RELY ON EXCELLENCE

RoTechBooster

Seal Supply Systems | Gas supply systems

Features

- Electric driven rotating design
- Hermetically sealed
- Delivers seal gas flow as defined by API 692
- 24,000 hours of operation before required maintenance
- Various models available, to meet specific requirements

Functional description

Adequate, clean, and dry gas flow at the seal governs seal reliability. During normal operation, this is achieved by taking product gas from a high-pressure stage or discharge of the compressor, flowing it through a conditioning system and using it to flush the seal.

When the compressor slows or is at pressurized standstill, gas flow is interrupted and leaves the seal(s) unprotected from contaminated product gas. This poses a serious risk, because unconditioned product gas leaves deposits at the seal, leading to high seal leakage or even seal failure. In order to alleviate this problem, seal gas boosters are utilized to draw gas from the compressor through the

Advantages

The RoTechBooster ensures abundant, reliable, and consistent seal gas flow, through fluctuating operating conditions; thus, clean and dry gas is supplied to the gas seal in every situation.

- Proven experience
- Simple to set-up, easy to operate
- High reliability and availability
- Unlimited continuous operation
- Avoid seal failures
- Low maintenance costs
- Energy efficient
- Eliminates the concern of unreliable external seal gas source

Operating range

Pressure: p = 0 ... 360 bar (5,221 PSI)
Temperature: t = -70 °C ... +250 °C (-94 °F ... +480 °F)
Flow: up to 30 Am3/h (18 ACFM)
Motor size: 5.5 kW ... 15 kW
Diameter: 355 mm ... 560 mm (14" ... 22")

Models outside of these operating ranges are available on request.

Standards and approvals

Certifications or compliance with NACE, PED, ATEX, API 692 compliant. Offshore certifications and others available upon request.

Recommended applications

- Hydrocarbons
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Compressors using gas seals

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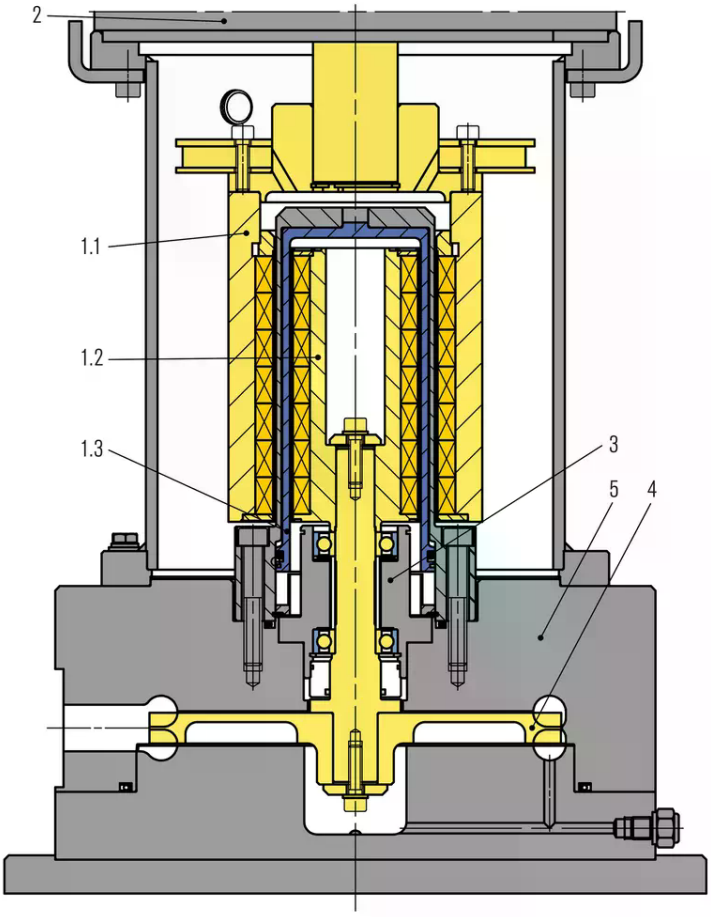
All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications means, however, that they can serve only as guide values.
We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. Subject to change.

conditioning system and deliver clean and dry gas to the seal(s).

The RoTechBooster incorporates an EBNM high efficiency magnetic coupling eliminating the need for an additional mechanical seal. Incorporating a magnetic coupling removes any possible additional system leak paths, eliminates emissions, increases safety for personnel and produces virtually wear free operation. Using a high efficiency design efficiently transfers torque, which delivers higher pressure ratings and reduced operating costs. This coupling design guarantees maximum RoTechBooster availability ensuring abundant seal gas flow through all operating conditions.



