



Model 303 Mammographic X-Ray Ion Chamber

The CNMC Model 303 is a low-energy x-ray ionization chamber with a sensitive volume of 3.3 cc, suitable for QA and calibration measurements of x-ray beam qualities from 0.16 to 7 mmAL HVL. Both in-air and in-phantom measurements are easily performed with the Model 303H holder and the Model 303P phantom, respectively. The larger size and the offset chamber recess of the phantom facilitates measurements in the automatic exposure control (AEC) mode. The two-piece phantom design allows surface and midplane dose measurements, but it also provides a convenient, economical method of checking the constancy kVp (Ratio changes by 5 - 6% for a mammographic kVp change 1 kVp).

The chamber has a permanently-attached, low-noise, flexible triaxial cable that is terminated with a triax BNC connector (TNC triaxial or BNC coaxial (with banana plug optional)). It is supplied with a calibration certificate.

The output of Model 303 may be read on any high-quality electrometer such as CNMC Model 10 or Model 1100, as well as Fluke Biomedical Models 8000, 6000 M, 4000 M+ or RADCHECK® PLUS; whenever interference with automatic exposure control (AEC) is not desirable.

Below: Model 07-706 Patient Phantom/Penetrator



Features:

- ▶ Plane-parallel design
- ▶ Rugged polycarbonate window
- ▶ Affordable price
- ▶ Leakage less than 10^{-14} A

Specifications

Volume:	3.3 cc
Sensitivity:	1 nC/R, nominal
Radiation measured:	16 to 90 kVp x-rays
Energy response:	±4%, 0.2 to 5 mm Al HVL
Window:	0.18 mm thick polycarbonate, graphite coated, 9.5 mg/cm ² , 6.6 cm ² frontal area
Body Material:	Acrylic
Current leakage:	<10 ⁻¹⁴ A
Dimensions:	4 cm dia. x 1.5 cm
Cable:	4.5 meter low-noise triaxial BNC (TNC or coax BNC with banana plug optional)

Model 07-706

Patient Phantom/Penetrator

Used to properly check the tabletop output of image-intensified fluoroscopic equipment. The phantom protects the phosphor from the direct beam and provides the simulated attenuation needed to measure exposure level at the image intensifier input phosphor. A Model 303 ion chamber may be placed under the phantom with lead beam block plate inserted to determine the maximum fluoroscopic output under the blocked beam condition. A penetrator permits the determination of the system contrast gradient under simulated operating conditions.

Consists of: Two 17.8 x 17.8 (7 x 7 in) x 1.9 cm aluminum blocks; one 17.8 x 17.8 x 0.08 cm aluminum penetrator plate; one 17.8 x 17.8 x 0.32 cm lead beam stop plate; two sets of legs, 3.2 cm and 26.3 cm long.