FE

The Aston Seals 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

MATERIAL

Type	Acetal resin with glass fibre
Designation	BEARITE

FIELD OF APPLICATION

Speed ≤ 1 m/s	0 m/s | 2 | 4 | 6 | 8 | 10 | 12 | 14
Temperature –40°C ÷ +110°C	-200 | -150 | -100 | -50 | 0 °C | 50 | 100 | 150
Fluids	Hydraulic oils (mineral oil based) For other fluids contact our technical department

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:

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

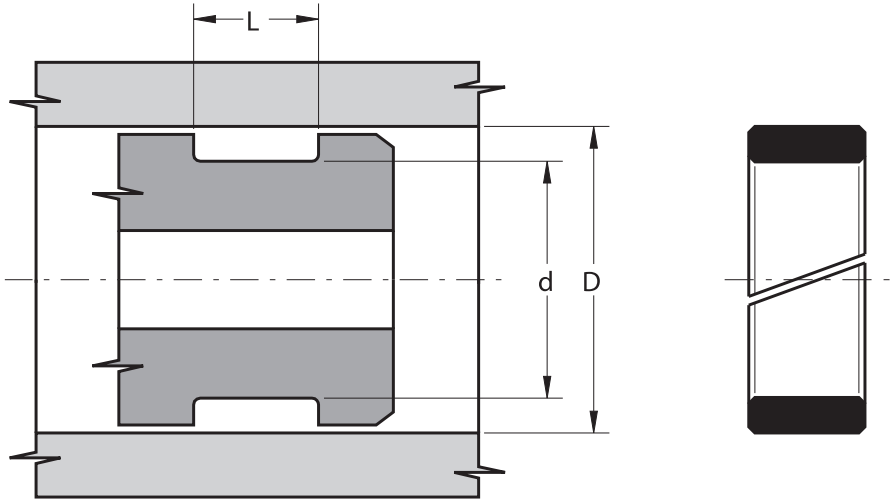
where

- h_{mm} • Guide ring width in mm
- F_N • Radial load in N
- k • Safety factor (generally 2)
- d_{mm} • Bore diameter in mm
- $p_{N/mm2}$ • Surface pressure N/mm2
  40 a 20 °C
  30 a 70 °C

Before assembly good cleanliness and lubrication are recommended.

The above data are maximum values, they may be maintained for short periods and can not be used at the same time simultaneously.

FE



Part.	D H8	d -0.05	L +0.25
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 22 19 3.2	22	19	3.2
FE 22.4 20.4 4	22.4	20.4	4.0
FE 24	24	20	9.6
FE 25	25	21	9.6
FE 25 19 9.6	25	19	9.6
FE 25 21 8.2	25	21	8.2
FE 26	26	22	9.6
FE 28	28	24	9.6
FE 28 25 5.6	28	25	5.6
FE 29.2 25.2 12.7	29.2	25.2	12.7
FE 30	30	26	9.6
FE 32	32	28	9.6
FE 32 28 8.2	32	28	8.2
FE 34	34	30	9.6
FE 35	35	31	9.6
FE 35.5 31.5 12.7	35.5	31.5	12.7
FE 36	36	32	9.6
FE 38.1 34.1 12.7	38.1	34.1	12.7
FE 40	40	36	9.6

Part.	D H8	d -0.05	L +0.25
FE 40 34 9.6	40	34	9.6
FE 42	42	38	9.6
FE 42 38 12.7	42	38	12.7
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
FE 55	55	49	12.8
FE 55 49 9.6	55	49	9.6
FE 56	56	50	12.8
FE 60	60	54	12.8
FE 60 52 20.5	60	52	20.5
FE 60 54 9.6	60	54	9.6
FE 63	63	57	12.8
FE 63 57 10	63	57	10.0
FE 65	65	59	12.8
FE 66.36 60 12.7	66.36	60	12.7
FE 70	70	64	12.8
FE 74	74	68	12.8
FE 75	75	69	12.8
FE 75 68.5 25.25	75	68.5	25.25
FE 75 69 9.6	75	69	9.6
FE 75 71 15.1	75	71	15.1

Part.	D H8	d -0.05	L +0.25
FE 80	80	74	12.8
FE 80 72 20.5	80	72	20.5
FE 85	85	79	12.8
FE 85 79 15	85	79	15.0
FE 90	90	84	12.8
FE 90 84 10	90	84	10.0
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 100 92 20.5	100	92	20.5
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 120 112 20.5	120	112	20.5
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 135 129 25.4	135	129	25.4
FE 140	140	134	12.8
FE 140 132 10.5	140	132	10.5

