Fischer-Tropsch

Micro Bench Scale Unit

The current interest in Fischer-Tropsch synthesis has grown up as consequences of environmental demands and changes in fossil energy reserves. Fischer-Tropsch is a desirable technology producing high quality end product : ultra-clean fuel or major chemical feedstock.

The Fischer-Tropsch micro bench scale unit (Micro-FT) is a reactor system specifically designed to meet the needs of academic, public, or small industrial laboratories for Fischer–Tropsch catalyst evaluation and process development.

It provides an automatic and user friendly operation, a high level of safety, easy start-up and simple maintenance. It brings to the laboratory level the long experience of Vinci-Technologies in the refining and petrochemical industries.

Micro-FT equipment is CE marked, compliant to all of the legal requirements of the EU legislation, and more precisely with the European Pressure Equipment Directive (PED) 97/23/EG.

Micro - FT unit – Main Features

Micro-FT is a fully automatic bench scale unit based on a mini reactor of about 10cm^3 with its associated furnace. A wide range of available options allows customization of the unit to meet the customer's exact needs. With its simple modular construction, Micro-FT is suitable to perform main reactions involved in GTL process: gasoline synthesis, diesel synthesis, syncrude synthesis, alcohols synthesis… combined with a syngas generation unit, micro-FT unit can complete 2nd generation biofuel production.

The system is operated by remote control based on TCP/IP interface with a computer and provides data recording and processing.

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ISO 9001 BUREAU VERITAS Certification

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Micro - FT Unit– Supported reactions

Micro-FT unit is especially design and build to investigate GTL reactions :

✓**Gasoline synthesis:** High temperature Fischer-Tropsch synthesis (HT-FT)

typical operating conditions: 350°C and 30bar over iron based catalyst.

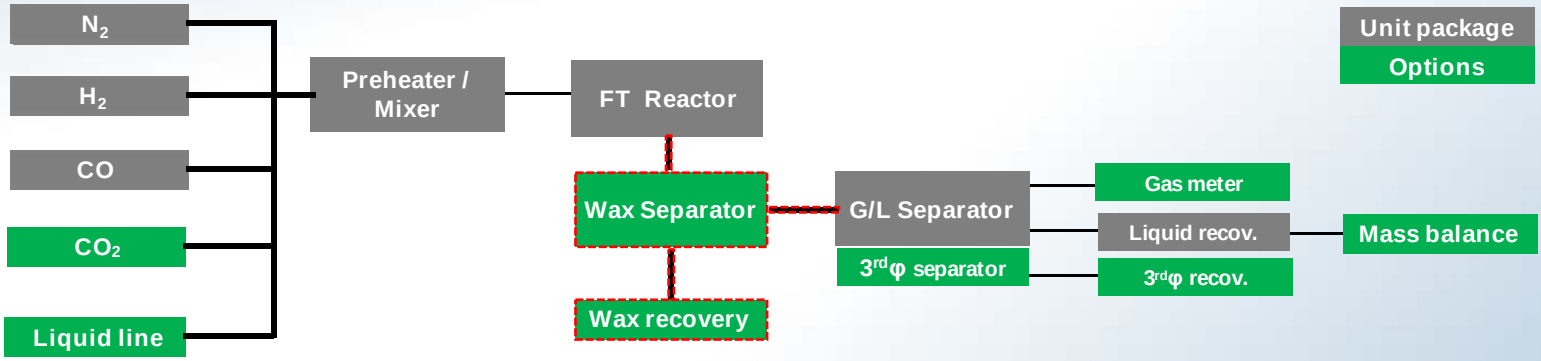
✓**Diesel, waxes and syncrude synthesis:** Low temperature Fischer-Tropsch synthesis (LT-FT)

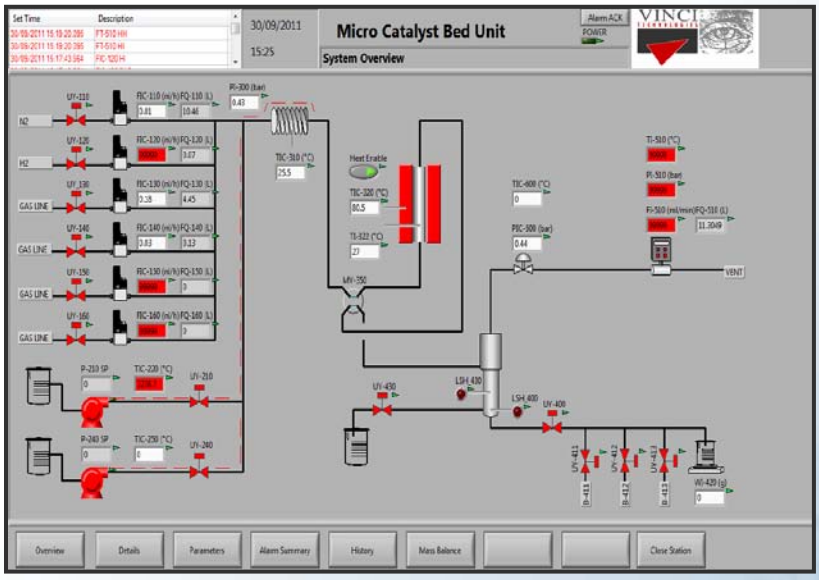
typical operating conditions: 220°C and 30bar over cobalt based catalyst.

✓**Alcohols synthesis (methanol, etc.)**

typical operating conditions: 250°C and 50-100 bar over copper based catalyst

Micro - FT Unit – Flow diagram





Computer interface: supervision and control software

Micro FT unit
Available options

1. Additional gas lines
2. Liquid line
4. Wax separation/recovery system
6. Three phases separator
7. Automatic sampling system
8. Mass balance
9. Gas counting system
10. Connections to GC (online analysis)
11. Heated box
12. Installation and commissioning
13. Operator Training

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