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Product Name :

Flow Visualisation Wind Tunnel

Product Code :

SLE/EA/03



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Description :

Flow Visualisation Wind Tunnel is a vertical, suction-type smoke tunnel for watching air flow around models. A variable-speed fan on top draws air upwards through afilter and a transparent working section lit from both sides. A movable smoke combbelow the section releases smoke from vaporised food-grade oil, and the tunnelstands on a castored metal frame.

Flow Visualisation Wind Tunnel construction

Parameter	Detail
Tunnel type	Vertical, suction type; air flows vertically upwards
Fan	Variable speed, mounted on top of the tunnel
Controls	Fan-speed control unit on the frame
Smoke source	Generator vaporising food-grade oil; smoke listed as non-toxic
Smoke comb	Below the working section; moves from side to side
Working section	Transparent, with removable front wall; optional models attach to the back
Lighting	Lamps on both sides of the working section
Flow conditioning	Filter for a uniform air flow
Frame	Metal frame on castors
Product code	SLE/EA/03
Minimum order	10 units
Dispatch	Usually within 7 to 10 working days
Manufacturer	ScienceLab (Jain Scientific Equipments Pvt Ltd), Ambala, India

Watching streamlines, wakes and separation

Bluff against streamlined. Fit a bluff model, run the fan slowly and sketch the smoke pattern. Then fit a streamlined model at the same fan setting. Students compare where the filaments leave the surface and how wide the wake is. They can then measure the drag difference on similar shapes in the Subsonic Wind Tunnel.

Mapping one model. Slide the smoke comb a little at a time so the filaments pass over the edge, the middle and the far side of the model. A photograph at each comb position builds a full picture of where the flow stays attached and where it breaks away.

Effect of speed. Hold the comb still and raise the fan speed in steps. Note how the wake grows unsteady and the smoke lines thin out. Link this to the stall tufts on the Fligh
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