

Compact seal type 0820

Type 0820 is a two piece double acting piston seal which consists of one special mixture PTFE profile ring and an o-ring as energizing element.

Characteristics

Type: 0820

Principle of operation: Double acting

Max. operating pressure: 400 bar

Maximum speed: 15 m/s

Application

- Injection moulding machines , fork-lift trucks , loading platforms , cranes , agricultural machinery and valves for hydraulic and pneumatic systems.

Technical Information

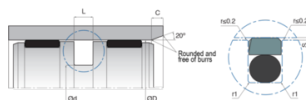
- Low friction , free of stick-slip
- Simple groove design and low axial housing heights
- Long service life
- High sliding speed
- Wide range of temperature and chemicals depending on the o-ring material
- Minimum static and dynamic friction coefficient for a minimum energy loss and operating temperature
- Wide range of dimensions

Operating Principle

- We recommend using special assembly tool (See section; Hydraulic Sealing Elements General Installation Information) and to have open groove design for dimensions that are smaller than Ø 40 mm. It is very important that the assembly tools must be of soft material and have no sharp edges. Before installation the sealing element must be oiled with system oil.

Options

- It is recommended to use with minimum two piston guide rings in long stroke cylinders , minimum one guide ring in short stroke and under low radial loads. For special applications that require high temperatures or resistance to chemicals , piston seal is being manufactured with special mixture PTFE and FKM material. The permissible sealing gap values of 0820 piston seal is given in the below table.



OPERATING CONDITIONS			
MEDIA	Mineral oils (DIN 51524)	HFA and HFB	HFC
TEMPERATURE	from -30°C till +105°C	from +5°C till +60°C	from -30°C till +60°C
PRESSURE	max. 400 Bar	max. 400 Bar	max. 400 Bar
SPEED	max. 5.0 m/s	max. 5.0 m/s	max. 5.0 m/s
Note: The above data are maximum values and cannot be used at the same time.			

SURFACE ROUGHNESS	Ra	Rmax
Sliding Surface	max. 0.2 µm	2.0 µm
Groove Base	max. 1.6 µm	6.3 µm
Groove Flanks	max. 3.2 µm	15 µm
Note: It is recommended to have 50% to 90% of the working surface material contact area value.		

PERMISSIBLE SEALING GAP			
B (mm)	Smax (mm)		
x	150 Bar	250 Bar	400 Bar
2.2	0.25	0.20	0.15
3.2	0.4	0.25	0.15

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PERMISSIBLE SEALING GAP			
B (mm)	Smax (mm)		
4.2	0.4	0.25	0.20
6.3	0.5	0.30	0.20
8.1	0.6	0.35	0.25
9.5	0.7	0.50	0.30
Note: The largest sealing gap value occurring on the non-pressurized side of the seal does have a vital importance for the function of the seal and in this respect it is quite important to use the S value lower than the above indicated numbers.			

