

X-RAY TUBE

ECLIPSE-IV

X-Ray Tube System for Portable XRF

45 kVp/50 μ A



Complete system includes:

- X-ray tube
- High voltage supply
- Control electronics

FEATURES

- Small size
- Low power
- Transmission (Rh) target
- Adjustable current and voltage
- Over 2000 hours life

ECLIPSE-IV is a self-contained miniature X-ray tube system, which includes the X-ray tube, the power supply and the control electronics. It is designed to replace radioisotopes in X-ray fluorescence analysis applications.

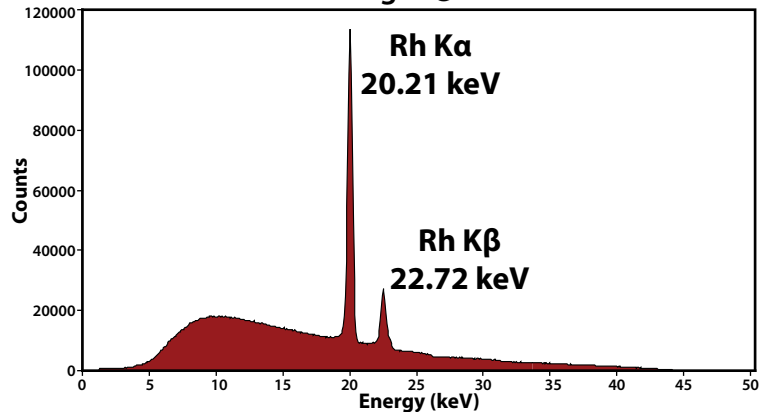
ECLIPSE-IV has been designed to simplify the XRF process by providing grounded anode, variable current and voltage, and ease of operation. It features a 45 kV/50 μ A power supply, a rhodium (Rh) transmission target, and a beryllium end window.

To further simplify the use of ECLIPSE-IV, a portable Controller is provided, powered from 80 - 240 V AC. The Controller generates all the voltages needed to operate the x-ray tube and provides both voltage (kV) and current (μ A) display and control. A flashing red LED and a beeper warns the user when x-rays are present.

APPLICATIONS

- X-Ray Fluorescence (XRF) analysis
- Portable systems
- OEM
- Process control
- Research and teaching

ECLIPSE-IV X-Ray Output Spectrum
Rh Target @ 45 kV



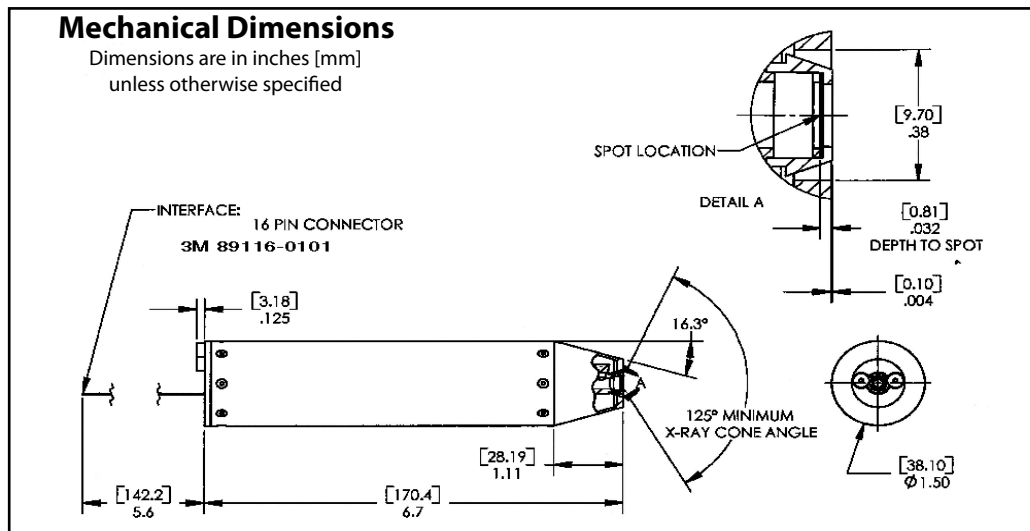
ECLIPSE-IV is a trademark of Oxford Instruments

Amptek Inc. 14 DeAngelo Drive, Bedford MA 01730

Tele: +1 781-275-2242 Fax: +1 781-275-3470 sales@amptek.com www.amptek.com

SPECIFICATIONS

Anode current	50 μ A Max (2.25 W max)
Anode (target) voltage	Ground
Approximate dose rate	3,000 mR/Hr at 50 in. (30 keV, 100 μ A)
Approximate flux	3000,000 cps at 40 cm through 1mm diameter collimator (30 keV, 100 μ A)
Cathode voltage	5 to -45 kV
Input power	15 V DC
kV control	0 - 2.5 V DC
μ A control	0 - 2.5 V DC
Current stability	1% for 5 μ A < I < 10 μ A; 0.5% for I > 10 μ A
Target	Rh
Anode Thickness	2.3 μ m of Rh
Focal spot size	1.5 mm nominal
Be window	250 μ m
Cone angle	130 degrees
Cathode type	W filament
Dimensions	6.6" x 1.5"
Weight	0.64 lbs (300 grams)
Maximum operating temperature	40 °C (104 °F)



Radiation Precautions

The ECLIPSE-IV is intended to generate x-ray radiation during normal operation. The ECLIPSE-IV has been designed to focus radiation in the designated output direction, however, radiation in other directions is possible and should be addressed with shielding and/or monitoring in the final application.

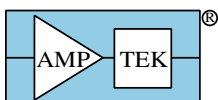
Caution

The ECLIPSE-IV is only one component of an X-ray instrument. It is the responsibility of the user, the OEM customer, or experimenter to provide a fail safe metal enclosure to prevent escaping radiation while using this product. The final product (turn-key system) must comply with local government regulations to protect personnel from exposure to radiation. Amptek Inc., bears no responsibility for the incorrect use of this product.

Caution

This device produces X-Rays when energized. To be operated only by qualified personnel.

Maximum operating temperature not to exceed 40 °C (104 °F)



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