



DELION

Gas Treatment and Fractionation

Modular solution

Partnership

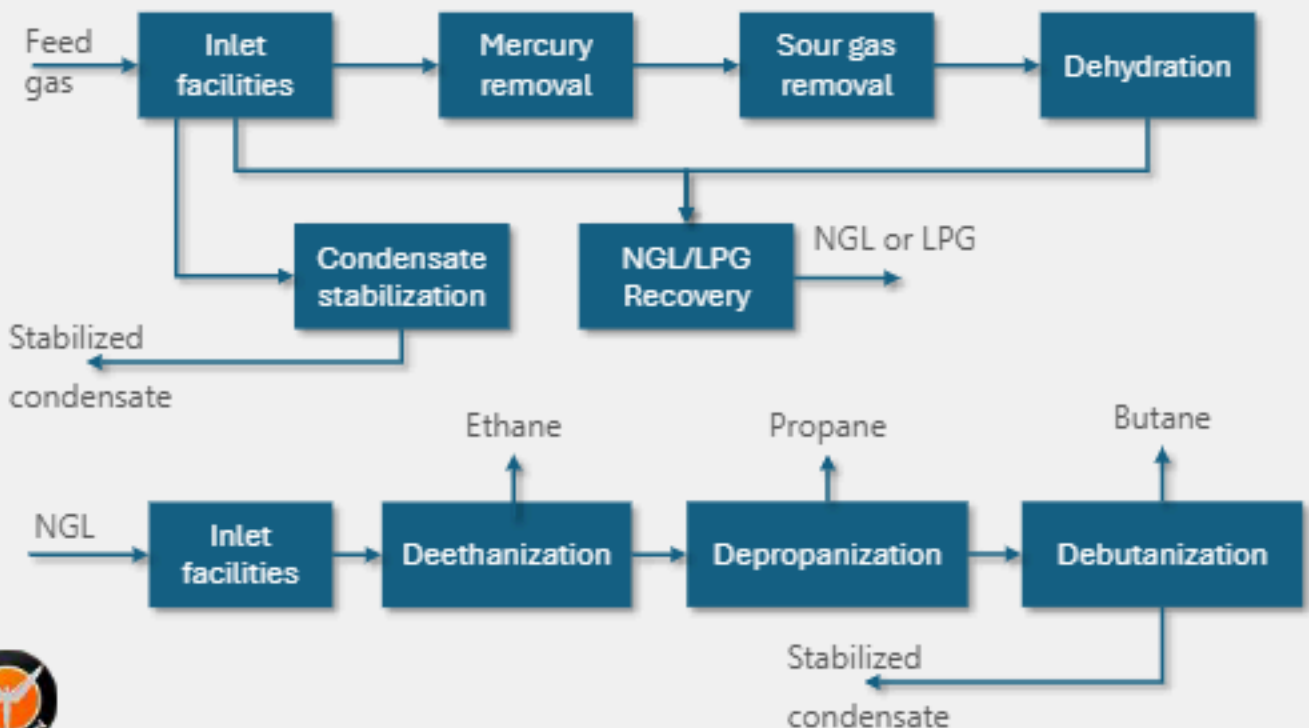
We are a seasoned provider gas treating and fractionation units. Leveraging our extensive expertise in plant engineering and operation, we have created a range of modular plants to address current demands. For more intricate and demanding projects, we design and deliver tailored plants, which we assemble on-site to accommodate specific requirements.

Our dependable design that minimizes technical risk and maximizes operational flexibility is crucial for maintaining process continuity and adhering to strict safety standards. Construction logistics and the implementation timeline are also critical factors, especially in challenging or hard-to-reach locations. Moreover, plant owners encounter various financial challenges. Achieving a quick return on investment is crucial in today's highly competitive economic environment. Companies need to consider both capital and operating expenditures (CAPEX and OPEX) throughout the entire lifespan of the plant to accurately assess the total cost of ownership.

Modular design for improvements in time efficiency, cost savings, and reliability.

