

# Q-Rad

Radiographic Systems



 **Quantum**  
MEDICAL IMAGING

*Innovations in Digital Imaging.*

*QUANTUM MEDICAL IMAGING'S "Q-Rad" Radiographic Systems provide Exceptional Value, Precision and Reliable solutions for all Imaging Applications...*

## **Quantum Design and Innovation**

Q-Rad systems provide precision and reliability through "Smart-System Design" technology. Innovations such as TechVision™, 650 Lb patient weight capacity, FAIL-SAFE electromagnetic braking systems, collision avoidance electronics and EZ-Glide handle control are just some of the unique and valuable advantages of Quantum Q-Rad Radiographic systems



## **Q-Rad Ceiling-Mounted Systems**

Quantum's Ceiling Mounted Radiographic Systems are designed for Hospital Emergency Rooms, Imaging Centers and Orthopedic Facilities which demand not only high quality, but also maximum flexibility, in order to accommodate all types of imaging exams. Q-Rad systems are not only aesthetically pleasing, but designed with input directly from Technologists.



## **Q-Rad Floor-Mounted Systems**

Designed for high patient volumes within Hospital radiology departments, Imaging Centers, Orthopedic facilities, Surgery Centers, and Urgent Care Clinics. Quantum's Q-Rad floor mounted systems are feature-rich and provide full positioning functionality, while providing the highest degree of image quality and patient care.



## **System Flexibility**

Quantum's wide selection of system configuration and extensive options, as well as its line of powerful 120 kHz ULTRA High Frequency x-ray generators, accommodate for every type of radiographic system requirement and exam. Designed to the very highest standards of imaging quality, the systems are also flexible to meet various room size requirements, as well as the facility budgets.



## **Digital Imaging**

All Quantum Q-Rad systems and components are already designed to allow use of direct digital imaging technology (DR), as well as all CR solutions. Upgradeability is fast, easy and affordable with any Quantum Q-Rad system by the use of our "D-QiX" digital solution program. Quantum also offers an extensive line of "Q-Rad-DIGITAL" system solutions. Q-Rad systems are a secure investment today and in the future.



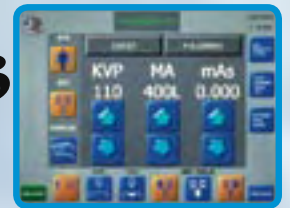
*All Systems are designed for use in Hospitals, Clinics and Surgery Centers*



*Select anatomical region*



*Select anatomical view*



*Ready for exposure*

## TECHVISION™: A QUANTUM EXCLUSIVE

Quantum's TechVision is truly a innovation for the Technologist. Technologists can easily view and set up all technique parameters, as well as access set-up functions right at tube-side.

TechVision eliminates going back-and-forth from the generator Operator's Control Panel to the patient, in order to prepare for patient exams. The operator has complete control to adjust exposure parameters right at the tube-side, just as if they were at the generator's Operator Control Panel. This synchronized generator solution greatly streamlines the imaging process and decreases overall examination time, while allowing the technologist to remain close to the patient, for increased patient care.

### TechVision Features:

- ❑ Multi-Color (16 Bit; 800 x 600 Pixel; 8.4" display) Touch screen
- ❑ Technologist controls generator technique selection at tube-side
- ❑ Full APR, AEC and Manual technique control
- ❑ Improved patient care, as technologist remains close to the patient during exam set-up procedure
- ❑ Improved patient through-put, by reducing steps taken by the technologist
- ❑ Digital Imaging Ready - Provides actual digital image "PREVIEW" and study review (with select DR solutions)

## ODYSSEY HF SERIES™ ULTRA HIGH FREQUENCY X-RAY TECHNOLOGY... 120 kHz

The ODYSSEY HF Series integrates revolutionary design with superb functionality, resulting in the most advanced radiographic generator ever developed.