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MEDIA	Mineral oils (DIN 51524)	HFA and HFB	HFC
TEMPERATURE	from -30°C till +105°C	from +5°C till +60°C	from -30°C till +60°C
PRESSURE	max. 400 Bar	max. 400 Bar	max. 400 Bar
SPEED	max. 5.0 m/s	max. 5.0 m/s	max. 5.0 m/s
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3.2	0.4	0.25	0.15
4.2	0.4	0.25	0.20
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8.1	0.6	0.35	0.25
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3.2	0.4	0.25	0.15
4.2	0.4	0.25	0.20
6.3	0.5	0.30	0.20
8.1	0.6	0.35	0.25
9.5	0.7	0.50	0.30
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Bore diameter	Groove diameter	Groove width	Material seal	Compound	Material energizer	Temperature range	Article
mm	mm	mm				°C	
8	3.1	2.2	PTFE	ER39	NBR	-30 / 105	13226489
10	5.1	2.2	PTFE	ER39	NBR	-30 / 105	13226490
12	7.1	2.2	PTFE	ER39	NBR	-30 / 105	11388537
14	9.1	2.2	PTFE	ER39	NBR	-30 / 105	14193828
15	7.5	3.2	PTFE	ER39	NBR	-30 / 105	13226491
16	8.5	3.2	PTFE	ER39	NBR	-30 / 105	12034511
18	10.5	3.2	PTFE	ER39	NBR	-30 / 105	11338796
18	13.1	2.2	PTFE	ER39	NBR	-30 / 105	14193829
20	12.5	3.2	PTFE	ER39	NBR	-30 / 105	13226492
20	15.1	2.2	PTFE	ER39	NBR	-30 / 105	12630175
22	14.5	3.2	PTFE	ER39	NBR	-30 / 105	13226503
24	16.5	3.2	PTFE	ER39	NBR	-30 / 105	13226504
25	14	4.2	PTFE	ER39	NBR	-30 / 105	14193830
25	17.5	3.2	PTFE	ER39	NBR	-30 / 105	11259082
30	22.5	3.2	PTFE	ER39	NBR	-30 / 105	11047253
32	21	4.2	PTFE	ER39	NBR	-30 / 105	11378035
32	24.5	3.2	PTFE	ER39	NBR	-30 / 105	13226505
35	27.5	3.2	PTFE	ER39	NBR	-30 / 105	14199449
35	30.1	2.2	PTFE	ER39	NBR	-30 / 105	14193831
36	28.5	3.2	PTFE	ER39	NBR	-30 / 105	12984697
38	30.5	3.2	PTFE	ER39	NBR	-30 / 105	13226506
40	24.5	6.3	PTFE	ER39	NBR	-30 / 105	14193832
40	29	4.2	PTFE	ER39	NBR	-30 / 105	11055770
40	32.5	3.2	PTFE	ER39	NBR	-30 / 105	14193833
42	31	4.2	PTFE	ER39	NBR	-30 / 105	12961413
45	34	4.2	PTFE	ER39	NBR	-30 / 105	13226508
48	37	4.2	PTFE	ER39	NBR	-30 / 105	11307761
50	34.5	6.3	PTFE	ER39	NBR	-30 / 105	11476412
50	39	4.2	PTFE	ER39	NBR	-30 / 105	11049848
52	41	4.2	PTFE	ER39	NBR	-30 / 105	13226509
55	44	4.2	PTFE	ER39	NBR	-30 / 105	12358783
57	46	4.2	PTFE	ER39	NBR	-30 / 105	14193834
58	47	4.2	PTFE	ER39	NBR	-30 / 105	14193835
60	44.5	6.3	PTFE	ER39	NBR	-30 / 105	14193836
60	49	4.2	PTFE	ER39	NBR	-30 / 105	10020225
63	47.5	6.3	PTFE	ER39	NBR	-30 / 105	12702291
63	52	4.2	PTFE	ER39	NBR	-30 / 105	11413616
63	55.5	3.2	PTFE	ER39	NBR	-30 / 105	14193837
65	49.5	6.3	PTFE	ER39	NBR	-30 / 105	14193838
65	54	4.2	PTFE	ER39	NBR	-30 / 105	13226510
68	57	4.2	PTFE	ER39	NBR	-30 / 105	14193839
70	54.5	6.3	PTFE	ER39	NBR	-30 / 105	12702292
70	59	4.2	PTFE	ER39	NBR	-30 / 105	11093636
75	59.5	6.3	PTFE	ER39	NBR	-30 / 105	11394671
75	64	4.2	PTFE	ER39	NBR	-30 / 105	10020154
80	59	8.1	PTFE	ER39	NBR	-30 / 105	11169047
80	64.5	6.3	PTFE	ER39	NBR	-30 / 105	11065599
80	69	4.2	PTFE	ER39	NBR	-30 / 105	14193840
82.5	67	6.3	PTFE	ER39	NBR	-30 / 105	14193841
85	64	8.1	PTFE	ER39	NBR	-30 / 105	13033751
85	69.5	6.3	PTFE	ER39	NBR	-30 / 105	14193842
85	74	4.2	PTFE	ER39	NBR	-30 / 105	14193843

