



Expect Service

Radiation Products Design Inc

SPEC SHEET

RPD INFORMATION

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RPD IS AN AUTHORIZED DISTRIBUTOR

Item Number	Description
300-645-BNC-M	PTW 30002 / 30011 - 0.6cc Graphite Farmer Chamber

IONIZATION CHAMBER TYPE T30002

PTW Farmer™ Chamber, 0.6 cm³, Graphite / Graphite

Diagnostic Radiology
Radiation Therapy
Radiation Protection

Description:

The 0.6 cm³ PTW Farmer ionization chamber type T30002 is the chamber for absolute dosimetry in radiation therapy when a graphite thimble and a graphite electrode are required. This high quality chamber is of delicate construction due to its all graphite construction. The chamber is fully guarded up to the measuring volume.



Technical Data:

Volume	0.6 cm ³
Response	$2 \cdot 10^{-8}$ C/Gy
Leakage	$\pm 4 \cdot 10^{-15}$ A
Polarizing voltage	max. 500 V
Cable leakage	10^{-12} C/(Gy · cm)
Wall material	Graphite (C)
Wall density	1.85 gm/cm ³
Wall thickness	0.425 mm
Area density	78.6 mg/cm ²
Electrode	Graphite, 1.0 mm Ø, 20.7 mm long
Nominal useful range	140 keV ... 50 MeV
Range of temperature	10 ... 40°C
Range of rel. humidity	10 ... 80%
Ion collection time	300 V: 0.18 ms
	400 V: 0.14 ms
	500 V: 0.11 ms

- Suitable for use in solid state phantoms
- Vented measuring volume
- Fully guarded up to measuring volume
- Touchable parts free of high voltage
- Extension cables up to 100 meters in length are available
- Suitable for BNT or TNC triaxial cable connectors

Saturation behavior

Polarizing Voltage

99.0% saturation

99.5% saturation

Maximum dose rate at
continuous irradiation

300 V
400 V
500 V

5.70 Gy/s
10.00 Gy/s
16.00 Gy/s

2.80 Gy/s
5.00 Gy/s
7.80 Gy/s

Maximum dose per
irradiation pulse

300 V
400 V
500 V

0.69 mGy
0.91 mGy
1.14 mGy

0.34 mGy
0.46 mGy
0.57 mGy

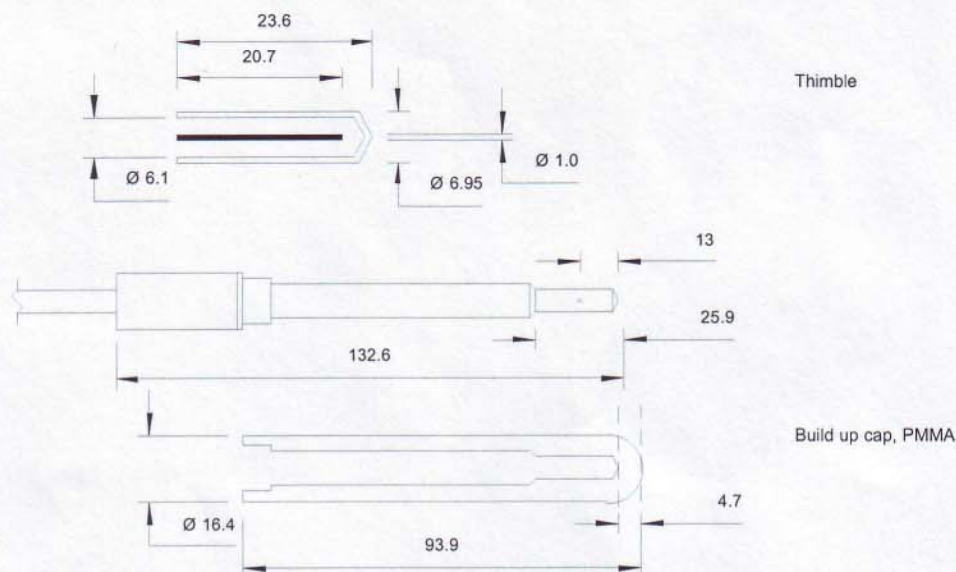
PTW NEW YORK

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IONIZATION CHAMBER TYPE T30002

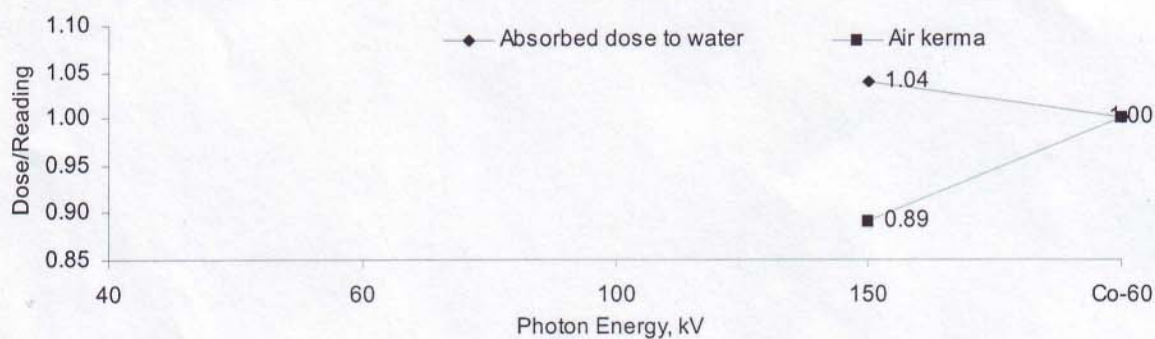
PTW Farmer™ Chamber, 0.6 cm³, Graphite / Graphite

Diagram:



Approximate dimensions in mm.
Drawing not to scale.

Energy Dependence:



Directional Dependence:

in Air													in PMMA												
	6°	12°	18°	24°	30°	60°	90°	120°	150°	162°	174°	180°		6°	12°	18°	24°	30°	60°	90°	120°	150°	162°	174°	180°
70 kV	20	48	69	81	88	99	100	100	98	96	91	88	70 kV	78	88	96	100	101	100	100	100	100	101	102	102
140 kV	36	66	82	90	94	100	100	100	100	98	96	94	140 kV	90	97	101	102	103	101	100	100	99	100	102	102
280 kV	57	80	90	94	96	100	100	100	100	99	98	97	280 kV	100	102	103	103	103	101	100	100	100	101	102	102
Co-60	67	85	91	95	97	100	100	100	100	99	99	98	Co-60	102	101	101	101	101	100	100	100	101	102	102	102

For additional information please contact:

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PTW Farmer is a registered trademark of PTW Freiburg.

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