Designed for both digital and conventional imaging and operating at a near-constant potential of up to 120 kHz, the ODYSSEY HF provides Ultra High Frequency imaging for highly efficient X-ray production. Radiographic imaging is optimized through the ODYSSEY HF's simple interface, which features an easy to read LCD graphics display and also dynamic APR programmability of up to 100 APR Views/5000 Techniques, for a wide variety of standard and custom exams.

The ODYSSEY HF's unique self-diagnostics, automatic shut-off, user messaging and history reporting log features make it one of the most reliable generators on the market.



# Q-Rad Ceiling Systems

*Quantum's exclusive TechVision™ feature (shown above) advances the system's flexibility by adding a tube-side full APR generator control for increased patient throughput.*



Q-Rad Ceiling Mounted Systems use a 5-tiered telescoping column with expansive overhead horizontal and transverse tracks to provide for complete flexibility and virtually unlimited imaging procedures. With an optimum ceiling height of 9', even standing knees on children can be easily imaged.

## CEILING MOUNTED TUBE SUPPORT (RS-580)

Centralized handgrips with dual soft-grips provide smooth, responsive system adjustments. Positioning of the X-ray tube is directed through a series of color-coded fingertip switches on the operator hand control, which coincide with the colors on the various rails, for vertical, horizontal and transverse movements. A convenient "All-Release" lock is built into each of the soft-grip controls.

Lighted display windows indicate system navigation for SID, tube angle and lock functions, to assist the operator with easy and precise positioning.

## "QUIET-LIFT" ELEVATING, FLOAT-TOP TABLE (QT-750)

Quantum's "QUIET-LIFT" elevating, float-top table eases patient transfer and positioning. With a 650-pound (295 kg) patient capacity and a rugged lifting mechanism, the table elevates smoothly and quietly. The extra-wide (35"), and completely flat-top table surface simplifies patient transfer and positioning, while providing comfort for larger patients.

Float-top motion and elevating capability is controlled through both recessed foot controls, as well as an adjustable-position standard hand control. Patient handgrips are included, and can be positioned along the accessory rails to help stabilize the patient during exam positioning.