Building on our experience in engineering and operation, we have developed a portfolio of modular plants to meet today's challenges. These plants provide the best solution for our clients' varied needs, offering:

- Quick time-to-solution achieved through extensive prefabrication and pre-testing.
- Streamlined on-site logistics and reduced CAPEX due to modular design.
- Expedited equipment fabrication and delivery.
- Cutting-edge technology and design for dependable operation.
- Simplified maintenance for reduced OPEX.
- Comprehensive support services, from consulting to commissioning and start-up.
- Confidence assured by our strong commitment to and proven excellence in quality, health, safety, and environmental (QHSE) protection.



Our portfolio

Inlet facilities

We are providing complex solutions for gas plant, Inlet facilities:

- Inlet manifolds
- Pig Launchers and Receivers
- Pressure surge protection system
- Slug catcher
- Feed gas filtration
- Feed gas separation
- Feed gas heating

Mercury removal

Will protect the structural integrity of your equipment through total mercury removal.

Acid gas removal

We are providing solution to remove harmful acid gas contaminants from natural gas streams and improve overall performance.

H₂S and CO₂ < 50 ppm

Dehydration

We are providing solution for dehydration of natural gas streams.

Presence of water < 0.1 ppm

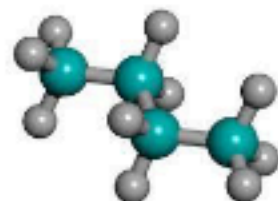
Fractionation

NGL/LPG Recovery (up to 99-plus percent NGL/LPG recovery)

