10X6 Chambers - Technical Specifications

10X6-6

General Purpose In Beam Chamber

A well documented wide dynamic range chamber with many dose and rate applications. Also recommended for measuring exposure time in Auto Dose mode.

10X6-6M

Dedicated Mammography Chamber

A world standard for mammography, ready for any mammographic tube track-filter combination. Extraordinary flat energy response over 10 - 40 keV has been documented in technical papers and makes corrections unnecessary. Also recommended for measuring exposure time in Auto Dose mode.

10X6-60/60E

Service and Image Intensifier Chamber

The dynamic range and thin profile is ideal for Input Dose at the Image Intensifier, High dose rates encountered in Fluoroscopy and Cine, spot film devices & other special procedures. Additionally, the -60E (extended) chamber's increased sensitivity at lower energies turns the chamber into a "Universal" detector, covering mammography through R&F and beyond.

10X6-3CT

Computed Tomography Dose Index (CTDI) and DWP or DLP Chamber

Although designed specifically for CT X-ray beam measurements, either free-in-air or mounted in a head or body phantom, it can be used for DWP and DLP applications such as Dental x-ray measurements, due to the chambers excellent energy and partial volume response as well as uniformity along its entire 10 cm active length.

10X6-180

Leakage and Low Level Measurements Chamber

Designed for leakage measurements. Cross-section of 100 cm^2 and volume of 180 cm^3. Also for very low dose to image receptor.

10X6-1800

Radiation Protection Chamber

For low-level radiation measurements such as shielding leakage, irradiator and environmental. Unlike typical survey meters, the 1800 cm^3 volume chamber offers improved accuracy over a wider dynamic range.

10X6-0.18

High Dose Rate Chamber

For in-beam measurements of high-intensity gamma radiation. Gamma irradiators and beam type irradiators. The fully guarded chamber is mounted at the end of a 3 m low noise triax cable.

10X6-0.6

High Dose Rate Chamber

This high dose rate chamber provides an excellent response at therapy and other high energy, high dose rate applications. The fully guarded chamber is mounted at the end of a 12 m low noise triax cable. Can be used with or without build up cap depending upon the application.

10X6-0.6CT

Modern Wide Beam Multi-Slice CT Chamber

0.6cc thimble chamber as described in the AAPM Report No. 111 "Comprehensive Methodology for the Evaluation of Radiation Dose in X-ray Computed Tomography." Ideal for dose measurements in modern wide beam multi-slice CT. Calibrated using X-rays @ 150 kVp, Phantom adapter included.

for use with: *Accu-Gold / Accu-Gold+ / Accu-Pro / Accu-Dose*

ACCU-GOLD | ACCU-GOLD+ | ACCU-PRO | ACCU-DOSE

SPECIFICATIONS / TECHNICAL DATA: All specifications subject to change.

CHAMBERS	10x6-6		10x6-6M		10X6-60/60E		10x6-3CT *		10x6-180		10x6-1800		10x6-0.18		10X6-0.6/0.6CT	
Min Rate	2 µR/s	20 nGy/s	2 µR/s	20 nGy/s	200 nR/s	2.0 nGy/s	2 µR/s	20 nGy/s	100 nR/s	1 nGy/s	5 nR/s	50 pGy/s	50 µR/s	500 nGy/s	20 µR/s	200 nGy/s
Max Rate	17 R/s	149 mGy/s	10 R/s	88 mGy/s	2 R/s	19 mGy/s	40 R/s	350 mGy/s	0.6 R/s	4.9 mGy/s	18 mR/s	0.2 mGy/s	720 R/s	6.31 Gy/s	133 R/s	1.17 Gy/s
Min Dose	10 µR	100 nGy	10 µR	100 nGy	1 µR	10 nGy	20 µR	200 nGy	200 nR	2 nGy	20 nR	200 pGy	200 µR	2 µGy	100 µR	1 µGy
Max Dose	59 kR	516 Gy	59 kR	516 Gy	5.9 kR	52 Gy	118 kR	1 kGy	2.0 kR	17 Gy	196 R	1.7 Gy	2 MR	17 kGy	589 kR	5 kGy
Cine Specifications	0.1 µR/f - >1 R/f 1 nGy/f - >10 mGy/f		N/A		0.01 µR/f ->100 mR/f 0.1 nGy/f ->1.0 mGy/f		N/A		N/A		N/A		N/A		N/A	
Calibration Accuracy	±4% using X-rays @ 60kVp and 2.8 mm AL HVL		±4% using X-rays @ 30kVp and 0.50 mm AL HVL		**-60** ±4% using X-rays @ 150kVp and 10.2 mm AL HVL	**-60E** ±4% using X-rays @ 50kVp and 0.88 mm AL HVL	±4% using X-rays @ 150kVp and 10.2 mm AL HVL		±4% using X-rays @ 150kVp and 10.2 mm AL HVL		±4% using X-rays @ 150kVp and 10.2 mm AL HVL		±4% @ ^{60}Co		**0.6** ±4% @ ^{60}Co	**0.6CT** ±4% using x-rays @ 150 kVp and 10.2mm Al HVL
Exposure Rate Dependance	±5%, 0.4 mR/s to 80 R/s, up to 500 R/s for 50 us pulses		±5%, 0.02 R/min to 600 R/min		±5%, 2 mR/min to 199 R/min		±2%, 2mR/s to 40 R/s		±5%, 20 mR/hr to 2000 R/hr		+0%, -5%, 0.1 mR/hr to 20R/hr, -10% to 65 R/hr		±2%, 3 mR/s to 720 R/s		±2%, 10 mR/s to 100 R/s	
Energy Dependance	±5%, 30 keV to 1.33 MeV (with build-up material)		±5%, 10 keV to 40 keV		**-60** ±5% 20 keV to 1.33 MeV (with build-up material)	**-60E** ±5% 0.2 mm Al HVL to 1.33 MeV (with build-up material)	±5%, 3 to 20 mm AL HVL		±5%, 30 keV to 1.33 MeV (with build up material)		±5%, 33 keV to 1.33 MeV (with build up material)		±5%, 45 keV to 1.33 MeV		**0.6** ±5%, 40 keV to 1.33 MeV (with build up cap)	**0.6CT** ±5% 3 to 20 mm Al HVL
Construction	Polycarbonate walls and electrode conductive graphite interior coating; 6 cm^3 active volume; 0.05kg		0.7 mg/cm^2 metalized polyester window; polyacetal exterior; 6cm^3 active volume; 0.08kg		Polycarbonate walls; conductive graphite exterior coating; 60 cm^3 active volume, 0.5 m low-noise triax cable; 0.13kg		C552 air-equivalent walls and electrode: polyacetal exterior cap; 3 cm^3 active volume; 1.5m, low noise triax cable; 0.11kg		Polycarbonate walls and electrode; conductive graphite exterior coating; 180 cm^3 active volume; 0.11kg		Polycarbonate walls and electrode; conductive graphite exterior coating; 1800 cm^3 active volume; 0.54 kg		C552 air-equivalent material & electrode; polyacetal exterior cap, 0.18 cm^3 active volume, 3m triax cable		C552 air-equivalent material & electrode; polyacetal exterior cap, 0.6 cm^3 active volume, **0.6** 12m triax **0.6CT** 3m triax cable	

Calibration Accuracy ± 4 %, Energy Dependence ± 5 %. Plug-and-play.

* **Uniformity Along Length & Partial Volume Exposure** ±5%, to within 0.25 cm of chamber ends for a constant volume slice. Active length of 10 cm.