SCIENTICO INDIA

Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET

Catalogue reference for product evaluation

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Batch Cooling Crystallization Apparatus | OperatiX - 02

Category: Unit Operations · **Country of Origin:** India

Product Overview

The Batch Cooling Crystallization Apparatus OperatiX - 02 carries out batch crystallization using a jacketed glass crystallizer with a 1 liter capacity. This Batch Cooling Crystallization Apparatus features a variable speed stirrer, temperature and conductivity sensors, and a sieve set for crystal size analysis. It supports both batch and continuous operation modes. Optional DAQ software enables measurement and calculation of results.

View this product online: https://scienticoindia.com/product/batch-cooling-crystallization-apparatus-operatix-02/



Request a model-specific quotation

Include quantity and delivery country.

Technical Specifications

Batch Cooling Crystallization Apparatus OperatiX - 02, Technical Specifications

Specification	Detail
Unit Type	Floor standing unit with castors
Frame	Anodized aluminum frame and panels made of painted steel
Metallic Elements	Main metallic elements made of steel
Crystallizer	Jacketed reactor made in glass (1 liter capacity), includes temperature sensors and stirrer, batch operation
Stirrer	Double blade variable speed stirrer
Water Flow	Water flow meter included
Valves	Allow water circulation according to process (heating and cooling)
Thermocouples	K type, located at key points of the system
Conductivity Measurement	Conductivity cell to measure the solution conductivity
Sieve Set	Three sieves of different light size
Crystal Collection	Vessel to collect the crystals
Electrical Protection	Protection devices for the electric circuits

Technical Data

Feed Tank

Parameter	Value
Type	Double jacketed
Material	Glass
Capacity	5L

Crystallization Tank

Parameter	Value
Type	Double jacketed
Material	Glass
Capacity	1L

Feed Pump

Parameter	Value
Type	Peristaltic
Flow	0~500ml/min
Speed	Variable

Stirrer

Parameter	Value
Speed	0~300rpm
Blade	2
Quantity	2

Flowmeter

Parameter	Value
Range	1~7lpm

Sieve Set

Parameter	Value
Size	0.5mm, 1mm, 2mm

Beaker

Parameter	Value
Capacity	2L

Conductivity Sensor

Parameter	Value
Range	0~2000µS/cm

Measuring Ranges

Parameter	Value
Thermocouple	4x -100°C~400°C
Conductivity	0~200mS/cm

Parameter	Value
Flowmeter	1~7lpm

Key Features

Key Features

- **Crystallizer:** jacketed glass reactor, 1 liter capacity, batch operation
- **Feed Tank:** double jacketed, glass, 5L capacity
- **Stirrer:** double blade, variable speed, 0~300rpm, 2 stirrers
- **Feed Pump:** peristaltic, 0~500ml/min variable speed
- **Temperature Monitoring:** K type thermocouples at key system points
- **Conductivity Monitoring:** conductivity cell, range 0~2000µS/cm
- **Crystal Sizing:** sieve set with 0.5mm, 1mm, and 2mm sizes
- **Unit Design:** floor standing with castors, anodized aluminum frame, painted steel panels
- **Operation Modes:** batch and continuous crystallization, demonstrated on this Batch Cooling Crystallization Apparatus
- **Software:** optional DAQ software for measurement and calculation

Experiments

- Understanding the principles of solution cooling crystallization
- Study of crystal size distribution
- Batch and continuous operation
- Obtaining crystals by the cooling method
- Demonstration of the effects of varying the following parameters on the crystallization process: concentration of solute, stirring level, cooling temperature
- Solute supply manually (batch mode)

Construction and Design

The Batch Cooling Crystallization Apparatus OperatiX - 02 is a floor standing unit with castors, built with an anodized aluminum frame and panels made of painted steel. Main metallic elements are made of steel. The crystallizer is a jacketed glass reactor with 1 liter capacity, fitted with temperature sensors and a stirrer for batch operation. A double blade variable speed stirrer, with 2 stirrers rated 0 to 300rpm, agitates the fluid. A feed tank, double jacketed and made of glass, holds 5L. A peristaltic feed pump delivers flow at 0 to 500ml/min with variable speed. K type thermocouples are located at key points of the system. A conductivity cell measures solution conductivity, ranged 0 to 2000µS/cm. Valves allow water circulation according to the process, whether heating or cooling. A set of three sieves, sized 0.5mm, 1mm, and 2mm, supports crystal size analysis. A vessel collects the crystals, and protection devices safeguard the electric circuits.

Software

Software OperatiX - 02 (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 in any Windows™ environment.

Scope of Delivery

- 1 Experimental unit
- 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 Batch Cooling Crystallization Apparatus OperatiX - 02 used for?
A: It is used to carry out batch crystallization, studying the cooling crystallization process of substances whose solubility varies with temperature.

Q: What is the crystallizer's capacity?
A: The crystallizer is a jacketed glass reactor with a capacity of 1 liter.

Q: Can the device operate in continuous mode as well as batch mode?
A: Yes, in addition to batch operation, the device can function as a continuous feeding unit and operate as a continuous crystallization unit.

Q: What sieve sizes are included for crystal size analysis?
A: The sieve set includes three sieves sized 0.5mm, 1mm, and 2mm.

Q: Is data acquisition software available with this system?
A: Yes, Software OperatiX - 02 is available as an optional add-on, designed in National Instrument™ LABVIEW™ environment, and can run in any Windows™ environment.

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