

Enhancing Oil & Gas Production with Wellhead Compression

Artificial lift methods to increase oil and gas production



Wellhead Compression...



Backpressure in oil wells

Whether it is in emerging wells with high levels of gas, or induced by any other artificial system, the gas molecules that come with the fluid go towards the surface are retained by the seals. This gas builds up creating a backpressure that lowers level of the liquid column and creates a force against the pumping equipment.

The operators are forced to lower the engine's RPM and/or modify the stroke of the equipment in order to continue operating. In addition, the presence of gas generates other unwanted problems such as gas lock or gas interference in the pumping equipment.

Liquid-loading in gas wells

When the reservoirs are exploited, the gas is consumed and the reservoir pressure begins to decrease losing strength and speed and accumulating condensates in the bottom of the well. This phenomenon is known as liquid loading. The gas flow falls abruptly, as it bubbles through the tubing and the well dies.

By connecting the wellhead compressor on the surface, it lowers the pressure in the well, increasing the gas speed and restoring production. We have many success stories even on previously abandoned wells.

The compressors can work alone or in combination with plungers lift and foaming agents.

Unconventional production

Does your company explore and produce in unconventional fields? Then our compressors are appropriate for the early facilities and modular production plants in shale oil, shale gas, tight gas or coal bed methane (CBM).

The compressors are placed parallel depending on the quantity necessary to capture the low pressure gas and help process the liquids. When the flow rate decreases, the compressors can be relocated to where it is needed.

HOERBIGER can calculate, design, sell or lease the complete plant, carrying out the auxiliary services and well testing.

...not a new concept.

What is new is the HOERBIGER Solution: customized packages, great reliability and excellent operations and maintenance services.

Wellhead compression is the most versatile, economical and reliable solution for recovering or increasing production and extending the life of mature fields.

HOERBIGER Compression Technology is internationally recognized for its research and development, and engineering expertise in compressors and engines.

We have designed special systems to handle large amounts of condensation and liquid slugs, presence of salt water mist, CO₂, H₂S, sand and other debris.

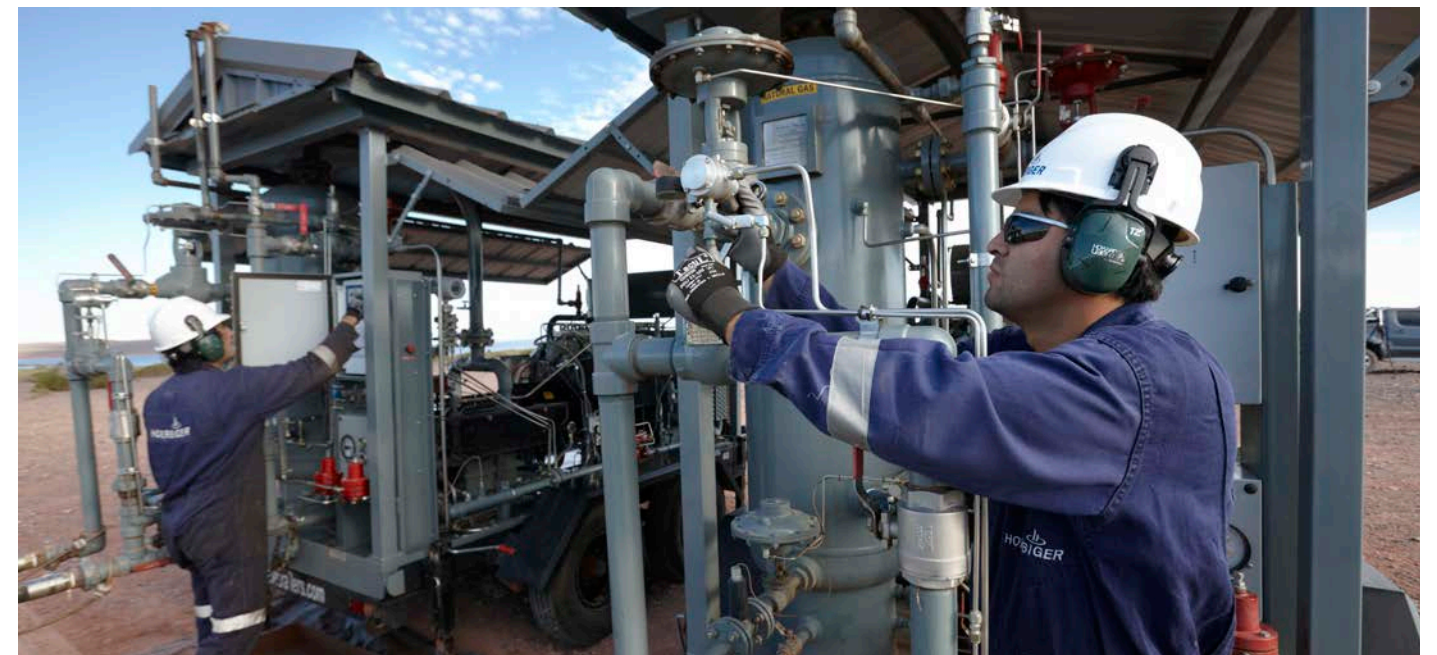
We have incorporated many technical solutions to the most common issues as part of our standard package, making our compressors the most reliable in the wellhead compression market.