Deethanization

Depropanization

Debutanization



Hg

H₂S

CO₂

H₂O

C₂H₆

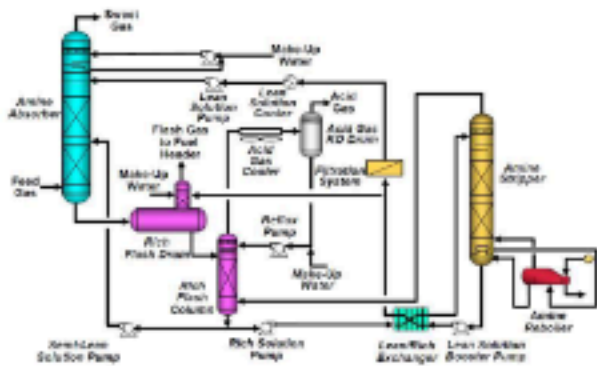
C₃H₈

C₄H₁₀

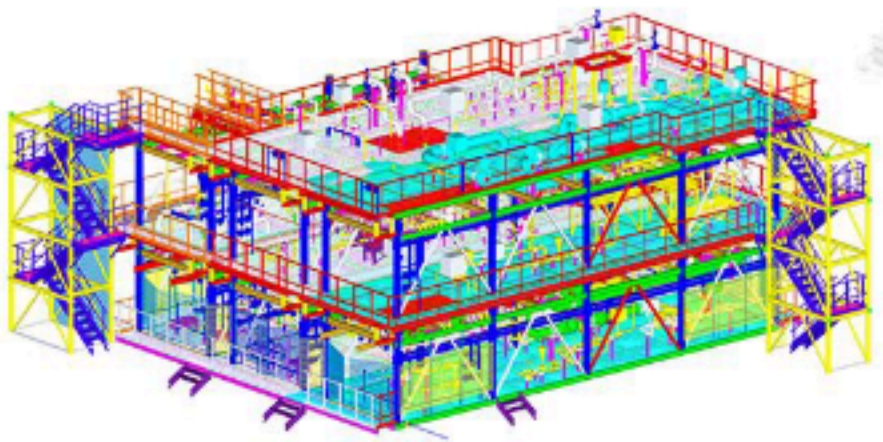


Technology

Acid gas removal

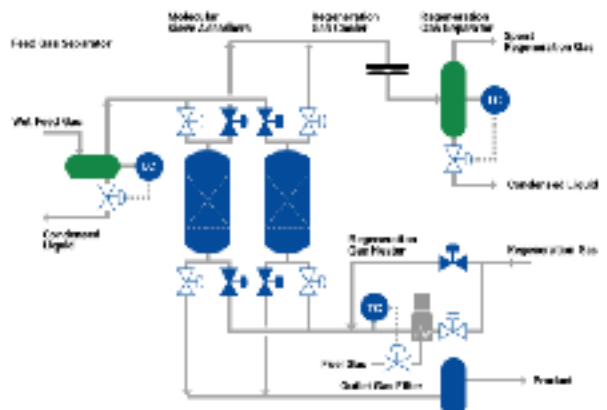


Raw natural gas streams often contain impurities that can cause significant damage to process, pipelines and equipment. Our acid gas removal solutions effectively remove hydrogen sulfide (H₂S) and carbon dioxide (CO₂) from gas streams to meet product specifications and protect downstream equipment.



Dehydration

Effective dehydration is critical to avoid unplanned shutdowns, costly equipment repairs and hazardous working conditions. We are using adsorbents to simultaneously remove water and contaminants from the gas stream, protecting your downstream equipment and reducing operating costs.

