

# Farmer-Type Ionization Chamber, 0.6 cm<sup>3</sup>, Waterproof

## Model 30-351



- 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

The waterproof 0.6 cm<sup>3</sup> ionization chamber (Model 30-351) is designed for absolute dosimetry in radiation therapy. Since the chamber is waterproof, it may be used in water phantoms and does not require a protective sleeve. It is rugged in construction and has a PMMA/graphite thimble and an aluminum electrode. This chamber includes a 33 ft (10 m) cable, BNC Triax connector, and a PMMA buildup cap.

### Specifications

**Volume** 0.6 cm<sup>3</sup>

**Response**  $2 \cdot 10^{-8}$  C/Gy

**Leakage**  $\pm 4 \cdot 10^{-15}$  A

**Polarizing voltage** Maximum 500 V

**Cable length** 33 ft (10 m)

**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 to 50 MeV

**Range of temperature** 10° to 40°C

**Range of relative humidity** 10% to 80%

#### Ion collection time

**300 V** 0.18 ms

**400 V** 0.14 ms

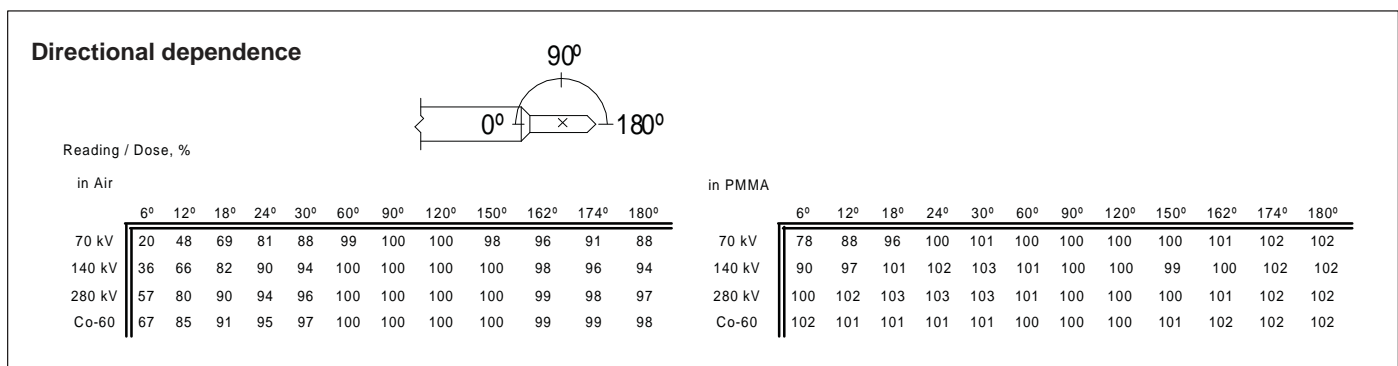
