

FlareBuster® - Modular 500 BPD Gas To Liquids (GTL) Plant

There are approximately 10,000 flares in the world today. According to the World Bank, these flares consumed about 150 billion cubic meters (BCM) of gas in 2019 (equal to 5,298 BCF/year or 14.5 BCF/day). This gas, if captured and used, could make 1,450,000 Barrels per day (2.22 Billion gallons per year) of synthetic fuels. Of those 10,000 flares, only 573 consume 5 million SCFD or more. However, those 573 flares represent more than 54% of the total volume flared or 783,000 Barrels per Day (BPD) of synthetic fuels. This is the target for FlareBuster.

Emerging Fuels Technology (EFT) has developed a new approach to gas to liquids targeted at methane mitigation or flaring worldwide. The design, covered by several new patents, results in a significant reduction in capex per barrel of daily capacity. The first FlareBuster design makes 500 BPD of products (85% diesel/ 15% naphtha) from 5 to 5.5 million SCFD of gas (depends on btu content). The plant consists of several pre-packaged systems together with several proprietary shop-built modules. It is very low risk to implement and requires no outside utilities making it possible to install virtually anywhere.

Summary of features:

- Plot area required – approximately 150 ft x 300 ft (tank storage not included)
- Generates its own power (It does not require an outside power source for startup or operation)
- Requires no water source (except an initial charge for start-up)
- Will run unattended with remote (satellite) monitoring equipment included.
- Built entirely from truckable modules
- Can be disassembled and moved relatively easily.
- Makes 500 BPD of products (85% diesel, 15% naphtha) of 500 BPD of pumpable syncrude from 5-5.5 million SCFD (141,500-155,700 M³/day) of conditioned flared gas (contaminants removed) or pipeline quality natural gas.

The plant design is based on the use of a gas turbine which provides much of the plant utilities and significant process support and comes as a highly packaged system with a very low installed cost. This innovation greatly contributes to the low capital cost of the plant and ease of installation in remote locations.

The plant uses standard packaged equipment for oxygen, process air compression, gas compression, H₂ enrichment and H₂ compression which, in some cases are incorporated into shop built truckable skids for the balance of plant. The large packages including the gas turbine and process compression are to be installed separately on their own foundations.

The standard configuration of the upgrading system is 85% Diesel, 15% Naphtha. Recent improvements in EFT upgrading technology let us offer a jet fuel option (Synthetic Paraffinic Kerosene (SPK) per ASTM D7566) that will yield 80% jet, 20% Naphtha.

Operations & Maintenance

The plant is designed to be fully autonomous, and continuously monitored remotely. Each Plant will be equipped with a satellite link and multiple cameras with the ability to control, as well as monitor the facility.

Maintenance personnel would be dispatched on an as needed basis and for scheduled maintenance. The amortized catalyst life assumed is 1 year for the sulfur removal (zinc oxide), 2 year for ATR catalyst, 3 years for Fischer Tropsch catalyst and 10 years for product upgrading catalysts.

Summary

We believe that EFT's 500 BPD "FlareBuster" standardized design is the lowest cost path available today for flare applications. It is very low risk to implement and requires no outside utilities making it possible to install it virtually anywhere. At locations with larger volumes of flared gas, the deployment of multiple plants at one location may be more advantageous than the custom design of a larger plant for the same location due, in part, to the use of modular fabrication and much shorter timeframe to complete a project and begin generating revenue.

EFT is currently investigating the possibility of developing a standard design for 250 BPD applications. The system can also be designed without oxygen enrichment for offshore applications.

Call us anytime to discuss...

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About Us:

Emerging Fuels Technology (EFT) is a technology company focused on methods for producing synthetic fuels and specialty products from a variety of feedstocks such as natural gas, biogas, biomass, municipal solid waste (MSW), sources of CO₂ and bio-derived oils. EFT is one of the world's foremost authorities on Fischer-Tropsch (FT) and related synthesis, licensing the core technologies and upgrade packages for projects from 50 to 10,000 barrels per day. www.emergingfuels.com

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