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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Batch Stirred Tank Reactor (Stand Alone) | ReaktiLabX - 18

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

Product Overview

The Batch Stirred Tank Reactor (Stand Alone) ReaktiLabX - 18 operates as a self-contained unit for studying batch reactor behavior. This Batch Stirred Tank Reactor (Stand Alone) features a glass reactor with adjustable volume from 1500 to 1950mL, three stirrers, and a stainless steel chambered bottom for isothermal heat exchange. It preheats reactants before delivery and tracks conversion using a combined conductivity and temperature sensor. Optional DAQ software enables measurement and calculation of results.

View this product online: https://scienticoindia.com/product/batch-stirred-tank-reactor-stand-alone-reaktilabx-18/



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

Technical Specifications

Batch Stirred Tank Reactor (Stand Alone) ReaktiLabX - 18 — Technical Specifications

Specification	Detail
Operation Mode	Complete self-contained batch type stirred tank reactor to operate standalone
Reactor	With stirrer
Chambered Bottom	Made of stainless steel as heat exchanger
Sensor	For measuring the conductivity and temperature
Temperature Control	In the reactor

Technical Data

Reactor

Parameter	Value
Outer diameter	110mm
Inside diameter	100mm
Height	250mm
Adjustable volume	1500~1950mL
Material	Boro 3.3 glass

Stirrer

Parameter	Value
Speed	approx. 300min^{-1}
Quantity	3

Peristaltic Pump for Reactants

Parameter	Value
Quantity	2
Max. flow rate	approx. 500mL/min

Peristaltic Pump for Products

Parameter	Value
Max. flow rate	approx. 500mL/min

Water Pump

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

Heater

Parameter	Value
Power consumption	3000W

Tanks

Parameter	Value
Reactants	2x 3L
Product	5L
Heating water	8L

Measuring Ranges

Parameter	Value
Conductivity	0~200mS/cm
Temperature	0~60°C

Key Features

Key Features

- **Reactor Dimensions:** 110mm outer diameter, 100mm inside diameter, 250mm height, boro 3.3 glass
- **Adjustable Volume:** 1500~1950mL
- **Stirrers:** 3, approx. 300min^{-1} speed
- **Reactant Pumps:** 2 peristaltic pumps, approx. 500mL/min max. flow rate each
- **Product Pump:** peristaltic, approx. 500mL/min max. flow rate
- **Water Pump:** 10L/min max. flow, 10m max. head, 120W power consumption
- **Heater:** 3000W power consumption
- **Tanks:** 2x 3L reactant tanks, 5L product tank, 8L heating water tank

- **Chambered Bottom:** stainless steel, functions as heat exchanger for isothermal operation
- **Self-Contained Design:** built-in pumps, tanks, and heating circuit make this Batch Stirred Tank Reactor (Stand Alone) fully independent

Experiments

- Fundamentals of a saponification reaction
- Determination of reaction rate constant
- Determination of temperature dependence of reaction rate constant
- Conversion depending on: reaction time, temperature, concentration

Construction and Design

The Batch Stirred Tank Reactor (Stand Alone) ReaktiLabX - 18 uses a reactor 110mm in outer diameter, 100mm in inside diameter, 250mm in height, made of boro 3.3 glass, with an adjustable volume of 1500 to 1950mL. Three stirrers, operating at approximately 300min^{-1}, ensure a homogenous mixture and extend reactant contact time. The reactor's chambered bottom, made of stainless steel, acts as a heat exchanger for isothermal operation, studying temperature effects on the reaction. The reactor is secured to the unit using two pins and connects via quick-release connections. Two peristaltic pumps, each with a maximum flow rate of approximately 500mL/min, deliver reactants, while a separate peristaltic pump handles product delivery at the same flow rate. A water pump, rated 10L/min max. flow, 10m max. head, and 120W power consumption, works with a 3000W heater for temperature regulation. Tanks include two 3L reactant tanks, a 5L product tank, and an 8L heating water tank. Reactants are preheated at the beginning of the unit before delivery into the reactor. A combined conductivity and temperature sensor identifies conversion, with values digitally shown on the unit's control cabinet.

Software

Software ReaktiLabX - 18 (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.

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 Batch Stirred Tank Reactor (Stand Alone) ReaktiLabX - 18 used for?
A: It is used to study discontinuous stirred tank reactor behavior, including saponification reaction fundamentals, reaction rate constant determination, and conversion analysis.

Q: What makes this reactor a "standalone" unit?
A: The apparatus includes its own heating water circuit, connections, pumps, and reactant and product tanks, allowing it to operate as a complete, self-contained batch type unit.

Q: What is the adjustable volume range of the reactor?
A: The reactor volume is adjustable between 1500 and 1950mL.

Q: How does the reactor's chambered bottom function?
A: The chambered bottom, made of stainless steel, acts as a heat exchanger, supporting isothermal operation and temperature effect studies.

Q: Is data acquisition software available with this system?
A: Yes, Software ReaktiLabX - 18 is available as an optional add-on, designed in National Instrument™ LABVIEW™ environment, and can run with any Windows™ environment.

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