

### DESCRIPTION

Split piston guide ring

### MATERIAL

Type: Acetal resin with glass fibre  
Designation: BEARITE

### MAIN FEATURES

The FE type guide rings have 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 the 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 characterized by high strength, rigidity, hardness, impact resistance, resilience and excellent stability to high and low temperature.

- Extended service life
- Excellent wear-resistance
- Simple design of groove and assembly
- Reduce vibrations
- Low friction
- Good resistance to loads
- Good mechanical stability at high temperature
- Easy installation without expensive auxiliaries

### FIELD OF APPLICATION

Speed	≤ 1 m/s	
Temperature	-40°C ÷ +110°C	
Fluids	Hydraulic oils (mineral oil based).	
	<i>For other fluids contact our technical department</i>	

### SURFACE ROUGHNESS

Dynamic surface	Ra ≤ 0.3 µm	Rt ≤ 2.5 µm
Static surface	Ra ≤ 2 µm	Rt ≤ 10 µm

### CHOICE OF GUIDE RING WIDTH

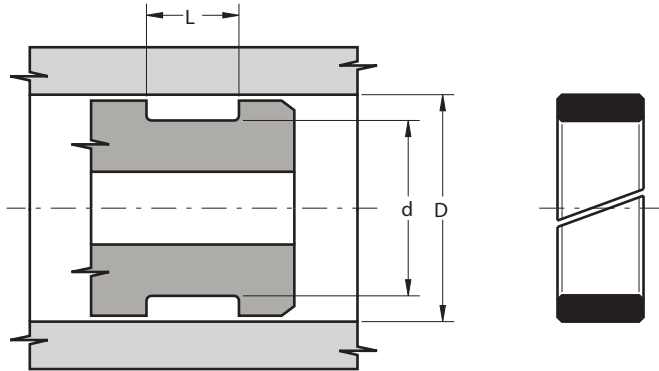
A rough estimate of guide width can be calculated with the following formula:

$$h_{mm} \geq \frac{F_N \times k}{p_{N/mm^2} \times d_{mm}}$$

where

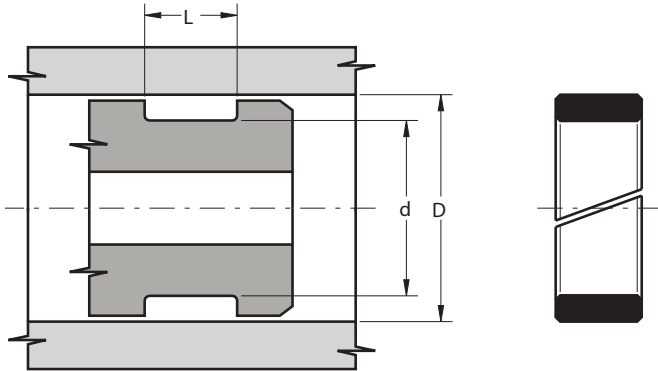
$h_{mm}$	• guide ring width in mm
$F_N$	• radial load in N
$k$	• safety factor ( <i>generally 2</i> )
$d_{mm}$	• piston diameter in mm
$p_{N/mm^2}$	• surface pressure N/mm <sup>2</sup>
	40 a 20 °C
	30 a 70 °C

- Before assembly good cleanliness and guide lubrication are recommended.



Part.	D <sup>H8</sup>	d <sup>-0.05</sup>	L <sup>+0.25</sup>
FE 16	16	12	9.6
FE 18	18	14	9.6
FE 20	20	16	9.6
FE 20 16 5.6	20	16	5.6
FE 22	22	18	9.6
FE 24	24	20	9.6
FE 25 19 9.6	25	19	9.6
FE 25 21 8.2	25	21	8.2
FE 25	25	21	9.6
FE 26	26	22	9.6
FE 28	28	24	9.6
FE 30	30	26	9.6
FE 32	32	28	9.6
FE 34	34	30	9.6
FE 35	35	31	9.6
FE 36	36	32	9.6
FE 40 34 9.6	40	34	9.6
FE 40	40	36	9.6
FE 42	42	38	9.6
FE 45	45	41	9.6
FE 46	46	42	9.6
FE 48	48	42	9.6
FE 49	49	43	9.6
FE 50	50	44	9.6