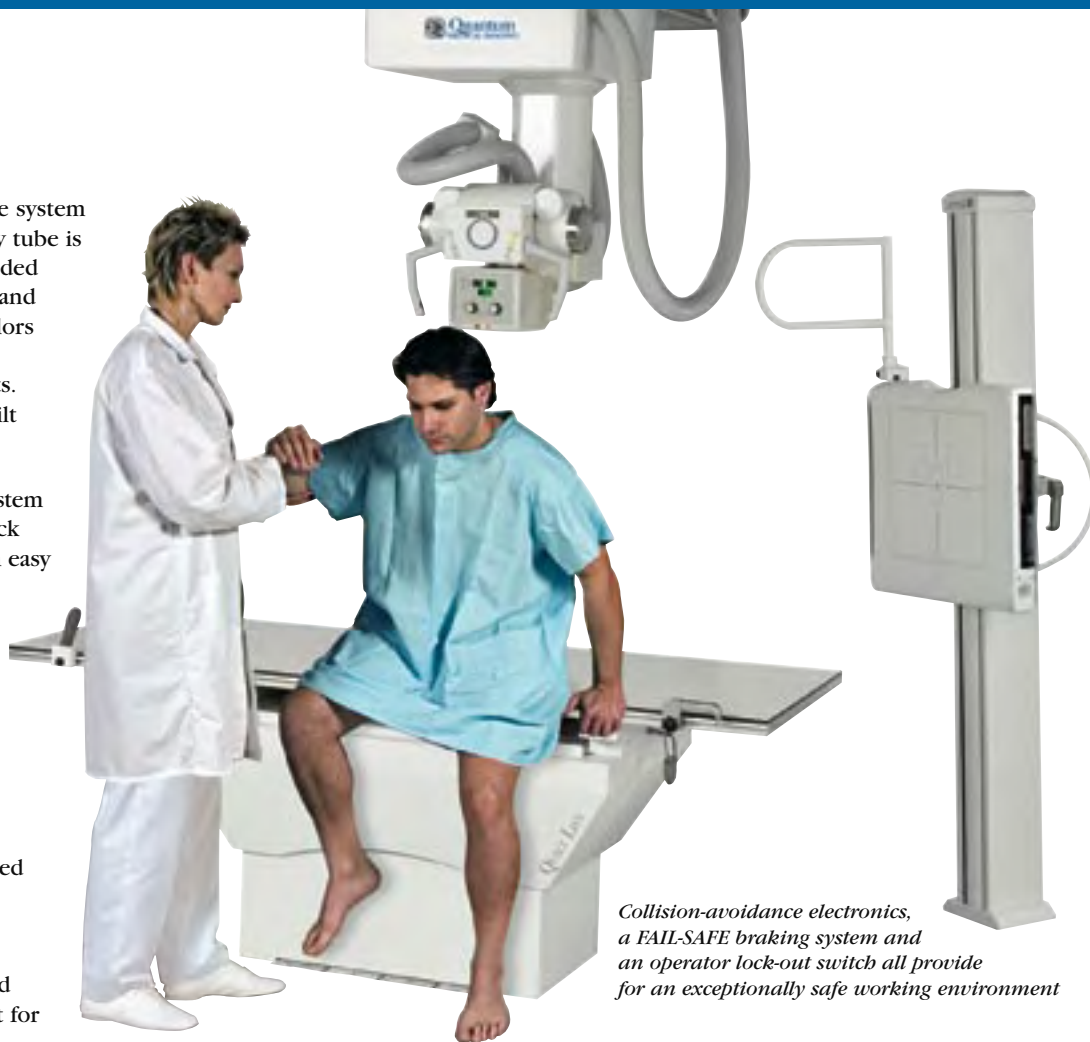
## MOTORIZED SERVO-DRIVE (RS-580-MAC) with "Q-TRACK" Technology

Quantum Ceiling Systems equipped with SERVO-DRIVE and "Q-TRACK" technology provide automatic motorized alignment to the Vertical Wall Stand (Chest unit), as well as adjusting to the variable height of the Elevating table.

**Q-TRACK, assists the technologist with automation for:**

- faster patient positioning
- increased patient throughput
- better imaging accuracy, since the x-ray beam maintains constant alignment with the center of the image receptor

This saves staff considerable time and effort, and places their focus completely on the patient and the exam procedure.



*Collision-avoidance electronics, a FAIL-SAFE braking system and an operator lock-out switch all provide for an exceptionally safe working environment*

## VERTI-Q VERTICAL WALL STAND (QW-420)

Quantum's Vertical Wall Stand, VERTI-Q allows a variety of imaging, from skull through lower extremities, with its counterbalanced travel and minimum focal spot-to-floor distance



