Email : sales@laboratoryinstrumentindia.com

Product Name : Boundary Layer Experiment	**Product Code :** LBNY-0005-16200021

Description :

Boundary layer studies involve the determination of the thickness of this layer and the velocity profile within it. These parameters will vary with velocity of the fluid flowing over the surface, the distance from the leading edge of the surface and the degree of roughness of the surface. When a fluid flows adjacent to a stationary surface, e.g. down a tube, the fluid immediately in contact with the stationary surface will have zero velocity. The resulting shear forces in this area will be significant and lead to high values of drag forces between the flowing and stationary surface. As a result there will be a comparatively steep velocity gradient associated with the adjacent boundary layer of the fluid. Boundary Layer Experiment accommodates these studies.

Experimental Capability:
Boundary layer growth on smooth and rough surfaces
To determine the velocity profile of the boundary layer at different distances from the sharp leading edge of a smooth test plate
To determine the velocity profile of the boundary layer at specified distances from the blunt leading edge of a smooth test plate

Technical Specification :

The plate is smooth on one surface and roughened on the other so the surface effect on the velocity profiles can he determined. Four different lateral positions of the tube and carrier are catered for by the Two Dimensional Wind Tunnel, so the velocity profile within the boundary layer can be found at specific distances from the plate leading edge. Comprising a miniature pitot tube held within a vernier carrier. The effect of sharp or blunt leading profiles is catered for. The steel test plate is held between two carrier plates, one is fixed to one side of the tunnel and the other is clamped to the opposite wall.

Required Equipment:
Two Dimensional Wind Tunnel
Air Flow Bench.