SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Ion Exchange Pilot Plant – HydraNexis HNX 08

Category: Water Treatment Technology · **Order Code:** HNX 08 · **Country of Origin:** India

Product Overview

The Ion Exchange Pilot Plant ( ) is a compact laboratory-scale system designed to demonstrate water softening and desalination using ion exchange technology. Made by Scientico India, ISO 9001:2015 certified, and supplied with a calibration certificate and operation manual.

View this product online: https://scienticoindia.com/product/ion-exchange-pilot-plant-hydranexis-hnx-08/



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

Technical Specifications

Component	Specification
Ion Exchangers	Network polymer resin
Cation Exchanger	H^+ form
Anion Exchanger	OH^- form
Pump Type	Diaphragm
Max. Pump Flow Rate	300 mL/min
Max. Pump Head	10 m

Tank Type	Capacity	Material
Raw / Rinsing / Acid / Caustic Tanks	4 × ~5 L	PVC
Collecting Tank	~5 L	PVC

Parameter	Range
Flow Rate	20–270 mL/min
Conductivity	0–2000 µS/cm

Key Features

Key Features

- Demonstrates softening and desalination by ion exchange
- Independent and combined operation of cation and anion exchangers
- Regeneration of ion exchangers using acid and caustic
- Continuous monitoring of conductivity and flow rate
- Compact, laboratory-friendly design
- Suitable for raw tap water operation
- Multiple sampling points for experimental analysis

Process Capabilities

- Water softening using cation exchange
- Water desalination using anion exchange
- Combined cation–anion exchange operation
- Regeneration using acid and caustic solutions

Experiments & Learning Outcomes

- Understanding the fundamental principles of ion exchange
- Study of water softening and desalination mechanisms
- Identification of operating modes of cation and anion exchangers
- Combined use of exchangers for complete desalination
- Determination of exchange capacity and regeneration efficiency
- Verification of theoretically calculated regeneration times

Construction & System Design

The HydraNexis HNX 08 is constructed using corrosion-resistant polymeric materials suitable for handling water, acids, and caustic solutions. The system layout ensures safe operation during regeneration and clear visualization of process steps. Continuous conductivity measurement provides immediate feedback on water quality, making the unit ideal for repeatable laboratory experiments and demonstrations.

Required for Operation

- Water connection
- Distilled water
- Caustic soda
- Hydrochloric acid

Scope of Delivery

- 1 × Ion Exchange Experimental Unit
- 4 × Tanks (raw water, rinsing water, acid, caustic)
- 1 × Conductivity sensor
- 1 × Conductivity meter
- 1 × Packing unit of cation exchanger resin
- 1 × Packing unit of anion exchanger resin
- 1 × Set of hoses
- 1 × Instruction manual

Applications

- Water treatment education and laboratory training
- Demonstration of ion exchange principles
- Research on softening and desalination processes
- Verification of regeneration and capacity calculations
- Professional training in water purification technologies

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

Q1. Can the cation and anion exchangers be operated separately?
Yes, both exchangers can be used independently or in combination.

Q2. Is regeneration of resins possible on this unit?
Yes, regeneration using acid and caustic is fully supported.

Q3. What type of water can be used as feed?
Raw tap water can be used directly.

Q4. Are process parameters continuously monitored?
Yes, conductivity and flow rate are measured continuously.

Q5. Is the system suitable for academic laboratories?
Yes, it is specifically designed for teaching, training, and research applications.

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