

#### CDI Seals

CDI Seals uses a combination of Technology, Innovation, and Reliability to manufacture high performance devices for the diverse applications found in the Industrial, Scientific, Consumer or Energy sectors.

CDI's Technology driven manufacturing processes provide the versatility necessary to ensure the best possible sealing solution for our customers' unique requirements.

The CDI engineers utilize Innovation in design and materials to overcome the challenges presented by strict emission standards, aggressive media, and high temperature/pressure applications.

CDI has a reputation for Reliability throughout industry by providing consistently superior sealing products for over 30 years. CDI has the experience required to manufacture reliable seals and components for all forms of industry.

With manufacturing operations in Houston, Texas, Hamburg, Germany & Hampton, UK that are supported by partners or service centers located in the North America, South America, Europe, Asia and the Pacific Rim CDI is a company of Global capabilities.

#### Fenner Advanced Sealing Technologies

Working closely with our customers using the most advanced materials and technology to supply sealing solutions for the most demanding performance-critical applications.

FAST (Fenner Advanced Sealing Technologies) manufactures and distributes specialist seals, and provides advanced sealing solutions for process and fluid power applications throughout Europe, North America and the Asia Pacific region.

Applications include: mining, automation, earth-moving and construction machinery, petrochemical, oil, gas and downstream activities, as well as the pharmaceutical, medical, semiconductor and aerospace sectors.

## SigmaSeal®

For Valves, Extruders, Chokes, & Slow Reciprocating Pumps  
Patent No. 6,007,070

[www.cdiseals.com](http://www.cdiseals.com)

Recommendations and design information are based on our experience, testing in specific conditions and industry standards; and is for general guidance. It does not constitute a guarantee or warranty of performance of any product. Customer must decide suitability for his purpose. Testing in the actual equipment and conditions of use is always recommended.

#### CDI Seals

8103 Rankin Road  
Humble, Texas 77396

T: 281 446 6662

F: 281 446 7034

email: [sales@cdiseals.com](mailto:sales@cdiseals.com)

[www.cdiseals.com](http://www.cdiseals.com)



# SigmaSeal®

- Low friction
- Reduced fugitive emissions
- Designed for hostile chemical environments
- Broad temperature range capabilities
- Machined to fit inch or metric glands

# Sigma<sup>2</sup>™

For PBR's, Sliding Sleeves, Static & Stroking Stab-In Applications

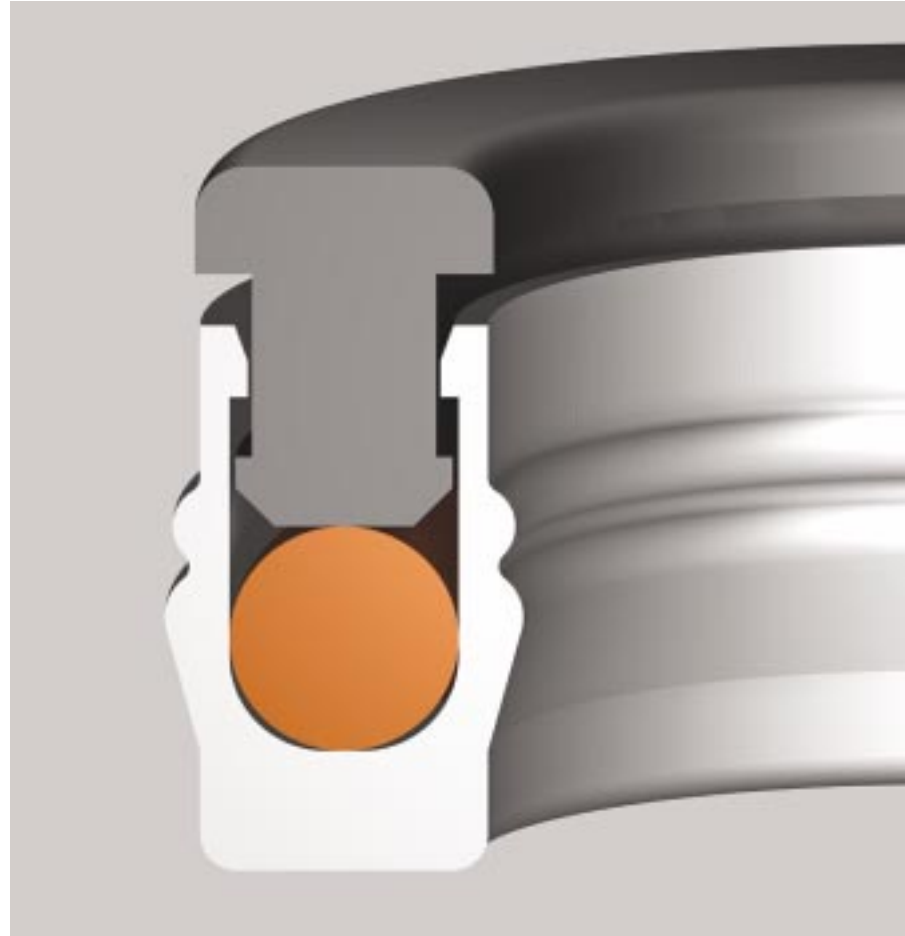
**The innovative SigmaSeal® was designed by CDI Seals to be a self energizing seal that eliminates the need for adjustable glands or live loading.**

The unique design of the SigmaSeal separates the media from the enclosed end of the seal jacket protecting the expander from any corrosive environment. This design concept responds to slight changes in pressure and regulates seal interference to control friction. The SigmaSeal automatically adjusts for wear, misalignment, and service irregularities.

SigmaSeal technology is particularly well suited for applications requiring good sealability against media that cannot tolerate exposure to metal or elastomeric energizers found in conventional seals. The SigmaSeal concept effectively seals high purity products in the food, pharmaceutical or cosmetic industries. The Sigma Seal is an excellent solution for all types of valve applications where fugitive emissions or operating friction are a problem.

A variety of CDI proprietary materials are utilized in the construction of the SigmaSeal to ensure sealing reliability in pressure/temperature extremes, hostile chemicals, and high purity applications.

Patent Number 6,007,070



**The Sigma<sup>2</sup> is a bi-directional version of the SigmaSeal that was developed for Polished Bore Receptacles and Sliding Sleeve applications.**

As a self-energizing seal, the Sigma<sup>2</sup> replaces bonded seals and vee stacks allowing for minimal axial gland lengths. The CNC machined Sigma<sup>2</sup> eliminates the need for tooling associated with molded seals.

Sigma<sup>2</sup> also features a one-piece symmetrical design that simplifies installation and reduces seal "rolling" that can occur in typical multi-component stacks. The load bearing capability of the Sigma<sup>2</sup> is enhanced by the use of integral Arylex® PEEK anti-extrusion rings located on each end of the assembly.

The materials chosen for Sigma<sup>2</sup> are compatible with Well Bore fluids and are designed to withstand pressure and temperature extremes in hostile environments.

Patent Number 6,007,070

