SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Basic Hydrology Apparatus | FluidoSurge-X 274

Category: Fluid Mechanics · **Country of Origin:** India

Product Overview

The Basic Hydrology Apparatus is a laboratory system designed for studying hydrological processes related to groundwater flow, seepage, and precipitation runoff. 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/basic-hydrology-apparatus-fluidosurge-x-274/



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

Technical Specifications

Parameter	Specification
Apparatus Type	Hydrology and groundwater flow study unit
Water Circuit	Closed
Experiment Tank Material	Stainless steel
Experiment Tank Area	2 x 1 m²
Experiment Tank Depth	0.2 m
Maximum Sand Filling	0.3 m³
Inclination Adjustment Range	-2.5% to +5%
Measuring Connections	21 groundwater level points
Groundwater Display	21 tube manometers
Precipitation Device	8 to 11 adjustable nozzles
Flow Rate per Nozzle	0.36 to 3.45 L/min
Storage Tank Capacity	300 L
Drain Measurement	Measuring weir
Supply Measurement	Flow meter
Power Supply	230 V, 50 Hz, single phase

Parameter	Specification
Power Consumption	0.75 kW
Maximum Flow Rate	3300 L/h

Parameter	Range
Tube Manometers	0 to 300 mmWC
Supply Flow Rate	0 to 36 L/min
Outlet Flow Rate	0 to 10 L/min

Key Features

Key Features

- Investigation of hydrological processes in soil media
- Closed water circuit for controlled experiments
- Inclinable stainless steel tank for slope simulation
- Precipitation simulator with adjustable nozzle density
- Multiple groundwater measuring points for spatial analysis
- Wells for studying groundwater extraction effects
- Independent selection of water supply and drainage paths

Applications

- Civil engineering hydrology laboratories
- Study of seepage and groundwater flow
- Rainfall runoff and storage capacity analysis
- Investigation of groundwater lowering due to wells
- Teaching water resources and soil-water interaction

Construction & Design Details

The apparatus is built around a corrosion-resistant stainless steel experiment tank filled with sand to simulate soil conditions. The tank inclination can be adjusted to study slope effects. A precipitation device mounted above the tank simulates rainfall with controlled intensity. Groundwater inflow and drainage are managed through side chambers, while groundwater levels are measured at multiple points using tube manometers. A transparent splash guard and internal screens separate flow zones and improve observation.

Experiments

- Effect of rainfall duration and intensity on discharge
- Determination of soil storage capacity
- Investigation of steady seepage flow
- Study of groundwater level variation due to wells
- Analysis of precipitation-discharge relationships

Data Acquisition Software (Optional)

Optional software developed in the NITM LabVIEW™ environment supports data acquisition, processing, and reporting on Windows systems. The software enables calculation and visualization of groundwater levels, flow rates, and discharge characteristics using tables and graphs. Comprehensive CSV reports containing measured and calculated data can be generated for documentation and analysis.

Recommended Ancillary (Optional)

- Washed sand graded 0.5 mm to 1.5 mm, nominal 1 mm

Standard Scope of Delivery

- 1 experimental module
- 1 standard set of accessories
- 1 instruction manual

Export & Supply Capability

SCIENTICO manufactures the Basic Hydrology Apparatus FluidoSurge-X 274 for engineering colleges, technical universities, and research laboratories. The system is suitable for domestic and international supply. Export packing, documentation, and accessory configuration are provided as per destination requirements.

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. What processes can be studied using FluidoSurge-X 274?
It supports studies of seepage, groundwater flow, rainfall runoff, and soil storage capacity.

Q2. How is rainfall simulated in the apparatus?
Rainfall is simulated using a precipitation device with 8 to 11 adjustable nozzles.

Q3. How are groundwater levels measured?
Groundwater levels are measured using 21 tube manometers connected to the experiment tank.

Q4. Can the slope of the soil bed be adjusted?
Yes. The experiment tank inclination can be adjusted from -2.5% to +5%.

Q5. Is digital data acquisition available?
Yes. Optional DAQ hardware and software are available for data logging and analysis.

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