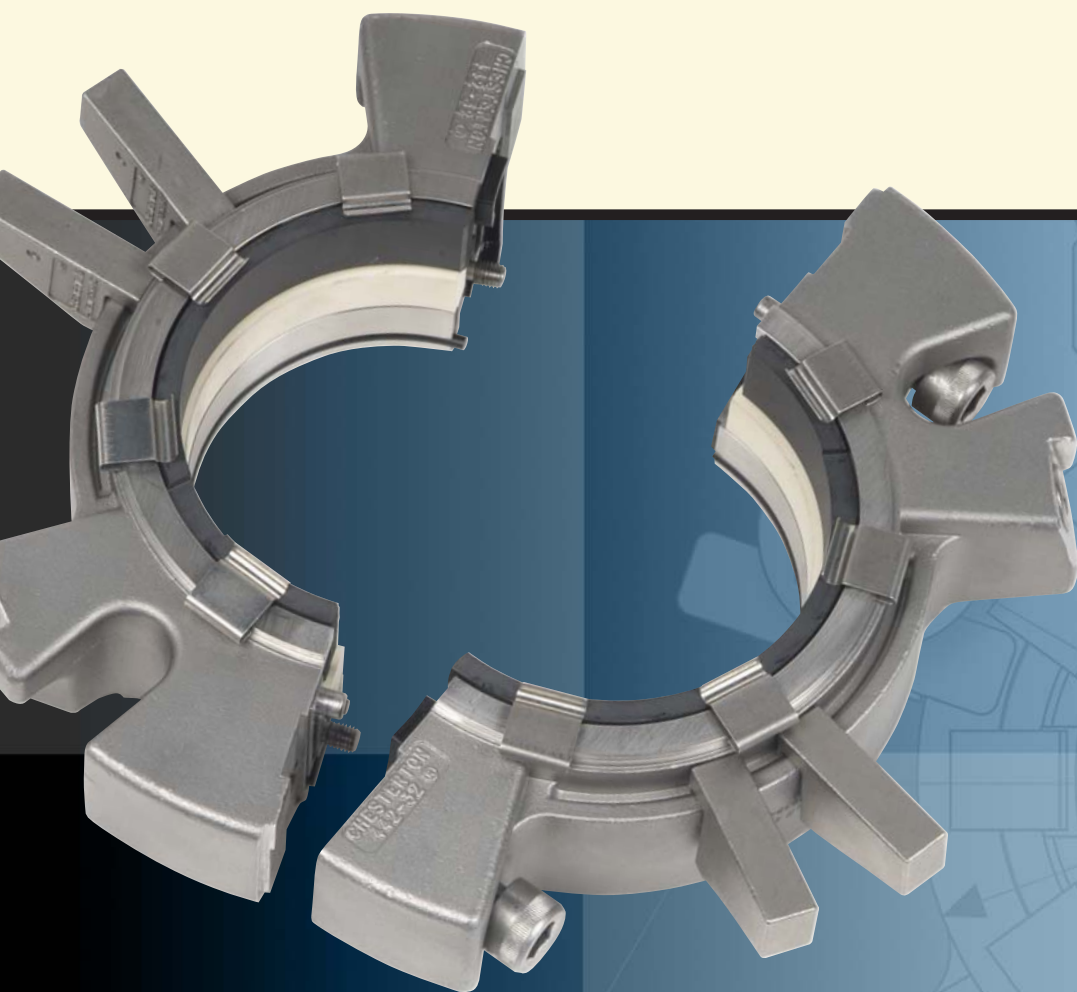


# 442<sup>TM</sup>

## SPLIT MECHANICAL SEAL

HIGH PERFORMANCE—EASY TO INSTALL



# 442

## 442™ SPLIT MECHANICAL SEAL PATENTED

### 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.



*SIDE ENTRY MIXERS*



*HORIZONTAL SPLIT CASE PUMPS*



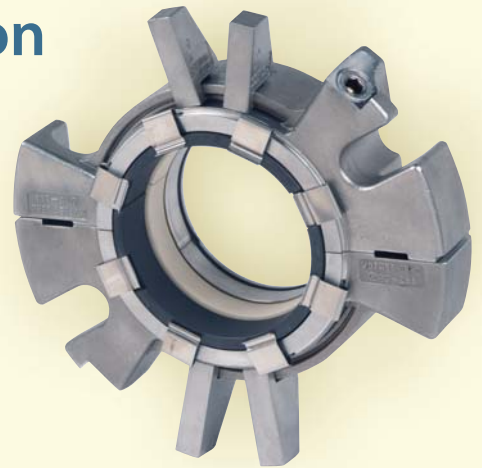
*VERTICAL PUMPS*

- 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

# PERFORMANCE

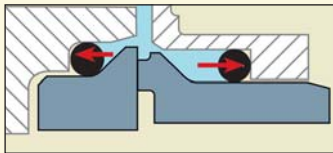
## Chesterton patented innovation drives performance

