SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Open-Channel Sediment Transport Apparatus | FluidoSurge-X 265

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

Product Overview

The Open-Channel Sediment Transport Apparatus is a laboratory flume designed to study bed-load transport phenomena in open-channel flow. Manufactured by SCIENTICO, the system enables investigation of sediment transport mechanisms using sand as the bed material. 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/open-channel-sediment-transport-apparatus-fluidosurge-x-265/



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

Technical Specifications

Parameter	Specification
Apparatus Type	Open-channel sediment transport study flume
Experimental Section Length	2500 mm
Flow Cross Section (W x H)	86 x 350 mm
Inclination Adjustment Range	-1% to +3%
Side Wall Material	Tempered glass
Wetted Materials	Stainless steel, glass reinforced plastic
Water Circuit	Closed
Tank Capacity	280 L
Discharge Measurement	Measuring weir with level gauge
Sediment Trap Filter	49 mesh
Flow Visualization	Contrast medium injection

Key Features

Key Features

- Study of bed-load transport in open channels
- Adjustable flume slope for sub-critical and super-critical flow

- Tempered glass side walls for direct observation
- Low-turbulence inlet with sediment backflow prevention
- Integrated sediment trap for coarse sand
- Measurement of discharge and sediment bed profile
- Visualization of flow using contrast medium

Applications

- Fluid mechanics and hydraulic engineering laboratories
- Study of sediment transport and river mechanics
- Investigation of ripples, dunes, and antidunes
- Analysis of scour and siltation around hydraulic structures
- Demonstration of open-channel flow regimes

Construction & Design Details

The apparatus features an inclining experimental section constructed from corrosion-resistant materials. The tempered glass side walls allow clear visualization of sediment motion and bed formation. A rounded-nosed pier or sluice gate can be installed to study fluvial obstacle marks such as scour and deposition. Discharge is measured using a sharp-crested measuring weir at the outlet, while a level gauge is used to determine flow depth and sediment surface profile along the flume.

Experiments

- Bed-load transport in open channels under sub-critical and super-critical flow
- Formation of ripples, dunes, and antidunes
- Effect of flow velocity on sediment transport rate
- Scour and siltation around bridge pier and sluice gate
- Application of bed-load transport formulae
  - Meyer-Peter and Müller formula
  - Einstein’s formula
- Open-channel flow without sediment transport
- Visualization of flow patterns using contrast medium

Data Acquisition Software (Optional)

Optional DAQ software developed in the NITM LabVIEW™ environment supports data acquisition, processing, and reporting on Windows systems. The software enables calculation of transport rates, visualization of measured parameters through tables and graphs, and export of comprehensive CSV reports containing measured and calculated data.

Standard Scope of Delivery

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

Export & Supply Capability

SCIENTICO manufactures the Open-Channel Sediment Transport Apparatus FluidoSurge-X 265 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 type of sediment is used in FluidoSurge-X 265?
Sand is used as the bed material for demonstrating bed-load transport phenomena.

Q2. Can experiments be conducted without sediment?
Yes. The apparatus also supports open-channel flow experiments without sediment transport.

Q3. How is discharge measured in the system?
Discharge is measured using a sharp-crested measuring weir and a level gauge.

Q4. What flow regimes can be studied?
Both sub-critical and super-critical flow conditions can be investigated.

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

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