PRODUCT DATASHEET

Hydroprocessing and Reforming Pilot Plant

Trickle-bed pilot plants for hydrotreating, hydrocracking and reforming catalysts

Product page





Close-up: reactor furnace and high-pressure separator

OVERVIEW

The Tech Inc. Hydroprocessing and Reforming Pilot Plant tests hydroprocessing and reforming catalysts under refinery conditions. Liquid feed and hydrogen flow down through one or two fixed catalyst beds in a tubular reactor heated in zones; products are cooled and separated in high- and low-pressure separators, gas is metered and liquid collected for analysis, and the control system holds each condition for days so the catalyst reaches steady state.

TYPICAL DESIGN DATA

Pressure	To about 200 bar
Temperature	To about 550 °C, multi-zone
Catalyst volume	About 20 to 500 mL per reactor
Codes and standards	Pressure parts to ASME B31.3 and ASME VIII; electrical to IEC 60079 where classified
Feed	Liquid feed by HPLC or syringe pumps; hydrogen by mass-flow controller
Materials	316 stainless; Alloy 625 or 800 for high temperature
Operation	Unattended running with gas detection and safe shut-down

MODELS AND CAPACITIES

- **TI-HPP-20** – about 20 mL catalyst
- **TI-HPP-100** – about 100 mL
- **TI-HPP-500** – about 500 mL
- **TI-HPP-2X** – two reactors in series

Indicative catalyst volume per reactor.

ORDERING CODE

Example **TI-HPP-100-2X-B**: **100** catalyst volume per reactor, mL; **2X** reactors: 1X, 2X series, P2 or P4 parallel; **B** options: B bio-feed heating, N none.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual. **Options:** online gas chromatograph; second reactor; bio-feed heating; remote monitoring; commissioning on site.

KEY ADVANTAGES

- **Refinery conditions** – hydrogen to about 200 bar
- **Mass balance** – feed and product weighed
- **Steady** – unattended running for weeks
- **Safe** – gas detection and interlocks

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

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