



Radiation Products Design, Inc.

5218 Barthel Industrial Drive

Albertville, MN 55301

www.rpdinc.com

Phone: 800-497-2071 Fax: 763-497-2295

**RPD is an
authorized distributor**

RPD Product Information

Item Number Description

300-665-BNC-M * PTW Model 31005 / 31011 - 0.125cc Short Stem Semiflex

IONIZATION CHAMBER TYPE 31003

Radiation Therapy

Diagnostic Radiology

Nuclear Medicine

Radiation Protection

Flex Tube Chamber 0.3 cm³

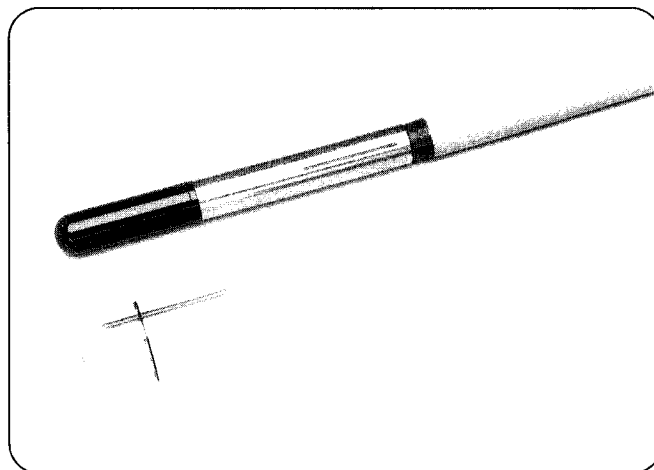
Description

The ionization chamber type 31003 is designed for measurements in the useful beam of high energy photon or electron fields. The chamber is watertight and used mainly for relative measurements with a water phantom or air scanner for characterization of the radiation fields of therapy accelerators and teletherapy cobalt sources. The measuring volume is open to the surrounding air via cable and connector. The chamber has a short rigid stem for mounting and a flexible connection cable. This chamber is type tested by the PTB Braunschweig.

The design of the chamber is similar to the 0.125 cm³ chamber type 31002 but with a larger volume for higher response.

Technical data

Volume:	0.3 cm ³
Response:	$1 \cdot 10^{-8}$ C/Gy
Leakage:	$\pm 4 \cdot 10^{-15}$ A
Polarizing voltage:	max. 500 V
Cable leakage:	$1 \cdot 10^{-12}$ C/(Gy · cm)
Wall material:	PMMA (C ₅ H ₈ O ₂)
Wall density:	1.18 g/cm ³
Wall thickness:	0.7 mm
Area density:	82.6 mg/cm ²
Electrode:	Aluminium, graphite coated; 1.5 mm Ø; 14.25 mm long
Range of temperature:	+ 10° C ... + 40° C
Range of rel. humidity:	20 % ... 75 %
Ion collection time:	300 V: 0.10 ms 400 V: 0.08 ms 500 V: 0.06 ms



- Guard ring up to measuring volume
- Suitable for use in solid state phantoms and water phantoms
- Guard ring at potential of the collecting electrode. Touchable parts free of high voltage
- High voltage to be connected only with active current-limiting device ($I_{max} < 0.5$ mA)
- Open measuring volume, without check device air density correction is necessary
- Lengthening cable up to 100 m available
- Approved for official calibration, 2321
German sign of certification: 851

Saturation behaviour	Polarizing voltage	99.0 % saturation	99.5 % saturation
Max. dose rate at continuous irradiation	300 V 400 V 500 V	17 Gy/s 30 Gy/s 47 Gy/s	8.5 Gy/s 15 Gy/s 23 Gy/s
Max. dose per irradiation pulse	300 V 400 V 500 V	1.0 mGy 1.3 mGy 1.7 mGy	0.4 mGy 0.5 mGy 0.7 mGy