



Oil Production

Crude/Condensate Stabilization Column



Definition

Crude/Condensate Stabilization is used to remove the light ends and H₂S from crude oil to meet sales specification and ensure safe transportation and storage of crude oil. Stabilization also improves recovery of valuable crude oil and reduces the atmospheric emissions of volatile hydrocarbons. The Stabilizer Columns are provided with high performance Peerless Internals to ensure efficient separation and handling of variable turndown capability. The modular system includes Column with internals, exchanger, reboiler, and pumps along with piping and instruments.

If the objective is only to remove H₂S from crude oil or condensate, Peerless offers compact stripper columns where sour crude or condensate is stripped by means of sweet gas or nitrogen.

These units are designed to process crudes ranging from Light Condensate to Heavy Opportunity Crudes.

Product Application:

- Offshore - Mobile Offshore Production units (MOPU)
- Offshore - FPSO Topsides
- Onshore - Oil and Gas Processing Facilities
- Onshore - Early Production Facilities (EPF)

Process Description

Crude Stabilization Column:

Crude oil enters the package and flows through the Crude Preheater where it gets heated by stabilized crude from column. The preheated crude then flows to the inlet at the top section of the column. The crude flows downwards through trays and comes in contact with heated vapor flowing up from bottom reboiler section. The warm preheated crude condenses heavier ends in vapor and allows only lighter end to flow out through the top of the column. In the process, crude also gets heated up and loses light ends to the vapor stream. The crude then flows to the reboiler where



it gets heated by exchanging heat with the heating source passing through reboiler tubes. The heating results in separation of volatile hydrocarbons and H₂S from crude oil making crude stable and sweet. The stabilized crude leaves the column from the bottom and gets cooled in the crude pre-heater before flowing to storage tanks.

This process minimizes loss of crude oil and thus enhances profitability of the operation.

H₂S Stripping Column:

For stripping process, the crude oil enters from the top of the column and Nitrogen/Fuel Gas is introduced through the bottom. The column is provided with Peerless Proprietary Structured Packing. Crude oil flows downwards through the structured packing and comes in contact with the stripping gas. The stripping gas absorbs H₂S present in the Crude Oil and leaves from the top of the column to incinerator or flare. The sweet crude oil flows out of the column through the bottom and pumped to a storage tank.

The unit will include the following internals/equipment:

- Pressure Vessel
- Heat Exchangers
- Pump
- Electrical and Instruments
- Reboiler
- Trays/Packing
- Piping and Valves

Technology Advantage:

- Compact Modular Design
- High Performance internals

Capability:

- 20+ years of field performance
- Compact Footprint
- Simple and Robust design
- Meets Stringent Performance Guarantee
- Ideal for Early Production and Central Production Facilities
- Modular Solution for Offshore and FPSO applications
- Rich industry expertise for fast track delivery of units

Our Services:

- Supply of internals and Process Design/Complete packaged assembly
- FEED Study Services
- Custom Built/Standard design
- Fast Track Delivery
- Rental Services
- Troubleshooting & Optimization of units

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