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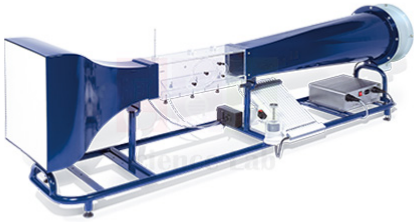
Product Name :

Subsonic Wind Tunnel

Product Code :

SLE/MCE/36



Science Lab
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Description :

Subsonic Wind Tunnel is a low-speed, draw-through tunnel for measuring lift, drag and pressure distribution on test models. Air enters through a honeycomb straightener and a 9.4:1 contraction, then passes a transparent 150 x 150 mm working section. A variable-speed fan at the discharge end draws the air through,and the flow is computer controlled.

Subsonic Wind Tunnel specifications

Parameter	Detail
Working section	Square, nominally 150 x 150 mm (6 in nominal), 455 mm long; transparent
Air flow	Computer controlled; variable-speed fan at the discharge end draws air through; honeycomb flow straightener at the inlet; contraction ratio 9.4:1
Pressure measurement	0–160 mm H2O; 16 differential channels 0–178 mm H2O
Inclined manometertube	Length 320 mm; inclination 30°
Force measurement	Lift 3.4 N and drag 3.4 N at model; model inclination ±45°
Cylinder and chord section	Cylinder 30 mm diameter, tappings at 20° spacing; chord 61.5 mm, thickness 9.2 mm
Other models	Large models 50 mm; golf ball and small sphere 43 mm; throat section 100 mm wide, 150 mm upstream and downstream
Power	220–240 V, 1 phase, 50 Hz, 10 A
Size and weight	2200 x 600 x 700 mm; 220 kg
Product code	SLE/MCE/36
Minimum order	10 units
Dispatch	Usually within 7 to 10 working days
Manufacturer	ScienceLab (Jain Scientific Equipments Pvt Ltd), Ambala, India

Measurements in the subsonic tunnel

Lift and drag against angle of attack. Mount the aerofoil firmly, set the fan speed from the computer and let it settle. Step the inclination through the range, recording lift and drag at each angle while keeping both within 3.4 N. Plot the coefficients and compare the stall angle with the tuft display on the Flight Demonstration Wind Tunnel.

Pressure around a cylinder. Fit the tapped cylinder, connect its tappings to the differential channels and record each pressure at a steady speed. Read the room temp
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