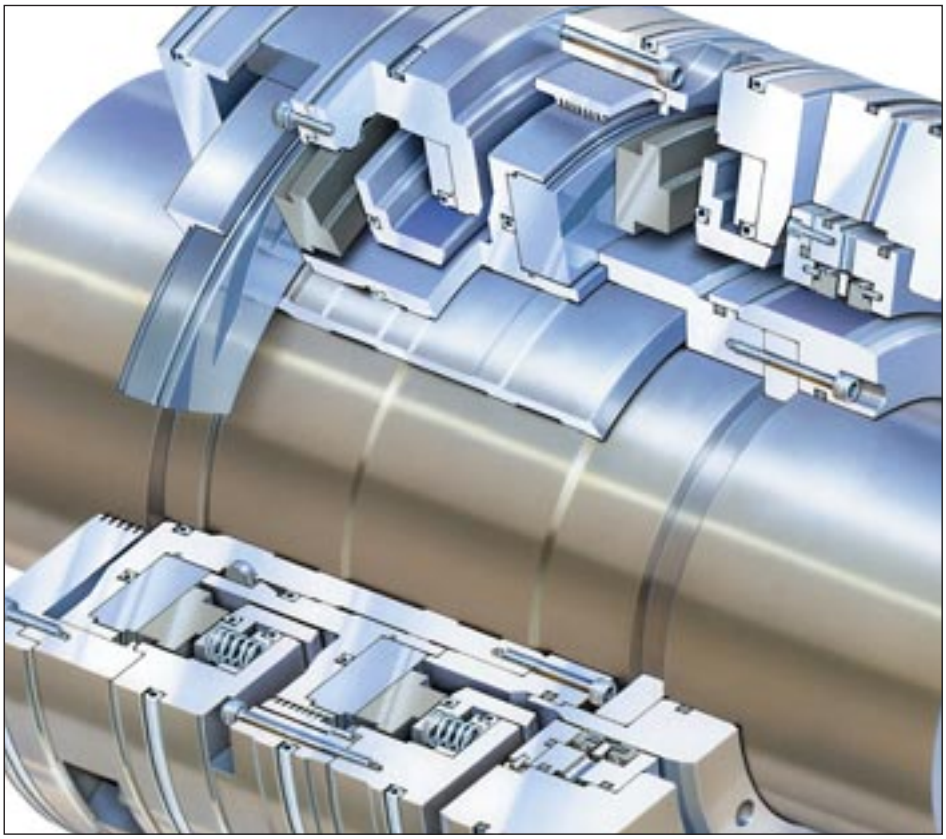
TYPE 28 Compressor Seals

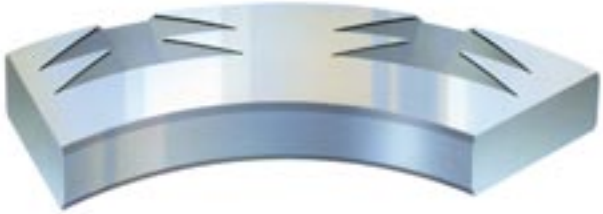
Dry-Running, Non-Contacting Gas Seals

28AT/28XP/28EXP



Standard Unidirectional Groove Design

Optional Bidirectional Groove Design



Product Description

Type 28 compressor dry-running gas seals have been the industry standard since early 1970 for gas-handling turbomachinery. Utilizing John Crane's patented spiral groove pattern, these seals are non-contacting in operation.

- During dynamic operation, the mating ring/seat and primary ring/face maintain a sealing gap of approximately 0.0002 in./5 microns, thereby eliminating wear.
- These seals eliminate seal oil contamination and reduce maintenance costs and downtime.
- Single, double opposed, and tandem cartridge seals are capable of handling a wide variety of gas sealing applications in the gas collection/transmission, refining, chemical and petrochemical processing industries.

Design Features

- Shrouded mating ring prevents secondary damage in the event of a mating ring fracture.
- Low-level leakage can be vented to a safe area, used as fuel to drive equipment, or returned to process via a low-pressure ejector.