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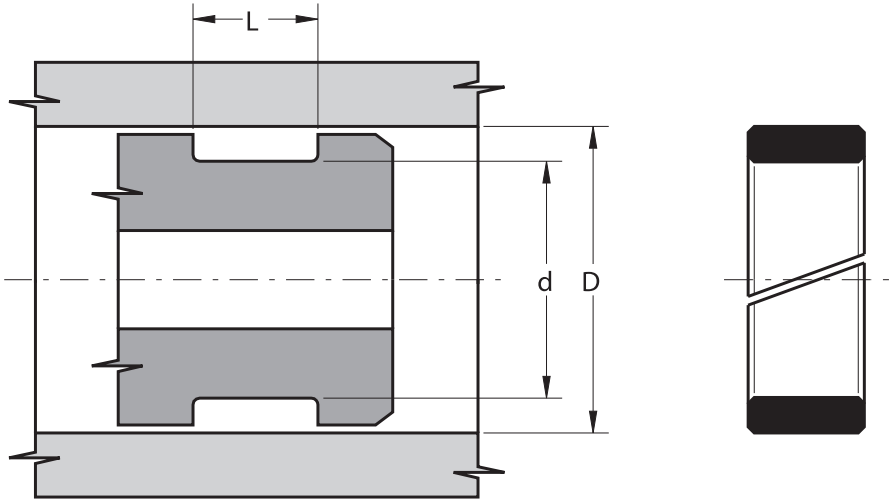

Part.	D H8	d -0.05	L +0.25
FE 140 132 20.5	140	132	20.5
FE 145	145	139	12.8
FE 147	147	141	12.8
FE 150	150	144	12.8
FE 155	155	149	19.2
FE 160	160	154	19.2
FE 160 152 20.5	160	152	20.5
FE 164 160 10.2	164	160	10.2
FE 165	165	159	19.2
FE 170	170	164	19.2
FE 175	175	169	19.2
FE 180	180	174	19.2
FE 180 172 20.5	180	172	20.5
FE 184 180 10.2	184	180	10.2
FE 185	185	179	19.2
FE 190	190	184	19.2
FE 195	195	189	19.2
FE 198	198	192	19.2
FE 200	200	194	19.2
FE 205	205	199	19.2
FE 210	210	204	19.2
FE 215	215	209	19.2
FE 220	220	214	19.2
FE 220 216 10.2	220	216	10.2

Part.	D H8	d -0.05	L +0.25
FE 225	225	219	19.2
FE 230	230	224	19.2
FE 235	235	229	19.2
FE 240	240	234	19.2
FE 245	245	239	19.2
FE 250	250	244	19.2
FE 250 246 20.2	250	246	20.2
FE 255	255	249	19.2
FE 260	260	254	19.2
FE 265	265	259	19.2
FE 270	270	264	19.2
FE 275	275	269	19.2
FE 280	280	274	19.2
FE 285	285	279	19.2
FE 290	290	284	19.2
FE 295	295	289	19.2
FE 300	300	294	19.2

Inch sizes

FE 0875 0750 0510	22.23	19.05	12.95
FE 1125 1000 0385	28.58	25.4	9.78
FE 1250 1000 0375	31.75	25.4	9.52
FE 1375 1125 0510	34.93	28.58	12.95

Part.	D H8	d -0.05	L +0.25
FE 1375 1250 0510	34.93	31.75	12.95
FE 1375 1250 1000	34.93	31.75	25.4
FE 1500 1250 0260	38.1	31.75	6.6
FE 1500 1250 0375	38.1	31.75	9.53
FE 1500 1250 0500	38.1	31.75	12.7
FE 1500 1250 0510	38.1	31.75	12.95
FE 1500 1375 0312	38.1	34.93	7.92
FE 1500 1375 0375	38.1	34.93	9.52
FE 1625 1375 0510	41.28	34.93	12.95
FE 1625 1500 0822	41.28	38.1	20.89
FE 1750 1500 0380	44.45	38.1	9.65
FE 1750 1500 0500	44.45	38.1	12.7
FE 1870 1750 0822	47.5	44.45	20.89
FE 1875 1625 0500	47.62	41.28	12.7
FE 2000 1500 0500	50.8	38.1	12.7
FE 2000 1750 0380	50.8	44.45	9.65
FE 2000 1750 0500	50.8	44.45	12.7
FE 2000 1750 0510	50.8	44.45	12.95
FE 2000 1813 0197	50.8	46.05	5.0
FE 2000 1875 0375	50.8	47.62	9.52
FE 2125 1875 0750	53.97	47.62	19.05
FE 2250 1978 0240	57.15	50.25	6.1
FE 2250 2000 0375	57.15	50.8	9.53
FE 2250 2000 0385	57.15	50.8	9.78

