



Ampliflow T-Boost Seal Gas Booster



Improve dry gas seal reliability

Centrifugal compressors fitted with dry gas seals report impressive reliability statistics — and their secret to success is an uninterrupted supply of clean seal gas.

Under normal operating conditions, compressors can directly provide a constant supply of seal gas. However, during startup, pressurization, recycling, standstill and shutdown periods, compressor differential pressure is too low to satisfy seal gas flow requirements. This can lead to process gas migration, seal contamination, downtime and unsafe operating conditions.

The Flowserve Ampliflow T-Boost is an electrically driven seal gas booster that improves operational reliability by continuously delivering seal gas during periods of low differential pressure.

The booster utilizes an innovative drive system to achieve higher energy efficiency and run times exceeding 24,000 operating hours. When included in a complete gas conditioning system, the T-Boost seal gas booster ensures dry gas seals are fed the right amount of clean, conditioned seal gas over the total compressor operating window.

Features and benefits

- Provides seal gas during periods of low available differential pressure to allow unlimited protection of the dry gas seal, improving compressor uptime
- Ceramic shell generating no eddy current losses provides high energy efficiency and low operational cost.
- Hermetically safe design assures zero leakage of gas.
- High-pressure containment shell allows for design pressure up to 350 barg.
- Minimum wearing parts reduces maintenance requirements and helps to achieve MTBR of 24,000 operating hours.
- Easy to set up and connect to existing dry gas seal support systems
- Retrofit/upgrade option for systems with no or unreliable boosters to extend reliability and application range



Materials of construction

Metal components: stainless steel

Containment shell: ceramic

Elastomers: FKM, others

Design specifications

Standard area classification:
IECEX, ATEX Zone 1

Gas media: H₂ to CO₂

Design conditions: up to 350 bar
(5,000 psi) @ -20°C to 180°C
(-4°F to 356°F)

Electric motor: 5.5 to 18 kW

Dimensions: 544 dia. x 1,222 mm
length (21 x 48 in)

Connections: SAE flange

Certifications: NACE, others
upon request

Seal gas supply flow rate

This graph illustrates the seal supply gas flow with and without the use of Ampliflow T-Boost. During the startup phases of a gas compressor, the Ampliflow T-Boost delivers sufficient seal gas flow rate to protect dry gas seals from process contamination.

Contact Flowserve for Ampliflow T-Boost performance curves specific to your application.

Ampliflow T-Boost flow and differential pressure

Plan for the reliability that comes with an Ampliflow T-Boost delivering the right amount of clean seal gas and pressure at every point along a compressor's operating path.

Planning example: in a natural gas pipeline, one compressor is exposed to 80 barg (1,160 psig) line pressure prior to startup, flooding the gas seal with potential contaminants. The engineers calculate contamination can be avoided by injecting a seal gas flow of 6 m³/h (3.5 CFM) with a differential pressure of 3 bar (43.5 psi). Checking the T-Boost performance curve, for natural gas at 100 barg (see graph below), the minimum operating speed is clearly established at 3,000 rpm.