Performance Capabilities

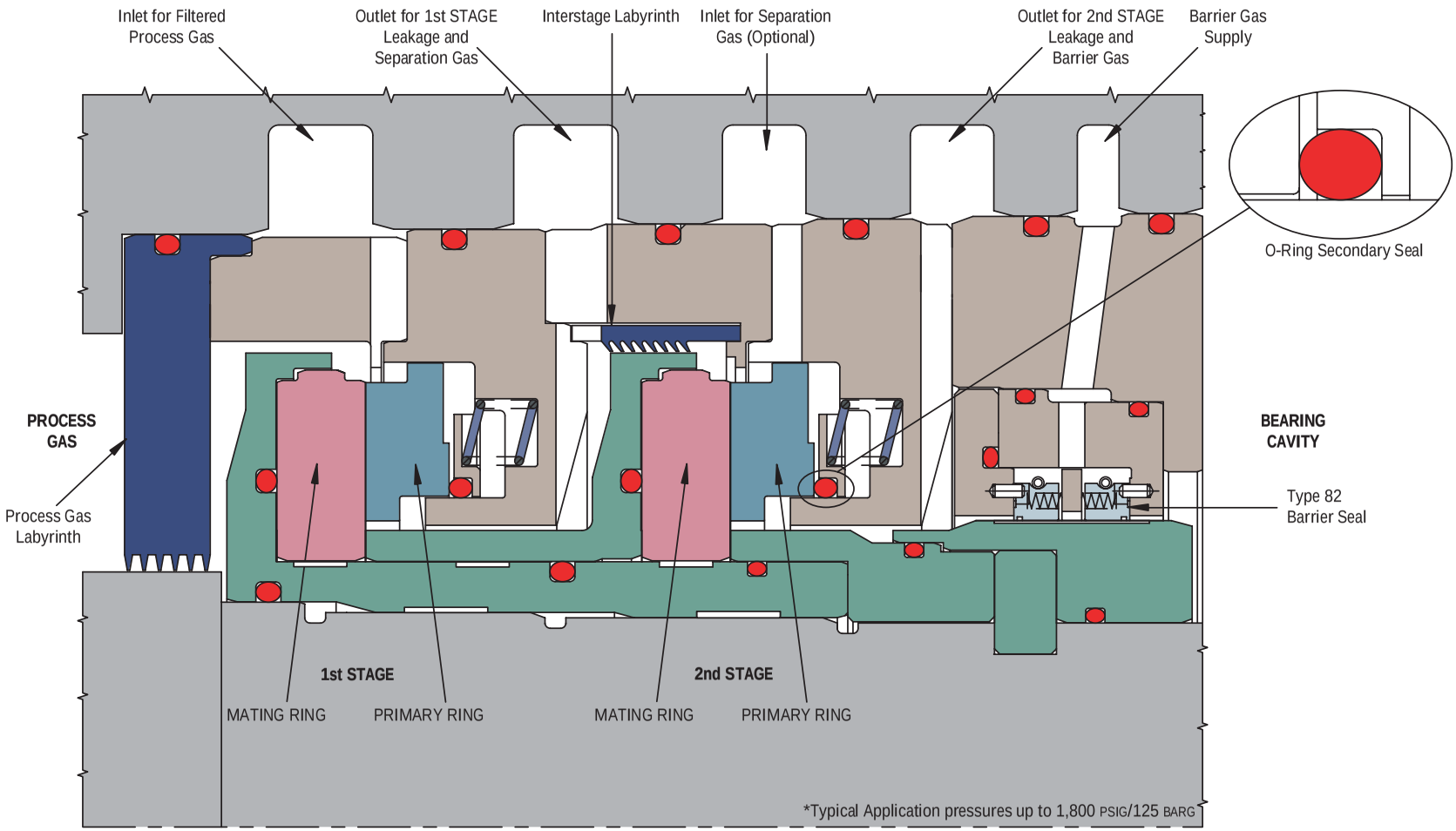
- Temperature: -140°C to 315°C/-220°F to 600°F
- Pressure: Up to 450 BARG/6,500 PSIG across single stage
- Speed: Up to 200 m/s / 660 fps
- Shaft: Up to 330 mm/13 in.

*Contact DryGasSeals@johncrane.com for more information about exact application requirements.

