Cryomax DCP
(Dual Column Propane Recovery)

US Patent 4,690,702 and 5,114,450

Application

• A cryogenic natural gas fractionation process allowing almost complete propane recovery.
• Products are a treated natural gas and a stream of C3+ NGL.
• High efficiencies are achieved with a dual-column arrangement associated with a turbo-expander. Multi-stream plate-fin exchangers allow a high degree of thermal integration.

Description

• High pressure dry gas at ambient temperature and 70 bars is cooled to around -30°C and feeds a drum where liquid and gas are separated. The cold high-pressure gas is expanded to around 30 bar in the expander, and the resulting stream feeds the purifier (first column).
• Liquid from the purifier is pumped and reheated to ambient to feed the Deethanizer. The Deethanizer produces vapour distillate that is ethane-rich. This stream is liquefied and sent to the purifier as reflux.
• The treated gas is reheated and compressed to treated gas pressure.
• Approximately 99.5% propane recovery can be reached depending on NG composition.

Economics

• Propane production cost is approximately 20% less than that for a conventional process.

Installations

• Locations include Russia, Qatar, Libya and UAE.

Licensor

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