

A large offshore oil platform is illuminated with warm yellow lights at night. The platform's complex structure of pipes, ladders, and walkways is clearly visible. The lights reflect on the calm water in the foreground. In the background, another smaller platform is visible on the left, and the dark blue sky meets the horizon.

PIONEERING **GAS** SOLUTIONS

**GENERON<sup>®</sup>**

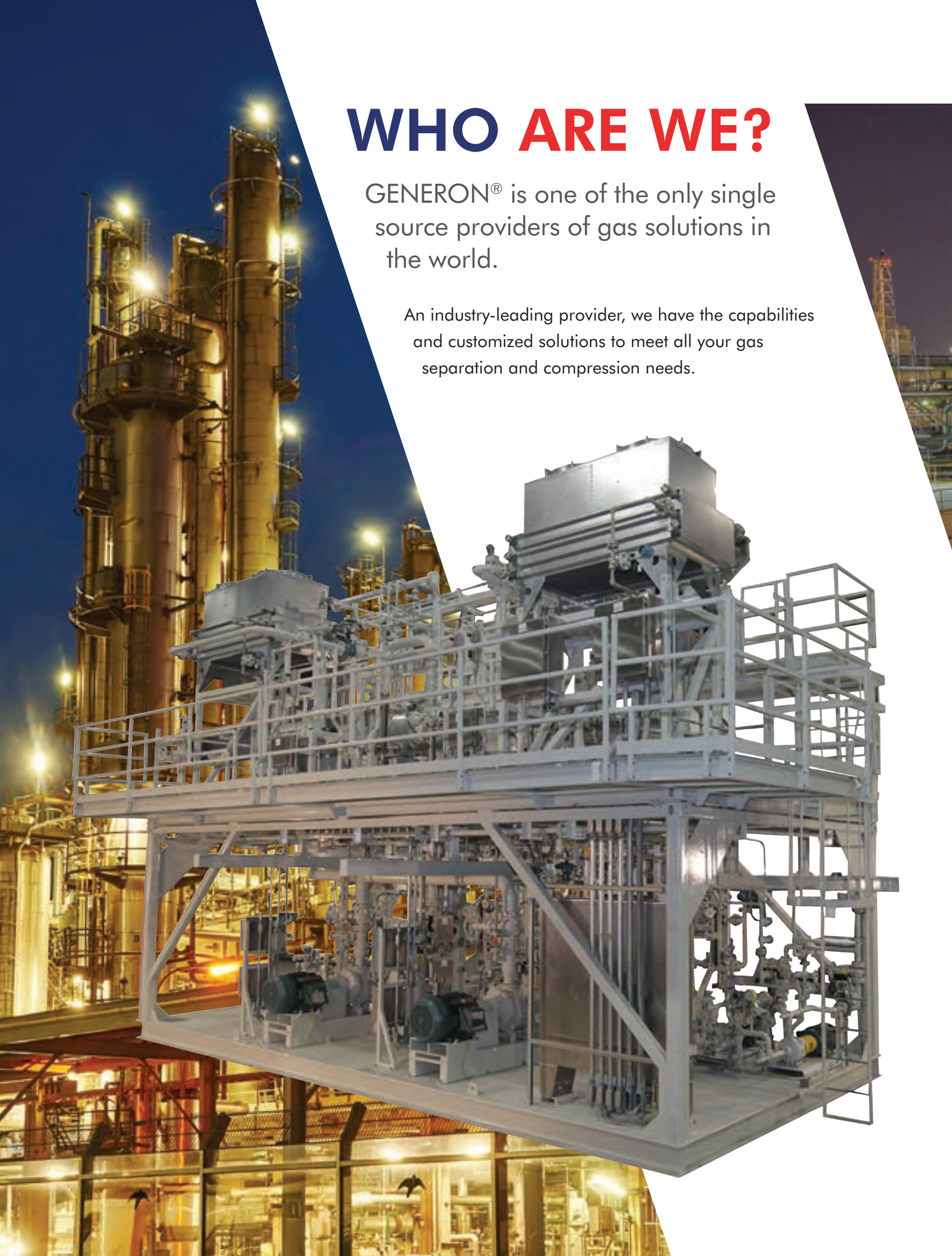
**PROCESS SYSTEMS**



# WHO ARE WE?

GENERON® is one of the only single source providers of gas solutions in the world.

An industry-leading provider, we have the capabilities and customized solutions to meet all your gas separation and compression needs.





# WHAT DO WE DO?

GENERON® is one of the only companies in the world that manufactures its own membranes and packages them into state-of-the-art gas separation systems.

