

Product Name :
Subsonic Wind Tunnel

Product Code :
NEGEMG111



Description :

Subsonic Wind Tunnel

The setup is an open wind tunnel used to demonstrate and measure the aerodynamic properties of various models. For this purpose, air is drawn in from the environment and accelerated. The air flows around a model, such as an aerofoil, in a measuring section. The air is then decelerated in a diffuser and pumped back into the open by a fan. The carefully designed intake nozzle and a flow straightener ensure a uniform velocity distribution with little turbulence in the closed measuring section.

The test section is square in shape & made of transparent plexiglass for students to visualise the process. The built-in axial fan with a variable-speed drive is characterised by an energy-efficient operation at high efficiency. Air velocities of up to 36 m/s are possible to be achieved in the wind tunnel. The trainer is equipped with an electronic two-component force sensor. Lift and drag are detected and displayed digitally. The air velocity in the test section is measured using a pitot tube. The standard accessories include Multitube Inclined Manometer, Static Pitot Tube, U tube Manometer, 2 Component Force Balance, Digital Force Indicator, Wide range of experimental modules

like NACA aerofoils, drag models of different shapes, Boundary Layer, Aeroplane Models etc are available for use with wind tunnel & can be ordered separately. An optional Data Acquisition System is also available for reading values of pressure, displacement/angle, velocity and force. These parameters can be transferred to a PC where they can be analysed with a windows based software. Optional accessories allow a variety of experiments, for example lift measurements, angle measurement, pressure distributions, boundary layer analysis or visualisation of streamlines.

Experimental Capabilities:

- Determine drag and lift coefficients for different models
- Pressure distribution when flowing around drag bodies
- Boundary layer analysis
- Investigation of flutter
- Wake measurement
- Visualisation of streamlines

Standard Accessories:

- Multi-Tube Manometer
- U tube Manometer
- Basic Lift and Drag Balance
- Digital Force Indicator

Experimental Modules:

- Cylinder Model with Pressure Tapping
- 150 mm Chord NACA0012 Aerofoil with Tappings
- 150 mm Chord NACA2412 Aerofoil with Variable Flap
- 150 mm Chord NACA0012 Aerofoils
- 100 mm Flat Plate
- Flat Boundary Layer Model
- Aircraft Model - Low Wind
- Aircraft Model - High Wing
- Three Dimensional Drag Models

Optional Accessories:

- Versatile Data Acquisition System
- Differential Pressure Indicator
- Basic Lift and Drag Balance
- Three-Component Balance
- Angle Feedback Unit
- Differential Pressure Transducer
- 32-Way Pressure Display Unit
- Pitot-Static Traverse (300 mm)
- Smoke Generator

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