PRODUCT DATASHEET

Batch Hydrogenation Reactor for Oils and Polyols

Stirred hydrogenation reactors for castor oil, fats, sorbitol and maltitol

Product page





Close-up: gas-inducing agitator drive and hydrogen panel

OVERVIEW

The Tech Inc. Batch Hydrogenation Reactor for Oils and Polyols hydrogenates oils, fats and sugar solutions in batches. A gas-inducing agitator draws hydrogen from the headspace back into the liquid, a hydrogen panel holds the pressure and measures uptake, and a closed catalyst filter recovers the nickel or ruthenium catalyst.

TYPICAL DESIGN DATA

Design pressure	About 25 bar for oils; up to about 150 bar for polyols in pilot sizes
Temperature	Up to about 220 °C
Materials	316L; duplex or nickel alloys where the process needs them
Agitation	Gas-inducing hollow-shaft impeller with mechanical seal or magnetic drive
Hydrogen control	Pressure control with mass-flow measurement of uptake
Design code	ASME VIII Div. 1, PED on request

MODELS AND CAPACITIES

- **TI-BHR-50** – about 50 L, pilot
- **TI-BHR-200** – about 200 L, pilot
- **TI-BHR-1000** – about 1 m³
- **TI-BHR-5000** – about 5 m³
- **TI-BHR-10000** – about 10 m³

Indicative working volumes per batch.

ORDERING CODE

Example **TI-BHR-1000-O-25**: **1000** working volume, L; **O** duty: O oils and fats, P polyols; **25** design pressure, bar.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual.
Options: closed catalyst candle filter; magnetic drive instead of a mechanical seal; hydrogen generator or cylinder manifold; gas detection and ventilation; pilot reactor for process trials.

KEY ADVANTAGES

- **Fast uptake** – gas-inducing agitator
- **Catalyst recovered** – closed filter, no operator exposure
- **Measured** – hydrogen uptake logged for each batch
- **Safe** – nitrogen purge, interlocks and relief

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