Product Definition

Hydrocarbon liquids used to be treated as an inconvenient byproduct. However, thanks to condensate stabilization technology, these liquids can be converted into valuable products, thus generating extra revenue from gas fields with significantly less environmental impact compared to conventional disposal techniques.

Product Description

At Frames, we work to enable our clients to obtain maximum value from their oil and gas finds. A key component is the use of condensate stabilization technology to recover hydrocarbon liquids, which can be safely and efficiently drawn off for retail or downstream processing. By harnessing liquid hydrocarbons, our clients cut emissions, improve site productivity, harness more of the available energy, and increase the value of their gas resources.

Clear return on investment

Frames offers the technical expertise to cost-effectively stabilize condensates to True Vapor Pressure (TVP) or Reid Vapor Pressure (RVP) specifications, required for transportation or downstream processing.

In the Frames Stabilization Process, the lighter hydrocarbons are separated to produce a safe condensate that will maintain a stable vapor pressure under changing conditions. By using smart design, these lighter hydrocarbons can be fed back into the upstream process to maximize energy recovery.

Our team of engineers works with your business to fully assess the financial viability of condensate stabilization. We provide expert advice on the key drivers, including gas composition, flow rates, and capital expenditure.
**Process Description**

Raw condensate from the upstream separators is initially preheated in an exchanger with the processed condensate. The heated, raw condensate then enters the stabilizer column of the Frames unit to be further heated to separation temperature by a reboiler at the base of the column. The hot condensate returns to the stabilizer column where the stabilized liquid is separated from volatile gasses.

The reboiler temperature is controlled by continuously monitoring gas pressure to optimize system performance. To minimize energy demands, heat from the hot, processed condensate stream is transferred to the incoming raw condensate. The cooled, stabilized condensate then exits the unit, ready for transport or downstream processing.
Project Management

At Frames, we look at the bigger picture. Our team of in-house experts works with our clients to understand their business, and challenge them to examine better solutions that give them the competitive edge.

From optimizing production to cutting operating costs, we work to fully integrate our Frames solutions into your production system within budget, on time, and in spec for years of trouble-free operation.

We understand your expectations for high performance, and use industry-leading project management and document control to design, construct, and commission quality products where and when you need them. Our centralized engineering and construction teams in the Netherlands work together to find effective answers to each unique project, with our global network of offices, suppliers, and trusted service providers giving us the global reach to fully accomplish the most challenging projects.

Technical Details

- Improved value of natural gas resources thanks to recovery of hydrocarbon liquids
- Stabilized condensates ready for transport or downstream processing
- Reduced energy consumption through application of heat integration technology
- Industry-leading design for safe operation

Added Value Frames

- Designed to match your unique gas composition and operating conditions
- Modularized packages that fit seamlessly into your production system
- Full consultation service to ensure condensate stabilization delivers a clear return on investment
- Low-maintenance units designed for minimum operating costs

References

- Cardon block - Cardon IV, Venezuela
- Utorogu NAG 2 - Shell Nigeria (SPDC), Nigeria
- Gansendorf Project - OMV, Austria
- Zauliyah Gas Plant Project - PDO, Oman

Contact

+31 172 504800
oilgasprocessing@frames-group.com
frames-group.com
Frames Family Tree

Onshore

Oil & Water
- Multiphase Separation
  - Production Separators (High & Low Pressure)
  - Test Separator
  - Degasser & Knock-Out Drum
  - Water Oil Separator (WOGP)
- Compact Inline Separation
  - SwirlSep
- Electrostatic Coalescers
  - Dehydrator
  - Desalter
- Produced Water Treatment
  - Deoiling & Desanding
  - Hydrocyclones
  - Gas Floatation
  - Media Filtration
  - Solids Removal & Cleaning
  - Stripping
- Separation Internals
  - Heat Exchangers

Gas
- Gas Separation
  - Demisting
  - Scrubbers
  - Filters
  - SwirlSep
- Heat Exchangers
  - Shell & Tube Heat Exchangers
- Air-Cooled Coolers
- Gas Sweetening (H₂S, CO₂)
  - Amines
  - Thiopaq O&G
  - Solid Bed Scavenger
  - Membrane
  - Molecular Sieve
- Gas Dehydration
  - Glycol (TEG)
  - Molecular Sieve
- Dew Point Control
  - Low Temperature
  - Separation (LTS)
  - Solid Desiccant

Hydraulic Systems
- Wellhead Control
- Subsea Hydraulic Power Units
- Hydraulic Power Units
- IWOCs
  - Intervention Workover Control Systems
- TUTU (Topside Umbilical Termination Unit)
- Cargo Ballasting Systems

Safety Instrumented Systems
- High Integrity Protection Systems (HIPS)

Chemical Injection Systems
- Chemical Injection Systems
  - Chemical & Methanol
  - Injection Systems
  - Chemical Distribution Systems
  - Seawater Electrochlorination Systems

Valve Automation Center
- Actuators and Actuated Valve Packages
- Control Systems

Automation
- Buoy Control
- Tank Farm Control & Safeguarding

Fuel Gas Treatment

Offshore

Flow Control & Safeguarding

- Hydraulic Systems
- Wellhead Control
- Subsea Hydraulic Power Units
- Hydraulic Power Units
- IWOCs (Intervention Workover Control Systems)
- TUTU (Topside Umbilical Termination Unit)
- Cargo Ballasting Systems

- Safety Instrumented Systems
  - High Integrity Protection Systems (HIPS)

- Chemical Injection Systems
  - Chemical & Methanol Injection Systems
  - Chemical Distribution Systems
  - Seawater Electrochlorination Systems

- Valve Automation Center
  - Actuators and Actuated Valve Packages
  - Control Systems

- Automation
  - Buoy Control
  - Tank Farm Control & Safeguarding

- Fuel Gas Treatment

Integrated Solutions

Total Plant Solutions
- Industrial CO₂ Modules
- Early Production Facilities
- Wellsite Packages
- Biogas

Floaters

Frames Oil & Gas Processing
Dr. A.D. Sacharovlaan 2
2405 WB Alphen aan den Rijn
The Netherlands

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The Netherlands

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