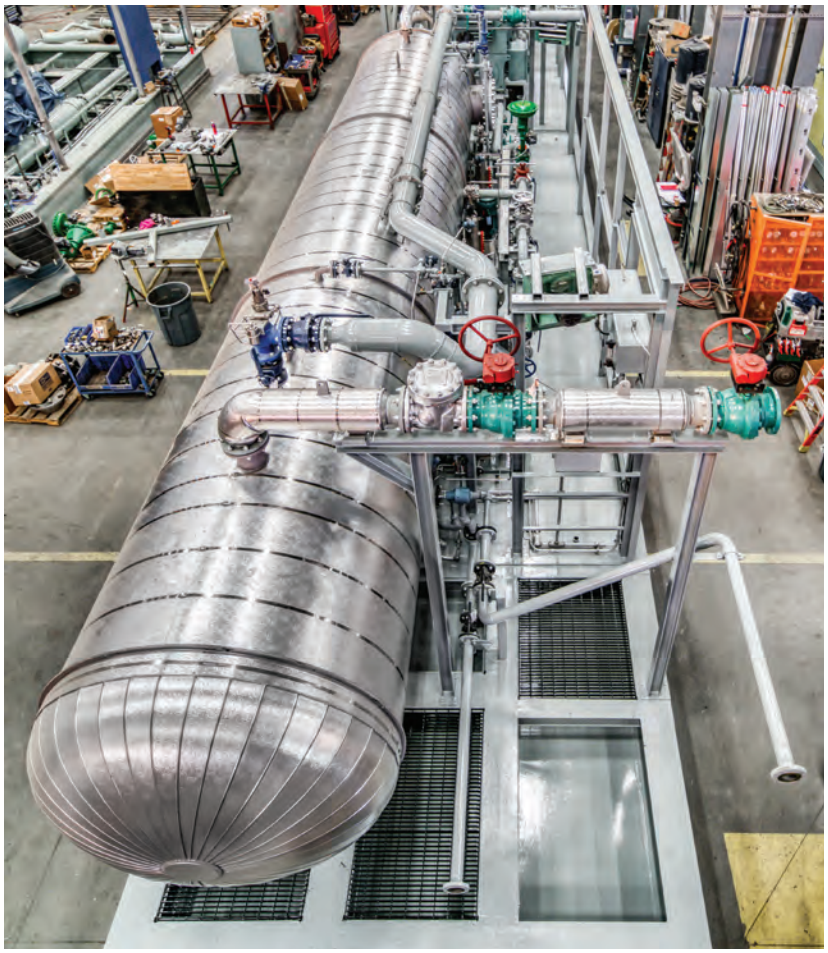


600MMSCFD Associated Gas Refrigeration System

Compass Model No: EM1950-SF3519-REFRIG

Application:	Off-Shore - 600MMSCFD Associated Gas Refrigeration System
Location:	North Slope, Alaska, USA
Customer Objective:	The equipment allows the end user to maintain natural gas liquids (NGL) recovery from 600MMSCFD of associated gas during the warmer summer months. It provides additional cooling than what ambient conditions provide to the associated gas and holds the existing NGL separator at its optimum process temperature year round.

Major Equipment Specifications

Compressor:
Frick SGCB-3519 Screw Compressor

Drive
HYUNDAI HNP3 1950 HP Electric Motor

Exchangers

- QTY (1) Propane Chiller: 13 MBTU/hr, TEMA Style NXN 59" OD X 228" S/S
- QTY (2) Gas-Gas Exchangers: 17 MBTU/hr, TEMA Style BEN, 48" OD X 408" S/S with novel 'no tube in window' shell side design.

Aerial Coolers
QTY (2) 9.3 MBTU/hr, AXH 120-3ZI, horizontal propane condensers

Vessels

- QTY (1) 72" ID X 400" S/S 7,500 gallon Propane Accumulator
- QTY (1) 72" ID X 100" S/S Suction Scrubber
- QTY (1) 48" ID X 100" S/S Discharge Coalescer
- QTY (2) 16" OD X 42" S/S Propane Dryer (16 dryer cores per vessel)

Pumps

- QTY (3) 50% Centrifugal Propane pumps, Clyde Union, VLK 3x4x8A

Control Panel

- Spartan Controls panel with Allen-Bradley - CompactLogix

Other Features

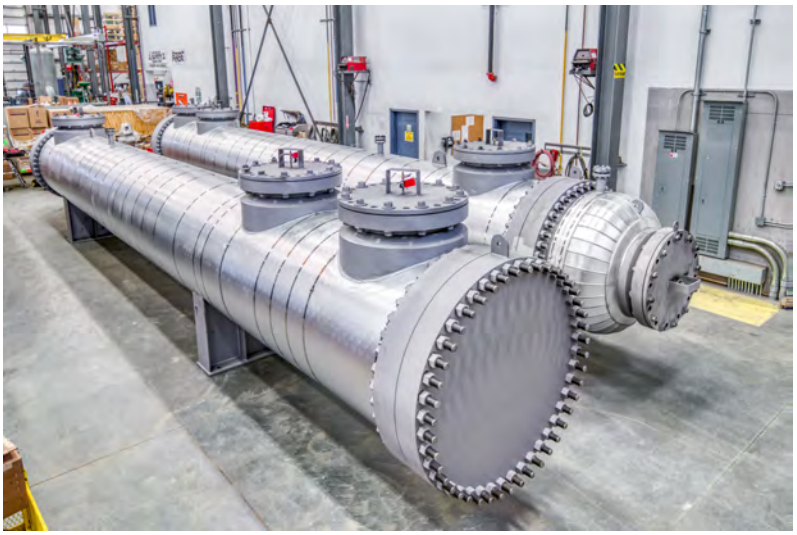
- Self-framing building with two 6" thick, 2-hours-rated, fire resistant KINGSPAN 3-compound walls
- Skid entirely built from Arctic Grade (-50˚F) heat-treated and impact-tested steel

continued . . .

COMPASS

600MMSCFD Associated Gas Refrigeration System

COMPASS MODEL NO: EM1950-SF3519-REFRIG



Design Challenges:

Due to shipping restrictions, each module, compressor and receiver must fit into a 45' l x 14' w footprint. The gas to gas exchanger and the chiller fit on the roof of the platform, with weight and plot space severely restricted to allow lifting by the site crane. The pressure drop is also much lower than industry standard to maximize the flowrate through the existing equipment. The modules conform to strict Alaskan fire codes, and low design temperature for structural steel withstanding the harsh Alaskan environment yet remaining light enough for transport over a temporary ice road.

Compass Solution:

A big part of the success of this project was Compass' ability to quickly adjust and respond to the customer's extensive and often competing design requirements. Compass used 'every tool in the box' to reduce the footprint of the main compressor modules including building and skid access panels, and rack mounted aerial condensers. The gas to gas exchanger used an innovative no-tube-in-window design to reduce mass and pressure drop. A specialized wall complete with custom supports ensures the fire rating of the building.

The interconnecting piping was fabricated outside of Compass' scope by the end user which required Compass to work closely with the client's engineering and design teams.

Close collaboration with the local regulatory bodies was maintained to ensure all requirements, specifications and codes were met. To comply with the arctic environmental criteria, structural components were fabricated from only special heat-treated, low temperature steel with much longer lead times than normal material.

Phone: 403-262-2487

Toll Free (North America): 1-855-262-2487

Email: info@compassnrg.com

compassnrg.com