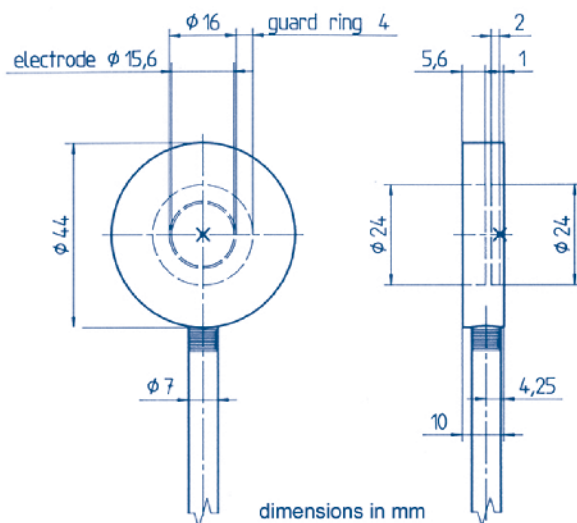


Model N34001 Roos® Plane-Parallel Ion Chamber

This plane-parallel ionization chamber was developed for use as a reference chamber for electron dosimetry. The Roos® chamber has a wide guard ring to exclude any perturbation effect, even at low electron energies. The polarity effect is also negligible (<0.5% at 10 MeV between 0% and 5% half value depth).

The energy dependence of the Roos® chamber is only influenced by the stopping power correction; a type-dependent correction is not necessary. The chamber is watertight for use in water phantoms. The measuring volume is vented to the atmosphere through the connecting cable sheath. The entrance window of the Roos® chamber is flush with the surface so that it can be used with solid phantoms.

The Model N34001 chamber is built to exacting standards by PTW-Freiburg. It features a 1 meter cable and can be delivered with either a triaxial BNC or TNC connector.



Roos® is a registered trademark of PTW Freiburg and PTW New York. Designed by Dr. Roos, PTB-Braunschweig, Germany.



Features:

- ▶ Waterproof
- ▶ Fully guarded
- ▶ Wide guard ring design for negligible polarity and perturbation effects
- ▶ 15 mm diameter collector
- ▶ Characterized for TG-51

Specifications

$N_{gas}/(N_{x,ion})$ (cGy/R):	0.8547
Kecal:	0.901
Volume:	0.35 cc (nominal), vented
Sensitivity:	0.1 nC/cGy (nominal)
Leakage current:	<4 x 10 ⁻¹⁵ A
Body material:	acrylic, C5H8O2
Entrance window:	acrylic, graphite coated, 1 mm thick, 118 mg/cm ²
Exit window:	acrylic, 1.4 mm thick, 165 mg/cm ²
Ion collector:	15 mm diameter, acrylic, graphite coated
Electrode separation:	2 mm
Guard ring:	4 mm wide
Reference point:	1 mm below entrance plane
Bias voltage:	±400 V maximum
Polarity effect:	<0.5%
.995 Aion at 400 V bias:	2100 R/s
Directional dependence:	<0.1% for up to 10E tilt at 6 MeV and 20 MeV
External dimensions:	44 mm diameter x 10 mm
Cable:	low-noise triaxial, 1 meter long,
Connector:	BNC male triaxial (TNC optional)

Accessories

CH-2	Cradle-type holder with 7 mm diameter stem for Roos® and PPC40 chambers
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