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mm	mm	mm				°C	
90	69	8.1	PTFE	ER39	NBR	-30 / 105	12961717
90	74.5	6.3	PTFE	ER39	NBR	-30 / 105	11384167
90	79	4.2	PTFE	ER39	NBR	-30 / 105	14193844
95	74	8.1	PTFE	ER39	NBR	-30 / 105	14193845
95	79.5	6.3	PTFE	ER39	NBR	-30 / 105	11482854
100	79	8.1	PTFE	ER39	NBR	-30 / 105	11404097
100	84.5	6.3	PTFE	ER39	NBR	-30 / 105	11075124
100	89	4.2	PTFE	ER39	NBR	-30 / 105	14193846
101.6	86.1	6.3	PTFE	ER39	NBR	-30 / 105	14193847
105	89.5	6.3	PTFE	ER39	NBR	-30 / 105	10020177
108	92.5	6.3	PTFE	ER39	NBR	-30 / 105	14193848
110	89	8.1	PTFE	ER39	NBR	-30 / 105	11365239
110	94.5	6.3	PTFE	ER39	NBR	-30 / 105	13226511
110	99	4.2	PTFE	ER39	NBR	-30 / 105	14193849
115	94	8.1	PTFE	ER39	NBR	-30 / 105	14193850
115	99.5	6.3	PTFE	ER39	NBR	-30 / 105	13226512
120	99	8.1	PTFE	ER39	NBR	-30 / 105	14193851
120	104.5	6.3	PTFE	ER39	NBR	-30 / 105	11268081
120	109	4.2	PTFE	ER39	NBR	-30 / 105	12493987
125	104	8.1	PTFE	ER39	NBR	-30 / 105	11068561
125	109.5	6.3	PTFE	ER39	NBR	-30 / 105	11097679
125	114	4.2	PTFE	ER39	NBR	-30 / 105	14193852
127	111.5	6.3	PTFE	ER39	NBR	-30 / 105	14193853
130	109	8.1	PTFE	ER39	NBR	-30 / 105	13615381
130	114.5	6.3	PTFE	ER39	NBR	-30 / 105	10020186
135	114	8.1	PTFE	ER39	NBR	-30 / 105	11267957
140	119	8.1	PTFE	ER39	NBR	-30 / 105	11066484
140	124.5	6.3	PTFE	ER39	NBR	-30 / 105	14193854
140	129	4.2	PTFE	ER39	NBR	-30 / 105	14193855
145	124	8.1	PTFE	ER39	NBR	-30 / 105	13226513
150	129	8.1	PTFE	ER39	NBR	-30 / 105	13226514
150	134.5	6.3	PTFE	ER39	NBR	-30 / 105	14193856
155	134	8.1	PTFE	ER39	NBR	-30 / 105	14193857
160	139	8.1	PTFE	ER39	NBR	-30 / 105	11202457
165	144	8.1	PTFE	ER39	NBR	-30 / 105	14193858
170	149	8.1	PTFE	ER39	NBR	-30 / 105	10020200
175	154	8.1	PTFE	ER39	NBR	-30 / 105	11298572
180	159	8.1	PTFE	ER39	NBR	-30 / 105	13226515
185	164	8.1	PTFE	ER39	NBR	-30 / 105	11093814
185	169.5	6.3	PTFE	ER39	NBR	-30 / 105	14193859
190	169	8.1	PTFE	ER39	NBR	-30 / 105	11049923
195	174	8.1	PTFE	ER39	NBR	-30 / 105	14193860
200	179	8.1	PTFE	ER39	NBR	-30 / 105	14199450
200	184.5	6.3	PTFE	ER39	NBR	-30 / 105	14193861
205	184	8.1	PTFE	ER39	NBR	-30 / 105	11046550
210	189	8.1	PTFE	ER39	NBR	-30 / 105	13226516
215	194	8.1	PTFE	ER39	NBR	-30 / 105	14193862
220	199	8.1	PTFE	ER39	NBR	-30 / 105	13226517
225	204	8.1	PTFE	ER39	NBR	-30 / 105	13226518
230	209	8.1	PTFE	ER39	NBR	-30 / 105	12961716
240	219	8.1	PTFE	ER39	NBR	-30 / 105	13226519
245	224	8.1	PTFE	ER39	NBR	-30 / 105	14193863