Field service, an indispensable complement

Thanks to our extensive service network around the world, innovative solutions and service excellence, HOERBIGER is the ideal partner for oil & gas operators.

We perform maintenance and repairs, stock spare parts, and record maintenance indicators. We work closely with our customers to develop a continuous improvement program and offer the best solution.

Our highly qualified and trained personnel comply with all safety and environmental policies and requirements; seeking continuous improvement as the norm.





Do you want to increase your well's oil & gas production?

HOERBIGER's wellhead compressor is your solution...a versatile, easy to install, and mobile equipment. Highly adaptive to different operating conditions and extreme environments.

HOERBIGER Compression Technology wellhead compressor programs: buying, leasing and operating—are the perfect solution to maximize production.

There is no need for expensive studies in order to forecast improvements in production. By simply moving a wellhead compressor from one well to another you can obtain accurate information on gas flow and gas/oil production rate—then draw your conclusions based on each well or from a set of wells with similar conditions.

The compressor extracts gas through the tubing or casing, decreasing the well's pressure, generating substantial increases in production. Its operational versatility makes the compressors suitable to work in different working conditions and applications.

In large reservoirs, its easy mobility, installation and commissioning, make it an invaluable tool for the operator with readily available status information as to which compressor brings the greatest productivity gains.

No prior installation required

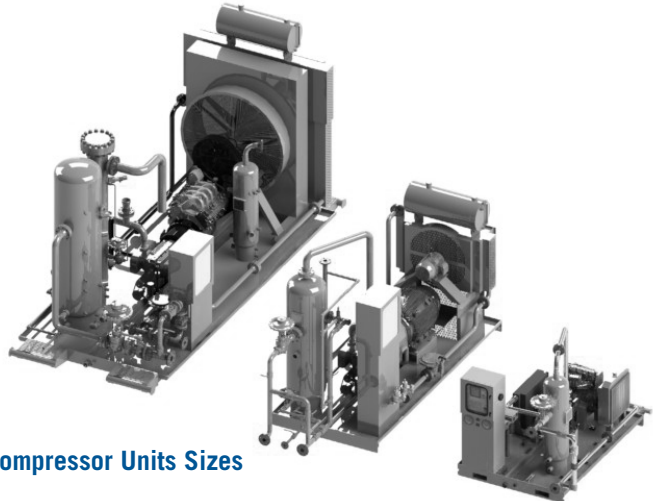
- easily transportable
- no field preparation needed
- low installation costs
- easy to level with four lateral lifts
- quick-connect, flexible hoses ensure installation and start up takes place as quickly as possible
- optional roof and walls for added protection

Adapts to all types of operating conditions

- works with a wide range of suction and discharge pressures
- the flow is regulated through the speed control unit, allowing your engine to work between 900 and 2100 RPM
- packages offer significant operating flexibility for different applications



We have the right solution to fit your needs



Compressor Units Sizes

2438 mm (8 ft.) to 3700 mm (12 ft.) wide
2600 mm (8.5 ft.) to 2850 mm (9.5 ft.) high
7000 mm (23 ft.) up to 12000 mm (39.37 ft.) long



Smart control panel

Features a smart Altronic DE-3000 control and it can detect flow fluctuations through changes in suction pressure. Based on this it can increase or decrease the engine speed in order to keep the suction pressure and system stable.

