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Product Name :

U-Shaped Electromagnet

Product Code :

SCL174/024



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Description :

U-Shaped Electromagnet (Product Code: SCL174/024) is a teaching electromagnet built from a U-shaped core and two coils of enamelled copper wire, each with 200 turns, that slide onto the core's side arms. Powered from a 4–6 V DC source, it shows students how an electric current produces magnetism and how that magnetism can be switched on and off, strengthened or reversed. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, for use as part of an electromagnetic kit in school physics labs across India.

Specifications

Parameter	Detail
Core	U-shaped, with two lateral arms
Coils	Two, each with 200 turns of enamelled copper wire
Coil mounting	Coils can be placed freely on the lateral arms of the core
Distance between core-arm axes	5 cm
Power supply	4–6 V DC source

Typical Use

With both coils on the arms and connected to a DC supply, the core becomes a horseshoe-shaped magnet that can hold iron objects or attract a keeper plate. Students can switch the current off to show that the magnetism disappears, use one coil or both to compare the strength of the effect, and reverse the connections to swap the poles, checking each result with a compass needle. Adding an ammeter and a rheostat to the circuit turns the demonstration into a simple investigation of how current affects magnetic strength.

Because the coils are removable, the same apparatus also introduces transformer ideas: with one coil fed and the other connected to a meter, switching the current on or off induces a brief reading in the second coil. Keep the supply within the stated 4–6 V DC, switch off between runs so the coils do not warm up, and use proper leads rather than bare wire for the connections.

Manufacturer

Made by Jain Scientific Equipments Private Limited, the company behind the ScienceLab brand in Ambala, Haryana, which designs electricity and magnetism apparatus alongside its wider range of school laboratory equipment. The company profile explains more about the business.

Related Lab Equipment

These items complete the circuit or help students observe the electromagnet's field:

- Power Source For Teacher — a bench power source to consider for energising the coils; match its output to the 4–6 V DC requirement.
- Analogue Ammeter — measures the coil current during strength comparisons.
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