



Condensate Stabilizer

Compass Model No: PROCESS EQUIPMENT – LCS-7000-5.7 STABILIZER WITH EM50-VR8D/EM250-VR17HP

- Application:** Liquid product vapour pressure and composition control.
- Location:** Northeast, British Columbia
- Customer Objective:**
- Control bottom product vapour pressure and key component content to allow tank storage. Maximize liquid product recovery.
 - Conserve operation uptime with major backup components.
 - Vapour recovery and overhead gas compression.

Major Equipment Specifications

Vessels/ Towers

- 54" OD x 30 ft S/S 3 phase, Feed Drum
- 36" OD x 60 ft S/S Stabilizer Tower with 20 valve trays
- 24" OD x 5 ft S/S two compartment vessel for stage 1 and 2 compressor scrubber.

Exchangers

- Dual 5.80 MM Btu/hr 'BKU' Tower Reboiler
- Dual 5.4 MM Btu/hr 10" OD x 40 ft 'NEN' Feed / Bottoms Exchanger

Compressors

- Vapour Recovery Stage – RoFlo 8D driven by a 50 HP @ 1200 RPM TEFC motor
- Combined VRU/Overhead Gas Stage – RoFlo 17HP driven by a 250 HP @ 900 RPM TEFC motor.

Product Cooler / Compressor Cooler

AXH 156ZF aerial cooler for stabilized product cooling and compressor cooling.

Other Features

REMvcue 500 panel for compressor controls.

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Design Challenges:

- Effectively handle slugs, water, and other contaminants from upstream process equipment.
- Provide compression for both site storage tank vapours and overhead residue gas to recycle into main plant gas stream.
- Sparing capacity for major components subject to fouling.

Compass Solution:

- Feed drum with slug capacity and mechanical separation features to remove sediment and water.
- Split feed and tray count to optimize liquid products with capital cost.
- Compact and flexible compressors to gather vapours from tank storage and combine them with residue gas from tower. Each service individually controlled.
- Rotary vane compressor to effectively deal with gas at dew point.

Inlet Flowrate Capacity:

8,000 bbl/d (1272m³/d)

Product Flowrates:

- 7010 bbl/d (1163 m³/d) Pentanes plus (C₅+) liquid product
- 0.24 MMSCFD (6.8 E3m³/d) tank vapours
- 1.21 MMSCFD (34.3 E3m³/d) tower residue vapour – combined stream discharge pressure at 170 psig (1172 kPag).

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