

QUEST HF SERIES

120 kHz ULTRA High Frequency
X-Ray Technology



QUANTUM MEDICAL IMAGING

Quantum Medical Imaging is a designer and manufacturer of advanced radiographic systems and state-of-the-art ULTRA High frequency generators for use throughout hospitals and clinics. An unwavering focus on developing X-ray systems with specialized features has made Quantum a leading manufacturer for medical imaging facilities worldwide.

Quantum's progressive approach to emerging technologies and quality control assures users that the company's products meet and exceed the most stringent international standards and guidelines.

Quantum's worldwide dealer network provides factory-authorized sales and service for all Quantum products. As members of the exclusive Gold Star Network, these dealers provide superior technical support and customer service.



THE QUEST HF SERIES™

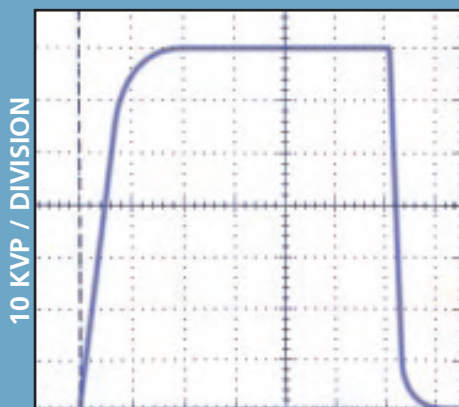
The QUEST HF Series provides an innovative solution for today's challenges in radiographic imaging. Merging sophisticated technology and system architecture with a simple, menu-driven program, the design team at Quantum Medical Imaging has addressed the concerns of technologists and clinicians.

The QUEST HF's ULTRA High frequency technology permits a near-constant potential of up to 120 kHz, for highly efficient, superbly precise imaging. A simple operating program, with integrated user prompts, permits a wide range of routine, specialized and custom examinations.

The QUEST HF Series generator offers superior flexibility and user-friendliness for complete, high quality radiographic imaging without compromise.

SUPERIOR IMAGING TECHNOLOGY...

TYPICAL KVP OUTPUT WAVEFORM



2 MSEC / DIVISION

kVp=70 • mA=500 • time=10 msec

- HIGHER MR/MAS
- SHORTER EXPOSURE TIMES
- REDUCED PATIENT DOSE
- LONGER TUBE LIFE
- SUPERIOR IMAGING QUALITY

120 KHZ ULTRA HIGH FREQUENCY

- Near constant potential of up to 120 kHz operating frequency
- ULTRA high frequency imaging enables greater efficiency, shorter exposure time, and minimized patient dose
- Output ranges of 50 kW through 20 kW (and up to 150 kVp) satisfies varying imaging requirements
- Stored Energy models (50kW - 20 kW) enable operation using low amperage or alternate power sources

ADVANCED FEATURES

- Three discrete modes of operation with 2 advanced submodes for optimized imaging:
 - APR (Anatomical Programmed Radiography)
 - APR/AEC
 - APR/PATIENT TYPE
 - AEC (Automatic Exposure Control)
 - Manual
- Multi-language selection feature for APR Mode
- Integrated self-diagnostic and self-test programs indicate system performance and detailed history
- X-ray tube protection circuitry
- Automatic line voltage compensation
- RS-232 interface enables remote functions
- Automatic shut-off timer (variable time settings)
- Generator and X-ray tube exposure counter
- X-Ray Tube Anode "Heat Unit" monitor
- Contemporary and compact design
- Direct Digital Radiography (DR) interface capability utilizing Quantum's D-QiX Imaging Solutions

GENERATOR OPERATING MODES

The QUEST HF Series enables users to select from three main operating modes (3 point, 2 point or 1 point), offering great versatility for pre-programmed or customized imaging.

ANATOMICAL PROGRAMMED RADIOGRAPHY (APR)

Accessing a menu with over 100 examination views derived from 10 anatomical regions, the APR mode automatically determines and sets the required technique factors. These parameters include kVp, mA, time (mAs), focal spot, film speed, SID and imaging receptor. In addition, the operator may input the actual patient thickness (in cm's) providing the optimal technique parameters for that exam. Each individual examination view provides up to 50 different technique factors, depending upon the size of the patient, for up to 5000 total anatomical programs.