Part.	D <sup>H8</sup>	d <sup>-0.05</sup>	L <sup>+0.25</sup>
FE 50.8 44.45 12.7	50.8	44.45	12.7
FE 53.97 47.62 19.05	53.97	47.62	19.05
FE 55 49 9.6	55	49	9.6
FE 55	55	49	12.8
FE 56	56	50	12.8
FE 57.16 50.25 6.1	57.16	50.25	6.1
FE 60 54 9.6	60	54	9.6
FE 60	60	54	12.8
FE 63	63	57	12.8
FE 63 57 10	63	57	10.0
FE 63.5 57.15 12.7	63.5	57.15	12.7
FE 65	65	59	12.8
FE 69.85 63.5 12.7	69.85	63.5	12.7
FE 69.85 63.5 19.05	69.85	63.5	19.05
FE 70	70	64	12.8
FE 74	74	68	12.8
FE 75	75	69	12.8
FE 75 69 9.6	75	69	9.6
FE 75 71 15.1	75	71	15.1
FE 80	80	74	12.8
FE 85	85	79	12.8
FE 90 84 10/S	90	84	10.0
FE 90	90	84	12.8
FE 94	94	88	12.8
FE 95	95	89	12.8
FE 96	96	90	12.8
FE 100	100	94	12.8
FE 105	105	99	12.8
FE 110	110	104	12.8
FE 115	115	109	12.8
FE 120	120	114	12.8
FE 125	125	119	12.8
FE 126	126	120	12.8
FE 130	130	124	12.8
FE 135	135	129	12.8
FE 135 129 19.2	135	129	19.2
FE 140	140	134	12.8
FE 145	145	139	12.8
FE 147	147	141	12.8
FE 150	150	144	12.8



Part.	D <sup>H8</sup>	d <sup>-0.05</sup>	L <sup>+0.25</sup>
<b>FE 152.4 146.05 12.7</b>	152.4	146.05	12.7
<b>FE 155</b>	155	149	19.2
<b>FE 160</b>	160	154	19.2
<b>FE 165</b>	165	159	19.2
<b>FE 170</b>	170	164	19.2
<b>FE 175</b>	175	169	19.2
<b>FE 177.8 171.45 12.7</b>	177.8	171.45	12.7
<b>FE 180</b>	180	174	19.2
<b>FE 185</b>	185	179	19.2
<b>FE 190</b>	190	184	19.2
<b>FE 195</b>	195	189	19.2
<b>FE 198</b>	198	192	19.2
<b>FE 200</b>	200	194	19.2
<b>FE 205</b>	205	199	19.2
<b>FE 210</b>	210	204	19.2
<b>FE 215</b>	215	209	19.2
<b>FE 220</b>	220	214	19.2
<b>FE 225</b>	225	219	19.2
<b>FE 230</b>	230	224	19.2
<b>FE 235</b>	235	229	19.2
<b>FE 240</b>	240	234	19.2
<b>FE 245</b>	245	239	19.2
<b>FE 250</b>	250	244	19.2
<b>FE 255</b>	255	249	19.2

Part.	D <sup>H8</sup>	d <sup>-0.05</sup>	L <sup>+0.25</sup>
<b>FE 260</b>	260	254	19.2
<b>FE 265</b>	265	259	19.2
<b>FE 270</b>	270	264	19.2
<b>FE 275</b>	275	269	19.2
<b>FE 280</b>	280	274	19.2
<b>FE 285</b>	285	279	19.2
<b>FE 290</b>	290	284	19.2
<b>FE 295</b>	295	289	19.2
<b>FE 300</b>	300	294	19.2