
Acetal resin piston guide ring



10E/DWR



Machining of housings: see pages 45-49

The diameter **M** is only valid in the area of the guide ring and not in the extrusion area of the seal.
The diameter **MS** in the seal area must be calculated with the **e value** of the seal used.

see pages 50-53

D (mm)	M (mm)
8 - 20	**D** - 0,5
21 - 100	**D** - 0,7
101 - 250	**D** - 0,9
251 - 300	**D** - 1,2

The **10E/DWR** has been developed to substitute traditional bronze guides in hydraulic cylinders. They guide the piston and prevent metallic contact with the cylinder when radial forces act perpendicular to the direction of movement.

Chamfered edges prevent splintering of the material during assembly and make the installation into the groove easier. The compound used for these guides is a medium viscosity glass fibre reinforced acetal resin characterised by high strength, rigidity, hardness, impact resistance, resilience and excellent stability to high and low temperature.

Operating conditions	**see page 8**
Max. permissible radial load	at 25°C: ≤ 40 N/mm² 60°C: ≤ 25 N/mm²
Temperature	-40°C to 110°C
Speed	≤ 0,8 m/s
Fluids	**see pages 22-45**

Materials	**see pages 10-19**
Guide ring	POM + glass fibers

Assembly	**see pages 54-59**
Install in the groove	

Advantages

- Simple groove design, easy fitting
- Low break-out, low friction
- Excellent wear resistance
- High mechanical strength
- Good load capacity
- Reduce vibrations
- Available in many sizes

Please contact us for applications approaching maximum values.

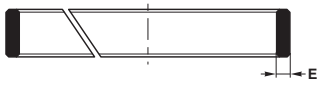
Calculation of the permissible radial force

$$F = (p \times D \times L \times n) / s$$

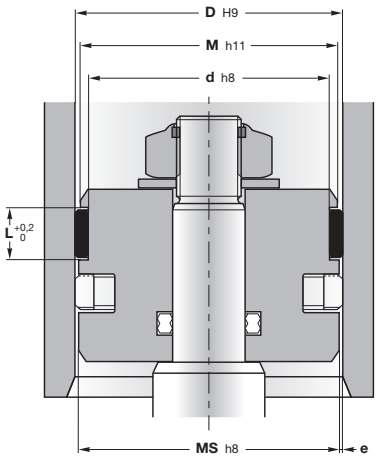
F = maximum radial force (N)
p = maximum permissible loading for material (N/mm²)
D x L = diameter x width of the ring (mm²)
n = number of rings
s = safety factor

D	d	L	Reference
16	12	9,6	**10E/DWR 16/2-9,6**
18	14	9,6	**10E/DWR 18/2-9,6**
20	16	9,6	**10E/DWR 20/2-9,6**
22	18	9,6	**10E/DWR 22/2-9,6**
25	21	9,6	**10E/DWR 25/2-9,6**
28	24	9,6	**10E/DWR 28/2-9,6**
30	26	9,6	**10E/DWR 30/2-9,6**
32	28	9,6	**10E/DWR 32/2-9,6**
34	30	9,6	**10E/DWR 34/2-9,6**
35	29	9,6	**10E/DWR 35/3-9,6**
	31	9,6	**10E/DWR 35/2-9,6**
36	32	9,6	**10E/DWR 36/2-9,6**
40	34	9,6	**10E/DWR 40/3-9,6**
	36	9,6	**10E/DWR 40/2-9,6**
45	39	9,6	**10E/DWR 45/3-9,6**
	41	9,6	**10E/DWR 45/2-9,6**
48	42	9,6	**10E/DWR 48/3-9,6**
49	43	9,6	**10E/DWR 49/3-9,6**
50	44	9,6	**10E/DWR 50/3-9,6**
	44	12,8	**10E/DWR 50/3-12,8**
	46	10,2	**10E/DWR 50/2-10,2**
55	49	9,6	**10E/DWR 55/3-9,6**
	49	12,8	**10E/DWR 55/3-12,8**
56	50	12,8	**10E/DWR 56/3-12,8**
60	54	12,8	**10E/DWR 60/3-12,8**
	56	10,2	**10E/DWR 60/2-10,2**
63	57	12,8	**10E/DWR 63/3-12,8**
	59	10	**10E/DWR 63/2-10,0**
65	59	12,8	**10E/DWR 65/3-12,8**
70	64	12,8	**10E/DWR 70/3-12,8**
	66	10,2	**10E/DWR 70/2-10,2**

