# 4400 GAS SEAL

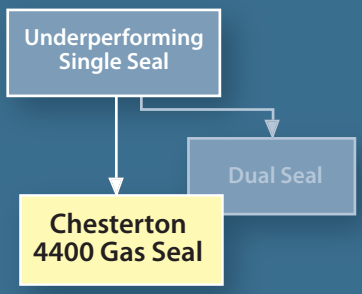
ENGINEERED TO BE EASY


CHESTERTON®
*Global Solutions, Local Service.*

# 4400 GAS SEAL

## Advanced technology made simple

Plants are no longer faced with conventional single and dual cartridge seal performance limitations. That's because there's a new standard method of shaft sealing. Reach your plant reliability goals with the addition of simple Gas Seal technology.




### Gas Seals vs. Single Seals

- Dry run capability
- No face-induced heat
- Eliminates VOC emissions
- No product coking
- No face wear

### Gas Seals vs. Dual Seals

- Reduced complexity
- No process contamination
- No heat generation
- No seal tank maintenance
- Eliminates liquid compatibility issues

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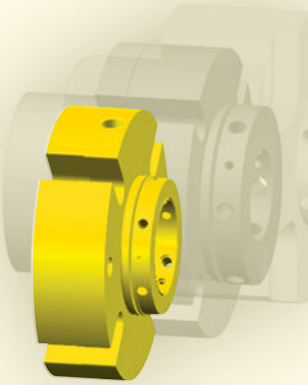
# A seal for all purposes

*The 4400 bridges advanced Gas Seal technology to the practical world of process pumps with common installation practices and no special training required. A self contained "in gland" control system makes it possible to install the 4400 like a standard cartridge single seal. Just pipe the gas supply to the gland inlet and start the pump.*



Designed to fit popular process pumps, the physical characteristics of the 4400 Gas Seal are considerably smaller than those of competitive seals. Besides the obvious fitting and installation benefits, this also makes Chesterton gas-sealing technology available for a wider range of applications. Costly equipment modification is avoided.

The 4400 surpasses other technologies in a wide array of services:

- Tank pumping
- Chemical processing
- Petroleum refining
- Pharmaceutical processes
- Hot water in power generation
- Non-lubricating fluids
- Slow speed mixer applications
- Hazardous emissions
- Temperature-sensitive fluids
- Oxygen-sensitive fluids

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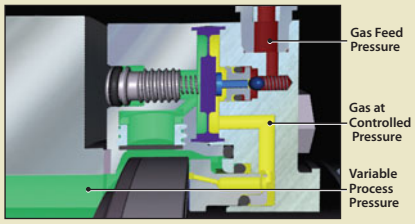
# Benefits

## Internal regulation (In-Gland Control System)

The In-Gland Control System (IGCS) found in the 4400 Gas Seal performs the essential function of regulating barrier gas pressure. The IGCS dynamically tracks process pressure and makes adjustments as needed. The 4400 requires no external pressure regulators or gas panels, saving you money and increasing seal reliability.




## Stationary seal design

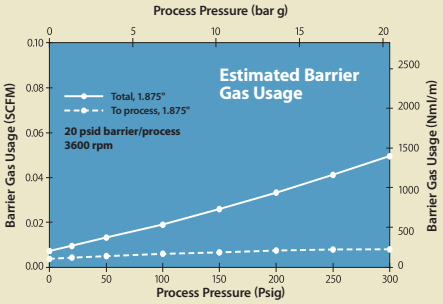
The spring-energized stationary seal face provides significant performance advantages over rotary seals. Installation tolerances are compensated for, such as stuffing box face misalignment and common human installation inaccuracies. Higher reliability is achieved at greater shaft speeds and shaft deflection events.

## Dual gas and wet seal capability

If barrier gas is interrupted, the 4400 makes a controlled transition to liquid lubricated, contact sealing. Recoverability to normal gas operation is re-established when barrier gas supply is restored. No need for shutdown or costly rebuilding.

## Reduced gas consumption

The 4400 Gas Seal provides zero VOC fugitive emissions sealing with minimal barrier gas consumption. Thanks to the efficiencies of its design and the exclusive In-Gland Control System, less gas is consumed when compared to other seals.




## Hydrodynamic plus hydrostatic performance

Hydrodynamic action requires higher shaft speeds to develop pressure and face separation at the seal interface. The 4400 uses hydrodynamic and hydrostatic action providing faster face separation at start-up and cushioned landings at shut down. This hydrostatic action at the seal interface facilitates the use of Gas Seal technology in slower speed and variable speed drive applications.

# Engineered to be reliable, easy, and environmentally friendly

*The 4400 Gas Seal delivers low cost of ownership:*

- Designed to fit in existing pump populations without modification
- Reverse pressure capability, contains process fluid even with loss of barrier gas
- Automatically regulates gas pressure using smart Gas Seal pressure regulation
- Requires no elaborate support systems
- Extremely easy to install and operate
- Runs like a liquid lubricated seal when needed
- Delivers superior motion capabilities and reduced o-ring hang-up
- Provides flush port capability

## Materials of Construction

| Component | Standard Materials |
|---|---|
| **Rotary Face** | Silicon Carbide |
| **Stationary Face** | Premium Carbon<br>Silicon Carbide |
| **Elastomers** | Aflas™<br>Ethylene Propylene<br>Fluorocarbon<br>Chemlast™<br>Kalrez® |
| **Spring** | Alloy C-276 |
| **Metal Parts** | 316 Stainless Steel |

## Operating Parameters

| | |
|---|---|
| **Pressure*** | 1.000" (25 mm) to 2.625" (65 mm)—<br>Vacuum to 300 Psig (20 bar g)<br>2.750" (70 mm) to 3.625" (90 mm)—<br>Vacuum to 250 Psig (17 bar g) |
| **Temperature** | 500˚F (260˚C) |
| **Speed** | 250 fpm (1.3 m/s) to 5000 fpm (25 m/s)<br><250 fpm is available on request |

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

## Fit Standards

ANSI 73.1B, ISO 3069-S, EN 12756

*Consult Chesterton Engineering for your applications, including applications exceeding published operating parameters, and for additional seal sizes.*

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- Global manufacturing operations
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- Over 1200 trained local Service Specialists and Technicians

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FORM NO. 070611

PRINTED IN USA 11/08