SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Flight Demonstration Wind Tunnel | FluidoSurge-X 218

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

Product Overview

A CE-certified aerodynamics laboratory unit for flow visualisation, boundary layer studies, and lift/drag measurement, manufactured by Scientico India to ISO 9001:2015 standards. Supplied with calibration certificate, operation manual, and complete export documentation. Designed for Fluid Mechanics laboratories in engineering colleges and technical institutions.

View this product online: https://scienticoindia.com/product/flight-demonstration-wind-tunnel-fluidosurge-x-218/



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

Technical Specifications

Parameter	Specification
Model	FluidoSurge-X 218
Type	Flight Demonstration Wind Tunnel
Configuration	Open circuit
Working Section	450 mm x 225 mm
Maximum Air Velocity	20 m per second
Tunnel Fan	Axial flow type
Motor Power	3 kW
Air Speed Control	Hand throttle with three phase inverter
Aircraft Weight	1.66 kg
Wing Profile	NACA 2412
Wing Span	220 mm
Wing Chord	152 mm
Wing Area	0.033 m²
Tail Plane Area	0.0167 m²
Distance Wing to Tail Plane	245 mm

Parameter	Specification
Moment of Inertia	0.03 kg·m²

Key Features

Key Features-

- Open circuit wind tunnel for flight demonstration
- Transparent working section for clear observation
- Manual flight control using throttle and control column
- Adjustable center of gravity for trim and stability studies
- Digital display of velocity, lift, altitude, and attitude
- Wing tufts for visualization of airflow separation and stall

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Experiments-

- Demonstration of take off, level flight, and landing behavior
- Study of longitudinal stability and control
- Measurement of lift curve up to and beyond stall
- Trim analysis and determination of neutral point
- Investigation of speed effect on attitude and stall
- Aerodynamics teaching and laboratory demonstrations

Construction & Design Details-

The aircraft model features a fixed main wing and an all flying tail plane controlled by a vertical only control column. The working section is fully transparent for unobstructed viewing. A honeycomb flow straightener minimizes turbulence at entry. The axial fan is located downstream to regulate airspeed smoothly. Tufts and optional smoke visualization enhance flow observation around the wing and tail plane.

Optional Software-

Optional data acquisition software **FluidoSurge-X 218** is available. The software is developed in a LabVIEW™ environment and enables acquisition of air velocity, lift force, attitude, altitude, and angle data. It supports graphical visualization, data processing, and CSV report generation on Windows based systems. Electronic sensors required for software operation are supplied when the software option is selected.

Export & Supply Capability-

SCIENTICO manufactures the Flight Demonstration Wind Tunnel FluidoSurge-X 218 for domestic and international supply. The system is suitable for export to engineering colleges, universities, and aerospace training institutes. Standard packing and technical documentation are provided with each unit.

Accessories (optional)

Smoke Generator and Probe - Visualization of flow patterns past the aircraft’s aero foil and tail-plane.

Scope of Delivery

1 Experimental unit, 1 Instruction manual

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 wind tunnel is used in this system?
It is an open circuit wind tunnel designed for flight demonstration.

Q2. Can students control the aircraft during experiments?
Yes, the aircraft is controlled manually using a throttle and control column.

Q3. What aerodynamic parameters are displayed digitally?
Air velocity, lift force, attitude, altitude, and tail plane angle are displayed.

Q4. Can center of gravity effects be studied?
Yes, the model includes an adjustable center of gravity mechanism.

Q5. Is software included as standard supply?
No, the FluidoSurge-X 218 software is optional and supplied only when specified.

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