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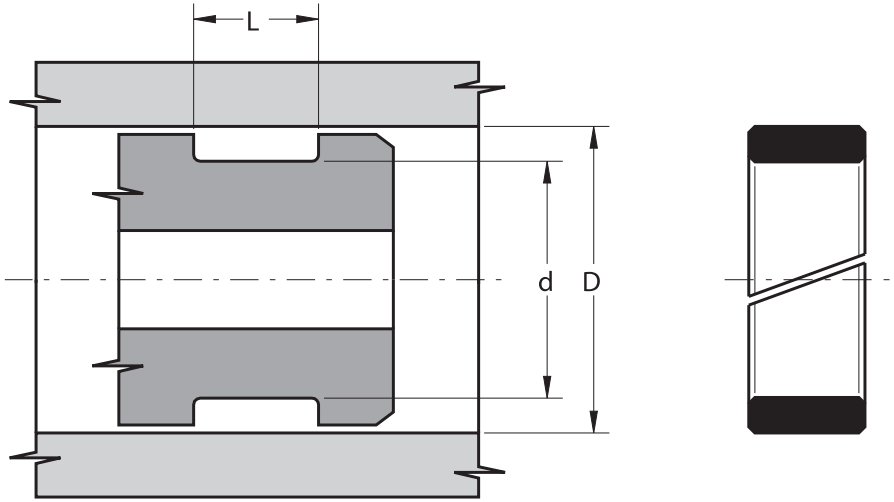

Part.	D H8	d -0.05	L +0.25
FE 2250 2000 0510	57.15	50.8	12.95
FE 2250 2000 0755	57.15	50.8	19.18
FE 2250 2000 1010	57.15	50.8	25.65
FE 2375 2125 0510	60.33	53.98	12.95
FE 2500 2250 0250	63.5	57.15	6.35
FE 2500 2250 0375	63.5	57.15	9.52
FE 2500 2250 0500	63.5	57.15	12.7
FE 2500 2250 0510	63.5	57.15	12.95
FE 2500 2375 0375	63.5	60.33	9.52
FE 2625 2375 0755	66.68	60.33	19.18
FE 2625 2375 1010	66.68	60.33	25.65
FE 2625 2500 1000	66.68	63.5	25.4
FE 2750 2500 0500	69.85	63.5	12.7
FE 2750 2500 0750	69.85	63.5	19.05
FE 2750 2500 1010	69.85	63.5	25.65
FE 2875 2750 0385	73.03	69.85	9.78
FE 3000 2750 0255	76.2	69.85	6.48
FE 3000 2750 0380	76.2	69.85	9.65

Part.	D H8	d -0.05	L +0.25
FE 3000 2750 0500	76.2	69.85	12.7
FE 3000 2750 0510	76.2	69.85	12.95
FE 3250 3000 0260	82.55	76.2	6.6
FE 3250 3000 0380	82.55	76.2	9.65
FE 3250 3000 1000	82.55	76.2	25.4
FE 3250 3125 0375	82.55	79.38	9.52
FE 3500 3250 0250	88.9	82.55	6.35
FE 3500 3250 0500	88.9	82.55	12.7
FE 3500 3250 0760	88.9	82.55	19.3
FE 3750 3500 0380	95.25	88.9	9.65
FE 3750 3500 0500	95.25	88.9	12.7
FE 3750 3500 0755	95.25	88.9	19.18
FE 4000 3750 0260	101.6	95.25	6.6
FE 4000 3750 0380	101.6	95.25	9.65
FE 4000 3750 0500	101.6	95.25	12.7
FE 4000 3750 1010	101.6	95.25	25.65
FE 4000 3875 0375	101.6	98.43	9.52
FE 4250 4000 0510	107.95	101.6	12.95

Part.	D H8	d -0.05	L +0.25
FE 4500 4250 0500	114.3	107.95	12.7
FE 4500 4250 1000	114.3	107.95	25.4
FE 5000 4750 0250	127	120.65	6.35
FE 5000 4750 0375	127	120.65	9.53
FE 5000 4750 0500	127	120.65	12.7
FE 5000 4750 1010	127	120.65	25.65
FE 5000 4875 0375	127	123.83	9.52
FE 5250 5000 0510	133.35	127	12.95
FE 5500 5250 0500	139.7	133.35	12.7
FE 5750 5500 0500	146.05	139.7	12.7
FE 6000 5750 0385	152.4	146.05	9.78
FE 6000 5750 0500	152.4	146.05	12.7
FE 6000 5875 0375	152.4	149.23	9.52
FE 6250 6000 0510	158.72	152.4	12.95
FE 7000 6750 0500	177.8	171.45	12.7
FE 7250 7000 0510	184.15	177.8	12.95
FE 8000 7750 1000	203.2	196.85	25.4
FE 8000 7875 0385	203.2	200.03	9.78