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Product Name :

Force on a Conductor Apparatus.

Product Code :

SLE/EAM/24



Description :

The **Force on a Conductor Apparatus.** (Product Code: SLE/EAM/24) is a traditional demonstration of the motor effect: a crossbar rests across two side rails between the poles of a magnet, and when current flows through it the crossbar rolls one way or the other under the electromagnetic force. Reversing the current or the magnet reverses the motion, which makes Fleming's left-hand rule easy to see. It is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, and is a straightforward electromagnetic kit for school classrooms in India.

Specifications

Parameter	Detail
Moving conductor	Crossbar that rolls along the side rails
Magnet	Clearly labelled poles
Connections	4mm sockets attached to the side rails
Operating current	Up to 8A
Supply required	Low voltage bench PSU
Demonstrates	Force on a current-carrying conductor in a magnetic field

Typical Use

Connect a low voltage bench power supply to the 4mm sockets on the rails, place the crossbar across them between the magnet poles and switch on: the bar rolls sideways as soon as a sufficient current passes through it. Students predict the direction first using the labelled poles and the direction of conventional current, then check their prediction. Swapping the supply leads sends the bar the other way, and reversing the field would do the same, reinforcing that the force depends on both the field and the current direction.

Raising the current (within the up-to-8A limit) produces a livelier roll, giving a qualitative link between current and force before students meet F = BIL. For a well-rounded physics practical equipment CBSE set, the apparatus pairs naturally with a motor model so learners can see how the same force keeps a coil turning. Keep an ammeter in the circuit, switch off between runs and allow the crossbar to cool, as the high currents involved can warm it.

Manufacturer

Made in Ambala, Haryana by **Jain Scientific Equipments Private Limited**, whose products are sold under the ScienceLab brand to schools, colleges and distributors. Background on the company is available on our company profile page.

Related Electricity and Magnetism Equipment

Useful partners for a motor-effect lesson: