API 682 Seals For Pumps - Standard Cartridge Seals

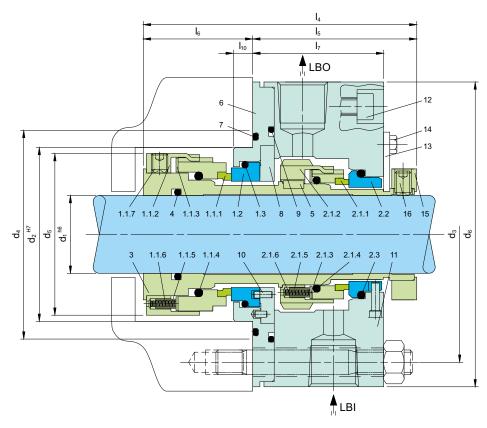


Product Description

- 1. Dual seal configuration
- 2. Balanced design
- 3. Independent of direction of rotation
- 4. Cartridge construction
- 5. Bi-directional design available
- 6. Category 2 and 3, Type A, Arrangement 2 or 3
- 7. Design in accordance to API 682 / ISO 21049
- 8. Pumping device available for increased efficiency in circulation
- 9. Rotary unit with multiple springs
- 10. Can accommodate reverse pressure

Technical Features

- 1. Can handle extensive applications in various temperatures and pressures
- 2. Versatile in design to fit various seal chambers
- 3. Material of construction available in special metallurgy
- 4. Special torque transmission design for high performance
- 5. Operation reliability due to rugged metal torque transmission at the rotating seal face



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

| Item | Description |
|------------------------|---------------|
| 1.1.1, 2.1.1 | Seal face |
| 1.1.2, 2.1.2 | Driver |
| 1.1.3, 2.1.3 | Thrust ring |
| 1.1.4, 2.1.4, 1.3, 2.3 | O-ring |
| 1.1.5, 2.1.5 | Spring Sleeve |
| 1.1.6, 2.1.6 | Spring |
| 1.1.7 | Set screw |
| 1.2, 2.2 | Seat |
| 3 | Shaft sleeve |
| 4 | O-ring |
| 5 | Key |

| Item | Description |
|------|------------------|
| 6 | Adapter |
| 7 | O-ring |
| 8 | Washer |
| 9 | O-ring |
| 10 | Pin |
| 11 | Housing |
| 12 | HSH cap screw |
| 13 | Assembly fixture |
| 14 | Hexagon bolt |
| 15 | Set ring |
| 16 | Set screw |

Typical Industrial Applications

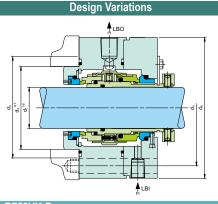
API & ISO Pumps Low solids content Acids (some) media Aqueous solutions Media with poor Chemical lubrication properties Fertiliser Oil & gas Highly viscous Petrochemical hydrocarbons Refining technology Light volatile Toxic & hazardous hydrocarbons media Low abrasive media

| | Materials | | | | | | | | |
|-----------------|--|--|--|--|--|--|--|--|--|
| Seal face | Carbon graphite resin antimony impregnated (A), Silicon carbide (Q1, Q2) | | | | | | | | |
| Seat | Silicon carbide (Q1, Q2) | | | | | | | | |
| Secondary seals | EPDM (E), NBR (P), FKM (V), FFKM (K) | | | | | | | | |
| Springs | Hastelloy® C-4 (M) | | | | | | | | |
| Metal parts | CrNiMo steel (G), Duplex (G1), Hastelloy® C-4 (M) | | | | | | | | |

| Performance Capabilities | | | | | | |
|--|-------------------------------------|--|--|--|--|--|
| Sizes d ₁ = Upto 110 mm (Upto 4.250") | | | | | | |
| Pressure p ₁ = 40 bar (580 PSI) | | | | | | |
| Temperature | t = -40 °C+220 °C (-40°F+428 °F) | | | | | |
| Speed 23 m/s (75 ft/s) | | | | | | |
| * Other sizes on request | | | | | | |

Permissible Axial Movement

± 2.0 ... 4.0 mm depending on the diameter and installation situation



B750VK-D

Dual seal in back-to-back arrangement. Suitable for API 610 table 6 seal chambers.

