



Beam Sentry 2 Daily Output Constancy Monitor

Beam Sentry 2, Model 105 A

The Beam Sentry 2, Model 105 A provides a convenient and economical means of performing daily radiation output constancy checks. It is a lightweight, portable unit with remote readout featuring the accuracy of a digital display. The unique design, featuring a separate ion chamber, eliminates radiation damage to the electronics, while allowing both the dosimeter and the ion chamber to be used independently for other purposes.

The Beam Sentry 2 is easy to use. Simply connect the electrometer to the ion chamber assembly, place the electrometer at the foot of the treatment table, collimate the beam to the 10 cm field markings on the ion chamber, make the exposure and collect the reading.

The electrometer offers high accuracy, precision and repeatability, and is suitable as a stand-by or a back-up dosimeter. The connectors are triaxial BNC, permitting use with a standard triaxial extension cable for reading successive doses from outside of the treatment room and providing interchangeability with other dosimetry ion chambers and electrometers.

The Model 505 A detector assembly contains a sealed plane-parallel ion chamber, requiring no corrections for barometric pressure and temperature changes. The detector assembly is reversible, having two entrance windows, each with a 10 cm field markings. One entrance window has a buildup optimized for 6 MV and electrons beams, and the opposite entrance window has a buildup optimized for 18 MV.

Beam Sentry 2, Model 115 A

The Beam Sentry 2, Model 115 A is essentially identical to the Model 105 A in concept. It consists of a Model 505 A sealed ion chamber assembly and a Model 1100 full-capability, calibration-grade electrometer.

Features

- ▶ Sealed ion chamber – no air density correction necessary
- ▶ Reversible detector – dual entrance windows, 6 and 18 MV
- ▶ Electrometer protected from radiation
- ▶ Remote operation using a standard triax extension cable
- ▶ Powered by a single 9 V battery – no bias batteries to replace
- ▶ Electronic bias – full and half voltage

Specifications

Model 10 Electrometer

Display	3-1/2 digit LCD
Range	19.99 and 199.9
Units	Factory set; R, cGy, or nC
Accuracy	±0.1% of reading +1 digit
Linearity	±0.1%, + 1 digit or precision of reading, whichever is greater
Leakage	< 60 fA
Temp. stability	20 ppm/°C
Input connector	Triaxial BNC, w/cap & chain
Bias supply	Static, 300 V, 100%, 50%, off
Power	9 V battery, NEDA 1604 A
Dimensions	15.3 cm x 15.3 cm x 8.9 cm (6 in x 6 in x 3.5 in)
Weight	0.9 kg (2 lbs)

505A Ion Chamber Assembly

Chamber type	Plane-parallel
Sensitive volume	2 cc, nominal
Collector	31 mm dia.
Electrode spacing	2.6 mm
Sensitivity	0.7 nC/cGy, nominal
Top buildup	1.4 g/cm ² (4–10 MV, 5–12 MeV)
Bottom buildup	2.6 g/cm ² (10–25 MV, 12–25 MeV)
Cable	2 m (6.5 ft) integral
Connector	Triaxial BNC (TNC optional)
Dimensions	15 cm x 15 cm x 3.8 cm
Weight	1.1 kg (2.4 lbs)

Accessories

- Model 303BP-134** Set of additional acrylic build-up plates, 15 x 15 cm,
1 each: 0.63 cm (1/4 in), 1.27 cm (1/2 in), 1.90 cm (3/4 in)
- Model 3BM-F10** 10 meter triaxial BNC extension cable