

Oil Injected Screw Compressors

Howden Process Compressors with its headquarters in **Scotland** is the **centre of excellence** for process gas screw compressor technology.



Performance
through **experience**

Our Process Rotary Screw Compressor experience

Oil injected

World's largest (510 rotor dia)	over 200 yrs operational experience
Fuel Gas	over 500 yrs operational experience
Offshore applications	over 60 yrs operational experience
Sour Hydrocarbon Gases	over 60 yrs operational experience
Hazardous Gases	over 26 yrs operational experience



Oil Injected Screw Compressors

An oil injected screw compressor package gives the following additional features and benefits.

Features

- Designed for direct drive (no gearbox/L.O. system)
- Integral capacity control system 100% - 10%
- Enhanced oil separation system
- Minimised acoustic signature (synchronous speed, oil injection). Pipework acoustic suppression
- Effective gas handling
- Single and dual shaft seal systems
- Single/dual loop controls
- Oil injection to compression space
- Single casing tandem, two stage systems available

Benefits

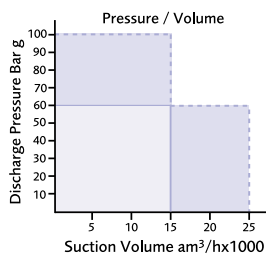
- Cost savings
- Ease of maintenance
- Less power
- Reliability
- Simple mechanical configuration
- Energy efficient
- Proportional power saving
- Delivery of low oil content gas
- Simplified noise attenuation procedures
- Variations in gas composition and MW accommodated. Capable of handling wet and sour gases
- Tolerant to liquid slugs
- High sealing integrity
- Flexible process control system interface (PLC and relay logic)
- High compression ratios per stage
- Discharge temperature control avoiding dew point problems
- Compact size with low absorbed power

Typical applications

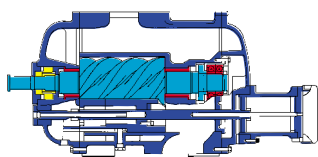
- Fuel Gas Compression
- Gas Liquefaction
- Petrochemical and Chemical Processing
- Natural Gas Gathering
- Carbon Dioxide Recovery
- Coke Oven Gas
- Vapour Recovery
- Offshore Flare Gas (V.O.C)
- Hydrocarbon Processing
- Industrial Refrigeration
- Food Processing
- Breweries
- Mine Cooling

Unique features and benefits

- Stepless capacity control with power savings
- Capacity and energy absorbed match system demand
- Variable Volume Ratio available
- Maximises energy efficiency
- Can take side stream above suction pressure
- Reduced through life costs



Pressure/Volume graph

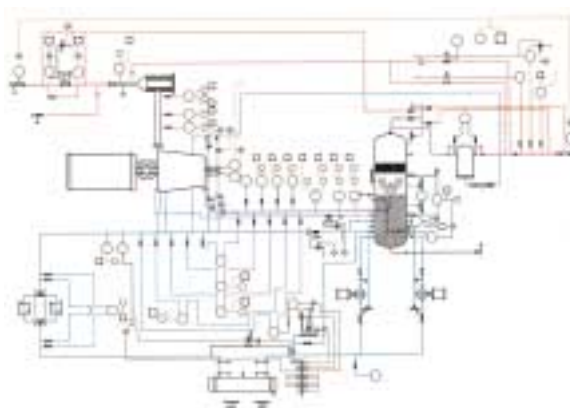


Oil injected compressor vertical section

Oil Injected Design Criteria

Range	163 204 255 321 510	2 L/D Ratios 4 L/D Ratios 6 L/D Ratios 4 L/D Ratios 3 L/D Ratios
Operating Speeds	1000 – 4500 RPM	
Capacity Range	200 – 1400 M3/HR	
Pressure Ratio	20 / 1 (Single Stage)	
Max Discharge Pressure	38 BAR	
Max Discharge Temperature	115 DEGREES C	
Materials Casings	Cast Iron Nodular Iron Carbon Steel LT Carbon Steel	

Typical piping and instrumentation diagram



Key

- Pneumatic Signal
- Electrical Signal
- Oil
- Gas
- Oil/Gas Mixture

Instrumentation

- F Flow
- L Level
- M Motor
- P Pressure
- S Speed
- T Temperature
- Z Level Switch


Howden
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Howden Process Compressors
 Old Govan Road
 Renfrew PA4 8XJ
 United Kingdom

Telephone: +44 141 304 3500
 Facsimile: +44 141 304 3600
 Email: hpc.sales@howden.com
 Web: www.howden.com