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Product Name :

Flight Demonstration Wind Tunnel

Product Code :

SLE/EA/05



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Description :

Flight Demonstration Wind Tunnel (Product Code: SLE/EA/05) is a teaching wind tunnel with a free-moving model aircraft used to demonstrate the basic principles of flight — aerofoil lift, stall, longitudinal stability and transient motion — in aeronautical and mechanical engineering classrooms. The model can move vertically and pitch about its quarter-chord point independently, while an electronic display shows air speed, attitude, altitude, pressure and lift. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM technical educational equipment manufacturer, at its own factory in Ambala, India.

Key Details

Parameter	Detail
Model motion	Aircraft moves vertically and pitches about the quarter-chord point, independently
Flight phases simulated	Take-off, level flight, cruise and landing
Demonstrations	Aerofoil lift, stall, longitudinal stability and transient motion
Electronic display	Air speed, attitude, altitude, pressure and lift
Stall indication	Tufts on the wing show flow separation and stall
Working section	Brightly illuminated
Model balance	Adjustable centre of gravity
Compatible recorder	Two Channel Recorder (SLE/EA/04) is listed to work with this tunnel
Product code	SLE/EA/05
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Flight Demonstration Wind Tunnel Used For?

Unlike a tunnel where the model is held rigidly on a balance, here the aircraft is free to rise and pitch, so students see it behave the way a real aeroplane does. As air speed increases the model lifts off, settles into level flight and cruise, and comes back down for a landing when speed is reduced. When the wing reaches too steep an angle, the tufts on the wing flutter and reverse as the flow separates, giving a clear visual of stall that matches the drop in lift on the display.

Shifting the adjustable centre of gravity forward or aft is a direct way to teach longitudinal stability: students watch the model damp out a disturbance in one setting and oscillate or diverge in another. For transient-motion work, the Two Channel Recorder can be added to put the response on paper. The illuminated working section keeps the model visible to a whole class during lectures.

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