TYPE 28AT Compressor Seals

Dry-Running, Non-Contacting Gas Seals

Type 28AT Tandem Arrangement

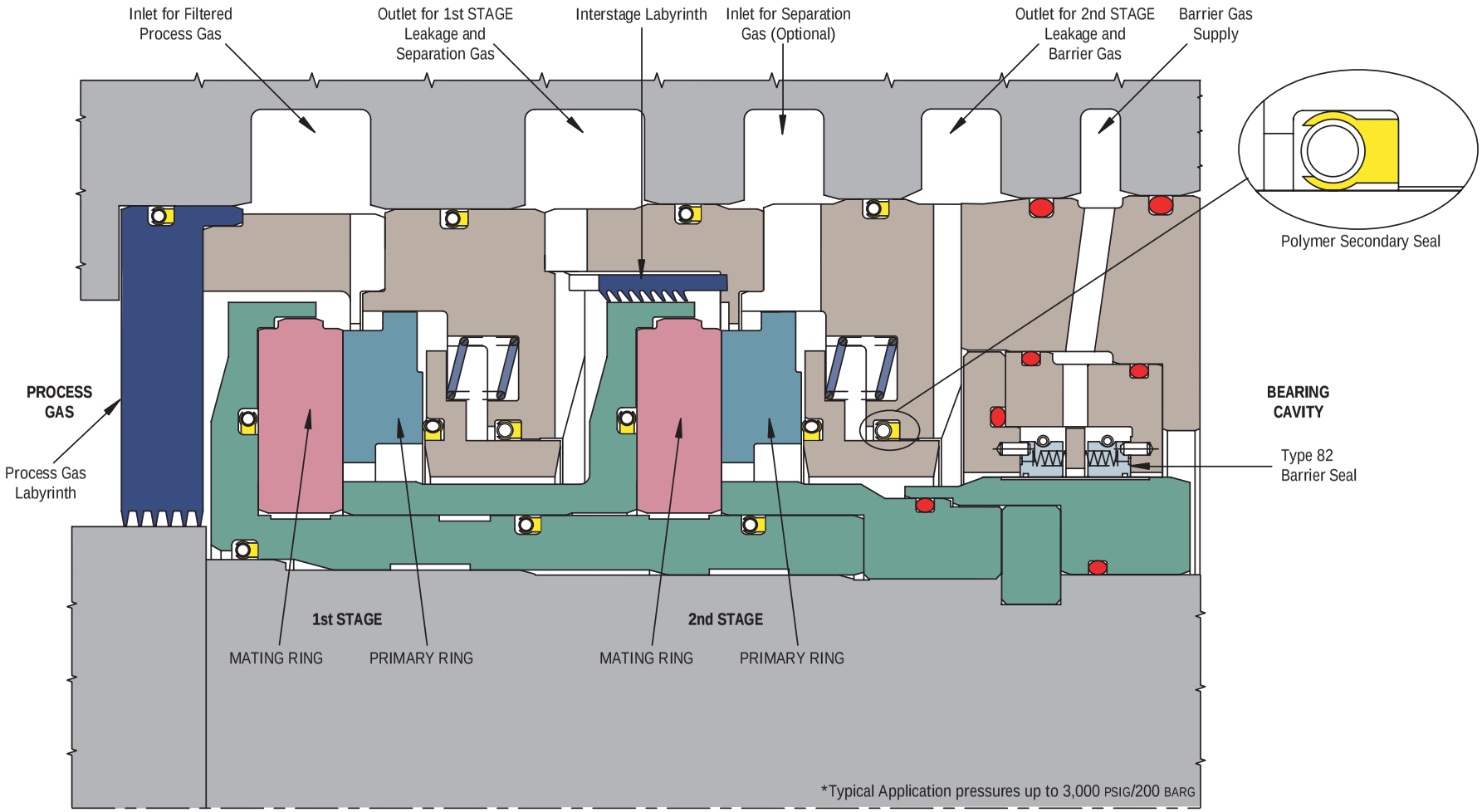


28AT/28XP/28EXP

TYPE 28XP Compressor Seals

Dry-Running, Non-Contacting Gas Seals

Type 28XP Tandem Arrangement