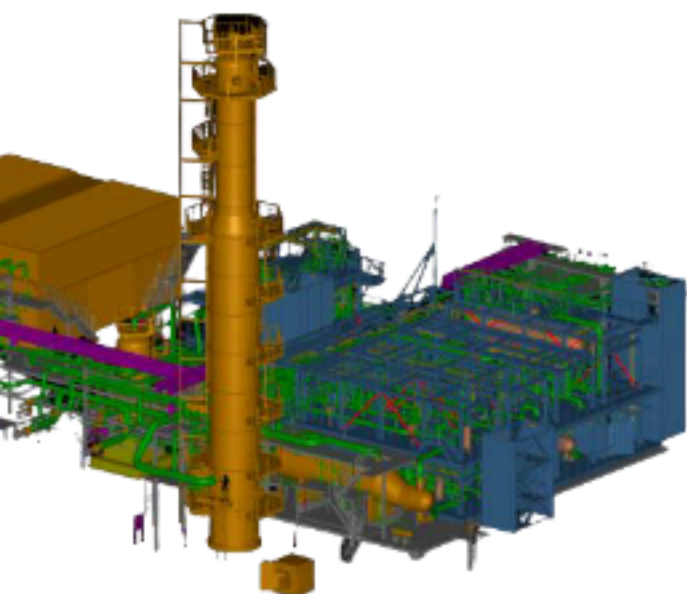


Technology

Fractionation

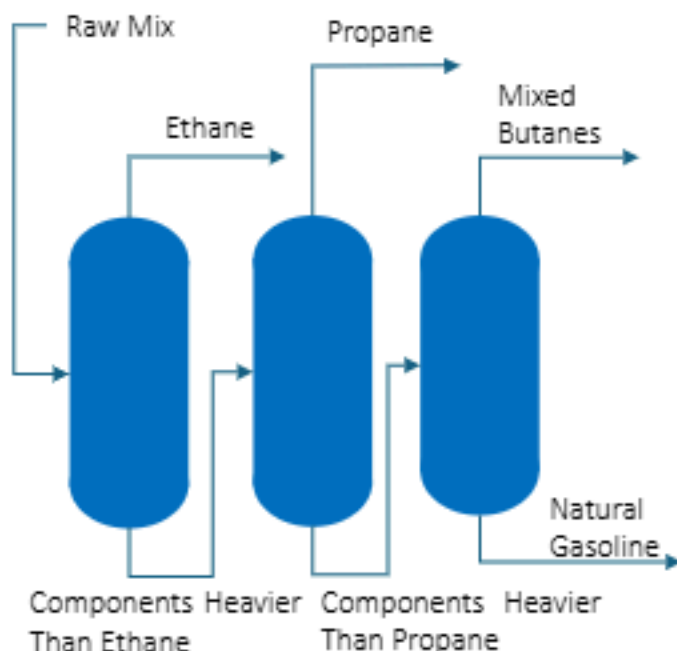
Deethanizer to the Depropanizer

At the start of the process, C2+ plus is fed to the Deethanizer unit and heated by exchange with Deethanizer bottoms in the Deethanizer Feed/Bottoms Exchanger. This hot feed is then fed between column trays. The Deethanizer Tower produces an overhead product (ethane) and a bottoms product (C3+). Overhead vapors from the Deethanizer are fully condensed in the Deethanizer Reflux Condensers using a propane refrigerant, and are sent to the Deethanizer Reflux Accumulator. Flow is split out of the Deethanizer Reflux Accumulator, with part as reflux for the Deethanizer and the rest as purity ethane product. The reflux rate can be adjusted via flow control based on overhead composition. Sweet purity ethane is sent to the Ethane Surge Tank via pressure control. Ethane is then pumped to pipeline pressure. The vapor needed to drive the separation is generated by vaporizing a portion of the bottom liquid in the Deethanizer Reboiler. The C3+ will produce specification HD-5 propane as well as BG mix with subsequent fractionation. The C3+ is cooled prior to being sent to the Depropanizer or storage in a Feed/Bottoms Exchanger.

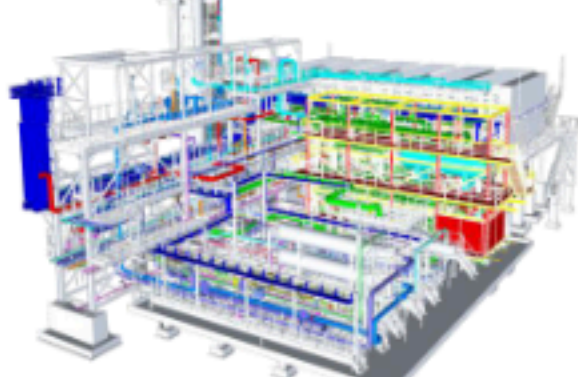


Depropanizer to the Debutanizer

At this point in the process, the C3+ fed to the Depropanizer produces an overhead product (propane) and a bottoms product (BG Mix). Overhead vapors from the Depropanizer are fully condensed in the Depropanizer Reflux Condenser. Indirect contact with water or air is used to fully condense these vapors, which are sent to the Depropanizer Reflux Accumulator. The reflux rate can be adjusted via flow control based on overhead composition.



Next, the propane product is metered and taken to the C3+ Surge Tank via level control. The vapor needed to drive the separation is generated by vaporizing a portion of the bottom liquid in the Depropanizer Reboiler. When the feed hits a specified temperature, a BG Mix Cooler is used in conjunction with an exchanger to cool the product. BG Mix is then sent to storage or to a Debutanizer.



Debutanizer

In this step, the BG Mix is preheated by exchange with gasoline product in the Debutanizer Feed/Product Exchanger and fed via pressure control to the Debutanizer with a feed point between trays. The Debutanizer splits the feed stream into a low-vapor-pressure natural gasoline and a mixed butane stream. Overhead vapors from the Debutanizer are fully condensed in the Debutanizer Reflux / Deisobutanizer Reboiler and sent to the Debutanizer Reflux Accumulator. Because the Debutanizer Reflux Exchanger utilizes the Deisobutanizer bottoms reboiling, a reflux condenser using air is provided for startup. The reflux rate can be adjusted via flow control based on overhead composition.



According to local needs

Best solutions

A modular design standardizes all key plant components, ensuring maximum cost efficiency and ease of deployment. Our modules are pre-fabricated at our partners workshops to the maximum possible extent. The successful combination of our engineering excellence and our production capabilities gives you the best results.

Advanced technology

Plant designs are developed using advanced process simulation and sophisticated engineering design tools. A proven control concept, enhanced by cutting-edge software, ensures reliable, convenient, and economical plant operation. The control equipment is housed in a container for easy installation.