APR/AEC MODE

The APR mode, when used in cooperation with AEC, provides superb uniformity of images and virtually eliminates the need for retakes. The AEC ionization chamber control will automatically terminate the exposure at the precise interval needed for the optimal density of the film.

APR/PATIENT TYPE MODE

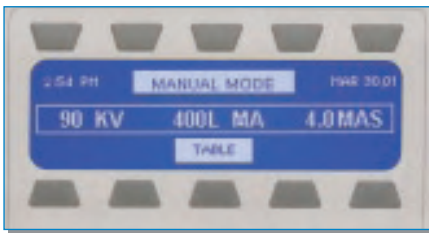
The Patient Mode is prompted when APR is used without an AEC function. This innovative feature permits the operator to change the mAs (time) to accommodate for differences in actual patient densities. A quick key, controlling increments of +/- 25% or 50%, permits rapid adjustment from the patient type defined as "average."

AUTOMATIC EXPOSURE CONTROL (AEC) MODE

The dedicated AEC mode provides exceptional uniformity and image consistency through the automatic termination of exposure at the precise mAs required for a perfect film. The system also provides an 11-step selection of AEC density (in 15% increments) for complete operator control. The operator may choose from various film speed combinations.

MANUAL MODE

The Manual Mode permits the operator to custom-select all technique parameters (mA, kVp, mAs/time).



In addition, the control panel allows the user to toggle between viewing either mAs or SEC (time).

Time and date are displayed for operator convenience.

STEP 1



SELECT ANATOMICAL REGION FROM APR MENU

CHEST

STEP 2



SELECT DESIRED VIEW FROM MENU

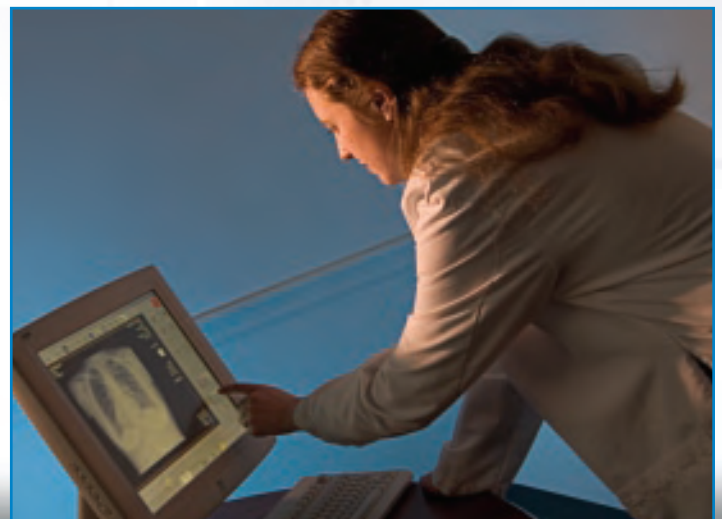
OBLIQUE

STEP 3



READY FOR EXPOSURE*

*In all operating modes, the user always has the capability to override any technique parameter individually, providing uncompromised flexibility and control.



Quantum generators and systems are already designed to allow use of direct digital imaging technology (DR) as well as all CR solutions.

