## Proven power: Centrifugal fuel gas boosters



Atlas Copco Gas and Process Solutions

HANDLE THE PRESSURE.





### Proven power: Centrifugal compressors for fuel gas boosting

For more than 25 years, Atlas Copco Gas and Process has helped plant operators keep their power generation facilities running reliably and efficiently. Our standard and customized centrifugal compressors with pressure and flow characteristics cover the entire range of Fuel Gas Boosting (FGB) applications.

We offer single- up to six-stage fuel gas boosting compressors, and our machinery can handle volumes from 250 to 20 000 m3/h (150 to 12 000 acfm), with a maximum discharge pressure of 70 bar(a).

The high-speed rotor is supported by radial tilting pad bearings designed to eliminate virtually all vibration and provide superior rotor stability. Also, pulsation—a common problem with piston compressors—does not occur with Atlas Copco Gas and Process centrifugal compressors. They are also 100% oil-free by design, preventing contamination of the natural gas fed to the turbine.

An international frontrunner in compressor technology, Atlas Copco has hot-commissioned over 400 FGB units around the globe. We help our customers maintain their compressors and ensure smooth operations via our tight, yet far-reaching international service network.



### The advantages of integral-gear technology

Integral gear technology provides the most efficient, space-saving and reliable solution possible.

- More efficient than comparable single-shaft designs
- Allows for precision process control
- Each stage can be optimized to run at its ideal speed
- · Offers a smaller footprint



### Dynamic dry gas seals

Atlas Copco integrally geared compressors also feature dynamic, contactless dry-gas seals for maximum reliability.

- Reduces high speed shaft leakage, minimizing gas lost from process
- Non-contacting design prevents mechanical wear









**Customized GT compressors** 

## TurboBlock<sup>™</sup> standardized compressors

To meet the power generation industry's growing demand for fuel gas boosting solutions with short lead times and long-lasting reliability, Atlas Copco Gas and Process added the standardized TurboBlock™ compressor to its lineup. TurboBlock™ features all the essential components of specialized compressors, plus custom aerodynamics for optimal efficiency. The standardized design promotes fast turn around on drawing packages.

### **Features**

- 1 Pre-engineered system with configurable options
  Maintains high reliability in a cost effective design
- 2 Lube oil manifold Integrated design optimizes lubrication system while reducing the number of components
- 3 Plate-and-frame water cooler
  Compact design reduces the overall footprint
- 4 Dual oil filters
  Offers superior protection for added reliability

### **Optional features**

- · On-skid control panel
- Sound enclosure
- · Air-cooled coolers
- 2 out of 3 voting

### TurboBlock™ at a glance

#### Inlet pressure:

14–30 bar(a)/203–435 psia (single stage)

8-22 bar(a)/116-319 psia (two-stage)

#### **Outlet pressure:**

28-50 bar(a)/406-725 psia

#### Power:

745 kW-5 220 kW/1 000 hp-7 000 hp

### Outlet temperature:

Up to 200° C/400° F

#### Flow:

250-10 000 m<sup>3</sup>/hr/150-6 000 acfm

### Sound level:

85 dbA at 3 meters\*

\*with optional sound enclosure

### Customized GT compressors

For fuel gas boosting applications with more specialized requirements, Atlas Copco Gas and Process offers customized GT compressors with vast regulation capabilities. We configure each GT compressor to precisely match your flow and pressure requirements while delivering maximum efficiency.

### **Features**

### **Package instrumentation**

Complete flexibility with regards to instrumentation

### **Code compliance**

Adaptation to all major electrical and mechanical codes worldwide

### **Customized skid**

Skid and piping arrangement are tailored to any process conditions

### **Stage configuration**

Process flexibility due to the number of stages and sections

### GT-Series fuel gas booster at a glance

### Inlet pressure:

8 bar(a)-30 bar(a)/116-435 psia

### **Outlet pressure:**

Up to 70 bar(a)/1 015 psia

### Power:

Up to 10 000 kW/13 400 hp

### **Outlet temperature:**

Up to 200° C/400° F

### Flow:

250-20 000 m<sup>3</sup>/hr/150-12 000 acfm

# How reliable is your centrifugal compressor?

Compressor Type	Reliability (%)	Availability (%)	IMR&O (h/yr)	MTBF (yr)
Reciprocating, conv. non lube	92.3	91.3	766.1	0.3
Reciprocating, lubricated	97.8	97.3	237.2	0.5
Reciprocating, labyrinth piston	98.3	97.6	207.2	2
Oil flooded screw	98.8	97.7	199.9	1.5
Oil-free screw	99.7	99	90	5
Centrifugal, fouling service	99.5	99	90.6	3.7
Centrifugal, clean service	99.8	99.7	24.8	8

IMR&O: Inspection, maintenance, repair and overhaul MTBF: Mean time between failure Forced DT: Forced down time

 $Source: Hydrocarbon\ Processing {}^{\otimes}\ magazine$ 

