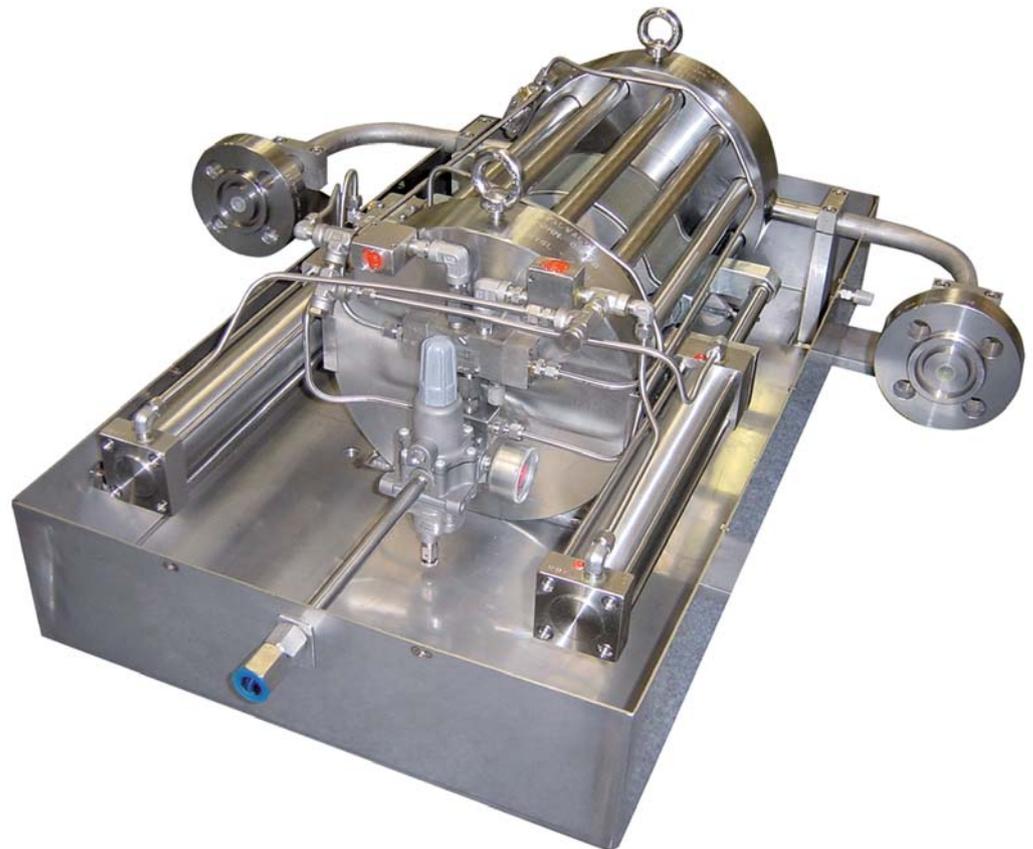


Seal Gas Booster System

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

GE Oil & Gas

via Felice Matteucci, 2
50127 Florence - Italy
T +39 055 4272500
F +39 055 4232800
Nuovo Pignone S.p.A.
Nuovo Pignone S.r.l.

E customer.service.center@ge.com
www.ge.com/oilandgas

COMK/MARK 839/II - Designed by: Studio Tre Fasi
Printed by: Sagraf - 01-2010
©2011 Nuovo Pignone S.p.A. All Rights Reserved