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Bore diameter	Groove diameter	Groove width	Material seal	Compound	Material energizer	Temperature range	Article
mm	mm	mm				°C	
250	229	8.1	PTFE	ER39	NBR	-30 / 105	14193864
254	233	8.1	PTFE	ER39	NBR	-30 / 105	14193865
255	234	8.1	PTFE	ER39	NBR	-30 / 105	14193866
260	239	8.1	PTFE	ER39	NBR	-30 / 105	11018764
265	244	8.1	PTFE	ER39	NBR	-30 / 105	14193867
270	249	8.1	PTFE	ER39	NBR	-30 / 105	13226520
275	254	8.1	PTFE	ER39	NBR	-30 / 105	14193868
280	259	8.1	PTFE	ER39	NBR	-30 / 105	11118117
290	269	8.1	PTFE	ER39	NBR	-30 / 105	13226521
300	275.5	8.1	PTFE	ER39	NBR	-30 / 105	14193869
300	279	8.1	PTFE	ER39	NBR	-30 / 105	14193870
305	284	8.1	PTFE	ER39	NBR	-30 / 105	14193871
310	289	8.1	PTFE	ER39	NBR	-30 / 105	12398954
315	294	8.1	PTFE	ER39	NBR	-30 / 105	14193872
320	295.5	8.1	PTFE	ER39	NBR	-30 / 105	14193873
320	299	8.1	PTFE	ER39	NBR	-30 / 105	13226522
325	300.5	8.1	PTFE	ER39	NBR	-30 / 105	14193874
325	304	8.1	PTFE	ER39	NBR	-30 / 105	14193875
330	305.5	8.1	PTFE	ER39	NBR	-30 / 105	14199447
340	315.5	8.1	PTFE	ER39	NBR	-30 / 105	11449053
350	325.5	8.1	PTFE	ER39	NBR	-30 / 105	13226523
360	335.5	8.1	PTFE	ER39	NBR	-30 / 105	11083402
365	340.5	8.1	PTFE	ER39	NBR	-30 / 105	14193876
370	345.5	8.1	PTFE	ER39	NBR	-30 / 105	13226524
380	355.5	8.1	PTFE	ER39	NBR	-30 / 105	12140060
390	365.5	8.1	PTFE	ER39	NBR	-30 / 105	11038270
400	375.5	8.1	PTFE	ER39	NBR	-30 / 105	11335484
420	395.5	8.1	PTFE	ER39	NBR	-30 / 105	11202673
430	405.5	8.1	PTFE	ER39	NBR	-30 / 105	13226526
440	415.5	8.1	PTFE	ER39	NBR	-30 / 105	13226527
450	425.5	8.1	PTFE	ER39	NBR	-30 / 105	12708352
460	435.5	8.1	PTFE	ER39	NBR	-30 / 105	14193877
470	445.5	8.1	PTFE	ER39	NBR	-30 / 105	13226528
480	455.5	8.1	PTFE	ER39	NBR	-30 / 105	13226529
500	475.5	8.1	PTFE	ER39	NBR	-30 / 105	14199448
520	495.5	8.1	PTFE	ER39	NBR	-30 / 105	11240833
530	505.5	8.1	PTFE	ER39	NBR	-30 / 105	11137196
540	515.5	8.1	PTFE	ER39	NBR	-30 / 105	14193878
550	525.5	8.1	PTFE	ER39	NBR	-30 / 105	14193879
560	535.5	8.1	PTFE	ER39	NBR	-30 / 105	14193880
565	540.5	8.1	PTFE	ER39	NBR	-30 / 105	14193881
580	555.5	8.1	PTFE	ER39	NBR	-30 / 105	14193882
600	575.5	8.1	PTFE	ER39	NBR	-30 / 105	14193883

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