

Innovative solutions for sustainable and durable rotating applications

## Application

Fluid: boil-off gas (BOG)  
Pressure: 15 bar(a)  
Temperature: 140 °C (max)  
Speed: 5,000 – 15,000 rpm  
Shaft diameter: 33 mm each  
Shaft distance: 62 mm

## Challenge

Sealing of high-pressure difference of two shafts very close to each other.

## Route Cause

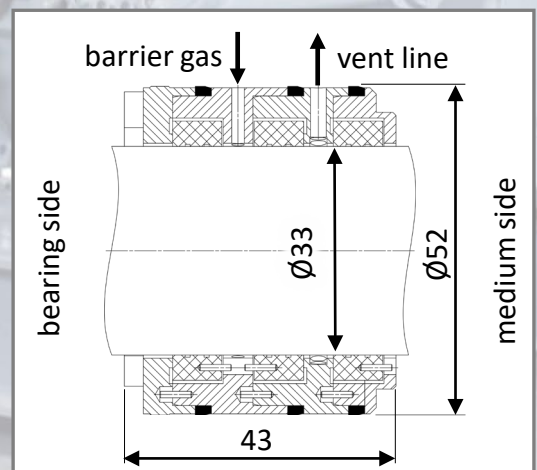
Recompression of boil-off gas on LNG tankers can be done by oil-free screw compressors. Due to economical and ecological reasons leakage should be minimized. Shaft seals for the boundary conditions are available, however not for the limited installation space.

## Solution

A special design of the SDS100 was chosen. Multiple labyrinth grooves can be applied to the carbon floating rings with bigger length allowing fewer sealing rings. The sealing ring's inner diameter was designed to meet perfectly the process conditions. The outer diameter was reduced to fit the installation requirements. The seal is delivered pre-assembled as a cartridge allowing an easy and quick installation.



Special design of the SDS100 with ports for barrier gas and vent



Sectional view of SDS100s-AS-3s-33

## FIELD CASE

# Shaft Seal for Screw Compressor for Recompression of Boil off gas

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