SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Advanced Hydrological Investigations Apparatus | FluidoSurge-X 278

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

Product Overview

The Advanced Hydrological Investigations Apparatus is a laboratory system designed for comprehensive study of hydrological and fluvial processes. 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/advanced-hydrological-investigations-apparatus-fluidosurge-x-278/



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

Technical Specifications

Parameter	Specification
Apparatus Type	Advanced hydrology and sediment transport 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	-1% to +5%
Groundwater Measuring Points	21
Groundwater Display	21 tube manometers
Wells	2 open seam tubes
Obstacle Models	Round, square, oval pillars
Storage Tank Capacity	300 L
Power Supply	230 V, 50 Hz, single phase

Precipitation Device

Parameter	Specification
Number of Nozzles	8 to 11
Flow Rate Range	1 to 4.7 L/min
Control	Adjustable with timer

Pump

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

Measuring Ranges

Parameter	Range
Tube Manometers	0 to 300 mmWC
Supply Flow Rate	0 to 36 LPM
Drain Flow Rate	0 to 16 LPM
Sediment Mass	0 to 5000 g

Key Features

Key Features

- Integrated study of hydrology and sediment transport
- Closed water circuit for controlled experimentation
- Inclinable sand-filled tank for slope simulation
- Precipitation simulator with adjustable duration and intensity
- Independent groundwater supply and drainage selection
- Multiple groundwater measurement points
- Obstacle models for river flow and sediment transport studies

Applications

- Civil engineering hydrology laboratories
- Study of seepage and groundwater flow
- Rainfall runoff and soil storage analysis
- Investigation of sediment transport in river beds
- Analysis of flow interaction with obstacles

Construction & Design Details

The apparatus is built around a corrosion-resistant stainless steel experiment tank filled with sand to represent soil and river bed conditions. Tank inclination is smoothly adjustable to simulate varying slopes. A precipitation device mounted above the tank generates controlled rainfall events. Groundwater levels are measured via multiple tube manometers connected to the base of the tank. A transparent measuring tank at the drain includes a measuring weir and force sensor for sediment mass determination.

Experiments

- Effect of rainfall duration on discharge response
- Determination of soil storage capacity

- Study of steady seepage flow
- Investigation of groundwater level variation due to wells
- Flow behavior in river courses with obstacles
- Sediment transport around pillars of different shapes

Data Acquisition Software (Optional)

Optional software FluidoSurge-X 278, developed in the NITM LabVIEW™ environment, supports data acquisition, processing, and reporting on Windows systems. The software enables visualization of groundwater levels, flow rates, and sediment transport using tables and graphs. Comprehensive CSV reports containing measured and calculated data can be generated for documentation and analysis.

Standard Scope of Delivery

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

Export & Supply Capability

SCIENTICO manufactures the Advanced Hydrological Investigations Apparatus FluidoSurge-X 278 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 according to 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 278?
It supports studies of seepage, groundwater flow, rainfall runoff, and sediment transport in river courses.

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

Q3. Can sediment transport be measured quantitatively?
Yes. A force sensor in the measuring tank is used to determine the amount of transported sediment.

Q4. What obstacle types are included for river flow studies?
Round, square, and oval pillar models are provided for studying flow and sediment interaction.

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

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