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Product Name :

Curved Bars And Davits

Product Code :

SLE/EG/02



Description :

Curved Bars And Davits (Product Code: SLE/EG/02) is a structures experiment that shows how curved members bend when used as simple load-carrying structures. Students clamp one of a choice of curved bars or davits to a fixing plate, load its free upper end and measure the vertical and horizontal deflection with two precision indicators, then check the results against elastic deflection theory. A Vernier caliper is included for measuring cross-sections. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, as part of its engineering lab equipment for strength of materials courses.

Key Details

Parameter	Detail
Type	Curved bar and davit deflection experiment
Specimens	A choice of curved bars and two davits
Mounting	Lower end of the specimen fits to a fixing plate
Loading	Variable load applied at the upper end
Deflectionmeasurement	Two precision indicators, for vertical and horizontal deflection
Indicator display	Each indicator has its own display; can also connect to the USB interface hub of the Structures Platform for computer display and data acquisition
Included measuring tool	Vernier caliper for measuring the cross-section of the bars and davits
Theory compared	Elastic deflection theory

Typical Use

Students first measure the width and thickness of each specimen with the Vernier caliper so they can work out its second moment of area. They then fix a curved bar to the plate, zero both indicators and add load at the upper end in increments, noting how far the tip moves vertically and horizontally at each step. A curved member deflects in both directions under a purely vertical load, which surprises many students used to straight beams; plotting load against each deflection gives straight lines whose slopes can be checked against energy-method predictions from elastic theory.

The two davits are the highlight for many classes, because they resemble the arms used to lower lifeboats or lift loads over a ship's side and so connect the calculation to a recognisable structure. Swapping between curved bars and davits lets groups compare how shape changes stiffness. Readings can be taken straight from the indicator displays or logged on a computer via the Structures Platform hub, making this useful mechanics lab equipment for both diploma and degree practicals.

Manufacturer

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