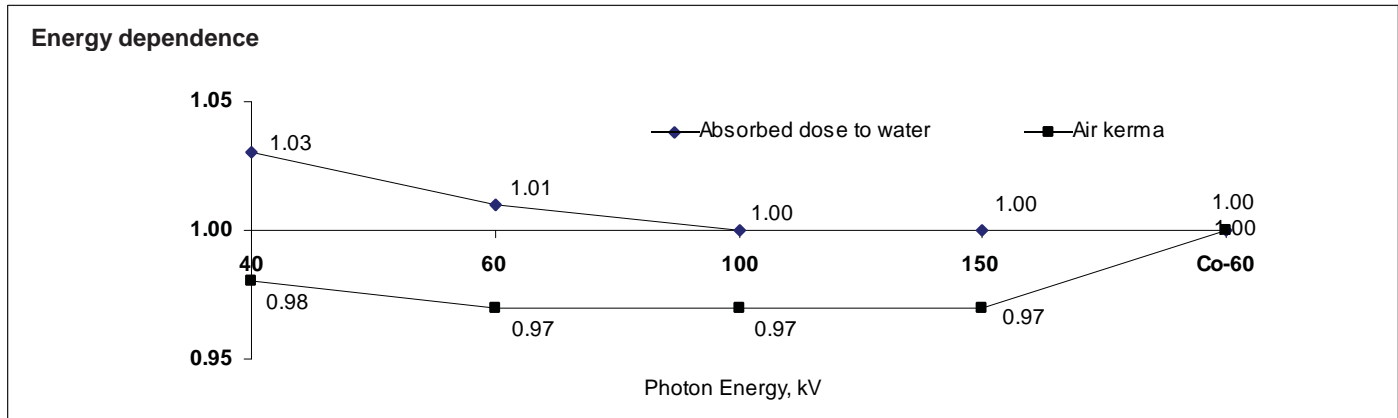
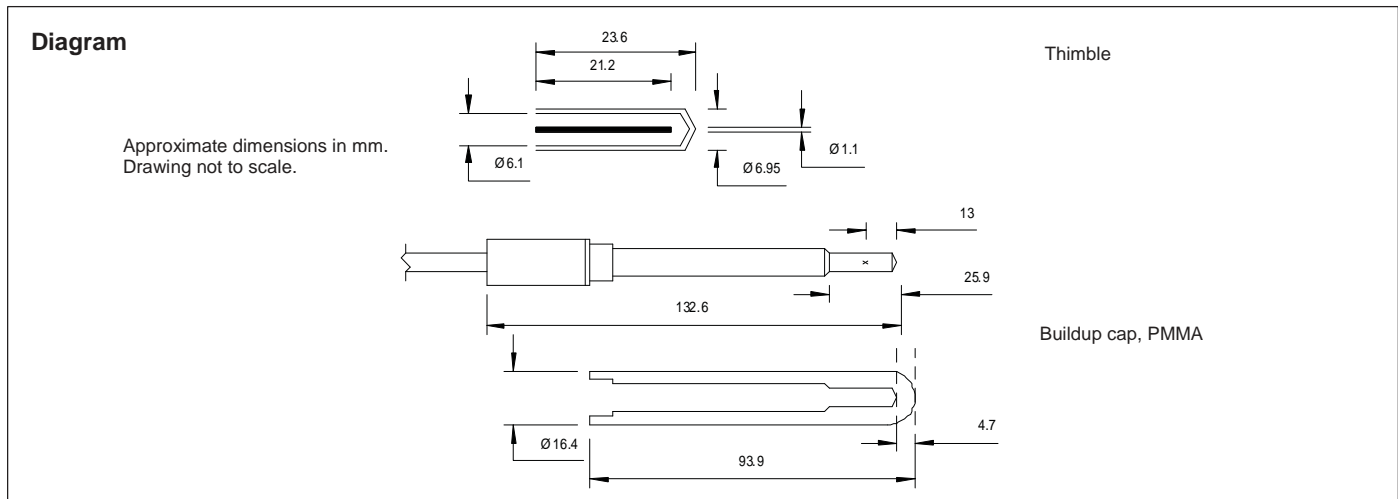
**500 V** 0.11 ms

#### Saturation behavior

Saturation behavior	Polarizing voltage	99.0% saturation	99.5% saturation
Maximum dose rate at continuous irradiation	300 V	5.70 Gy/s	2.80 Gy/s
	400 V	10.00 Gy/s	5.00 Gy/s
	500 V	16.00 Gy/s	7.80 Gy/s
Maximum dose rate per irradiation pulse	300 V	0.69 mGy	0.34 mGy
	400 V	0.91 mGy	0.46 mGy
	500 V	1.14 mGy	0.57 mGy

*See next page for more specifications.*

## Specifications (cont)



### Available model(s)

**30-351** Farmer-Type Ionization Chamber, 0.6 cm<sup>3</sup>, Waterproof, includes BNC Triax connector and PMMA buildup cap

*Other types of triaxial cable connectors available*

For more information or to receive our full product catalog, contact **Fluke Biomedical** at 440.248.9300 or [www.flukebiomedical.com/rms](http://www.flukebiomedical.com/rms).

*Specifications are subject to change without notice.*

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