SPLIT MECHANICAL SEAL
HIGH PERFORMANCE—EASY TO INSTALL
The difference is obvious

Chesterton, the world leader in split seal technology, has the largest installed base globally. Our broad experience in split sealing enables a wide array of users to improve plant efficiencies. Today, with years of proven performance, Chesterton split seals are used in more types of equipment, sealing more types of process materials.

- Broad range of sizes—to diameters of 24 inches (610 mm) and beyond
- Easy to install/simple field repair—no glued or bonded components
- Superior performance, high pressure, and vacuum sealing
- Compact design fits most rotating equipment
Chesterton patented innovation drives performance

The 442’s unique, patented adjustable gland, with captured fasteners, and automatic centering deliver unsurpassed ease of use.

442 high pressure and vacuum sealing

**Patented ramped stationary design** keeps seal face splits together under pressure and vacuum conditions, ensuring reliable sealing during pressure to vacuum shifts.

![Diagram](Image)

Under pressure conditions the seal ring halves are forced together.

Under vacuum conditions atmospheric pressure acts on o-rings, forcing them against the ramped surfaces of the seal faces.

Ramped surfaces cause radial and axial closing forces to keep splits together.

**We raised the bar!** The 442 Split Seal pressure capability has been increased to 450 Psig (30 bar g). This is over twice that of most split seals, enabling the use of the 442 in a much larger application base.

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<table>
<thead>
<tr>
<th>Materials of Construction</th>
<th>Operating Parameters</th>
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</thead>
<tbody>
<tr>
<td><strong>Component</strong></td>
<td><strong>Pressure</strong></td>
</tr>
<tr>
<td>Rotary Face</td>
<td>28” (710 mm) Hg to 450 Psig (30 bar g)</td>
</tr>
<tr>
<td>Stationary Face</td>
<td>Temperature</td>
</tr>
<tr>
<td>Elastomers</td>
<td>To 250ºF (120ºC)</td>
</tr>
<tr>
<td>Spring</td>
<td>Speed</td>
</tr>
<tr>
<td>Metal Parts</td>
<td>To 4000 fpm (20 m/s)</td>
</tr>
<tr>
<td></td>
<td>Size</td>
</tr>
<tr>
<td></td>
<td>1.250” (32 mm) to 7.750” (195 mm)</td>
</tr>
</tbody>
</table>

*Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations.

Consult Chesterton Engineering for your applications, including applications exceeding published operating parameters, and for additional seal sizes.
Proven Design, Superior Performance

*Chesterton split seals are installed in all types of equipment and deliver years of reliable service.*

Applications include:

- Cooling tower pumps
- Raw water pumps
- Side entry mixers
- Blenders
- Processing tanks
- Fermentors
- Condensate pumps
- Process pumps
- Top entry mixers
- Bottom entry mixers
- Vacuum pumps
- Boiler feed pumps
- Stern tubes
- Conveyors
- Fans
- Dryers
- Cookers
- Water turbines

**Why disassemble equipment?**

*Chesterton's 442 Split Mechanical Seal offers a reliable sealing solution—reducing maintenance costs.*

- Reduces install time
- Avoids coupling realignment
- Eliminates sleeve wear
- Increases equipment availability

**Easy to install**

- “P” shaped spacer positions the 442 seal for easy installation.
- Ball-and-socket o-rings are leak-free, without the use of adhesives.

*Installation video is available to demonstrate easy installation.*
442 Split Seal Innovations

1. **Patented Adjustable Gland™**
   Patented adjustable gland tabs fit your equipment bolt position. Easy adjustment avoids “special order” gland designs necessary with other split seals.

2. **Integral Flush Ports**
   Dual flush ports, located 180° apart and combined with the adjustable gland, give maximum flexibility when venting or flushing.

3. **Patented Captured Fasteners**
   Captured fasteners remain in the 442 seal housings when disassembled. Captured fasteners make installation easier.

4. **Non-Clogging Springs**
   Non-clogging finger springs, positioned out of the sealed fluid, avoid clogging while allowing substantial axial shaft movement.

5. **Balanced Seal Design**
   Hydraulically-balanced, computer-modeled seal face design generates less heat for more reliable sealing.

6. **Patented Automatic Centering**
   Centering buttons align the rotating element inside the seal gland. Automatic centering delivers simplified installation.

7. **Compact Gland**
   The 442 low-profile gland fits more equipment without the need for modification or special adaptation.

8. **Captive Groove Design**
   The 442 seal’s captive o-ring groove holds the split shaft o-ring in place, without adhesives, to simplify installation and field repair.
GLOBAL SOLUTIONS, LOCAL SERVICE

Since 1884, Chesterton has been providing value driven solutions to meet industry’s needs. Chesterton solutions have been implemented around the world with documented success and recognition. Increasing equipment reliability, optimizing energy consumption, and providing local technical support and service are what Chesterton offers industry worldwide.

- Servicing Plants in Over 100 Countries
- Global Manufacturing Operations
- Over 500 Service Centers and Sales Offices Worldwide
- Over 1200 Trained Local Service Specialists and Technicians

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