HOERBIGER 60RX Valves

The RX valve design is efficient and extremely reliable in difficult compression environment. The spring plate concept provides a wide operating window for variable gas and pressure conditions. The robust design gives long and trouble-free operation with minimum maintenance.

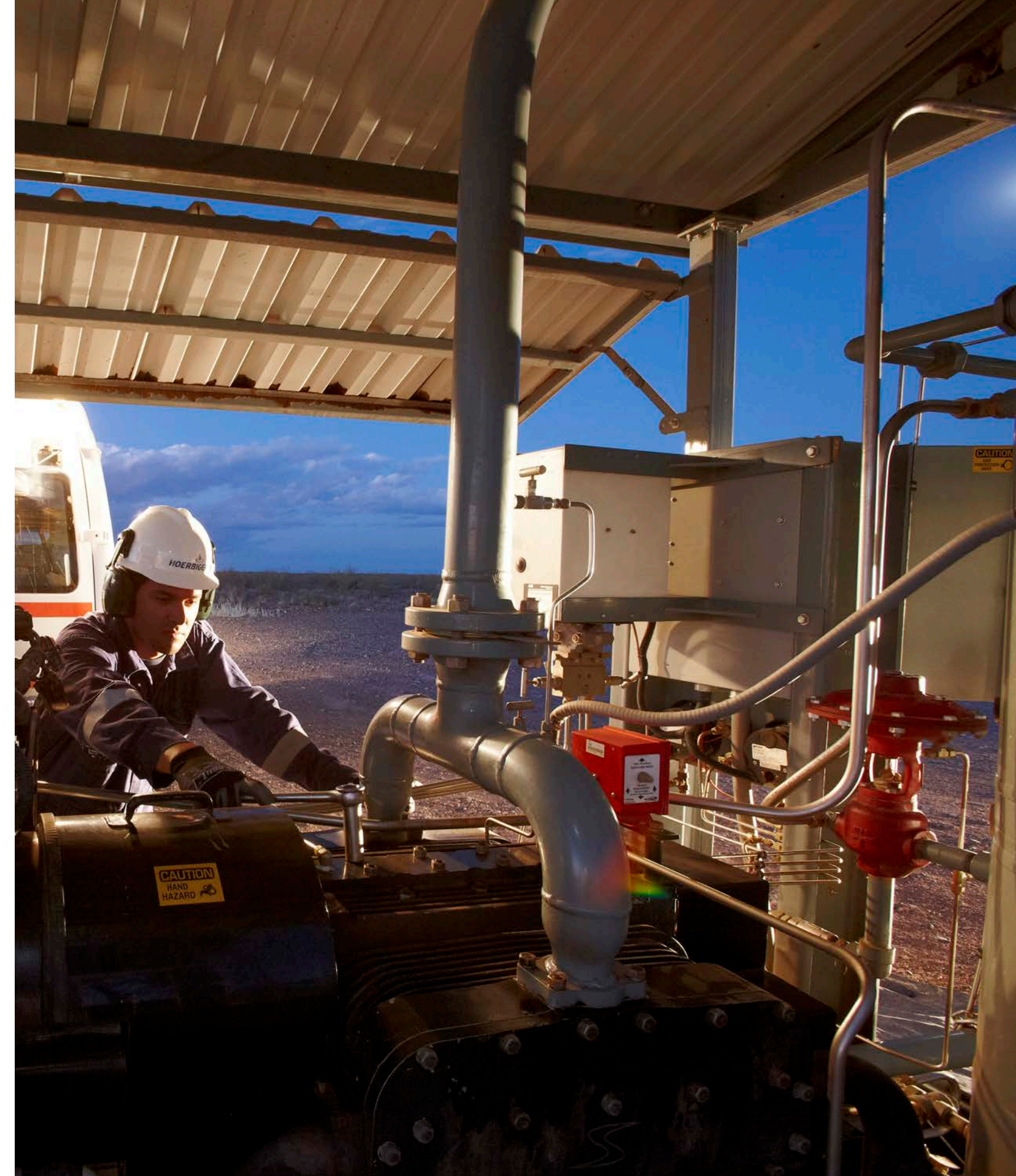


The ideal solution for capturing low pressure gases.

