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**Product Name :**  
Subsonic Open Circuit Wind Tunnel

**Product Code :**  
LBNY-0005-16200022



#### **Description :**

Air enters the test section through a carefully designed contraction followed by an aluminum honeycomb flow straightener designed to ensure that the flow is steady in both magnitude and direction and has a flat transverse velocity profile. The Sub Sonic Open Circuit Wind Tunnel is simple and safe in operation. It is supplied as a complete self-contained facility mounted on castors for ease of movement. Main equipment comprises the tunnel with a three-component balance system (lift, drag and pitching moment) and an air speed indicator. One number of floor mount 3 component balance for lift force, drag force and pitching moment measurement is installed in the test section. A low angle diffuser at the outlet end contributes to flow stability in the test section. An axial flow fan is located at the outlet of the diffuser section.

Forces and moment data are digitally shown on LCD graphic display screen and are able to transfer to computer.

Adjustment of pitch angle of models can be made with the tunnel in operation.

Lift force: 0 to 100 N, sensitivity  $\pm 0.01$  N

24 bit analogue to digital conversion of 3 strain gauge load cells for greater accuracy at low forces.

The accuracy of the tunnel and its instrumentation make it suitable for undergraduate and simple research work.

Drag Force: 0 to 50 N, sensitivity  $\pm 0.01$  N

Pitching Moment: 0 to 2.4 Nm, sensitivity  $\pm 0.001$  Nm.

#### **Technical Specification :**

##### **Experimental Capability:**

Measurement of lift and drag on an aerofoil with leading edge slot and trailing edge flap.

Velocity and pressure distribution measurements using a Pitot static tube and yaw probe.

Investigation of the development of the Boundary Layer on a flat plate by measurement of the total head

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distribution.

Measurement of pressure distribution around an aerofoil at various angles of attack.

Calibration of the Wind Tunnel velocity indicator using a Pitot static tube and inclined manometer.

Measurement of pressure distribution around a cylinder.

Measurement of drag for a selection of models of different shapes but common equatorial diameter.



**Laboratory Instrument India**