

RELY ON EXCELLENCE

Class E balanced seals E03, E04, E13, E14

Mechanical Seals | Mechanical seals for pumps | Pusher seals



Features

- Rotating single-spring pusher seals
- Balanced
- Robust seal design
- Available as O-Ring or wedge variants
- Hard/hard seal face combination available
- Independent of direction of rotation (E13, E14)
- Available as single, dual and tandem arrangements

Advantages

- Ideally suitable for abrasive, corrosive and viscous fluids
- Over 35 years of running reference in the field
- Narrow cross-section allows the seal fitment in narrow stuffing boxes
- Lower inventory since all parts except seal ring composite and follower are interchangeable with Class E unbalanced seals (E01, E02, E11, E12).

Operating range

Shaft diameter: $d = 25 \dots 100 \text{ mm}$ (1" ... 3.94")

Pressure: $p = \text{vacuum to } 60 \text{ bar}$ (870 PSI)

Temperature:

$t = -75 \text{ }^\circ\text{C} \dots +260 \text{ }^\circ\text{C}$ (-103 °F ... +500 °F)

Sliding velocity: $v_g = 15 \text{ m/s}$ (49 ft/s)

Axial movement: $\pm 1.5 \text{ mm}$

Materials

(Consult EB for applications outside above limits). Seal ring: Carbon graphite resin impregnated, Carbon graphite antimony impregnated, Tungsten carbide, Silicon carbide
Mating ring: Silicon carbide, Tungsten carbide
Secondary seals: FKM, NBR, FFKM, PTFE
Springs: SS 316
Metal parts: SS 316, other materials on request.

Recommended applications

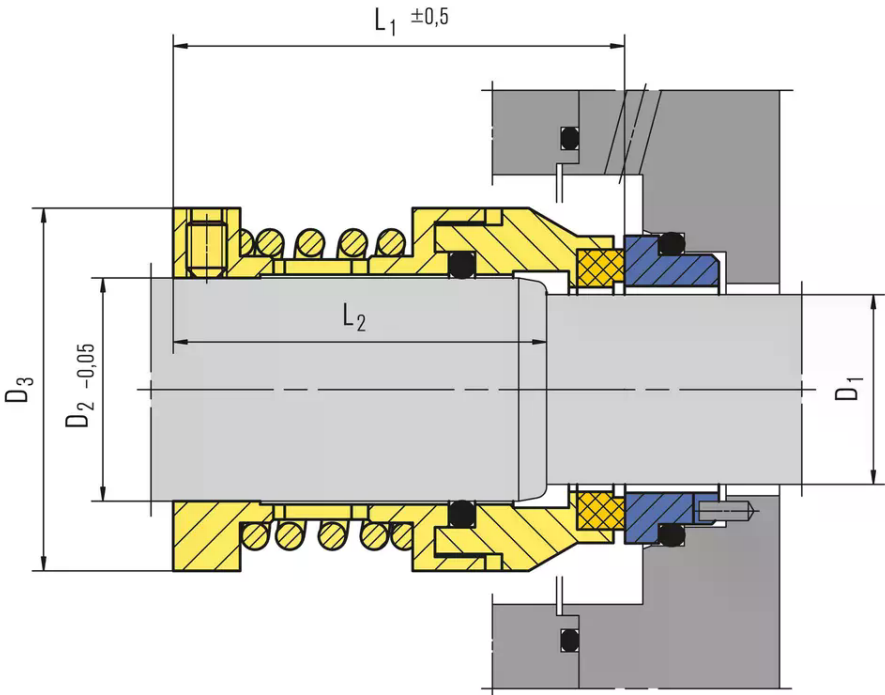
- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Power plant technology
- Water and waste water technology
- Building services industry
- Food and beverage industry
- Sugar industry
- Horizontal and vertical pumps, agitators, mixers

Recommended piping plans

API Plans 01, 02, 03, 11, 12, 13, 14, 21, 22, 23, 31, 32, 41, 52, 53A, 53B, 53C, 54, 55, 61, 62, 65A, 65B, 66

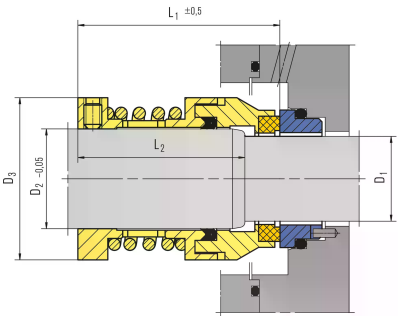
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Drawing shows
E03 / E13 Balanced seal



Product variants

E04 / E14 Balanced seal



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Dimensions

Dash Size	D1	D2	D3	L1	L2
D016	22.23	25.40	39	58.0	50.7
D018	25.40	28.57	42	60.5	51.7
D020	28.58	31.75	46	64.0	55.2
D022	28.58	34.93	49	65.0	55.5
D024	31.75	38.10	54	65.0	55.5
D026	34.93	41.27	59	65.0	54.5
D028	38.10	44.45	61	66.5	55.5
D030	41.28	47.62	64	73.0	62.0
D032	44.45	50.80	66	76.0	62.0
D034	47.62	53.97	69	77.0	62.0
D036	50.80	57.15	78	79.0	68.5
D038	53.98	60.32	80	79.0	68.5
D040	57.15	63.50	83	79.0	68.5
D042	60.32	66.67	86	84.0	71.0
D044	63.50	69.85	90	84.0	71.0
D046	66.67	73.02	93	86.0	73.0
D048	69.85	76.20	99	89.0	76.0
D050	73.02	79.37	104	89.0	76.0
D052	76.20	82.55	103	89.0	76.0
D054	79.37	85.72	109	89.0	76.0
D056	82.55	88.90	114	89.0	76.0
D058	85.72	92.07	114	96.0	83.0
D060	88.90	95.25	119	96.0	83.0
D062	92.08	98.42	122	96.0	83.0
D064	95.25	101.6	126	104.0	91.0

Imperial size

Seal Size	D1	D2	D3	L1	L2
25	20.0	25	40	58	50.7
28	24.0	28	42	60.5	51.7
30	25.0	30	44	60.5	51.7
32	28.0	32	46	64	55.2
33	28.0	33	47	64	55.2
35	30.0	35	49	65	55.5
38	33.0	38	54	65	55.5
40	35.0	40	56	65	55.5
43	38.0	43	59	65	54.5
45	40.0	45	61	66.5	55.5
48	43.0	48	64	73	62.0
50	45.0	50	66	76	65.0
53	48.0	53	69	77	66.0
55	50.0	55	71	77	66.0
58	53.0	58	78	79	68.5
60	55.0	60	80	79	68.5
63	58.0	63	83	79	68.5
65	60.0	65	85	79	68.5
68	63.0	68	88	79	68.5

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Seal Size	D1	D2	D3	L1	L2
70	65.0	70	90	84	71.0
75	70.0	75	99	89	76.0
80	75.0	80	104	89	76.0
85	80.0	85	109	89	76.0
90	85.0	90	114	89	76.0
95	90.0	95	119	96	83.0
100	95.0	100	124	96	83.0

Metric size