QUEST HF SERIES *Generator Specifications*

STORED ENERGY (SE) GENERATORS

Catalog Number	QG-500	QG-400	QG-320	QG-250	QG-500-SE	QG-400-SE	QG-320-SE	QG-200-SE
Power Rating (kW):DIN	50 kW	40 kW	32 kW	25 kW	50 kW	40 kW	32 kW	20 kW
ULTRA High Frequency	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS	120 kHz PLUS
kVp Range (1 kVp stops)	40-125 kVp	40-125 kVp	40-125 kVp	40-125 kVp	40-125 kVp	40-125 kVp	40-125 kVp	40-125 kVp
150 kVp output	option	option	option	option	n/a	n/a	n/a	n/a
mA Range	25-650 mA	25-500 mA	25-500 mA	25-400 mA	25-600 mA	25-500 mA	25-400 mA	25-250 mA
Timer Range (seconds)	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.	.001-6.0 sec.
mAs Range	0.025-800 mAs	0.025-600 mAs	0.025-600 mAs	0.025-500 mAs	0.025-500 mAs	0.025-500 mAs	0.025-400 mAs	0.025-300 mAs
High (Dual) Speed Starter	option	option (w/Three phase input only)	n/a	n/a	n/a	n/a	n/a	n/a
APR Programs: (Pre-programmed and Custom)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)	100 APR Views (5000 Techniques)
Operational Modes	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type	1. kVp/mA/time 2. kVp/mAs 3. kVp with AEC* 4.APR/Patient Type
Input Lines (50/60 Hz):					All STORED ENERGY (SE) GENERATORS requires a standard power input (50/60 Hz) of either: 105-130 VAC, 10 Amp +/- 10% or 210-240 VAC, 10 Amp +/- 10%			
Single Phase Line: 208-260 VAC; +/- 5%	n/a	standard	standard	standard				
Single Phase Line: 380-480 VAC; +/- 10%	n/a	option	option	option				
Three Phase Line: 380-480 VAC; +/- 10%	standard	option	option	n/a				
Three Phase Line: 208- VAC; +/- 5%	option	option	option	n/a				

Above ranges may be limited by tube selection /AEC limits/incoming power line.

Specifications subject to change without prior notice.

GENERATOR OPTIONS:

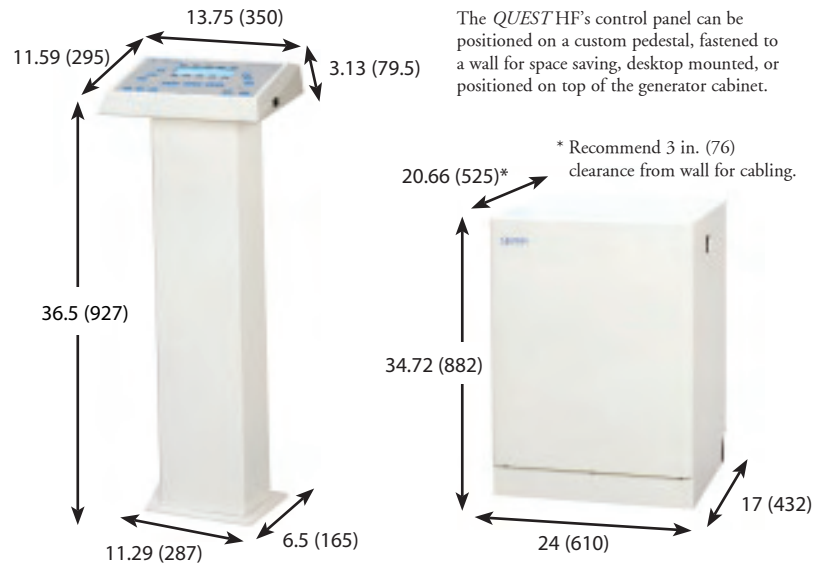
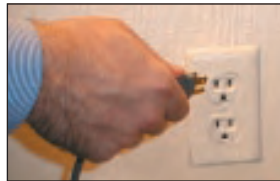
- Automatic Exposure Control (AEC) Electronics: (QG-AEC)
- High (Dual) Speed Starter: (Q-HSS)
- Pedestal Mount for Operator Control Console: (QG-PDL)
- Wall Mount for Operator Control Console: (QG-WM)
- Remote Exposure Hand Switch: (R80-HS)

Q-WARE™ UTILITY SOFTWARE (INCLUDED)

Q-WARE™ is a laptop-based service support tool that provides an advanced level of APR text and technique editing, simplified calibration as well as other set-up functions.

STORED ENERGY (SE) GENERATORS

Quantum's advanced Stored Energy (SE) technology permits powerful operation using only a standard "low amperage" wall outlet or alternate power source. The SE's power cells are virtually maintenance-free and provide years of usage. These units are ideal in facilities where incoming power is unavailable and for mobile imaging applications. (50kW to 20kW)



Note: All dimensions are in inches (mm)



Innovations in Digital Imaging

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