PRODUCT DATASHEET

Fluidised-Bed Reactor Unit

Lab and pilot fluidised-bed reactors for catalysts, gasification and calcination

Product page





Close-up: distributor zone and cyclone

OVERVIEW

The Tech Inc. Fluidised-Bed Reactor Unit keeps a bed of catalyst or particles suspended in an upward gas flow, so heat and mass transfer are fast and temperature is even, as in fluid catalytic cracking, gasification and calcination. Gas enters through a distributor plate at the bottom of a heated column, particles fluidise above it, a disengagement zone and cyclone return carried-over fines, and the product gas is cooled and analysed.

TYPICAL DESIGN DATA

Temperature	To about 900 °C
Pressure	Atmospheric to about 20 bar
Column	About 25 to 200 mm diameter
Codes and standards	Pressure parts to ASME VIII and B31.3 practice
Materials	310 or 253MA stainless, Alloy 800H; quartz for lab units
Gas feed	Mass-flow controllers, preheated
Measurement	Bed temperature profile and differential pressure

MODELS AND CAPACITIES

- **TI-FBR-25** – about 25 mm
- **TI-FBR-50** – about 50 mm
- **TI-FBR-100** – about 100 mm
- **TI-FBR-C** – circulating riser

Indicative column diameter.

ORDERING CODE

Example **TI-FBR-50-P**: **50** column diameter, mm; **P** pressure: A atmospheric, P pressurised.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual.
Options: circulating riser; online gas analysis; solids feeder; data logging.

KEY ADVANTAGES

- **Even temperature** – fluidised-bed mixing
- **Visible fluidisation** – bed differential pressure
- **Fines returned** – cyclone and disengagement
- **High temperature** – to about 900 °C

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