# Q-Rad Floor Systems



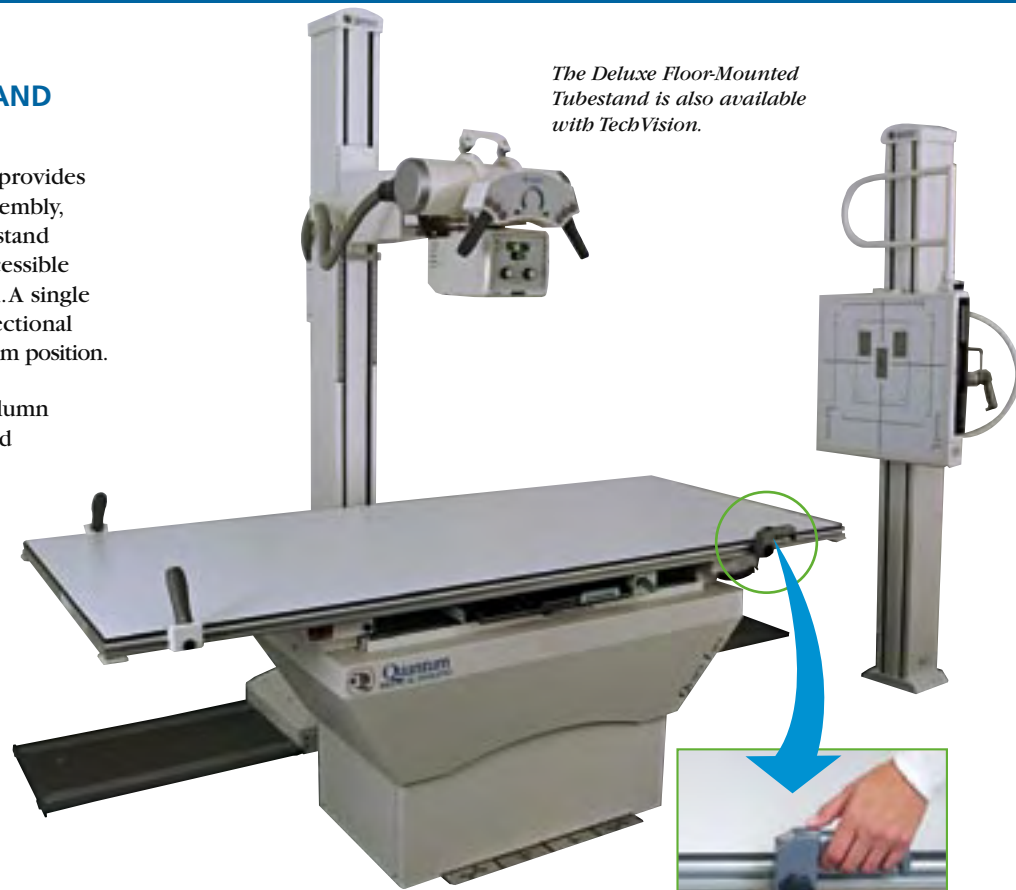
*Lateral Cassette Holder (LCH) is available to assist with cross table exams.*

Q-Rad Floor Mounted Systems are the ideal choice for the busy Imaging Center, Orthopedic facility or Hospital. The advanced features and unique design aspects of the system, allow the technologist to fully concentrate on the patient during the examination.

## DELUXE FLOOR MOUNTED TUBESTAND (QS-550)

The versatility of the QS-550 Deluxe tubestand provides extended freedom of movement of the tube assembly, allowing for a wide array of examinations. Tubestand positioning is controlled through a series of accessible fingertip switches on the operator hand control. A single switch releases all tubestand locks for multi-directional adjustments. An easy-to-read indicator displays system position.

Expansive longitudinal and transverse travel, column rotation ( $\pm 90^\circ$ ), tube angulation ( $\pm 135^\circ$ ), and trunnion rotation ( $+45^\circ/-20^\circ$ ), assure complete radiographic coverage. Even the most challenging views, such as weight-bearing, cross-table and off-table studies are simplified through the system's generous range of motion and flexibility.



*The Deluxe Floor-Mounted Tubestand is also available with TechVision.*

*The table control handle has the ability to drive the table up and down, as well as enabling the floating-top feature*

## VERTI-Q VERTICAL WALL STAND (QW-420)

Standing examinations are easily accomplished with Quantum's VERTI-Q Vertical Wall Stand, due to the extensive range of vertical travel.

## "QUIET-LIFT" ELEVATING, FLOAT-TOP TABLE (QT-750)

Quantum's revolutionary design of the "QUIET-LIFT" Elevating, Float-Top Table, provides a number of innovative features. With a patient weight capacity of 650 Lbs and an extra-wide design, the table is able to support the full range of patient types comfortably. Additionally, its FAIL-SAFE electromagnetic braking system and collision-avoidance electronics ensures patient and operator safety. The table lowers easily to accommodate a variety of stretcher and wheelchair patients. Quantum's QT-740 Series table has all the same key features with the exception of table elevation.

