



Simple, Reliable Assembly and Installation



3710 Cartridge Split Seal

Fast • Easy • Reliable

U.S. Patent #5,370,401

Type 3710

Cartridge Split Seal



Technology

The Type 3710 Cartridge Split Seal is the latest innovation in the evolution of split seal designs. It utilizes John Crane's advanced split seal technology to meet today's environmental guidelines and future regulations. The unique, easy-to-install design readily adapts to horizontal and vertical pumps, mixers, and agitators. The Type 3710 is ideal for applications where reliability and minimal downtime are essential.

With over 30 years of split seal experience, from sophisticated marine propeller shaft seals to thousands of industrial pump and mixer applications, John Crane has established itself as the worldwide expert in split seal technology.



Fast & Easy Installation

The Type 3710 eliminates the need to dismantle any piece of equipment, large or small. Its fully split design can be installed in less than 30 minutes, either on the packing sleeve or directly to the shaft. The cartridge design eliminates any measuring or centering of the seal, making assembly easy, while ensuring long seal life. Available to fit metric and inch sizes, there is a Type 3710 to fit most standard equipment.

Applications

The John Crane Type 3710 Cartridge Split Seal is rugged in construction and designed for use in sealing rotating equipment in a variety of process industries such as:



- Pulp & Paper
- Waste / Wastewater
- Refinery
- Petrochemical
- Chemical
- Food Processing

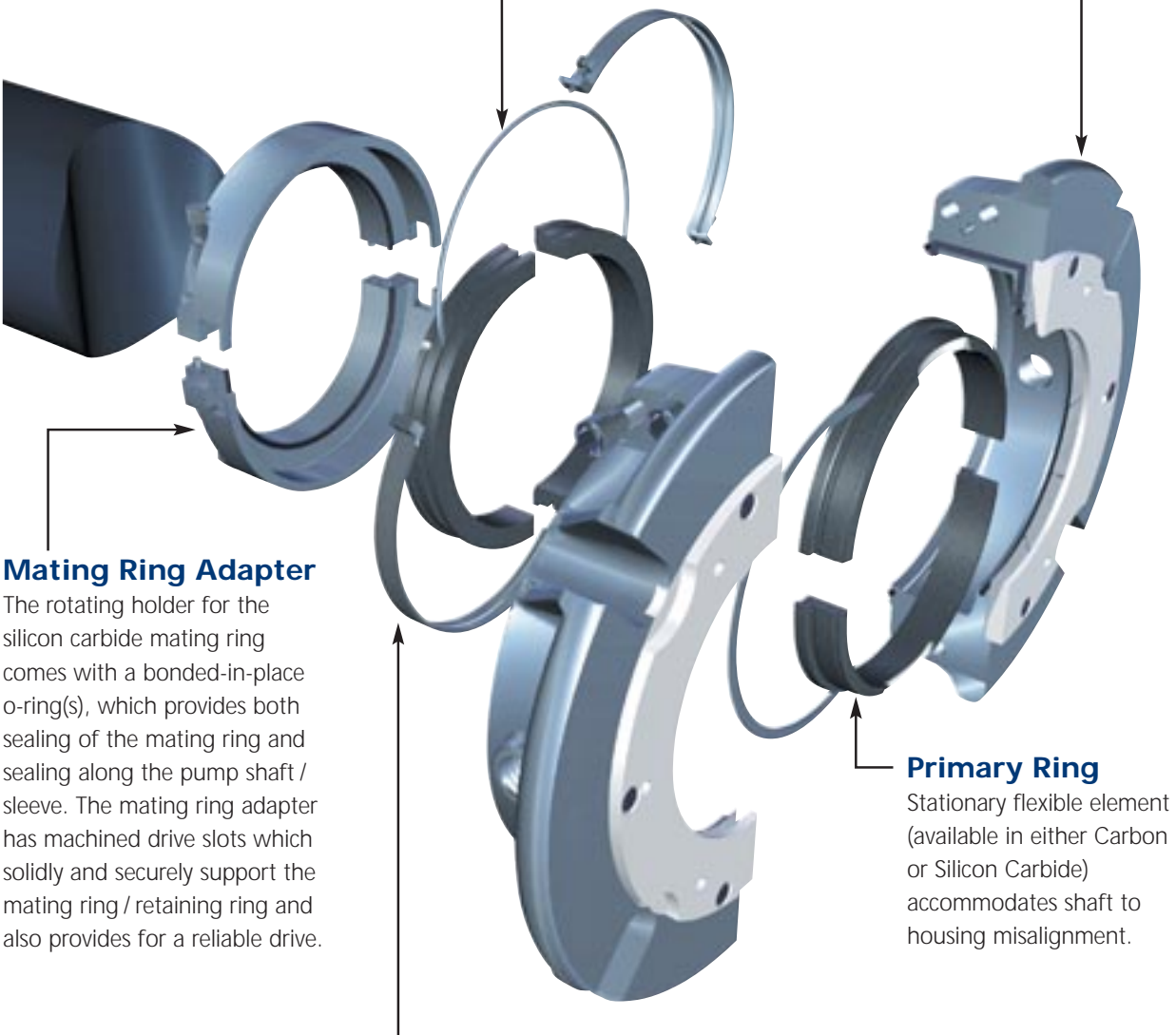
Simple, Reliable Assembly and Installation

Retaining Ring

The retaining rings hold the mating ring and primary ring (insert) together during assembly. Aligning the seal face halves is no longer a concern.

