

PTW Farmer® Ionization Chambers

PTW Farmer® ionization chambers conform to the physical dimensions and meet or exceed the performance standards of the original Farmer® design. They are available from CNMC in several configurations. All chambers feature a new, low-noise, triaxial cable with radiation resistant insulation. Each chamber is supplied with an integral 1 meter cable, male triax BNC connector with cap and chain, an acrylic ⁶⁰Co buildup cap and a foam-lined case.

N30010 - 0.6 cm³, acrylic/graphite

Model N30010 (formerly N30001, formerly N23333) with a sensitive volume of 0.6 cc, features a thimble with internal 0.09 mm thick graphite layer, protected by a 0.335 mm acrylic exterior wall. This combination makes the N30010 essentially air-equivalent with all the ruggedness of an acrylic thimble.

N30012 - 0.6 cm³, graphite

Model N30012 (formerly N30004) has a sensitive volume of 0.6 cc, with a thimble that is made entirely of graphite, but with an aluminum central electrode for enhanced low-energy response uniformity.

N30004.2 - 0.2 cm³, graphite

Model N30004.2 is a CNMC version of the model N30004 with a sensitive volume of 0.2 cc for greater spatial resolution, an all-graphite thimble and aluminum central electrode. It is supplied with an appropriate acrylic ⁶⁰Co buildup cap. Optional 15 mm long acrylic spacers to take up the extra space within a solid phantom drilled for 0.6 cc chambers are available.

Features:

- ▶ Fully guarded
- ▶ Redesigned for long term stability
- ▶ Characterized by TG-51



Specifications

	N30010	N30012	N30004.2
$N_{gas}/(N_x A_{ion})$ (cGy/R):	0.849	0.854	N/A
K_{ecal} :	0.897	0.906	N/A
Volume, nom.:	0.6 cc	0.6 cc	0.2 cc
Sensitivity, nom.:	0.2 nC/cGy	0.2 nC/cGy	0.07 nC/cGy
Wall material:	acrylic/graphite	graphite	graphite
Wall thickness:	0.425 mm	0.425 mm	0.425 mm
Wall density:	57 mg/cm ²	79 mg/cm ²	79 mg/cm ²
Sensitive volume:	23 mm x 6.10	23 mm x 6.10	8 mm x 6.10
Electrode:	aluminum	aluminum	aluminum
Electrode dia.:	1.1 mm	1.1 mm	1.1 mm
Leakage:	<4 x 10 ⁻¹⁵ A		
Bias voltage:	500 V maximum Rate limit at 99% ion collection efficiency: 300 V; 22R/s, 500 V; 63R/s		
Dose limit at 99% ion collection efficiency, pulsed:	300 V; 13 mR, 500 V; 22 mR/pulse		
Cable length:	1 m, triax BNC with dust cap and chain		
Buildup cap:	acrylic, 4.55 mm wall, 16.4 mm o.d.		
Buildup cap machine thread: ...	M 11 x 1		

Accessories

- WPK-100 Waterproofing kit contains 1 mm wall buildup (per TG-51) acrylic waterproofing cap with 6 latex sheaths 3 ft x 5/8 in i.d. and two o-rings
- 2513A Form fitting latex waterproofing sleeve
- 3BM-F10 10 m extension cable, triax BNC, male/female with caps and chains (also available in custom lengths and/or mounted in a reel)
- 3BF-3TMF Triaxial BNC to TNC adapter

PTW Farmer® is a registered trademark of PTW Freiburg and PTWNew York.

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