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

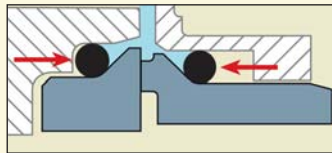


### 442 high pressure and vacuum sealing

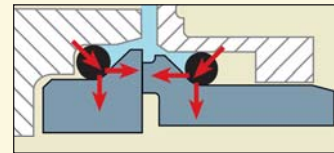
**Patented ramped stationary design** keeps seal face splits together under pressure and vacuum conditions, ensuring reliable sealing during pressure to vacuum shifts.



*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.



### Materials of Construction

Component	Standard Materials
Rotary Face	Ceramic Silicon Carbide
Stationary Face	Carbon Duplex Carbide™ Silicon Carbide
Elastomers	Aflas™ Ethylene Propylene Fluorocarbon
Spring	Elgiloy™
Metal Parts	316 Stainless Steel

### Operating Parameters

Pressure*	28" (710 mm) Hg to 450 Psig (30 bar g)
Temperature	To 250°F (120°C)
Speed	To 4000 fpm (20 m/s)
Size	1.250" (32 mm) to 7.750" (195 mm)

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

### Why disassemble equipment?

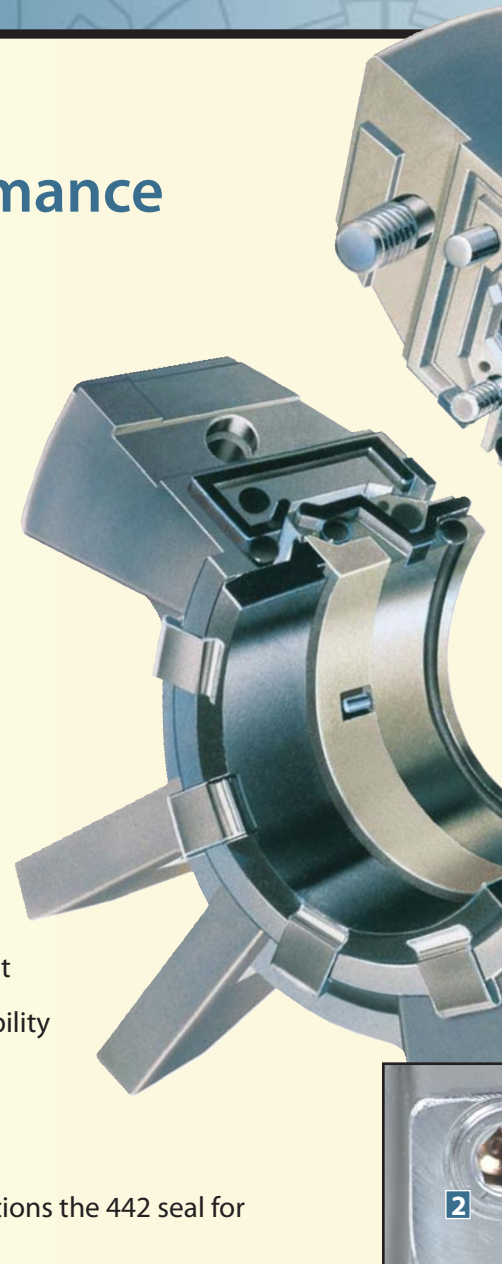
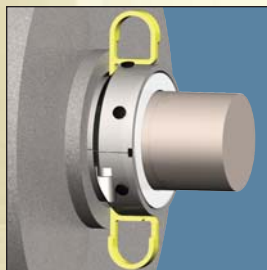
Chesterton's 442 Split Mechanical Seal offers a reliable sealing solution—reducing maintenance costs.

- 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

Visit our website at  
[www.chesterton.com](http://www.chesterton.com)

Chesterton ISO certificates available on [www.chesterton.com/corporate/iso](http://www.chesterton.com/corporate/iso)

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