D	d	L	Reference
74	68	12,8	**10E/DWR 74/3-12,8**
75	69	12,8	**10E/DWR 75/3-12,8**
80	74	12,8	**10E/DWR 80/3-12,8**
	76	10	**10E/DWR 80/2-10,0**
85	79	12,8	**10E/DWR 85/3-12,8**
90	84	10	**10E/DWR 90/3-10**
	84	12,8	**10E/DWR 90/3-12,8**
94	88	12,8	**10E/DWR 94/3-12,8**
95	89	12,8	**10E/DWR 95/3-12,8**
100	94	12,8	**10E/DWR 100/3-12,8**
	96	10	**10E/DWR 100/2-10**
	96	10,8	**10E/DWR 100/2-10,0**
105	99	12,8	**10E/DWR 105/3-12,8**
110	104	12,8	**10E/DWR 110/3-12,8**
115	109	12,8	**10E/DWR 115/3-12,8**
	109	19,2	**10E/DWR 115/3-19,2**
120	114	12,8	**10E/DWR 120/3-12,8**
125	119	12,8	**10E/DWR 125/3-12,8**
	119	19,2	**10E/DWR 125/3-19,2**
130	124	12,8	**10E/DWR 130/3-12,8**
	124	19,2	**10E/DWR 130/3-19,2**
135	129	12,8	**10E/DWR 135/3-12,8**
	129	19,2	**10E/DWR 135/3-19,2**
140	134	12,8	**10E/DWR 140/3-12,8**
	134	19,2	**10E/DWR 140/3-19,2**
145	139	12,8	**10E/DWR 145/3-12,8**
	139	19,2	**10E/DWR 145/3-19,2**
150	144	12,8	**10E/DWR 150/3-12,8**
	144	19,2	**10E/DWR 150/3-19,2**
155	149	19,2	**10E/DWR 155/3-19,2**
160	154	19,2	**10E/DWR 160/3-19,2**
165	159	19,2	**10E/DWR 165/3-19,2**



10E/DWR



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170	164	19,2	**10E/DWR 170/3-19,2**
180	174	19,2	**10E/DWR 180/3-19,2**
185	179	19,2	**10E/DWR 185/3-19,2**
190	184	19,2	**10E/DWR 190/3-19,2**
200	194	19,2	**10E/DWR 200/3-19,2**
205	199	19,2	**10E/DWR 205/3-19,2**
210	204	19,2	**10E/DWR 210/3-19,2**
215	209	19,2	**10E/DWR 215/3-19,2**
220	214	19,2	**10E/DWR 220/3-19,2**
225	219	19,2	**10E/DWR 225/3-19,2**

D	d	L	Reference
230	224	12	**10E/DWR 230/3-12**
	224	19,2	**10E/DWR 230/3-19,2**
240	234	19,2	**10E/DWR 240/3-19,2**
245	239	19,2	**10E/DWR 245/3-19,2**
250	244	19,2	**10E/DWR 250/3-19,2**
260	254	19,2	**10E/DWR 260/3-19,2**
265	259	19,2	**10E/DWR 265/3-19,2**
270	264	19,2	**10E/DWR 270/3-19,2**
280	274	19,2	**10E/DWR 280/3-19,2**
290	284	19,2	**10E/DWR 290/3-19,2**
295	289	19,2	**10E/DWR 295/3-19,2**
300	294	19,2	**10E/DWR 300/3-19,2**