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PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Plug-Flow Reactor (PFR) | ReaktiLabX - 10

Category: Chemical Reaction Technology · **Country of Origin:** India

Product Overview

The Plug-Flow Reactor (PFR) ReaktiLabX - 10 studies continuous tubular reactor behavior using a glass sphere fixed bed. This Plug-Flow Reactor (PFR) features a PMMA construction with transparent double jacket for heating and cooling, plus an air vessel for pulsation damping. A combined conductivity and temperature sensor tracks conversion in real time. It requires the Service Unit for Chemical Reactors for pump, tank, and heating circuit support.

View this product online: https://scienticoindia.com/product/plug-flow-reactor-pfr-reaktilabx-10/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Plug-Flow Reactor (PFR) ReaktiLabX - 10 — Technical Specifications

Specification	Detail
Connection	For connection to service unit ReaktiLabX - 10
Pulsation Damping	Air vessel for damping of pulsation
Mixing	T-piece with nozzle for mixing the reactants
Reactor	Straight glass tube with fixed bed from glass spheres
Jacket	Transparent double jacket from PMMA for heating with ReaktiLabX - 10 and cooling with lab water supply
Sensor	For measuring the conductivity and temperature via ReaktiLabX 10
Temperature Control	In the reactor via ReaktiLabX 10

Technical Data

Plug-flow Reactor

Parameter	Value
Inside diameter	43mm
Height	415mm
Material	PMMA

Required

Parameter	Value
Accessory	Service Unit for Chemical Reactors ReaktiLabX - 10

Key Features

Key Features

- **Reactor Dimensions:** inside diameter 43mm, height 415mm, PMMA material
- **Fixed Bed:** glass spheres, creates flow across the reactor's whole cross-section
- **Pulsation Damping:** air vessel included
- **Mixing:** T-piece with nozzle
- **Double Jacket:** transparent PMMA, for heating and cooling via lab water supply
- **Sensor:** combined conductivity and temperature measurement, digitally displayed
- **Continuous Operation:** enables continuous flow analysis under predetermined conditions, central to this Plug-Flow Reactor (PFR)
- **Optional Cooling:** compatible with separately offered Water Chiller

Experiments

- Fundamentals of a saponification reaction
- Continuous operation
- Conversion depending on: retention time, temperature, concentration
- Retention time distribution

Construction and Design

The Plug-Flow Reactor (PFR) ReaktiLabX - 10 uses a straight glass tube reactor, 43mm inside diameter and 415mm in height, made of PMMA, with a fixed bed formed from glass spheres creating flow across the reactor's whole cross-section. An air vessel dampens pulsation, while a T-piece with nozzle mixes the reactants before entry. A transparent double jacket, made of PMMA, allows heating via the supply unit and cooling via the lab water supply. The reactor is secured to the supply unit using two pins and connects via quick-release connections. Product and unconverted reactants are released through the upper end of the reactor and moved into a supply unit tank via an additional peristaltic pump. A combined conductivity and temperature sensor identifies conversion, with values digitally shown on the supply unit.

Required Accessories

- Service Unit for Chemical Reactors ReaktiLabX - 10

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: What is the Plug-Flow Reactor (PFR) ReaktiLabX - 10 used for?
A: It is used to analyze chemical processes under continuous operation, studying saponification reaction fundamentals, conversion, and retention time distribution.

Q: What are the dimensions of the reactor?
A: The reactor has an inside diameter of 43mm and a height of 415mm, made of PMMA.

Q: How does the fixed bed work in this reactor?
A: A fixed bed made of glass spheres creates flow across the reactor's whole cross-section, supporting the reaction between reactants.

Q: Can the reactor be cooled during operation?
A: Yes, the reactor can be cooled using the transparent PMMA double jacket connected to the lab water supply, or alternatively with a separately offered Water Chiller.

Q: What accessory is required to operate this reactor?
A: The Service Unit for Chemical Reactors ReaktiLabX - 10 is required to operate this reactor, providing pumps, tanks, and the heating water circuit.

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