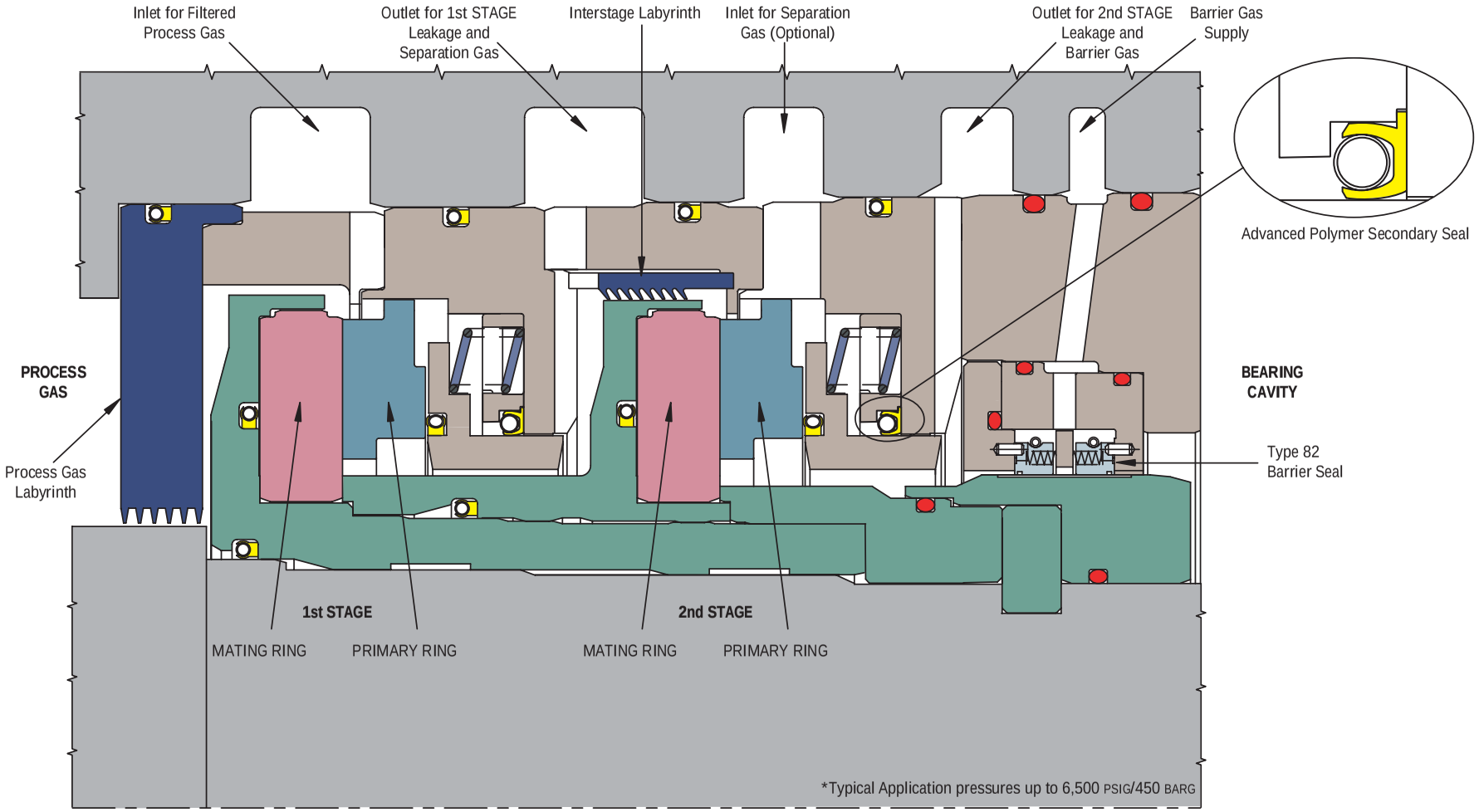


28AT/**28XP**/28EXP

TYPE 28EXP Compressor Seals

Dry-Running, Non-Contacting Gas Seals

Type 28EXP Tandem Arrangement



*Typical Application pressures up to 6,500 PSIG/450 BARG

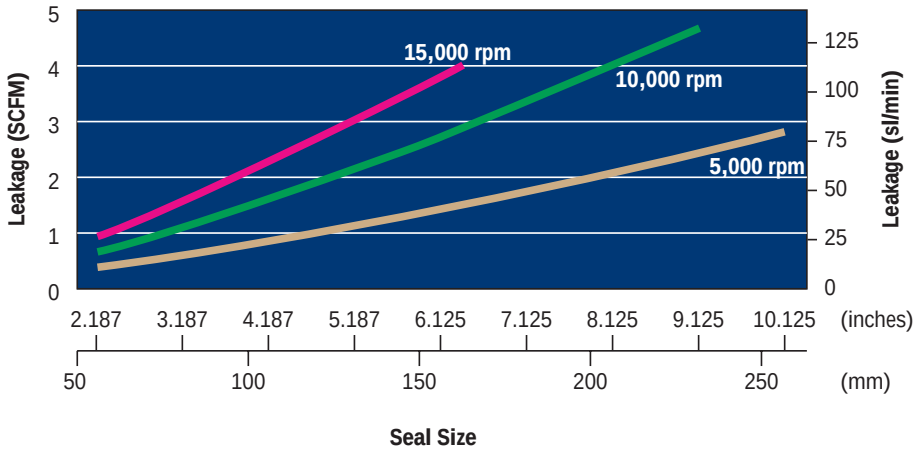
28AT/28XP/**28EXP**