Standards

API 682/ ISO 21049

| - In | im | nn | e i | α | വ | | | |
|------|----|---------|-----|----------|---------|---|-------|-----|
| | | | ъı | w | II (° I | _ | I e l | 100 |

| Dimensions | in | inch |
|------------|----|------|
| | | |

| API/d ₁ | API/d ₂ | API/d ₃ | API/d ₄ | d 5 | d ₆ | 14 | I ₅ | I ₆ | l ₇ | I ₁₀ | Axial movement |
|--------------------|--------------------|--------------------|--------------------|-------|----------------|-------|----------------|----------------|----------------|-----------------|----------------|
| 0.750 | 2.756 | 4.134 | 3.346 | 2.362 | 5.079 | 5.669 | 3.819 | 1.850 | 3.189 | 0.236 | ±0.079 |
| 1.125 | 3.150 | 4.528 | 3.740 | 2.756 | 5.472 | 5.728 | 3.780 | 1.949 | 3.051 | 0.315 | ±0.079 |
| 1.500 | 3.543 | 4.921 | 4.134 | 3.228 | 5.866 | 5.768 | 3.799 | 1.969 | 3.071 | 0.315 | ±0.079 |
| 2.000 | 3.937 | 5.512 | 4.528 | 3.701 | 6.614 | 6.220 | 4.193 | 2.028 | 3.465 | 0.413 | ±0.079 |
| 2.250 | 4.724 | 6.299 | 5.315 | 4.488 | 7.402 | 6.496 | 4.232 | 2.264 | 3.551 | 0.177 | ±0.079 |
| 2.750 | 5.118 | 6.693 | 5.709 | 4.882 | 7.795 | 6.693 | 4.232 | 2.461 | 3.346 | 0.394 | ±0.079 |
| 3.125 | 5.512 | 7.087 | 6.102 | 5.276 | 8.189 | 6.890 | 4.232 | 2.657 | 3.346 | 0.492 | ±0.079 |
| 3.500 | 6.299 | 8.071 | 6.890 | 5.748 | 9.370 | 7.039 | 4.602 | 2.437 | 3.717 | 0.272 | ±0.118 |
| 3.750 | 6.693 | 8.465 | 7.283 | 6.417 | 9.764 | 7.283 | 4.626 | 2.657 | 3.622 | 0.453 | ±0.079 |
| 4.250 | 7.087 | 8.858 | 7.677 | 6.811 | 10.157 | 7.402 | 4.587 | 2.815 | 3.583 | 0.610 | ±0.118 |

Dimensions in millimeter

| API/d ₁ | API/d ₂ | API/d ₃ | API/d ₄ | d ₅ | d ₆ | l ₄ | l ₅ | I ₆ | l ₇ | I ₁₀ | Axial movement |
|--------------------|--------------------|--------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| 20 | 70 | 105 | 85 | 60 | 129 | 144.0 | 97.0 | 47.0 | 81.0 | 6.0 | ±2.0 |
| 30 | 80 | 115 | 95 | 70 | 139 | 145.5 | 96.0 | 49.5 | 77.5 | 8.0 | ±2.0 |
| 40 | 90 | 125 | 105 | 82 | 149 | 146.5 | 96.5 | 50.0 | 78.0 | 8.0 | ±2.0 |
| 50 | 100 | 140 | 115 | 94 | 168 | 158.0 | 106.5 | 51.5 | 88.0 | 10.5 | ±2.0 |
| 60 | 120 | 160 | 135 | 114 | 188 | 165.0 | 107.5 | 57.5 | 90.2 | 4.5 | ±2.0 |
| 70 | 130 | 170 | 145 | 124 | 198 | 170.0 | 107.5 | 62.5 | 85.0 | 10.0 | ±2.0 |
| 80 | 140 | 180 | 155 | 134 | 208 | 175.0 | 107.5 | 67.5 | 85.0 | 12.5 | ±2.0 |
| 90 | 160 | 205 | 175 | 146 | 238 | 178.8 | 116.9 | 61.9 | 94.4 | 6.9 | ±3.0 |
| 100 | 170 | 215 | 185 | 163 | 248 | 185.0 | 117.5 | 67.5 | 92.0 | 11.5 | ±2.0 |
| 110 | 180 | 225 | 195 | 173 | 258 | 188.0 | 116.5 | 71.5 | 91.0 | 15.5 | ±3.0 |

Note: Additional technical & dimensional information will be provided on request.

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