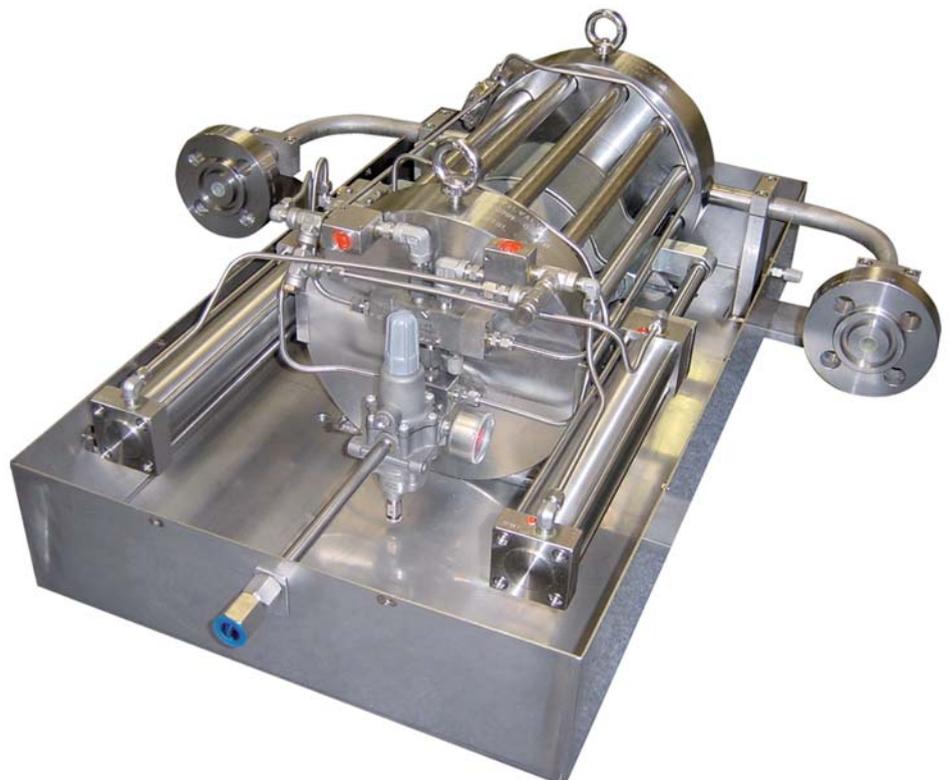


Seal Gas Booster System

Benefits

- □ □ Increased production
- □ □ Higher efficiency
- □ □ Compliance with environmental regulations
- ■ ■ Availability and Reliability
- ■ ■ Life extension

Centrifugal Compressors equipped with Dry Gas Seals (DGS) use process gas as the seal gas. During normal operation, the compressor pressure and temperature ratio maintain a positive flow to the DGS and avoid contamination and condensation. However, during standstill conditions, this auto-buffering is not possible and the DGS is at risk from contamination especially by heavy hydrocarbon condensate. To mitigate this risk, depressurizing the compressor after trip is recommended, but flaring of process gas impacts revenues and the environment. In fact, in many countries, a pollution tax is applied on released process gas. The installation of a Seal Gas Booster allows the compressor to be kept pressurized after a trip, while the DGS remains correctly buffered and ready to be restarted.



What it is

The patented Seal Gas Booster System assures a positive flow of clean, dry seal gas to the DGS during a compressor shutdown.

Heavy HC Seal Gas Booster Systems

can also be equipped with an electric heater to prevent expansion of the gas within the seals from creating a condensation condition.

How it works

The Seal Gas Booster System consists of a reciprocating pump driven by two instrument air actuated pistons. The booster has a unique design in which the piston is moved by an external magnetic field which eliminates the traditional rod or other mechanical link to the driver and thus creates a sealless compressor design. This simple and rugged design includes a cylinder made of non-magnetic stainless steel capped with two special flanges. Two pneumatic pistons move a taurus-shaped permanent high-efficiency magnet.

The Seal Gas Booster System provides a positive delta pressure (1Bar) which creates a barrier to protect the compressor dry gas seal from potentially damaging DGS during shutdown and start up operations. The booster is provided with a purged stainless steel enclosure with a stainless steel pneumatic circuit and is installed on a skid. This enclosure protects the booster from adverse environment conditions such as high humidity, sandstorms, etc.

Product Specifications

General

Process side design condition	
Design pressure	320 Bar
Hydraulic test pressure	525 Bar
Design temperature	120 °C
Displacement	1900 cm ³
Design flow	3 Am ³ /h @ 30 CPM
Life without maintenance	8000 hours

Operating Condition

Media	Natural gas (methane 75%)
Max operating pressure	315 Bar
Max operating temperature	110 °C
Boosting delta P	1 Bar
Drive side design condition	
Supply air pressure	4 – 9 Bar
Actuator air pressure	4 Bar
Air consumption	20 Sm ³ /h

Connection

Process side flanged	ANSI 2500 RJ
Drive side	NPT

Materials: Process Side

Cylinder	NITRONIC 50
End caps	AISI 316 L
O-rings	Viton anti explosion
Nuts & bolts	AISI 316
Process connection	ASTM A 312 TP316/TP316L

Materials: Drive Side

Actuator	AISI 316
Pneumatic components	AISI 316
Piston seals	Teflon



GE imagination at work

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