



FISCHER-TROPSCH REACTORS – GTL PLANT – 1000 BPD+

Capacity: 1170 BPD

Raw Materials: Natural Gas

Process Information: (2) Unused Fischer-Tropsch reactors, each with 78,000 sq ft shell and tube exchangers with FT catalyst packed inside the tubes. 1170 BPD of F-T products (wax, diesel and naphtha) or 1123 BPD on an "Equivalent Diesel" basis.

Major Equipment

FT Section:

- FT Reactor Feed X-Exchanger
- FT Reactors and Deaerator
- Steam Drum and Raw Wax Drum
- Raw Diesel Condenser, Raw Diesel Drum
- Raw Naphtha Fin-Fan Condenser
- Raw Naphtha Drum
- Chilled Naphtha Condenser
- Chilled Naphtha Drum
- Chiller Unit
- Recycled Compressor

Gas Fractionation Section

- Frac Column Feed Heater
- Fractionation Column
- Frac Column Condenser and (2) Reflux Drums
- Naphtha/Reflux Pumps (4) and Storage Tanks (2)
- Diesel Pumps (2), Cooler, Storage Tanks (2)
- Wax Pumps (2) and Wax Cooler

Brief Plant Description

Fischer Tropsch Reaction Unit, part of Gas-to-Liquids Plant. (2) Unused Fischer-Tropsch reactors - 78,000 sq ft shell and tube exchangers with FT catalyst packed inside the tubes. Originally designed for 1170 BPD of F-T products (wax, diesel and naphtha) or 1123 BPD on an "Equivalent Diesel" basis. The reactors are 11' diameter with 32' long tubes which are rated for 500 psig at 500 F. All of the steam-generation equipment is included for capturing the FT reaction exotherm. All of the equipment was constructed in 2015 and most of the downstream process-contact material of construction is 304L stainless steel. The Fractionation Column is 3' diameter by 90' tall and is constructed of 304 stainless steel. Column system is designed to distill about 13,300 lbs/hr of mixed hydrocarbon feed from a Fischer-Tropsch Gas-to-Liquid (GTL) reactor into four product streams (Wax, diesel, water, Naphtha). It is rated for 50 psig/full vacuum at 650o F. It has four packed sections with four product "take-offs" (overheads, two side-draws, and bottoms). All associated equipment is included such as the feed heater, condenser, two accumulators, and four overheads product/reflux pumps. This system was manufactured in 2015 and is almost entirely 304 stainless steel construction. System includes all available connecting piping, valves, instruments, and control devices. Unit can be purchased with real estate (Lake Charles, LA location) and SMR Syngas Plant #542 and Wax Upgrade Plant #544 for operation in place.

**For more
information contact**

Edward Zhang, Plant Sales
plants@phxequip.com
+1 732.520.2187 (Direct Dial)
+1 845.242.3378 (Mobile)

**To discuss plants
you are selling**

Jesse Spector
plants@phxequip.com
+1 732.709.7157 (Direct Dial)
+1 908.902.8854 (Mobile)