Email : sales@scilabexport.com
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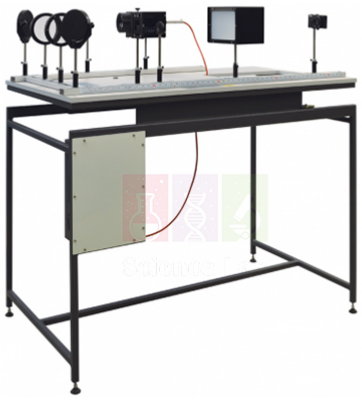
Product Name :

Schlieren Apparatus

Product Code :

SLE/EA/02



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Description :

Schlieren Apparatus is an optical system that makes density gradients in air visibleas changes in illumination. Students use it to see supersonic flow patterns,shockwaves and expansions around models in the supersonic flow rig it is used with.Its mirrors and lenses are made to a high optical standard to limit distortion, and theincluded digital imaging equipment records each run.

Schlieren Apparatus optical details

Parameter	Detail
Principle	Density gradients shown as variations in intensity of illumination
Flow features shown	Supersonic air-flow patterns around models; shockwaves and expansions
Optics	Mirrors and lenses of high optical standard to reduce image distortion
Image recording	Digital imaging equipment included
Typical pairing	Supersonic flow rig (not part of this item)
Learning outcome	Shock and expansion positions and angles compared withtheory
Product code	SLE/EA/02
Minimum order	10 units
Dispatch	Usually within 7 to 10 working days
Manufacturer	ScienceLab (Jain Scientific Equipments Pvt Ltd), Ambala, India

Schlieren work in the gas dynamics lab

Checking the optics before a run. Darken the room and pass a candle flame or warm air from a hand through the test-section beam. The rising plume should appear as clear light and dark bands. Adjust the cut-off until the background is evenly grey, then remove the test source.

Shock angle on a model. Start the image recording so that frames cover the short steady part of the supersonic run. On a saved frame, measure the shock angle against the flow direction with a protractor or image software. Compare it with oblique-shock theory for the model angle and flow Mach number.

Pressure data alongside images. Pressure traverses through the convergent-divergent nozzle of the Laval Nozzle Pressure Apparatus show where a shock raises pressure inside a passage. The schlieren frames show the shape of shocks in external flow, and students can discuss both in one report.

Low- ty
hard
Flow