Email : sales@scilabexport.com
Phone: +91-7082934803

Product Name :

Bridge Piers

Product Code :

SLE/EFM/21



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Phone: +91-7082934803

Description :

Bridge Piers (Product Code: SLE/EFM/21) is a set of four differently profiled bridge piers with a pair of sediment walls, used to show what happens to a river flow as it squeezes past thesupports of a bridge. With the piers in a channel, students can observe the increased flow velocityand the streamline curvature between the piers, and watch scouring of the stream bed developaround them. The set is used in civil engineering courses on river hydraulics and bridge design,and is built by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, which makes labequipment for technical institutes.

Key Details

Parameter	Detail
Piers	Four bridge piers, each with a different profile
Sediment walls	One pair, to hold a sediment bed for scour studies
Observations	Increased flow velocity and streamline curvature between the piers
Bed effects	Scouring of the stream bed

Typical Use

The sediment walls are placed across the channel to retain a layer of bed material, and one or more piers are set into it. When flow starts, the water speeds up through the narrowed openings between piers and the streamlines bend visibly around each nose. Over time a scour hole forms at the upstream face of each pier where the flow dives down and a horseshoe-shaped vortex lifts sediment. Students swap between the four profiles and compare how deep and how wide the scour becomes, and how strongly the water surface rises upstream.

Introducing a few drops of dye or small floating particles upstream makes the streamline curvature easy to photograph. Level the bed carefully before each run and keep the flow the same between profiles so comparisons are fair. The results connect directly to real decisions about pier shape and foundation depth on bridges over rivers.

Manufacturer

These pier models are made in Ambala, Haryana, by **Jain Scientific Equipments Private Limited**, the company behind the **ScienceLab** brand of educational and engineering apparatus. See our company profile for more information.

Related Fluid Mechanics Equipment

Useful companions for river and bridge hydraulics experiments:

- Meter Flume — a recirculating channel to run the piers in; confirm fitting with us
- Culvert — the other road-crossing structure taught alongside bridge piers
- Energy Dissipation — explores protecting a channel bed from high-energy flow
- Lift And Drag — measures the force the flow exerts on submerged bodies

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