

07-CRXW CR RADCHEX (INALÁMBRICO) 07-QRX QA RADCHEX

CALIBRADORES DE LECTORES DE PLACA (CR) Y DE CONTROL DE EXPOSICIÓN AUTOMÁTICO (AEC)



Descripción

El 07-CRXW CR RADCHEX inalámbrico y el 07-QRX QA RADCHEX son medidores de luz trazables NIST, calibrados en radiación en fábrica, que pueden ser utilizados para calibrar (equilibrar) los lectores de placa CR (también medidores de luz calibrados en radiación) en el campo. El lector de placa CR en el campo será calibrado y trazable a la calibración en radiación en fábrica de Fluke Biomedical y trazable a la exposición lumínica producida por los rayos X.

Tanto el 07-CRXW como el 07-QRX tienen la misma respuesta a la energía de los rayos X (la eficiencia de conversión de rayos X en luz es la misma para diferentes condiciones del haz). Esto permite que sean utilizados como sustitución precisa y exacta del valor de medición de luz del lector de placa (valor índice de exposición).

Lo más importante, es que ambos modelos permiten reducir tiempo valioso cuando se calibran o se accede a los lectores CR y AEC utilizados con los múltiples sistemas de rayos X.

Estos sistemas de rayos X pueden tener diferentes características de haz y filtrado incluso estando localizados en el mismo departamento o centro de imágenes. El rendimiento del sistema de equilibrado y dosis es un requisito importante de aseguramiento de la calidad, que es mucho mejor cumplido tanto con el 07-CRXW como el 07-QRX.



Características principales

- Permiten calibrar lectores de placa CR (Computed Radiography) y AEC (Automatic Exposure Control)
- Evalúa el comportamiento en curso del lector de placa CR, AEC y radiografía programada automática (APR)
- Establece y mantiene la sensibilidad deseada del sistema clínico (dosis) del sistema CR
- Calibra lectores de placa CR en el campo a ser trazable con las condiciones de luz producida por la radiación
- Relaciona la exposición de radiación (mR) sobre el frontal de la placa de forma precisa y previsible a un valor de medición de la luz CR (CRLU)
- Suministra un método fiable y reproducible de mantener de forma precisa la calibración de fábrica de un específico fabricante de CR
- Suministra tres selecciones diferentes de filtrado de la cabeza del tubo para usuarios que desean una condición de haz sin filtrado para la calibración del lector de placa en campo
- Selecciones de software de múltiples condiciones de haz para diferentes fabricantes de CR
- Herramientas ideales para ingenieros de servicio, físicos y personal de aseguramiento de la calidad

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Applications

07-CRXW CR RADCHEX

The wireless 07-CRXW is ideal for use by service engineers to initially calibrate and troubleshoot the CR plate reader, AEC, and density selector settings. Physicists use 07-CRXW to assess the performance of CR-AEC for compliance to clinical system speed objectives and patient dose. Radiology managers can use 07-CRXW to assist in the establishment of technique charts and training to determine ALARA techniques for various exam types. QA personnel can use 07-CRXW to periodically document the performance of the CR system and to compare CR to film/screen systems regarding desired ALARA objectives.

The 07-CRXW uses Bluetooth® to communicate with a laptop computer so that the CRLU (CR Light Units), EI (Exposure Index) and estimated mR values measured by the electronic cassette are automatically recorded and displayed on the laptop screen.

Benefits

Using the 07-CRXW to calibrate x-ray system AEC and CR plate readers instead of a dosimeter can improve productivity significantly. A full system AEC and CR plate reader calibration process can take as much as six hours. Employing the 07-CRXW the process can be completed in under two hours. A substantial productivity gain for service, biomedical or physics professionals.

07-QRX QA RADCHEX

Essentially, the wireless 07-QRX performs all of the functions of the 07-CRXW, however CRLU and speed numbers (representing the relative system speed of the CR system compared to a film/screen system) are displayed on a LCD readout built into the electronic cassette. A pressure sensitive On/Off switch activates the 07-QRX and is used to reset the meter between exposures. The values may be manually entered into the software program on a laptop or PC if desired but a laptop is not required to use the 07-QRX.

The 07-CRXW and 07-QRX are designed to work with all major brands of CR equipment.

Benefits

The 07-QRX QA RADCHEX is ideally suited for fast and easy daily checks of AEC and CR system exposure continuity. Data obtained from daily checks can be used for trend analysis of individual systems as well as a way to monitor the balanced performance of CR systems throughout the healthcare enterprise.

Technical specifications

X-ray energy dependence

Simulates relative light output of photostimulatable phosphor plate (PSP) within $\pm 3\%$ over kVp range of 60 kVp to 120 kVp and a patient equivalent thickness range of 5 cm to 35 cm (within specified operating rates)

Digital range

Computed radiography light units; CRLU (AEC#); 0 to 500, CRLU (AEC#); 0 to 5000 (07-QRX)

Minimum CRLU rate

1.5/s (approx. 0.15 mR/s entrance exposure rate), 7/sec (approx. 0.7 mR/sec entrance exposure rate) (07-QRX)

Maximum CRLU rate

2500/s (approx. 250 mR/s entrance exposure rate), 25000/sec (approx. 2500 mR/s entrance exposure rate)

Power on/off

Manual switch

Controls

Wireless communications with computer software; Bluetooth wireless communications (07-CRX only)

Functions

Measures CRLU (AEC#); converts CRLU to CR manufacturers specific CR plate reader light exposure index value (EI); user selectable; calculates cassette input exposure values for various x-ray beam conditions (exposure in mR plus backscatter)

Power requirements

Built-in NiMH rechargeable battery pack (9.6 V)

Typical battery life between charging

5 hrs, 20 hrs (07-QRX)

X-ray beam filter

1.5 mm copper (B152-110); 6 in x 6 in complete with velcro straps to attach to x-ray tube collimator housing

Environmental requirements

Operating temperature: 15 °C to 35 °C (59 °F to 95 °F)

Dimensions (WxDxH)

30 cm x 24 cm x 1.3 cm (12 in x 10 in x 0.5 in)

Weight

1.8 kg (3.9 lb)

Computer software

CD-ROM containing Microsoft[®] Excel program

Computer requirements

Computer capable of running Windows[®] 98 or higher with Microsoft Excel, Computer not required to operate (07-QRX). Software is provided with (07-QRX) to manually enter values if desired

Ordering information

Models

07-CRXW	Wireless CR RADCHEX, including PC-based Excel [®] documentation software
07-QRX	Wireless QA RADCHEX, including PC-based Excel [®] documentation software

Optional accessories

07-AEC6	For film/screen applications to assess and calibrate automatic exposure control (AEC)—radiographic and mammographic systems
07-AEC6M	For film/screen applications to assess and calibrate automatic exposure control (AEC)—mammographic systems

About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

Fluke Biomedical Regulatory Commitment

As a medical test device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:

- CE Certified, where required
- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required
- NRC Compliant, where required

Fluke Biomedical.

Better products. More choices. One company.

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