Modularized design for rapid delivery and start-up

Key components such as the air compressor, molecular sieve valves, turbine and cold-box are delivered completely pre-packaged and tested.

The exchangers and columns are installed in self-supporting cold-boxes. In addition, the sizes of the cold-boxes are designed for road transportation, which also eases on-site installation. Other modules such as the valves and pumps are installed in skids to the maximum degree possible for prefabrication and testing.

Electrical and instrumentation equipment is delivered in plug-and-play containers. The plant control system together with the operator station(s) and analysis equipment come in an air-conditioned container, ready cabled and shop-tested, with the DCS preconfigured for rapid start-up. A separate shop-assembled container is supplied for all electrical medium-voltage switchgear, transformers and low-voltage switchgear, including VFDs for pumps and other electrical equipment. All of these modules and skids are equipped with remote I/O modules for easy bus connection. This pre-assembled, packaged design minimizes on-site erection timelines.



According to local needs

Safe operation with highest quality standards

In our Company, we are firmly committed to the highest quality, safety, health and environmental (QSHE) standards. We are supply safe and economical plants equipped with the latest technology.

In addition, sophisticated interlock functions protect our ASUs against any unforeseen failures or maloperation. They also ensure the plant remains in a safe condition even in the event of a power failure. Protective measures are applied wherever the safety of operating personnel may be jeopardized by the process, rotating machinery or exposure to extreme temperatures.

All our projects are executed to the following rigorous standards to ensure the highest levels of quality:

- Local standards
- EN ISO 9000 : 2000
- ISO 9001
- ISO 14001
- PED 97/23/EC
- OHSAS 18001
- ASME code, (U Stamp)
- SCC checklist
- Work safety and environmental protection legislation



Competitive costing with partner's manufacturing

Our modular plants are engineered to minimize total cost of ownership throughout their entire lifecycle. This begins with the cost efficiencies achieved through local production, supported by the technological leadership of our engineered cold-boxes.

Manufacturing of the heat exchangers, columns, skids, electrical and instrumentation containers by global leaders allows us to combine the benefits of competitive costing with high quality standards.

We use a high-quality aluminum and/or stainless steel is used for piping and columns.



Ease of operation

Our modular plants are designed for ease of operation. Made by internationally renowned manufacturers, all instruments are engineered to the highest standards of quality and reliability. The instrumentation panel is connected to a safe and sophisticated process control system, using the latest proven digital control technologies for optimum reliability.

Advanced control functions can support fully unattended operation, automatic start-up from cold conditions, automatic load changes and production adaptations.



Our Services

Engineering

The engineering services provided include the following:

- Basic design
- FEED
- Detailed Design.
- Equipment Design
- Skid Design

Procurement

The procurement services provided include the following:

- Supplier management
- Production quality control
- Acceptance testing
- Certification

Site Services

The site services provided include the following:

- Installation advising
- Commissioning training
- Staff training

Remote Support

Remote support for a ASU involves providing expert technical assistance, monitoring, and troubleshooting from a remote location, ensuring continuous and efficient plant operations. Key aspects include:

Real-Time Monitoring: Utilizing advanced software and sensors to remotely monitor plant performance, including key parameters like pressure, temperature, flow rates, and equipment status.

Troubleshooting and Diagnostics: Offering immediate technical support to diagnose and resolve issues, minimizing downtime by addressing problems as they arise without the need for on-site personnel.

Process Optimization: Providing ongoing remote analysis and recommendations to optimize plant processes, improve efficiency, and reduce operational costs based on real-time data.

Preventive Maintenance: Monitoring equipment health remotely and scheduling preventive maintenance activities to avoid unplanned shutdowns and extend the lifespan of critical components.

Emergency Response: Providing 24/7 remote support to quickly respond to emergencies, coordinating with on-site teams to manage incidents and mitigate risks.



Our major partners

Technology partners



Dynamic equipment



Control systems



Workshop

