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**RPD is an  
authorized distributor**

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**RPD Product Information**

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**Item Number Description**

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**300-655-BNC-M \* PTW Model 30006 / 30013 - 0.6cc Waterproof Farmer Chamber**

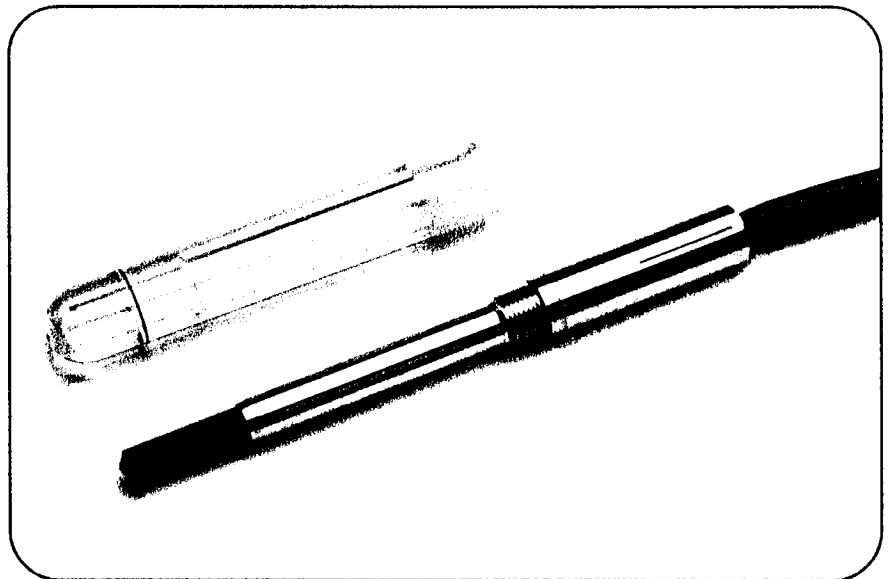
# IONIZATION CHAMBER TYPE T30006

PTW Farmer™ Chamber, 0.6 cm<sup>3</sup>, *Waterproof*

Diagnostic Radiology  
Radiation Therapy  
Radiation Protection

## Description:

The 0.6 cm<sup>3</sup> PTW Farmer ionization chamber type T30006 is a waterproof version of our standard PTW Farmer chamber, type T30001. Since the T30006 is waterproof, it may be used in water phantoms and does not require a protective sleeve. The chamber is designed for absolute dosimetry in radiation therapy. It is rugged in construction and has a PMMA/graphite thimble and an aluminum electrode.



### Technical Data:

Volume	0.6 cm <sup>3</sup>
Response	$2 \cdot 10^{-9}$ C/Gy
Leakage	$\pm 4 \cdot 10^{-15}$ A
Polarizing voltage	max. 500 V
Cable leakage	$10^{-12}$ C/(Gy · cm)
Wall material	PMMA (C <sub>5</sub> H <sub>8</sub> O <sub>2</sub> ), Graphite (C)
Wall density	1.19 gm/cm <sup>3</sup> (PMMA), 1.85 gm/cm <sup>3</sup> (C)
Wall thickness	0.335 mm PMMA, 0.09 mm C
Area density	56.5 mg/cm <sup>2</sup>
Electrode	Aluminum, 1.1 mm Ø, 21.2 mm long
Nominal useful range	30 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

- Completely *Waterproof*, does not require protective sleeve
- Can be safely used in water phantoms and solid state phantoms
- Open volume, vented at connector
- Fully guarded up to the measuring volume
- Touchable parts free of high voltage
- Extension cables up to 100 meters in length are available
- Suitable for all types of triaxial cable connectors: PTW-M, BNT, TNC, BNC + banana on request

### 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

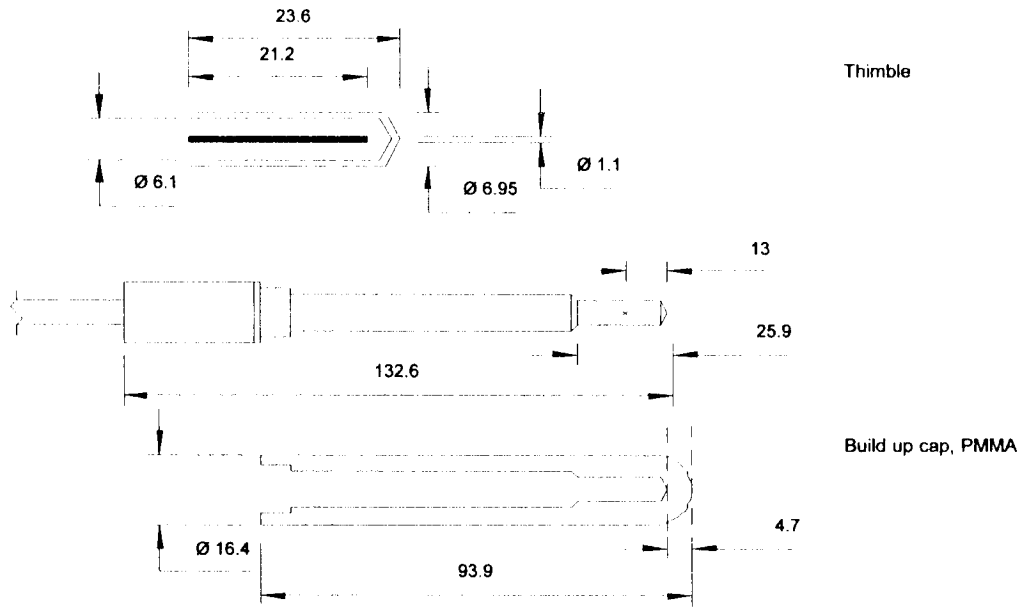
0.69 mGy  
0.91 mGy  
1.14 mGy

0.34 mGy  
0.46 mGy  
0.57 mGy

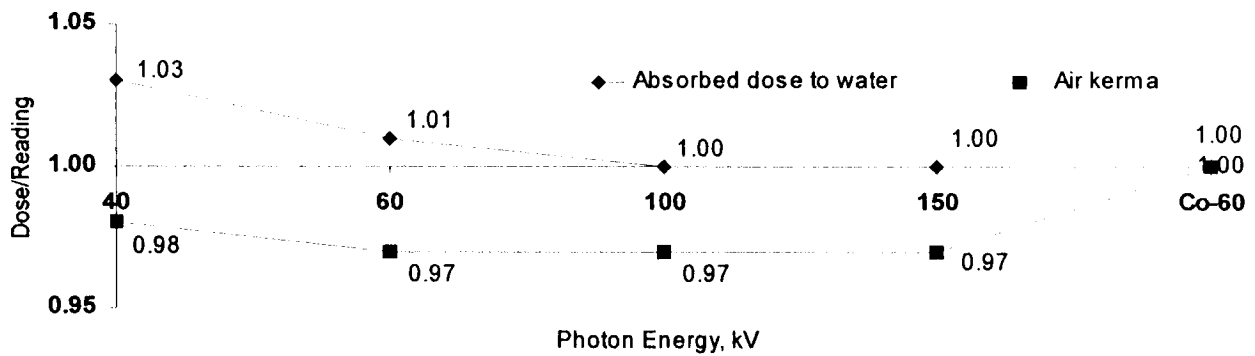
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## Diagram:



## Energy Dependence:



## Directional Dependence:

90°  
0° 180°

in Air													in PMMA												
Reading / Dose, %	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	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	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	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	102	101	101	101	101	100	100	100	101	102	102	102	

For additional information please contact: