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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Fixed Bed Catalysis | ReaktiLabX - 05

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

Product Overview

The Fixed Bed Catalysis Apparatus ReaktiLabX - 05 studies the breakdown of saccharose into glucose and fructose using fixed bed catalysis. This Fixed Bed Catalysis Apparatus features three reactors for comparing chemical and biological catalysts under controlled temperature conditions. A peristaltic pump, regulated heating circuit, and optional photometer support quantity balance and yield determination. Optional DAQ software enables measurement and calculation of results.

View this product online: https://scienticoindia.com/product/fixed-bed-catalysis-reaktilabx-05/



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

Technical Specifications

Fixed Bed Catalysis Apparatus ReaktiLabX - 05 — Technical Specifications

Specification	Detail
Study Scope	Investigation of catalytic reactions
Reactors	3, for comparison of various fixed bed catalysis
Reactant Delivery	Peristaltic pump with adjustable speed to transport the reactant into the reactors
Analysis	Drawing up a quantity balance, determining yield
Heating System	Regulated heating circuit with water tank, heater, and pump to regulate the reactor temperatures
Containers	1 scaled container for reactant and product respectively
Product Analysis	Photometer for analysis of the product (optional)

Technical Data

Reactors

Parameter	Value
Diameter	approx. 10mm
Height	approx. 120mm

Peristaltic Pump

Parameter	Value
Max. flow rate	approx. 50mL/min

Heating Circuit Pump

Parameter	Value
Max. flow rate	10L/min
Max. head	30m
Power consumption	120W

Heating Circuit

Parameter	Value
Tank	approx. 15L
Heater	approx. max. 1kW

Tanks for Reactant and Product

Parameter	Value
Capacity	approx. 2000mL

Recommended Accessories

Parameter	Value
Photometer	Optional

Key Features

Key Features

- **Reactors:** 3, diameter approx. 10mm, height approx. 120mm, for catalyst comparison
- **Peristaltic Pump:** adjustable speed, max. flow rate approx. 50mL/min
- **Heating Circuit:** tank approx. 15L, heater approx. max. 1kW, pump rated 10L/min max. flow, 30m max. head, 120W power consumption
- **Reactant and Product Tanks:** capacity approx. 2000mL, scaled for measurement
- **Catalyst Types:** exchanger resin (chemical) and invertase (biological, highly recommended)
- **Temperature Study:** controlled heating water circuit examines temperature effects on reaction
- **Product Analysis:** optional photometer measures glucose content, with data upload to PC for software evaluation
- **Yield Determination:** quantity balance and yield calculation central to studies on this Fixed Bed Catalysis Apparatus
- **Software:** optional DAQ software for measurement and calculation

Experiments

- Fundamentals of chemical catalysis
- Fundamentals of enzymatic catalysis
- Use of a photometric analyzer

Construction and Design

The Fixed Bed Catalysis Apparatus ReaktiLabX - 05 uses three reactors, each approximately 10mm in diameter and 120mm in height, allowing comparison of various fixed bed catalysts. A peristaltic pump, with adjustable speed and a maximum flow rate of approximately 50mL/min, transports the reactant (saccharose solution) from a tank into the reactor's bottom. The catalyst forms a permanent fixed bed within the reactor, through which the saccharose solution passes and breaks down into glucose and fructose. A regulated heating circuit, with a tank of approximately 15L, a heater of approximately max. 1kW, and a pump rated 10L/min max. flow, 30m max. head, and 120W power consumption, regulates reactor temperatures. Scaled containers, approximately 2000mL capacity, hold the reactant

and product respectively. An optional photometer measures glucose content in the product, with data uploadable to a PC for software evaluation.

Software

Software ReaktiLabX - 05 (optional). DAQ software specially designed in National Instrument™, LABVIEW™ environment to measure and calculate the results of the apparatus. The software is optional; a set of electronic sensors is included when the software is used. The software can be run with any Windows™ environment.

Scope of Delivery

- 1 experimental setup
- 1 instruction manual

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 Fixed Bed Catalysis Apparatus ReaktiLabX - 05 used for?
A: It is used to study the breakdown reaction of dissolved saccharose into glucose and fructose using fixed bed catalysis, comparing chemical and biological catalysts.

Q: How many reactors does the apparatus have?
A: The apparatus has 3 reactors, each approximately 10mm in diameter and 120mm in height, allowing comparison of various fixed bed catalysts.

Q: What catalysts are used with this apparatus?
A: Exchanger resin is used as the chemical catalyst, while invertase is recommended as the biological catalyst.

Q: How is glucose content measured in the product?
A: An optional photometer, specially designed for the unit, measures the amount of glucose present in the product, with data uploadable to a PC for software evaluation.

Q: How does temperature affect the reaction, and how is it controlled?
A: A regulated heating water circuit allows temperature effects on the reaction to be examined, with a heater rated approximately max. 1kW and a tank of approximately 15L.

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