**We specialize in designing, engineering, manufacturing, and servicing systems that produce industrial gases, including:**

- ♦ Nitrogen Membrane Generators
- ♦ High Purity Nitrogen PSA Generators
- ♦ Membrane Dryers and Dehydration Systems
- ♦ Process Gas Systems
  - CO<sub>2</sub> & H<sub>2</sub>S/CH<sub>4</sub>, Hydrogen Purification, NG Dehydration, NGL/LPG and Helium
  - Process Gas Separation Systems
  - Custom Fabrication of Process Equipment
- ♦ Custom-Engineered Solutions
  - Instrument and Utility Air Packages
  - Air, Nitrogen, and Gas Compression Systems
- Gas Compression Packaging including Primary and Post Compression
- ♦ Full-service rental fleet is available for Nitrogen, Primary Compression, and Booster Compression
- ♦ GENERON® operates a fully equipped manufacturing facility with:
  - ASME Pressure Vessel Manufacturing
  - UL Electrical Panel Shop
  - CSA, ATEX, DNV-GL Certified Manufacturer
  - Stainless and Carbon Steel Fabrication
  - Instrumentation and Controls Design & Installation
  - Pipe Fitting, Fabrication, and Installation



# WHO DO WE SERVE?

GENERON® provides comprehensive services to the following industries:

- ◆ Oil & Gas
- ◆ Chemical Processing
- ◆ Marine
- ◆ Food & Beverage
- ◆ Electronics
- ◆ Mining
- ◆ Metallurgical & Heat Treating
- ◆ Pharmaceutical
- ◆ Biotechnology
- ◆ Aerospace
- ◆ Materials Handling







## WHERE DO WE SERVE?

GENERON® operates three manufacturing facilities located in Houston, Texas; Pittsburg, California; and Chengdu, China. Our service centers are located in the United States, Europe, the United Arab Emirates, Korea, China, Malaysia, and South America.

**Our systems are  
installed around  
the world, both  
onshore and  
offshore.**





# WHY CHOOSE GENERON®?

## TOTAL SOLUTIONS PROVIDER

We offer a full-spectrum of capabilities; from research and development, to engineering and manufacturing, to sales and service.

- ♦ Fully equipped ISO 9001 certified engineering and manufacturing facilities
- ♦ ASME, PED, UL, CSA, DNV-GL, and GOST accredited and certified
- ♦ Custom-fabricated process equipment
- ♦ On-staff technicians fully trained in operating and trouble-shooting
- ♦ Global research and development facilities

## CUSTOM-ENGINEERED SOLUTIONS

Our systems are engineered and designed to customer specifications. Our experienced engineering staff is highly skilled at meeting approval of drawings and Vendor Document Requirement List (VDRL). 3-D CAD systems are utilized with automatic Bill of Material links, allowing us to design and record custom solutions for any industry or application.

## GLOBAL PARTS AVAILABILITY

To keep operations running smoothly, GENERON® offers a full line of services, from start-up and commissioning, to on-location training and service, to spare parts delivery.

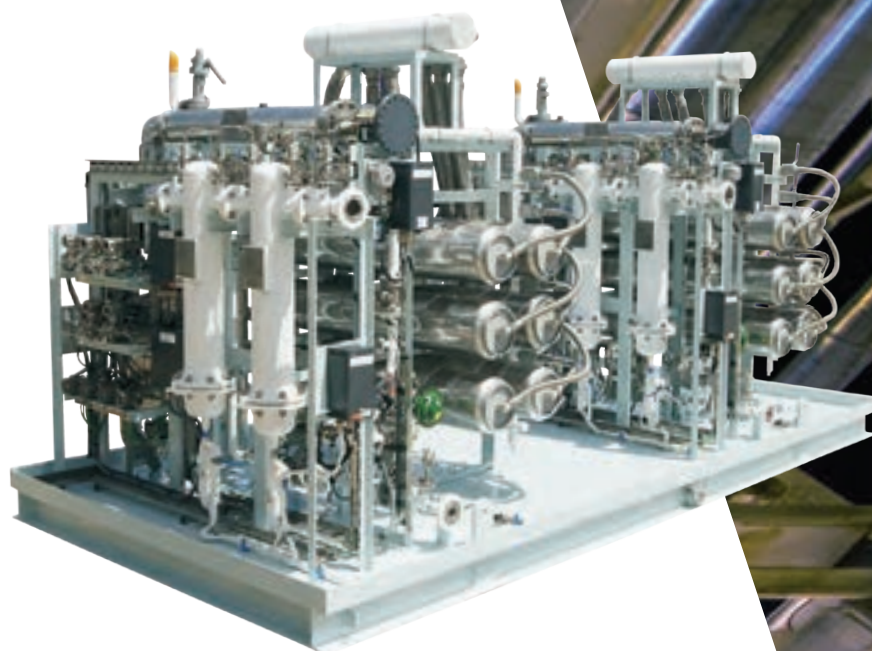
To ensure maximum uptime, our fully trained technicians stand ready to be dispatched anywhere in the world from one of our service centers in the United States, Europe, the United Arab Emirates, Korea, China, Malaysia, and South America.

## PATENTED TECHNOLOGY

At GENERON® we pride ourselves on highly efficient, cutting-edge technologies that provide our markets with some of the most cost-efficient gas separation and compression solutions available.

Our patented GENERON® membrane technology is capable of producing nitrogen purities up to 99%. Our extensive PSA expertise gives us the capability of producing nitrogen purities up to 99.9995%. From air separation technology to process gas systems, GENERON® engineers have a broad range of expertise in designing systems that meet our customers' needs.





