



**Radiation Products Design, Inc.
5218 Barthel Industrial Drive
Albertville, MN 55301**

www.rpdinc.com

Phone: 800-497-2071 Fax: 763-497-2295

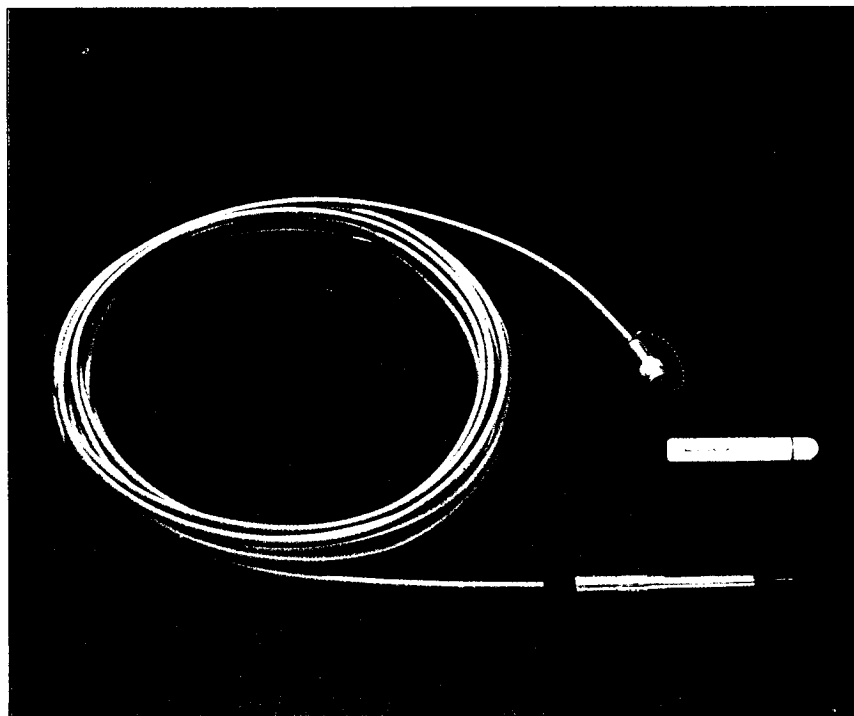
**RPD is an
authorized distributor**

RPD Product Information

Item Number Description

300-005-10-BNC-M * Bicron 2571A - 0.6cc Farmer Type Chamber (Graphite)10M
300-005-BNC-M * Bicron 2571A - 0.6cc Farmer Type Chamber (Graphite)

2571-0.6cm³



The 2571 0.6cm³ Ionisation Chamber is used for the dosimetry of photons and electrons at therapy level doserates. When suitably calibrated it can be used to measure exposure in air, surface absorbed dose in water, the quantity chosen depending upon the type and quality of the radiation and the relevant code of practice.

The build-up cap for this chamber also serves as a protective cap when the chamber is not in use. The signal conductor is guarded to within 30mm of the sensitive volume, resulting in lower natural leakage current and greatly reduced post-irradiation leakage effects.

The stem terminates in a robust cable entry by which the chamber can be mounted, and the chamber is fitted with a 10m length of low noise triaxial cable terminated with a triaxial connector.



NUCLEAR ENTERPRISES

Reduced radiation leakage currents
Lower natural leakage currents
Guarded stem

2571 SPECIFICATION

Physical Specification

Construction:

A thin-walled high purity graphite thimble and a centre electrode of pure aluminium are supported by a thin wall aluminium stem.

Active Dimensions:

Sensitive volume: 0.69cm³
 Sensitive length: 24.1mm
 Inner diameter, Outer Electrode: 6.3mm
 Outer diameter, Inner Electrode: 1.0mm
 Length of Inner Electrode: 20.6mm
 Thimble wall thickness: 0.36mm
 Build-up/Protective Cap wall thickness: 3.87mm

External Dimensions:

Outside diameter of thimble 7mm
 Outside diameter of Stem 8.62mm
 Outside diameter of Build-up/Protective Cap 14.9mm

Materials:

Outer Electrode } Graphite 99.99% pure
 Inner Electrode } Aluminium 99.99% pure
 Length of Connecting Cable: 10m
 Connector Type: Bendix TNC triaxial plug

Accessories Supplied

1. Build-up/Protective Cap
2. Instruction Manual
3. Calibration Certificate

Electrical Specification

THE FOLLOWING CONDITIONS APPLY TO THIS OPERATIONAL SPECIFICATION UNLESS OTHERWISE STATED:

Polarizing voltage: -250V Atmosphere pressure: 1013mbar Chamber temperature: +20°C

Leakage Current:

Typical: 5×10^{-15} A
 Maximum: 1.5×10^{-14} A

Maximum Exposure Rate for 99% Collection Efficiency:

Polarising Potential – 250V Approx. 4000Rmin⁻¹ continuous
 Approx. 0.025 R/Pulse, Pulsed

Sensitivity: For X-Rays of 1mm Cu HVL
 4.6 RnC⁻¹
 275Rmin⁻¹nA⁻¹

Energy Range or X and Gamma Rays:

50KV to 300KV (without build-up cap)
 -measures exposure
 0.3MV to 2MV (with build-up cap fitted)
 -measures exposure
 2MV to 35MV (in suitable Phantom)
 -used to measure absorbed dose in water

Energy Range for Electrons: 5 to 35MV (in suitable Phantom)
 -used to measure absorbed dose in water

Typical Energy Response—X and Gamma Rays (Exposure in free air)

KVp Nominal	Added Filtration			Half Value Layer mm Cu	Typical Correction Factor Relative to 180kV
	mm Sn	mm Cu	mm Al		
60			0.17	0.046	1.035
100			2.0	0.15	1.015
180		0.5	1.0	1.0	1.000
250	0.6	0.25	1.0	3.0	1.000
⁶⁰ Co				12.0	1.020