TYPE 28 Compressor Seals

Dry-Running, Non-Contacting Gas Seals

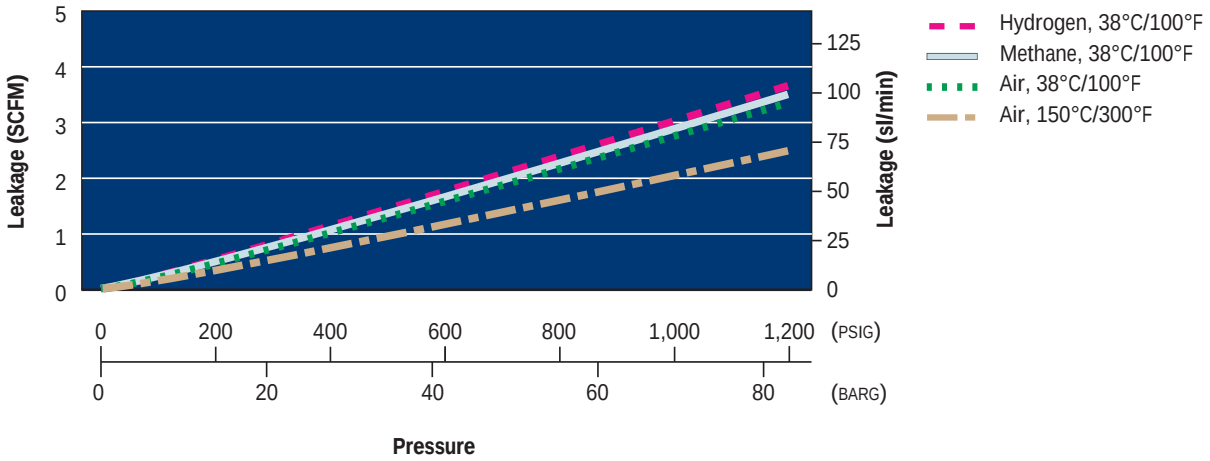
Size and Speed Effect on Leakage

Conditions: Air, 83 BARG/1,200 PSIG



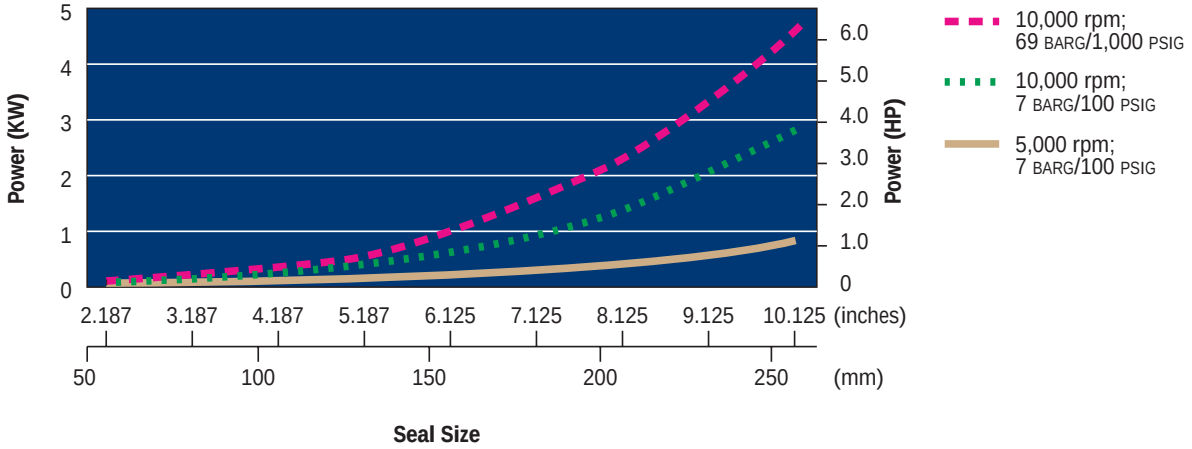
Pressure, Temperature and Gas Effect on Leakage

