SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Aerodynamics Trainer | FluidoSurge-X 348

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

Product Overview

The Aerodynamics Trainer is a laboratory system designed for experimental study of airflow around and through bodies. Manufactured by SCIENTICO, the trainer enables investigation of steady incompressible flow, boundary layer behavior, drag forces, and pressure distribution. 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/aerodynamics-trainer-fluidosurge-x-348/



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

Technical Specifications

Parameter	Specification
Apparatus Type	Aerodynamics training system
Fan Type	Radial / Centrifugal fan
Power Consumption	375 to 800 W
Maximum Flow Velocity at Nozzle Exit	Up to 30 m/s
Nozzle Exit Cross Section	50 x 100 mm
Speed Control	Variable frequency drive
Electric Supply	230 V, Single Phase
Frequency	50 Hz
Temperature Measurement	Digital temperature sensor with display
Number of Manometer Tubes	16
Manometer Inclination Range	0 to 85 degrees

Key Features

Key Features

- Adjustable airflow using frequency-controlled radial fan
- Stabilization tank and flow straightener for low-turbulence flow

- Homogeneous velocity distribution through shaped nozzle
- Vertical measuring section with pressure tapping points
- 16 tube manometers with adjustable inclination
- Digital air temperature measurement
- Quick release fasteners for rapid accessory change

Applications

- Fluid mechanics and aerodynamics laboratories
- Study of flow around bodies
- Investigation of boundary layers
- Demonstration of Bernoulli’s principle
- Analysis of drag forces and pressure distribution
- Experimental study of steady incompressible flow

Construction & Design Details

The trainer consists of a vertical measuring section integrated with a radial fan and stabilization chamber. A flow straightener reduces turbulence before air enters the shaped nozzle. Pressure tapping points are connected to 16 tube manometers for visual pressure measurement. The manometers feature adjustable inclination to improve measurement sensitivity. Accessories are mounted using quick release fasteners for fast interchange during laboratory sessions.

Experiments

Flow Around Bodies (with optional accessories)

- Velocity measurement using Pitot tube
- Boundary layer analysis on a flat plate
- Measurement of drag forces
- Visualization of streamlines

Steady Incompressible Flow (with optional accessories)

- Velocity measurement using Pitot and Pitot-static tubes
- Free jet experiments
- Flow in pipe elbow
- Verification of Bernoulli’s principle
- Air flow in pipe with sudden enlargement and contraction

Optional Accessories

Flow Around Bodies

- Drag force models
- Boundary layer modules
- Coanda effect module
- Streamline visualization module

Steady Incompressible Flow

- Bernoulli’s principle module
- Pipe elbow module
- Free jet module

Software (Optional)

The optional FluidoSurge-X 348 DAQ Software is developed in the NITM LabVIEW™ environment. It enables data acquisition, graphical representation, and CSV report generation under Windows systems. Electronic sensors are included when supplied with the software option.

Standard Scope of Delivery

- 1 Experimental Unit
- 1 Instruction Manual

Export & Supply Capability

SCIENTICO manufactures the Aerodynamics Trainer FluidoSurge-X 348 for engineering institutions and research laboratories. The system is suitable for domestic and international supply with export packing and documentation provided as required.

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 is the maximum airflow velocity achievable?
The trainer can generate airflow velocities up to 30 m/s at the nozzle exit.

Q2. How is airflow controlled?
Airflow is controlled using a variable frequency drive that adjusts the fan speed.

Q3. How are pressure measurements displayed?
Pressure measurements are displayed using 16 inclined tube manometers.

Q4. Can accessories be changed easily?
Yes. Accessories are attached using quick release fasteners for quick interchange.

Q5. Is data acquisition software available?
Yes. Optional DAQ software is available for data logging and graphical analysis.

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