



Email : sales@laboratoryinstrumentindia.com

Product Name :
Two Dimensional Wind Tunnel

Product Code :
LBNY-0005-1620001



Description :

The test section can be fitted with two interchangeable variable incidence model carriers, one with a cylindrical section and the other with a low velocity sub-sonic aerofoil. The cylinder has a single static tapping which can be used to plot the pressure profile around the cylinder. Two Dimensional Wind Tunnel is designed for use with either Air Flow Bench or Fan Test Stand. The wind tunnel has a high aspect ratio clear acrylic test section 250 mm high and 65 mm deep. Pressures can be measured using Multitube Manometer or the Multiple Pressure transducer Module which provides 0-10 Volt analogue outputs for connection to a computer or data logging system. The aerofoil has 14 static pressure tappings allowing the pressure profile around the nose and along both the upper and lower cambered surfaces to be measured.

Experimental Capability:

Pressure profile around an aerofoil section and derivation of lift and drag forces and coefficients
Pressure profile around a transverse cylinder and derivation of drag force coefficient
Variation of lift and drag forces and coefficients, and lift/drag ratio with aerofoil incidence
Direct measurement of lift and drag on an aerofoil
Direct measurement of drag on a transverse cylinder.

Technical Specification :

The material of construction is clear acrylic, where appropriate, and the front section is removable. Two models are provided, including an aerofoil section having pressure tappings around the periphery enabling a pressure profile around the model to be drawn for different angles of attack. A two dimensional wind tunnel with nominal dimensions of the working section of 250 mm high by 65 mm deep. The pitot-static tube or anemometer can also be used upstream of the test models to determine the undisturbed incident flow velocity. Provision is made in the

test section for the insertion of an optional smoke generator rake; traversing pitot-static tube and the optional anemometer. The test section can be traversed at a number of planes allowing the uniformity of the flow to be verified. A further option, is available to replace the spring balance with load cells providing 0-10 Volt analogue outputs for connection to a computer or data logging system. A Boundary Layer Experiment is also available. The model carrier can be directly coupled to the optional two component balance which provides independent measurement of lift and drag forces.



Laboratory Instrument India