

CobaDGS - Zero Emission Solution

Mechanical seals | Compressor seals | Gas-lubricated seals



Features

The sealing solution for reduction of methane-/ process gas emissions

- Gas-lubricated
- Bi-directional
- Ready-to-fit cartridge unit
- Available for following seal arrangements: single and tandem
- Co-axial primary seal
- Separation seals as CobaSeal, carbon rings or labyrinths optional

Advantages

- No methane-/ process gas emissions
- Supplied with clean nitrogen (no dew point and dirt problems)
- Robust
- Offers higher safety than a double seal
- Upgrade-possibility of existing single, double and tandem seals
- No modification of the compressor necessary
- Efficient alternative to hermetically sealed systems
- For compressors with gas- and steam turbines, as well as with electric drive

Operating range

Shaft diameter:

$d = 24.5 \dots 360 \text{ mm (0.96" ... 14.17")}$

Pressure (static and dynamic):

$p = \text{from vacuum up to } 160 \text{ bar (2,321 PSI)}$

Design temperature:

$t = -46 \text{ °C ... } +230 \text{ °C}$

$(-51 \text{ °F ... } +446 \text{ °F})$

Sliding velocity:

$vg = \text{up to } 140 \text{ m/s (459 ft/s)}$

Project specific special designs possible

Materials

Stationary seal face: Silicon carbide with DLC-coating, DiamondFace-coating optional

Rotating seal face (Seat): Silicon carbide with DLC-coating, DiamondFace-coating optional

Secondary seals: FKM or other elastomers, depending on product gas composition

Metal parts: 1.4006 or other stainless steels

Other materials on request.

Dimensions on request

Standards and approvals

- NACE
- API 692

Notes

Notes/Info Methane Emissions*

Methane is the second largest contributor to climate change after CO₂. Methane is emitted in smaller quantities than CO₂, but it's warming potential is 80 times higher. Behind agriculture, the energy industry is the largest emitter of methane emissions.

A convincing argument for action
According to the International Energy Agency around 40-50% of current methane emissions from the oil & gas industry could be avoided at negative or at no net cost. This means that many projects to avoid methane emissions even have a positive business case and pay back in a relatively short time because the gas can be sold instead. If all these possible projects would be realized the impact on climate change would be immensely positive.

CobaDGS eliminates

The CobaDGS is the first dry gas seal, which provides the possibility to seal compressors

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with zero methane emissions even if they have high working pressures. It is a viable and sustainable option for upgrading existing compressors or can be installed in new compressors.

*Source:

International Energy Agency

<https://www.iea.org/weo/methane/>

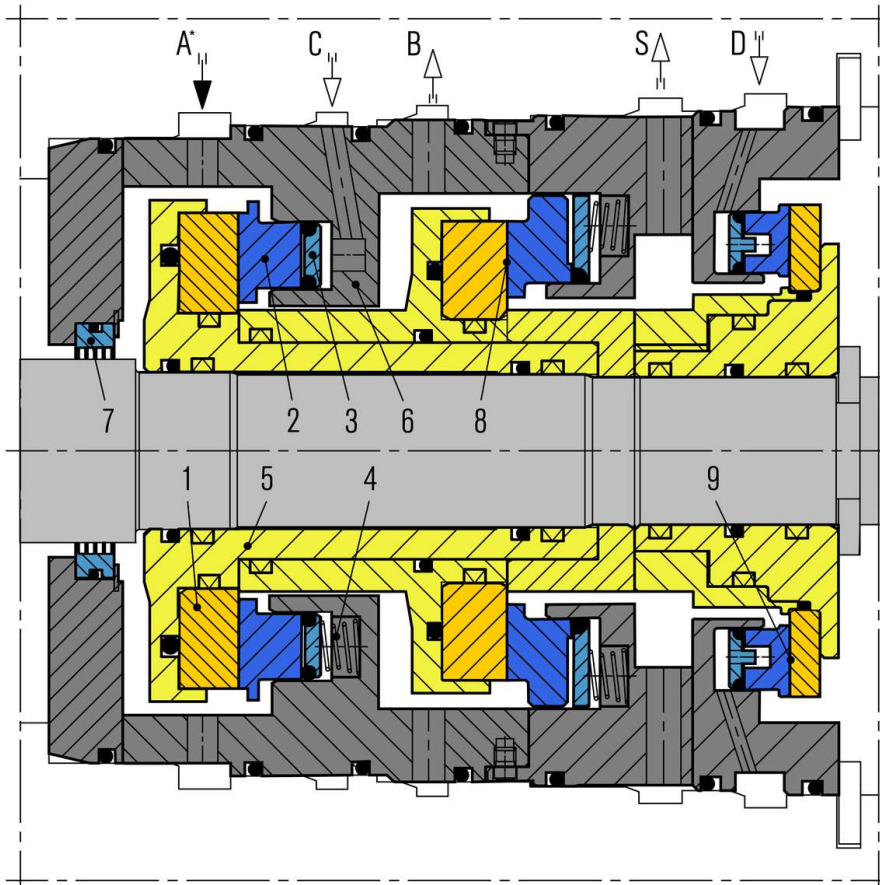
Recommended applications

- Pipelines
- Gas storages
- Oil and gas industry
- Chemical industry
- Power plants
- Centrifugal compressors
- Turbo expander
- Turbines
- Pumps
- Blower

All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications, however, means 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. This is subject to change.

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Item Description

- 1 (Seat) Rotating seal face
- 2 (Seal face) Stationary seal face
- 3 Thrust ring
- 4 Spring
- 5 Shaft sleeve
- 6 Housing
- 7 Labyrinth
- 8 DGS as seal on atmosphere side
- 9 CobaSeal as separation seal

- A* Buffer gas supply - optional
- B Primary vent
- C Seal gas supply
- D Separation gas supply
- S Secondary vent

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Product variants



Optionally available

High pressure nitrogen generator

On-site generation of nitrogen
Ensures continuous, uninterrupted nitrogen supply
Solves the logistics problem, especially for sites in remote, hard-to-reach areas. No more hassle transporting the nitrogen.

Nitrogen generation is based on pressure swing adsorption. Storage at 330 bar – for intermittent generation/compression and back-up supply – then

reduction to the required pressure.

The complete nitrogen production and supply system comes in a container which should be installed out of ATEX area.

Required power supply: Heavy current, 400V, 50Hz/60Hz, 3 Ph

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