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Product Name :

Teltron Electron Diffraction Tube D

Product Code :

SLE/PHY/46



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Description :

Teltron Electron Diffraction Tube D (Product Code: SLE/PHY/46) is a highly evacuatedelectron tube used to demonstrate the wave nature of electrons by diffraction through apolycrystalline graphite lattice in physics laboratories. The resulting rings appear on a fluorescentscreen, and from their radii students determine the electron wavelength as a function of anodevoltage, confirming de Broglie's hypothesis. It is supplied by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Specifications

Parameter	Detail
Tube type	Highly evacuated, with polycrystalline graphite lattice and fluorescent screen
Diffraction pattern	Debye–Scherrer rings
Max. filament voltage	6.3 V AC
Max. anode voltage	5 kV
Anode current	Approx. 0.1 mA at 4 kV
Graphite lattice constants	d10 = 0.213 nm; d11 = 0.123 nm
Documentation	Instructions included
Product code	SLE/PHY/46
Supplied by	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Electron Diffraction Tube Used For?

The Teltron Electron Diffraction Tube D gives one of the most direct demonstrations of wave–particle duality. Electrons accelerated by the anode pass through polycrystalline graphite and interfere, forming concentric Debye–Scherrer rings on the screen; as the anode voltage rises, the electron wavelength shortens and the rings visibly shrink.

Students record the ring radii at a series of anode voltages, then use the graphite lattice plane spacings of 0.213 nm and 0.123 nm to calculate the wavelength and compare it with the de Broglie prediction. As physics lab equipment for undergraduate modern physics courses in India, the rings are easiest to read in a darkened room with a supply able to reach 5 kV.

Supplier

ScienceLab (Jain Scientific Equipments Private Limited) supplies the Teltron Electron Diffraction Tube D from Ambala, Haryana, India. Teltron is a third-party brand; the company sources the tube and can quote it together with a D-series holder and a suitable high-voltage supply. Learn more on our company profile.

Rela

Items D:

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