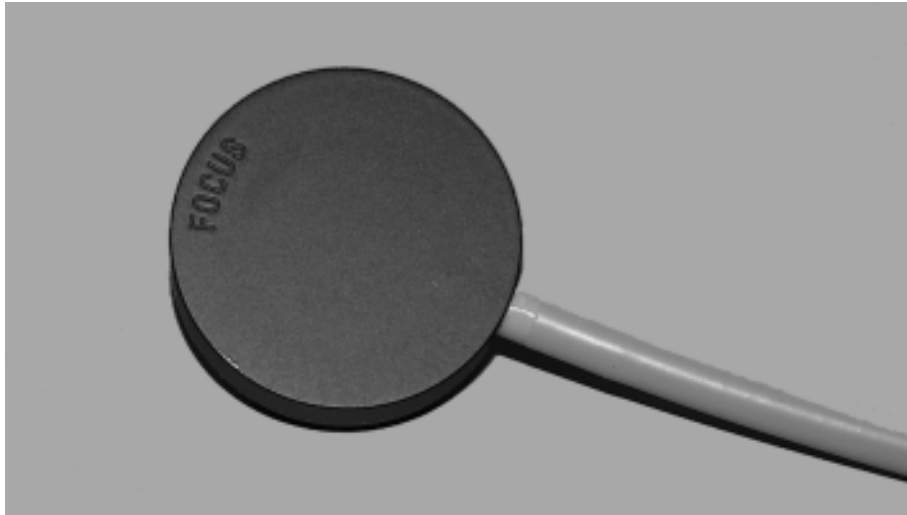


Roos™ Electron Ionization Chamber, 0.35 cm³, Waterproof Model 30-332



- Designed as a standard chamber for electron dosimetry
- Wide guard ring excludes perturbation effects, even at low electron energies
- Negligible polarity effect, < 0.5% at 10 MeV
- Energy dependence is only influenced by the stopping power correction, a type dependent correction is not necessary
- Completely Waterproof
- Ideal for use in water phantoms or suitable solid state phantoms
- Open volume, vented

The Roos chamber, a development from Dr. Roos of PTB-Braunschweig, is used as a standard chamber for electron dosimetry. This chamber has a very wide guard ring to exclude any perturbation effect, even at low electron energies. The polarity effect is negligible. Energy dependence is only influenced by the stopping power correction, a type dependent correction is not necessary. The chamber is waterproof and vented through the connection cable. Roos includes a 3.5 ft (1.08 m) cable and BNC Triax connector.

Specifications

- Volume** 0.35 cm³
- Response** 1 • 10⁻⁸ C/Gy
- Leakage** ± 4 • 10⁻¹⁵ A
- Polarizing voltage** 100 V recommended, maximum 400 V
- Cable length** 3.5 ft (1.08 m)
- Cable leakage** 3.5 • 10⁻¹² C/(Gy • cm)
- Wall material** Acrylic (C₅H₈O₂)
- Wall density** 1.19 gm/cm³
- Wall thickness** 1.0 mm
- Area density** 119 mg/cm²
- Electrode** Acrylic, graphite coated, 15 mm Ø
- Guard ring** 4 mm wide
- Nominal useful range** 2 to 25 MeV
- Range of temperature** 10° to 40°C
- Range of relative humidity** 10% to 80%

Ion collection time

- 100 V: 0.37 ms
- 200 V: 0.13 ms
- 300 V: 0.07 ms

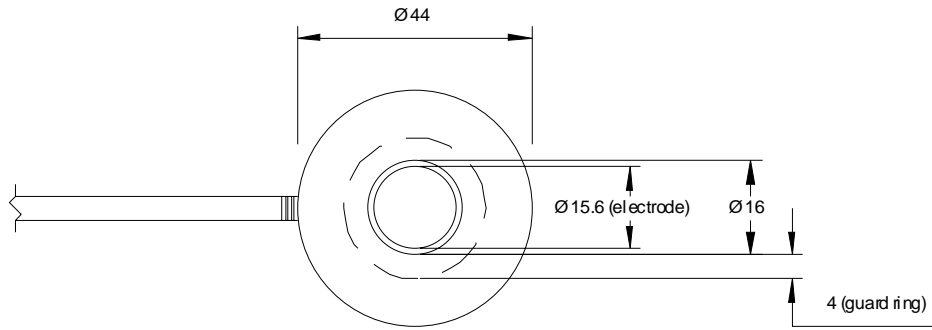
Saturation behavior

Saturation behavior	Polarizing voltage	99.0% saturation	99.5% saturation
Maximum dose rate at continuous irradiation	100 V	2.6 Gy/s	1.3 Gy/s
	200 V	11.0 Gy/s	5.2 Gy/s
	400 V	42.0 Gy/s	21.0 Gy/s
Maximum dose rate per irradiation pulse	100 V	0.5 mGy	0.2 mGy
	200 V	0.9 mGy	0.5 mGy
	400 V	1.9 mGy	0.9 mGy

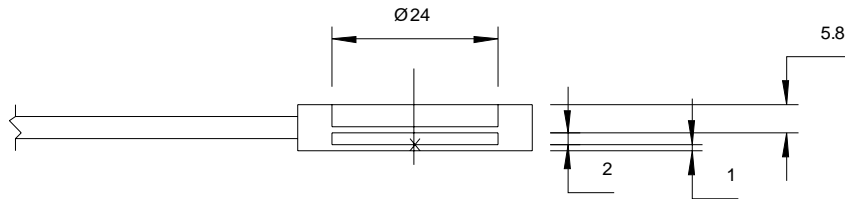
See next page for more specifications.

Specifications *(continued)*

Diagram



Approximate dimensions in mm.
Drawing not to scale.



Directional dependence

The deviation of the response following tilting of the chamber by up to 10° at 6 and 20 MeV, at the dose maximum in water, is less than 0.1%.

Optional accessories

Check Source, ⁹⁰Sr, 20 MBq (541 μCi) (Model 30-658)

Available model(s)

30-332 Roos Electron Ionization Chamber, 0.35 cm³, Waterproof, includes BNC Triax connector

Other types of triaxial cable connectors available