Gland Assembly

Contains our unique finger spring, spring retainer, and securely bonded-in-place o-rings and gaskets.



Mating Ring Adapter

The rotating holder for the silicon carbide mating ring comes with a bonded-in-place o-ring(s), which provides both sealing of the mating ring and sealing along the pump shaft / sleeve. The mating ring adapter has machined drive slots which solidly and securely support the mating ring / retaining ring and also provides for a reliable drive.

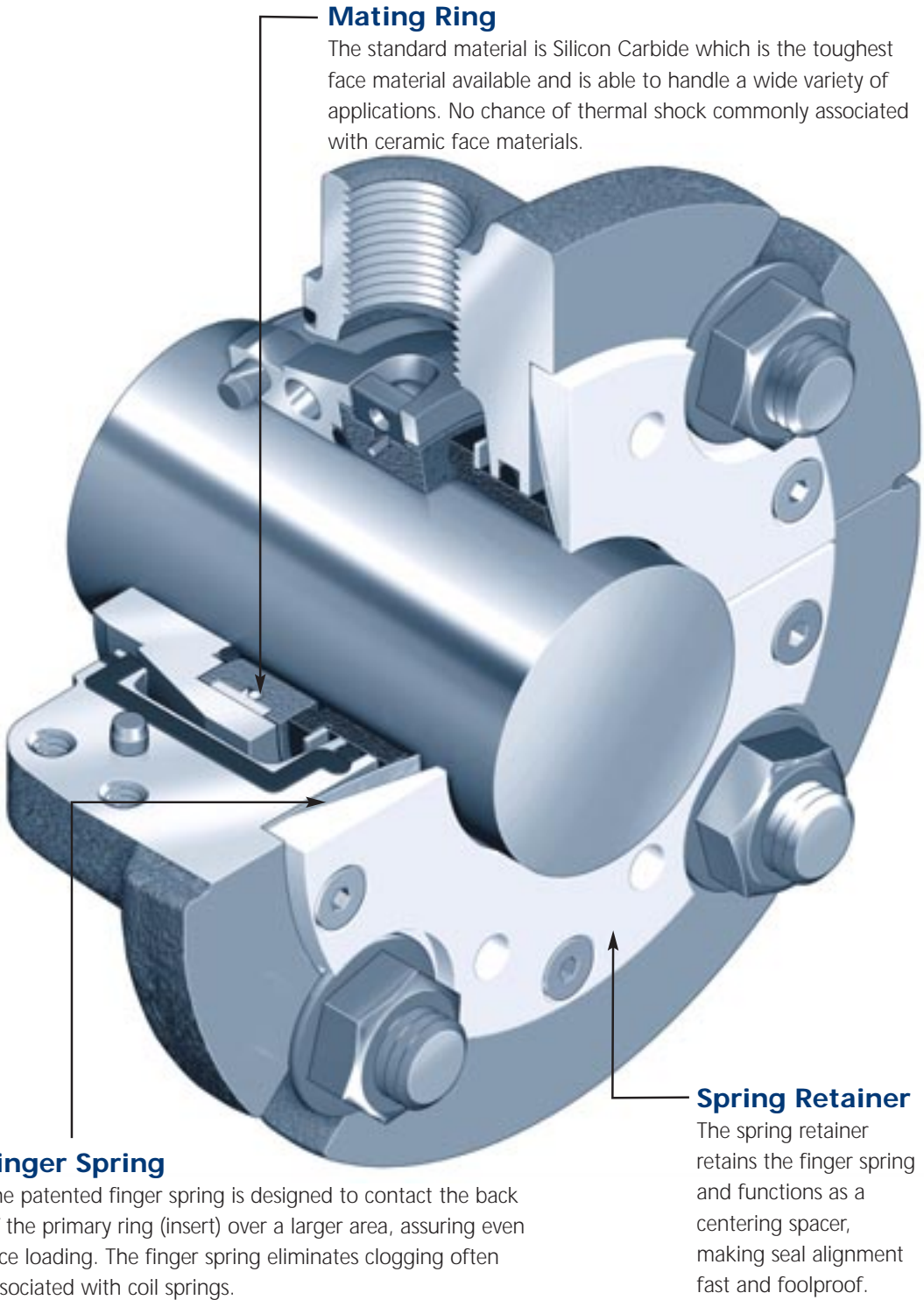
Primary Ring

Stationary flexible element (available in either Carbon or Silicon Carbide) accommodates shaft to housing misalignment.

Clamp

The clamp is used to rigidly support the mating ring halves and provides for a solid and secure installation. The clamp assembly incorporates two pre-installed screws, which do not need to be handled during installation. This clamp design also retains the seal face providing vacuum capability.