Item	Description
1.1	Outer rotor
1.2	Inner rotor
1.3	Can / pressure barrier
2	Motor
3	Bearing cartridge
4	Impeller
5	Pressure housing

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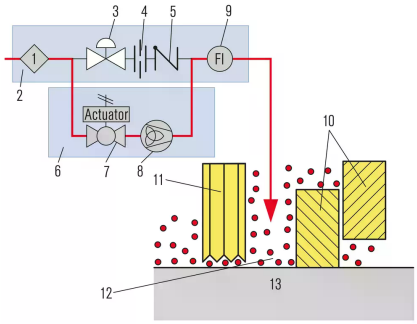
Installation, details, options



Item Description
1 Gas filter module
2 Seal gas supply module
3 PCV
4 Orifice
5 Check valve
6 Seal gas booster module
7 On/off valve, actuated
8 RoTechBooster
9 FI
10 DGS
11 Process side labyrinth
12 Seal gas
13 Shaft

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Product variants

RoTechBooster 155L-120,
optional: 155H-20
Impeller type: Single stage, regenerative
Speed: 1,200 ... 4,200 min-1
Design pressure:
Vacuum ... 120 bar (1,740 PSI), optional ... 240 bar (3,480 PSI), ... 360 bar (5,220 PSI)
Design temperature: 200 °C (392 °F), optional 250 °C (418 °F)
Motor size: 5.5 kW ... 15 kW
Diameter: 355 mm (14")
Height: 960 mm (38")
Weight: 215 kg (475 lb)

RoTechBooster 180L
Impeller type: Single stage, regenerative
Speed: 1,200 ... 4,200 min-1
Design pressure:
Vacuum ... 120 bar (1,740 PSI), optional 240 bar (3,480 PSI), 360 bar (5,220 PSI)
Design temperature: 200 °C (392 °F), optional 250 °C (418 °F)
Motor size: 5.5 kW ... 15 kW
Diameter: 410 mm (16")
Height: 1,120 mm (44")
Weight: 355 kg (785 lb)

RoTechBooster 225L-120,
optional: 225H-120
Impeller type: Single stage, regenerative
Speed: 1,200 ... 4,200 min-1
Design pressure:
Vacuum ... 120 bar (1,740 PSI), optional 240 bar (3,480 PSI)
Design temperature: 200 °C (392 °F), optional 250 °C (418 °F)
Motor size: 5.5 kW ... 15 kW
Diameter: 410 mm (16")
Height: 1,120 mm (44")
Weight: 355 kg (785 lb)

RoTechBooster 275L-120,
optional: 275H-120
Impeller type: Single stage, regenerative
Speed: 1,200 ... 4,200 min-1
Design pressure:
Vacuum ... 120 bar (1,740 PSI), optional 240 bar (3,480 PSI)
Design temperature: 200 °C (392 °F), optional 250 °C (418 °F)
Motor size: 5.5 kW ... 15 kW
Diameter: 510 mm (20")
Height: 1,200 mm (47")
Weight: 510 kg (1,125 lb)

RoTechBooster 330L
Impeller type: Single stage, regenerative
Speed: 1,200 ... 4,200 min-1
Design pressure:
Vacuum ... 120 bar (1,740 PSI)
Design temperature: 200 °C (392 °F), optional 250 °C (418 °F)
Motor size: 5.5 kW ... 15 kW
Diameter: 560 mm (22")
Height: 1,245 mm (49")
Weight: 565 kg (1,245 lb)

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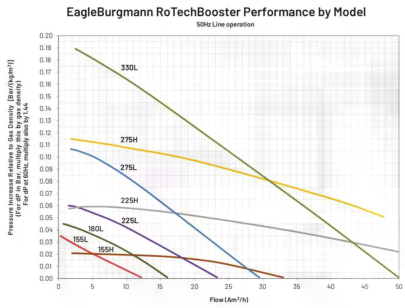
Higher pressure models are available upon request.

Charts



Performance diagram RoTechBooster

Note:
For pressure increase in bar, multiply the y-axis value by kg/m^3^ gas density at inlet pressure and temperature.
To adjust pressure increase to 60Hz line frequency (3600 rpm motor speed), multiply the 50 Hz (3000 rpm) pressure increase by 1.44

Example:
Natural gas at 74 Bar, 50 °C
Gas density at norm conditions: ~0,8 kg/m^3^
Gas density at inlet pressure and temperature: 50 kg/m^3^
Required flow: 7 Am^3^/h

For a model 225L and flow of 7 Am^3^/h, Y-axis value = 0.05 Bar/(kg/m^3^)
A 50Hz motor (3000 rpm), pressure increase = [0.05 Bar/(kg/m^3^)] x 50 kg/m^3^ = 2.5 Bar
For 60Hz motor (3600 rpm), pressure increase = 2.5 Bar x 1.44 = 3.6 Bar

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