Conditions: 6.187-inch Diameter Seal, 14,000 rpm



Gas Seal Power Consumption

Conditions: Air, 140°F/60°C

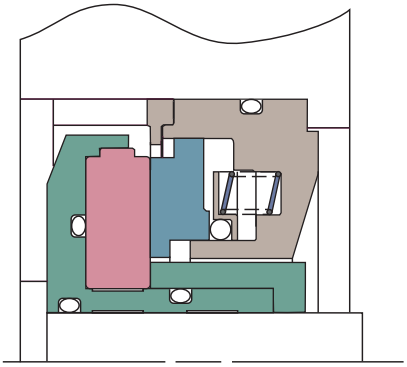


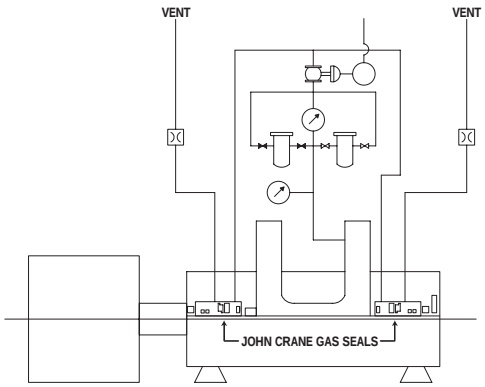
*This information should not be used for specification purposes. Contact DryGasSeals@johncrane.com for more information about exact application requirements.

TYPE 28 Compressor Seals

Dry-Running, Non-Contacting Gas Seals

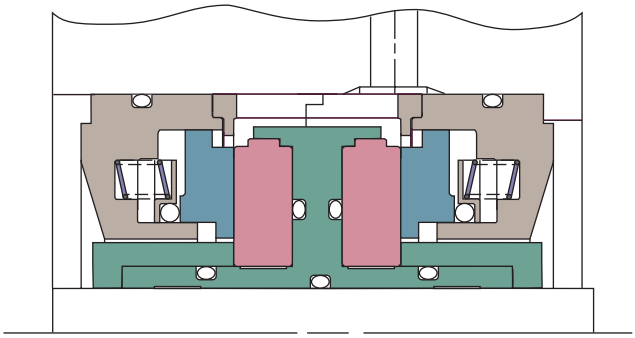
Typical Single Seal Arrangement and Seal Support System

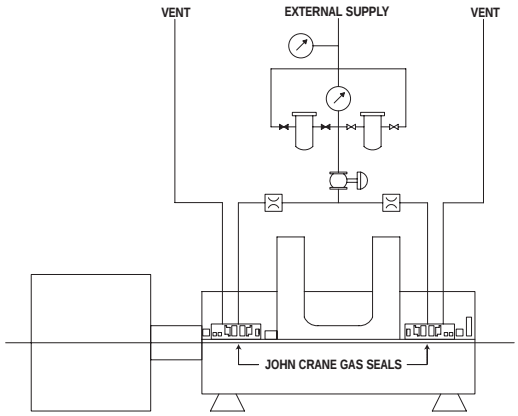




*Single Seal Arrangement for applications not requiring a safety back-up seal.

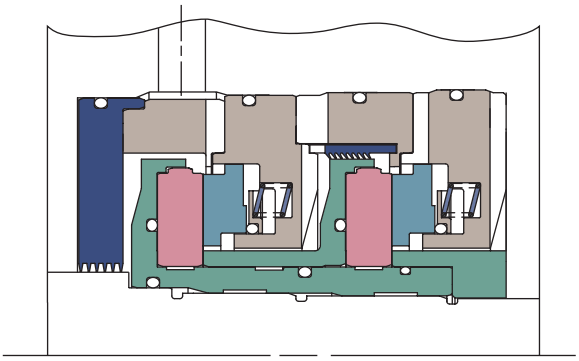
Typical Double Opposed Seal Arrangement and Seal Support System

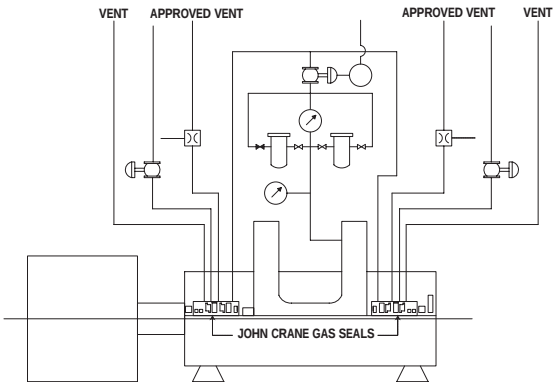




*Double Seal Arrangement where hazardous gas is not permissible to leak into atmosphere.

Typical Tandem Seal Arrangement and Seal Support System





*Tandem Seal Arrangement for applications requiring a safety back-up seal.

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*For more information contact DryGasSeals@johncrane.com