# GAS SEPARATION SYSTEMS

## THE CHALLENGE

In today's industry, there is an increased need for clean feedstocks, which requires gas treatment. Gas treatment can include conditioning natural gas, conditioning associated gas to meet pipeline specifications, recovering hydrogen in refinery and/or ammonia plants, or recycling and purifying helium from natural gas or industrial waste streams.

## THE GENERON® SOLUTION

GENERON® provides gas separation systems for the natural gas/biogas, refinery/petrochemical, and industrial manufacturing industries.

Our processes for gas separation and purification are used for:

- ♦  $\text{CO}_2$  /  $\text{H}_2\text{S}$  Removal
- ♦ Hydrogen & Helium Recovery
- ♦  $\text{SF}_6$  and Refrigerant Recovery
- ♦  $\text{H}_2$ :CO Ratio Adjustment in Syngas
- ♦ Fuel Conditioning
- ♦ And More

GENERON® provides:

- ♦ GENERON® Membrane Systems
- ♦ PSA Systems
- ♦ Fixed Bed Removal
- ♦ Amine Systems
- ♦ Filters & Separators
- ♦ Engineering & Manufacturing Services
- ♦ Receivers/Storage Vessels



# HYDROCARBON LIQUIDS RECOVERY

## THE CHALLENGE

“Natural Gas Liquids” (NGL) refers to the ethane and heavier hydrocarbons present in natural gas. Increasingly, oil and gas producers are exploring rich gas sites and recovering NGLs as a valuable product before selling the product gas. NGLs can be blended with other petrochemical feed stocks.

“Liquefied Petroleum Gas” (LPG) refers to the propane and butane present in natural gas. LPG is filled in bottles and mainly used in domestic applications as a fuel for heating appliances and vehicles. LPG varieties primarily include butane, propane, or a mixture.

## THE GENERON® SOLUTION

GENERON® offers mechanical refrigeration and/or Joule-Thomson (J-T) systems, including state-of-the-art separator and stabilizer column technology designed to produce the maximum quantities of hydrocarbon liquids. We work directly with the customer to provide the most cost-effective solution.

GENERON® provides:

- ♦ Mechanical Refrigeration
- ♦ NGLs
- ♦ LPG





# GAS DEHYDRATION SYSTEMS

## THE CHALLENGE

Natural gas produced at the wellhead is almost always saturated with liquids, including water, which can result in sour gas.

The presence of sour gases can then lead to severe corrosion, or cause liquids to freeze in the piping, or build hydrates in the system, which in turn can disturb or block gas flow through the equipment. To prevent this, biogas needs to be dried before being sent to the pipeline or other applications. Some gas separation processes require dry feed gas streams for proper operation.

## THE GENERON® SOLUTION

GENERON® can provide you with the systems required to remove liquids from your gas stream. We offer the full range of pressures (75 psi to 1200 psi) and product dew points (+40°F to -150°F) to achieve the highest separation efficiency for your project.

GENERON® provides:

- ♦ Membrane Dehydration
- ♦ PSA/TSA
- ♦ Condensate Knock-Out Drums
- ♦ LTS Units
- ♦ Glycol
- ♦ Engineering & Manufacturing Services

# GAS COMPRESSION

## THE CHALLENGE

Compression is often required to boost natural gas pressure after the multi-stage well-head separators. Biogas is often available at low pressure, but needs to be compressed before removal of CO<sub>2</sub> and H<sub>2</sub>S.

Gas separation systems are sometimes limited in operating pressure or have high pressure drops that require booster compressors to reach sales or application gas pressures. Additionally, recycling of permeate or purge gases to improve process recovery requires re-compression equipment.

## THE GENERON® SOLUTION

GENERON® offers a full range of oil-free, oil-lubricated, rotary, or reciprocating compressor systems. We custom package compressors with different drive options, including electric, diesel, or gas, with discharge pressures up to 10,000 psi.





A photograph of an industrial facility at night, featuring a complex network of large, metallic pipes and structural steel frameworks. The scene is illuminated by bright, warm lights, likely from the facility's operations, creating a high-contrast image against the dark sky. The pipes are arranged in a dense, vertical and horizontal pattern, with some showing signs of wear or rust. The overall atmosphere is industrial and technical.

# GENERON<sup>®</sup>

Call GENERON<sup>®</sup> today  
for more details about  
Turnkey Systems and  
Custom-Engineered Solutions!

## ***Flexible Lease or Purchase Financing Solutions***

*We understand that business needs  
and budgets can vary from location  
to location and project to project.*

*Generon<sup>®</sup> is one of the only solution  
providers offering lease or purchase  
options through third party lenders.*









Contact GENERON® today for more details about Turnkey Systems and Custom-Engineered Solutions.

## MANUFACTURING AND SALES

GENERON® manufacturing facilities are ISO 9001 certified. We manufacture to the following codes and standards:  
ASME • PED • Baseefa • API • IEC •  
NEC • NFPA • RINA • ATEX • CENELEC  
• Class I Div II • Class I Div I • Zone  
2 • DNV-GL • Lloyds Register • GOST  
• CSA • NK • Bureau Veritas • ABS •  
NEMA • IP • UL

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