## MOTORIZED SERVO-DRIVE FLOOR MOUNT (QS-550-MAC), with "Q-TRACK" Technology

Q-Rad Floor Systems are available with SERVO-DRIVE and "Q-TRACK" technology, which provides perfect motorized synchronization between the x-ray central beam and the center of the image receptor, keeping them in alignment. This saves the technologist the time and effort of not having to constantly align the tubestand to the Wall bucky, while it also ensures greater precision. "Q-TRACK" also automatically maintains the proper SID with the elevating table during vertical adjustments.



# Q-Rad System Flexibility

## "VERTI-Q" WALL STAND (QW-420)

Quantum's Vertical Wall Stand, VERTI-Q, is a stylized, single-column structure with an attractive receptor enclosure. The low-absorption front cover includes cassette centering lines and AEC chamber indicators for precise patient positioning. The VERTI-Q can be matched with multi-speed reciprocating Buckies, Automatic Cassette Loading systems, fixed grids, or digital receptors.

A FAIL-SAFE electromagnetic braking system with integral counterbalancing ensures patient safety and ease of use.

A wide variety of patient exams are possible with the VERTI-Q Wall Stand. Extensive vertical travel from 13.75" minimal Focal Spot-to-Floor Distance for weight bearing knees on pediatric patients, up to 74.25" for upright exams on adults.



*Patient overhead and side-mounted handgrips are available to stabilize patients during standing and weight bearing exams*



*A 8" column offset kit is available to facilitate seated gurney or wheelchair examinations, by increasing the distance between the column and the receptor*



## "VERTI-Q TILT" VERTICAL WALL STAND (QW-420-T)

Quantum's Motorized Tilting Wall Stand has an adjustable receptor range of 90° to -15°. The receptor tilt movement is motorized through the use of a convenient remote control switch. Automatic stops are provided at -15°, 0°, and 90°.



## "VERTI-Q SIDE MOUNT" VERTICAL WALL STAND (QW-420-S)

This Side Mounted Wall Stand incorporates a space saving design for installation in rooms where space may be limited

## "EZ-GLIDE" HAND CONTROL

All VERTI-Q Wall Stands integrate Quantum's exclusive EZ-Glide hand control, which is ergonomically designed to allow operator adjustment from a comfortable standing position with minimal effort.

By actually pivoting on its axis (+105°), the EZ-Glide hand control maximizes technologist efficiency and comfort during vertical adjustment of the image receptor.



## "VERTI-Q 14 X 36" VERTICAL WALL STAND (QW-421)

This Wall Stand facilitates long leg and scoliosis examinations, using a 14" X 36" cassette. It also allows the use of all standard cassette sizes.



# Q-Rad System Specifications

## "CMT" Ceiling Mounted Tube Support: RS-580

- Telescopic column with Vertical travel: 59" (150 cm)
- Longitudinal travel: 140" (356 cm) with rail length of 14' (4.25 meters)
- Transverse travel 87.5" (222 cm) with rail length of 10' (3 meters)
- Tube rotation about Vertical axis: +15°/-182°, detents at 0° and +/- 90°
- Tube rotation about Horizontal axis: +/- 120°, detents at 0° and +/- 90°
- Operator Handgrips with digital display, dual "All Lock" release switch in grips
- Cable concealment and management system

## Motorized (SERVO) Ceiling Mounted Tube Support: RS-580-MAC

- Same as RS-580, but includes "MOTORIZED" Vertical Drive Movement and SERVO Tracking

