

RELY ON EXCELLENCE

Class P unbalanced seals P21, P22

Mechanical Seals | Mechanical seals for pumps | Pusher seals



Features

- Rotating multi-spring pusher seals
- Unbalanced
- Compact in length
- Available as O-Ring or wedge variants
- Hard/hard seal face combination available
- Uniform seal face loading
- Exotic compatible metallurgy for hardware
- Independent of direction of rotation
- Available as single, dual and tandem arrangements

Advantages

- Suitable for a wide range of abrasive and corrosive 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 are interchangeable with Class P balanced seals (P23, P24).

Operating range

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

Pressure: $p = \text{vacuum to } 16 \text{ bar}$ (232 PSI)

Temperature:

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

Sliding velocity: $v_g = 25 \text{ m/s}$ (82 ft/s)

Axial movement: $\pm 0.5 \text{ mm}$

(Consult EB for applications outside above limits).

Materials

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: Hastelloy® C-4
Metal parts: SS 316, other materials on request.

Recommended applications

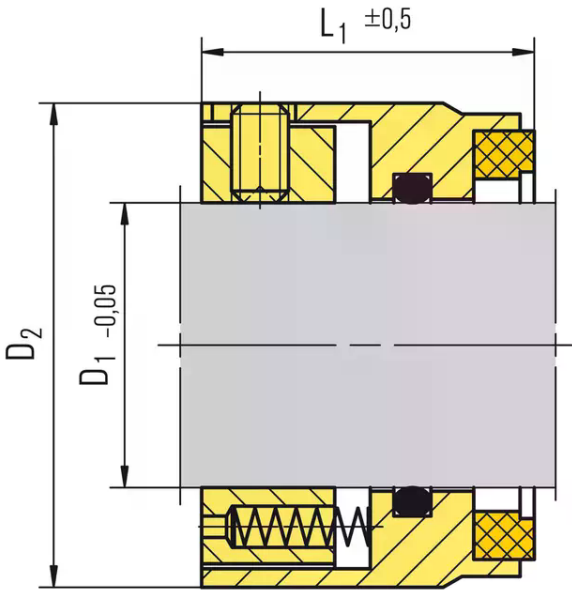
- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Power plant technology
- Water and waste water technology
- Building services industry
- Food and beverage industry
- Sugar industry
- Horizontal and vertical pumps,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

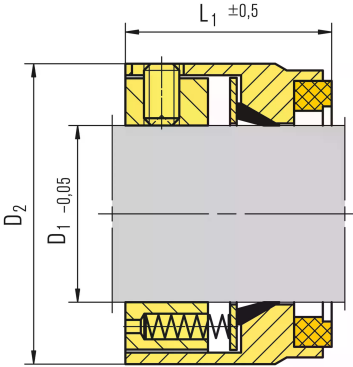
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Drawing shows
P21 Mechanical seal



Product variants

P22 mechanical seal with wedge



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Dimensions

| Dash size | D1 | D2 | L1 |
|-----------|-------|-------|------|
| D016 | 25.40 | 38.0 | 25.4 |
| D018 | 28.57 | 41.3 | 25.4 |
| D020 | 31.75 | 45.1 | 28.0 |
| D022 | 34.93 | 48.2 | 28.0 |
| D024 | 38.10 | 54.0 | 28.0 |
| D026 | 41.27 | 57.0 | 28.0 |
| D028 | 44.45 | 60.3 | 28.0 |
| D030 | 47.62 | 63.5 | 28.0 |
| D032 | 50.8 | 66.7 | 28.0 |
| D034 | 53.97 | 70.0 | 28.0 |
| D036 | 57.15 | 73.0 | 28.0 |
| D038 | 60.32 | 76.2 | 28.0 |
| D040 | 63.50 | 79.4 | 28.0 |
| D042 | 66.67 | 89.0 | 38.0 |
| D044 | 69.85 | 92.0 | 38.0 |
| D046 | 73.02 | 95.3 | 38.0 |
| D048 | 76.20 | 98.5 | 38.0 |
| D050 | 79.37 | 101.6 | 38.0 |
| D052 | 82.55 | 104.8 | 38.0 |
| D054 | 85.72 | 108.0 | 38.0 |
| D056 | 88.90 | 111.0 | 38.0 |
| D058 | 92.07 | 114.3 | 38.0 |
| D060 | 95.25 | 119.5 | 38.0 |
| D062 | 98.42 | 120.6 | 38.0 |
| D064 | 101.6 | 126.0 | 38.0 |

Imperial size

| Seal size | D1 | D2 | L1 |
|-----------|------|------|------|
| 0025 | 25.0 | 39.0 | 30.0 |
| 0028 | 28.0 | 42.0 | 32.5 |
| 0030 | 30.0 | 44.0 | 32.5 |
| 0032 | 32.0 | 46.0 | 32.5 |
| 0033 | 33.0 | 47.0 | 32.5 |
| 0035 | 35.0 | 49.0 | 32.5 |
| 0038 | 38.0 | 54.0 | 34.0 |
| 0040 | 40.0 | 56.0 | 34.0 |
| 0043 | 43.0 | 59.0 | 34.0 |
| 0045 | 45.0 | 61.0 | 34.0 |
| 0048 | 48.0 | 64.0 | 34.0 |
| 0050 | 50.0 | 66.0 | 34.5 |
| 0053 | 53.0 | 69.0 | 34.5 |
| 0055 | 55.0 | 71.0 | 34.5 |
| 0058 | 58.0 | 78.0 | 39.5 |
| 0060 | 60.0 | 80.0 | 39.5 |
| 0063 | 63.0 | 83.0 | 39.5 |
| 0065 | 65.0 | 85.0 | 39.5 |
| 0068 | 68.0 | 88.0 | 37.2 |

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| Seal size | D1 | D2 | L1 |
|-----------|-------|-------|------|
| 0070 | 70.0 | 90.0 | 44.7 |
| 0075 | 75.0 | 99.0 | 44.7 |
| 0080 | 80.0 | 104.0 | 44.3 |
| 0085 | 85.0 | 109.0 | 44.3 |
| 0090 | 90.0 | 114.0 | 49.3 |
| 0095 | 95.0 | 119.0 | 49.3 |
| 0100 | 100.0 | 124.0 | 49.3 |

Metric size