Our wellhead compressors main characteristics

- energy efficient
- easily transportable
- quick installation, no site preparation required
- its unique scrubber handles large liquid volumes
- all packages are equipped with flow gas meters
- the liquids separated by the compressor are blown in the same discharge line and are also measured
- designed to handle large amounts of condensates and withstand liquid slugging with high operational reliability
- transmits via telemetry production data and notifies operators or control center of any shutdowns
- the variable engine RPM adapts to any gas flow required
- can be installed directly in the wellhead or in a single manifold or multi-manifold parallel to other compressors
- units perform over a wide range of operational conditions

Technical Data		
Suction Pressure Range	bar	up to 7
	psig	up to 100
Discharge Pressure Range	bar	up to 25
	psig	up to 360
Fluid Handling		150 - 450 barrels
Standard Capacity	m ³ /d	8.000 up to 70.000
	ft ³ /d	282,500 up to 2,472,000
Valve Type		HOERBIGER 60 RX
Compressor Type		Reciprocating
Ignition System		ALTRONIC
Type of Drive	Gas Engine	20-200 kW
	Electrical Motor	15-200 kW



Outdoor Enclosures...for harsh environmental conditions

Enclosures Characteristics

HOERBIGER customizes the enclosure design according to the countries regulations and customer specification:

- explosion-proof construction and equipment for hazardous area applications
- complete Redundant Control System (RCS) and Universal Power Supply (UPS)
- package compressor unit is equipped with ventilation, heating, lighting and fire alarm system
- piston compressor and gas engine driver for high level association gas utilization
- pipeline pulsation analysis
- GOST R certified

Technical Data: Extreme Conditions

Operating Pressure Range	Barg 0.001 up to 27
Standard Capacity, m ³ /h	50 up to 1700
Environment Temperature Range	°C - 60 up to + 45 °F - 76 up to + 113
Hazardous Zone Classification	Zone 1/Class 1 Division 2 (V-1A, V-1B, V-1G by regulations for Electrical Installation (PUE))
Valve Type	HOERBIGER 60 RX
Compressor Type	Reciprocating
Ignition System	ALTRONIC
Type of Drive	Gas Engine 20-200 kW Electrical Motor 15-200 kW



HOERBIGER wellhead compressors... the best tool for production optimization



Contact a HOERBIGER location near you to receive a customized application analysis based on your specific working conditions.

Applications

- reduction in wellhead pressure
- liquid loading
- increase in oil production, reducing casinghead pressure
- gas vapor recovery or gas recovery
- combination with plunger lifts and foaming agents
- gas gathering or gas recollection

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The HOERBIGER Group

HOERBIGER is active throughout the world as a leading player in the fields of compression technology, drive technology and automation technology. Its 6,400 employees achieved sales of 1.05 billion euros. The HOERBIGER brand is synonymous with performance-defining components in compressors, industrial engines and turbines, automobile transmissions, and multifaceted mechanical engineering applications. Innovations in attractive technological market niches are the basis for components, systems and services that offer unique selling propositions and long-term benefits for the customer.

We set standards.



HOERBIGER Compression Technology – Always near you, anywhere in the world

Algeria · Argentina · Australia · Austria · Bolivia · Brasil · Brunei · Canada · Chile · China · Colombia · Croatia · Czech Republic · Ecuador · Egypt · Finland · France · Germany · Greece · Hungary · India · Indonesia · Israel · Italy · Japan · Kuwait · Libya · Lithuania · Malaysia · Mexico · Montenegro · Netherlands · New Zealand · Nigeria · Norway · Oman · Pakistan · Peru · Philippines · Poland · Portugal · Romania · Russia · Saudi Arabia · Serbia · Singapore · Slovakia · South Africa · South Korea · Spain · Sweden · Switzerland · Syria · Taiwan · Thailand · Turkey · United Arab Emirates · United Kingdom · United States of America · Venezuela · Vietnam