## Deluxe Floor Mounted Tubestand: QS-550

- 10 ft. long tracks with 98" (249 cm) of longitudinal travel
- Deluxe Handgrips: multi-function with fingertip controls for all motions
- ALL-LOCKS release switch and auto-stop sensors for horizontal and vertical positioning
- Vertical Travel: 60.5" (154 cm), minimum floor to focus distance of 13.75" (35 cm)
- FAIL-SAFE electromagnetic braking system and integral counterbalancing
- Column Rotation: +/- 180°, Transverse Arm: 10" (25 cm)
- Tube Angulations: +/- 13° with detents at 0° and +/- 90°
- Cable concealment and management system

- \* Available with Trunnion mount (QS-55T) which allows +45°/-20° rotation or Fork mount

## Motorized (SERVO) Floor Mounted Tube Support: QS-550-MAC

- Same as QS-550, but includes "MOTORIZED" Vertical Drive Movement and SERVO Tracking

## Collimator Selections:

- \* Automatic "Continuous SID" Motorized: Fully automatic Size Sensing
- \* Automatic Motorized: Size sensing, at discrete SID's (40" and 72")
- \* Motorized Selectable: provides pre-formatted sizing and SID selection
- \* Manual: operator adjustments

## "QUIET-LIFT" Elevating / Float Top Radiographic Table: QT-750

- Patient weight capacity: 650 lb (295.5 kg)
- Elevating Range: 21" - 32.5" (53 - 83 cm)
- Collision avoidance electronics with built-in table sensors
- Tabletop Length: 85" (216 cm); with 32" (82 cm) of longitudinal travel
- Tabletop Width: 35.5" (90 cm); with 10" (25 cm) of transverse travel
- "Extra Wide" design, for Large Patient comfort
- Flat top design for easy patient transfer and cleaning with low absorption material
- FAIL-SAFE electromagnetic braking system for safety
- Recessed Multi-function Foot Controls, with safety lock-out control switch
- Multi-function Hand Control, adjustable position (for elevation and float control)
- Adjustable patient handgrips along concealed accessory rails
- Options: Compression Band (R90-CB) and Lateral Cassette Holder (QT-LCH)

## Float Top Radiographic Table: QT-740

- \* Same features as QT-750, with exception of elevating capability

## "VERTI-Q" Vertical Wall Stand: QW-420

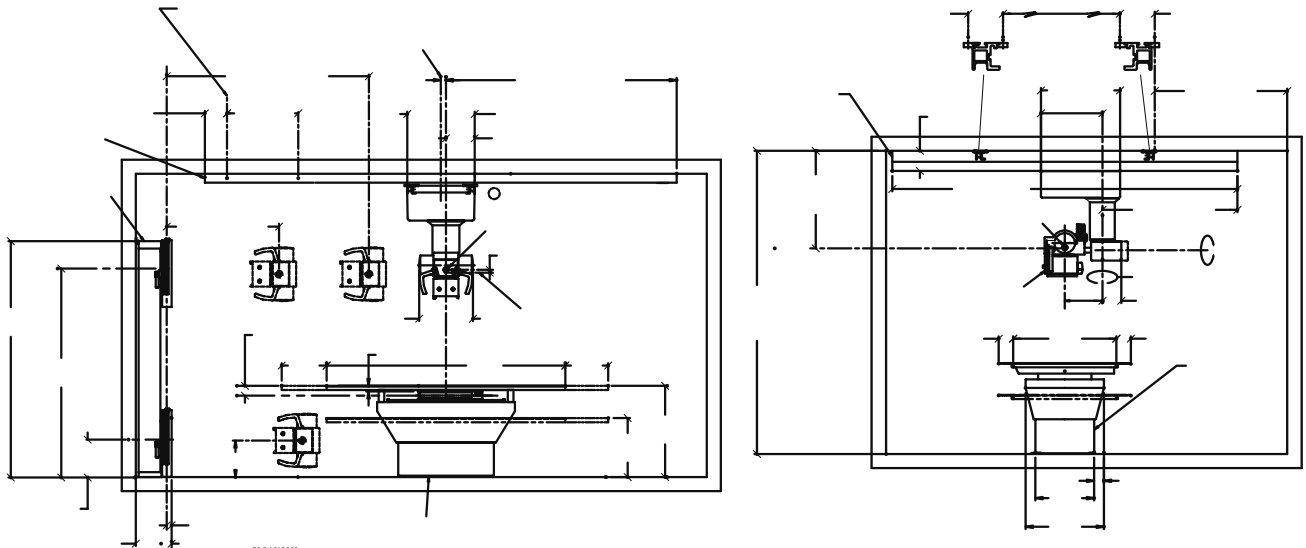
- Vertical Travel: 60.5" (154 cm)
- Minimum Focal Spot-to-Floor Distance: 13.75" (35 cm)
- "EZ-Glide" Hand control, grip rotates +105° for comfort
- Enclosed receptor frame with patient chin rest
- Low absorption front cover material with cassette and AEC Indicators
- FAIL-SAFE electromagnetic braking system and integral counterbalancing