Type 3710 Adapts to Horizontal and Vertical Equipment

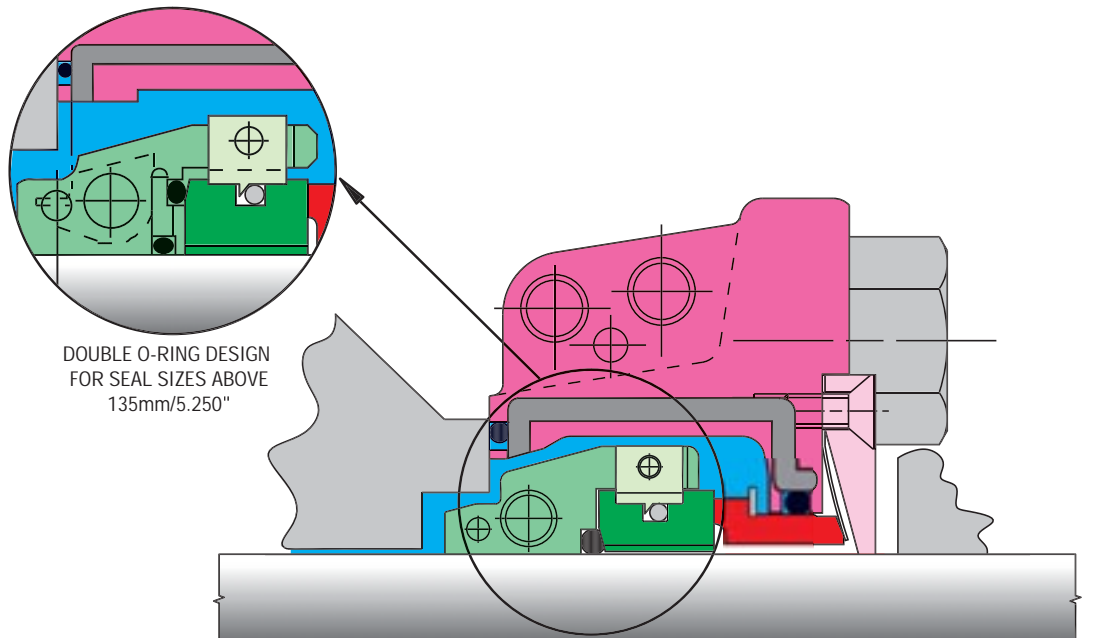


Finger Spring is U.S Patent # 5,370,401.

Hydraulically Pressure-Balanced Design

Performance Capabilities

Pressure	Vacuum to 14 bar g / 200 psig*
Temperatures	Up to 120°C / 250°F
Speed	3600 rpm for seal sizes up to 60mm / 2.500" 1800 rpm for seal sizes between 60mm / 2.500" and 135mm / 5.250" 900 rpm for seal sizes greater than 135mm / 5.250"



Materials of Construction

Component	Standard
Seal Faces	Carbon vs. Silicon Carbide Silicon Carbide vs. Silicon Carbide
Retaining Ring (Mating Ring)	Alloy X-750 (UNS N07750)
Retaining Ring (Primary Ring)	316 Stainless Steel (UNS 31600)
Spring Retainer	Polymer
Finger Spring	17-7 PH Stainless Steel (UNS S17700)
Elastomers	Fluorocarbon Ethylene Propylene Rubber (EPR)
Hardware	316 Stainless Steel (UNS 31600)

*Consult John Crane Engineering for Silicon Carbide vs Silicon Carbide Performance Capabilities.

Reliable Alternative to Packing

The Type 3710 split seal will help to reduce maintenance and operating costs by providing a reliable alternative to packing.

Cost-saving advantages over packing include:

- Reduces bearing contamination from packing leakage, the leading cause of bearing failure.
- Eliminates costly sleeve / shaft replacement due to scoring damage caused by packing.
- Reduces maintenance costs by eliminating time-consuming packing adjustments.
- Energy costs are significantly reduced due to lower frictional horsepower requirements.

Features

Advanced Seal Face Material

Patented Finger Spring

**Hydraulically Loaded O-Ring
Between the Stuffing Box and Gland**

Pre-installed O-Rings

Seal Face Retaining Rings

Clamp Ring

Benefits

No chance of thermal shock commonly associated with ceramic face materials.

Eliminates clogging often associated with coil springs.

Assures a reliable seal, even when the box face is not perfect.

No loose o-rings to handle.

Perfect for installation on vertical pumps.

Maintains seal integrity in vacuum conditions.



Europe
Slough, UK

Tel: 44-1753-224000
Fax: 44-1753-224224

Latin America
São Paulo, Brazil

Tel: 55-11-3371-2500
Fax: 55-11-3371-2599

Middle East, Africa, Asia
Dubai, United Arab Emirates

Tel: 971-4-3438940
Fax: 971-4-3438970

North America
Morton Grove, Illinois USA

1-800-SEALING
Tel: 1-847-967-2400
Fax: 1-847-967-3915

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