

WESTINGHOUSE ELECTRONIC TUBE DIVISION

Sales Department: Elmira, New York

WL-6307

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August 1, 1955

Westinghouse RELIATRON® Tube
WL-6307
BF₃ Proportional Counter

The WL-6307 is a boron trifluoride proportional counter for the detection of thermal neutrons. The counter has an all-aluminum body one inch in diameter and 12 inches long; it is provided with a connector for "HN" cable fittings. The WL-6307 is extremely rugged and will operate at temperatures up to 80°C. It is filled to a pressure of 55 cm. Hg with BF₃ enriched to 96% with Boron-10 isotope. The sensitivity of the counter is approximately 4.5 counts per second for a unit thermal neutron flux and it operates in the vicinity of 2000 volts.

GENERAL DATA

Mechanical:

Overall Length 12"
Diameter 1"
Sensitive Length 8.5"
Center Conductor . 0.001" Diameter Tungsten Wire
Body Material Aluminum
Filling: BF₃ enriched to 96% in B¹⁰ at pressure
of 55 cm Hg.

Operational:

Operating Voltage, approx. . . . 2000 Volts
Operating Temperature, maximum for
extended periods of time 80 °C
Sensitivity, counts per second# . . 4.5
Multiplication Factor, at 2000 volts 500
Plateau: Operating plateaus 200 volts or greater
in length and with an average slope of
2.0% per 100 volts or less obtainable
with 5 millicurie radium-beryllium
neutron source.

For an isotropic thermal neutron flux of one
neutron per cm² - sec.

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