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Product Name :

Maltese Cross Tube D

Product Code :

SLE/PHY/307



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Description :

Maltese Cross Tube D (Product Code: SLE/PHY/307) is a high-vacuum electron tube used to show that electrons travel in straight lines, by casting the shadow of a Maltese cross onto a fluorescent screen, in college and senior school physics laboratories. Its divergent electron gun runs at up to 5 kV on the anode, and a magnetic field from Helmholtz coils lets students study electron optics such as beam focusing. A clear physics demonstration for cathode-ray lessons, it is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Specifications

Parameter	Detail
Tube type	High-vacuum electron tube with divergent electron gun
Screen	Fluorescent, partially obscured by a Maltese cross
Range	D range (connections fixed on the tube)
Anode current	Approx. 0.1 mA at 4 kV
Max. filament voltage	6.3 V AC
Max. anode voltage	5 kV
Documentation	Instructions included
Listed for use with	EHT power supply; Helmholtz coils for magnetic-field experiments
Tube family	D type
Product code	SLE/PHY/307
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Maltese Cross Tube Used For?

With no electric or magnetic field applied, electrons from the divergent gun travel straight to the fluorescent screen, and the Maltese cross in their path leaves a sharp, cross-shaped shadow. That shadow is the evidence: just as light casts a shadow of an object, the electron stream travels in straight lines. It is one of the first observations students make when they meet cathode rays.

Next, bring in a magnetic field using Helmholtz coils. The shadow shifts and changes, showing that the beam is made of charged particles that respond to a field, and adjusting the field lets the class explore electron optics such as focusing the beam. Darken the room for the clearest image, keep the filament at or below 6.3 V AC and the anode at or below 5 kV, and let a teacher handle all high-voltage connections.

What to Specify When Ordering

- Whether you need the EHT power supply listed for this tube.
- Whether you already own a D-range holder and Helmholtz coils for the magnetic-field experiments.

Man

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