SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Water Treatment Pilot Plant – HydraNexis HNX 07

Category: Water Treatment Technology · **Order Code:** HNX 07 · **Country of Origin:** India

Product Overview

The Water Treatment Pilot Plant ( ) is a comprehensive laboratory and pilot-scale system designed to demonstrate the three principal unit operations used in conventional water treatment: depth filtration, adsorption, and ion exchange. 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/water-treatment-pilot-plant-hydranexis-hnx-07/



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

Technical Specifications

Component	Specification
Raw Water Pump	Max. Flow Rate: 25 m³/h; Max. Head: 20 m
Gravel, Sand Filters & Adsorbers	Inner Diameter: 150 mm; Height: 650 mm
Ion Exchange Tanks	Diameter: 240 mm; Height: 410 mm
Raw Water Tank	Capacity: ~180 L
Treated Water Tank	Capacity: ~180 L

Parameter	Range
Flow Rate	0–1300 L/h
Pressure	0–4 bar
Differential Pressure	0–2.5 bar
Conductivity	0–2000 µS/cm
Temperature	0–100 °C

Key Features

Key Features

- Demonstrates three core water treatment unit operations in a single integrated system
- Modular design with gravel filter, sand filter, adsorbers, and ion exchangers
- Differential pressure measurement for filtration performance analysis
- Aerated raw water tank for enhanced mixing and oxidation
- Backwashing provision for sand filter maintenance
- PLC-controlled operation with touch screen interface
- Suitable for real-time monitoring and data analysis

Experiments & Learning Outcomes

- Understanding principles of depth filtration, adsorption, and ion exchange
- Observation and determination of pressure loss in depth filtration
- Plotting and interpretation of adsorption breakthrough curves
- Comparison of different adsorption media
- Study of water softening and desalination using ion exchange processes

Construction & System Design

The HydraNexis HNX 07 is constructed with industrial-grade components suitable for continuous laboratory operation. The plant is arranged as a compact, integrated system with clearly defined treatment stages. All relevant sampling points are accessible, enabling water quality analysis at each process step. The PLC-controlled automation ensures repeatable experiments and safe operation, making the unit suitable for teaching, research, and demonstration purposes.

Process Capabilities

- Depth filtration (gravel and sand filters)
- Adsorption (activated carbon and aluminum oxide)
- Ion exchange (cation exchanger and mixed-bed exchanger)

Control and Instrumentation

- PLC-based control system
- Touch panel HMI for operation and monitoring
- Measurement of flow rate, pressure, differential pressure, conductivity, and temperature after each treatment stage
- USB data transfer to PC
- Optional DAQ system with LABVIEW™-based software (HNX 07)

Scope of Delivery

- 1 × Water Treatment Pilot Plant (HNX 07)
- 1 × Packing unit of sand
- 1 × Packing unit of gravel
- 1 × Packing unit of aluminum oxide
- 1 × Packing unit of activated carbon
- 1 × Packing unit of cation resin
- 1 × Packing unit of anion resin
- 1 × Set of hoses
- 1 × Instruction manual

Applications

- Water treatment education and laboratory training
- Demonstration of conventional drinking water treatment processes
- Research on filtration efficiency, adsorption capacity, and ion exchange behavior
- Comparative studies of treatment media
- Pilot-scale evaluation of integrated water treatment systems

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. Which water treatment processes can be demonstrated using HNX 07?
Depth filtration, adsorption, and ion exchange.

Q2. Can adsorption media be compared experimentally?
Yes, the system allows comparison of activated carbon and aluminum oxide adsorbers.

Q3. Is automation included in the pilot plant?
Yes, the plant is PLC-controlled with a touch panel interface.

Q4. Can experimental data be exported to a computer?
Yes, data can be transferred via USB, and optional DAQ software is available.

Q5. Is the system suitable for international supply?
Yes, the HydraNexis HNX 07 is designed for export and global academic and research use.

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