10X6 Chambers - Technical Specifications

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



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.

10X6-10

General Purpose In Beam Chamber



This 10cc multi-purpose ion chamber is suitable for measuring R&F as well fluoro. It's small size (5cm diameter x 1cm thick), excellent energy response and x-ray transparency makes it ideal for those difficult measurements where space is at a minimum.

10X6-60

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.

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.

10X6-500

Leakage Measurement Chamber



A single sensor leakage measurement solution for very low-level radiation measurements such as shielding, leakage, irradiators and environmental that is part of the Accu-Gold family of systems. Equivalent to the Fluke® 96010A Ion Chamber used in the Fluke® Radiation Leakage Detection System, this chamber meets 21 CFR 1020.30(k) for leakage measurement requirements.

10X6 Chambers - Technical Specifications

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

ACCU-GOLD+ | ACCU-DOSE+



ACCU-GOLD+ TOUCH | ACCU-DOSE+ TOUCH



ACCU-GOLD+ T3 | ACCU-DOSE+ T3



SPECIFICATIONS / TECHNICAL DATA:

All specifications subject to change.

CHAMBERS	10X6-6		10X6-6M		10X6-10		10X6-60		10X6-3CT *		10X6-180		10X6-1800		10X6-0.18		10X6-0.6/0.6CT		10X6-500	
Min Rate	2 µR/s	20 nGy/s	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 **	0.1 mR/hr	0.1 µGy/hr	50 µR/s	500 nGy/s	20 µR/s	200 nGy/s	62 nR/s	0.6 nGy/s
Max Rate	17 R/s	149 mGy/s	10 R/s	88 mGy/s	17 R/s	149 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	0.25 R/s	2.1 mGy/s
Min Dose	10 µR	100 nGy	10 µR	100 nGy	10 µR	100 nGy	1 µR	10 nGy	20 µR	200 nGy	200 nR	2 nGy	1 nR	0.01 nGy	200 µR	2 µGy	100 µR	1 µGy	–	–
Max Dose	59 kR	516 Gy	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	–	–
Calibration Accuracy	±4% using X-rays @ 60kVp and 2.8 mm AL HVL		±4% using X-rays @ 30kVp and 0.50 mm AL HVL		±4% using X-rays @ 150 kVp & 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% 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	±4% using X-rays @ 100 kVp & 3.96 mm 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%, 0.4 mR/s to 80 R/s, up to 500 R/s for 50 us pulses		±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		±5% up to 5 Gy/hr (570 R/hr)	
Energy Dependance	±5%, 30 keV to 1.33 MeV (with build-up material)		±5%, 10 keV to 40 keV		±5%, 1.5 mm Al to 15 mm Al hvl		±5% 20 keV 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		±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	±5%, 40-150kVp (RQR and RQA Beam Qualities)	
Active Length / Area	27.6 mm		N/A		N/A		N/A		100 mm		100 cm ^{2} ***		165 mm		8.1 mm		19.7 mm		200 mm	
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 and electrode. Conductive graphite exterior coating. 10.3 cm^3 active volume. 1.5m low noise triax cable. 0.05kg		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 walls and electrode; polyacetal exterior cap, 0.18 cm^3 active volume, 3m triax cable		C552 air-equivalent walls and electrode; polyacetal exterior cap, 0.6 cm^3 active volume, **0.6** 12m triax **0.6CT** 3m triax cable		Truncated cylinder, polycarbonate walls and electrode; conductive graphite exterior coating; 522 cm3 active volume; 0.54 kg	

*** 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.

**** 0.3 nGy/s with waveform analysis**

***** Complies with CFR 21**