- Options: Patient "Side Mounted" Grips (QW-HG20)
- Patient "Overhead" Grip (QW-HG30)
- Extension kit (QW-EX8)

- \* Available as side-mounted stand (space saving): QW-420-S
- \* Available with motorized tilting feature (+90°/-15°): QW-420-T
- \* Available for 14" x 36" cassette size: QW-421

## Q-Rad Ceiling Systems

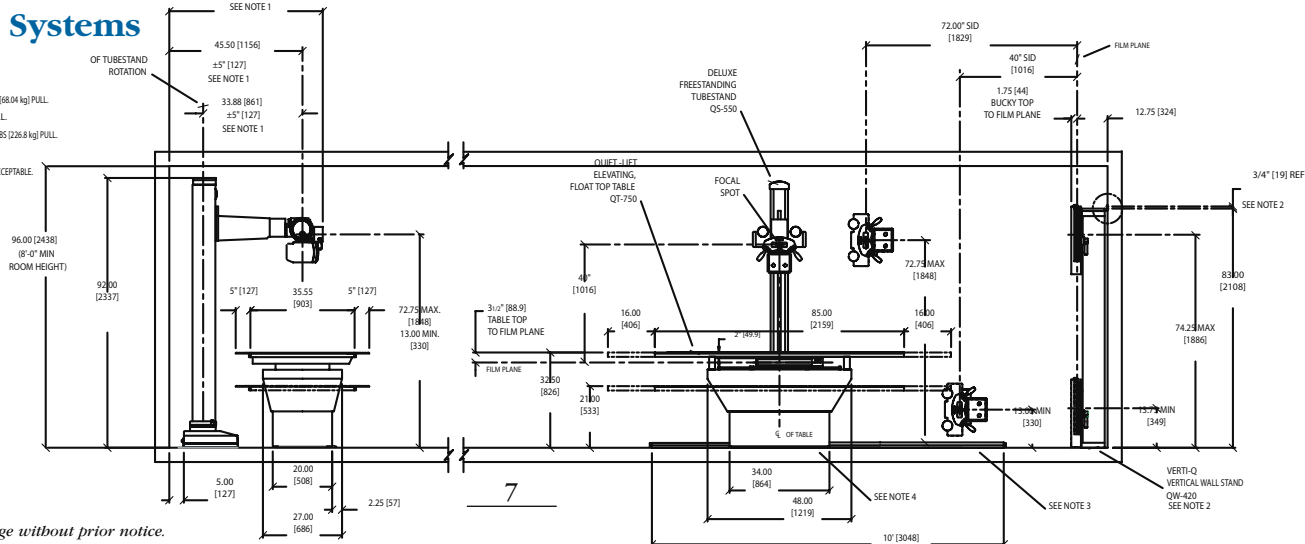
NOTES:



## Q-Rad Floor Systems

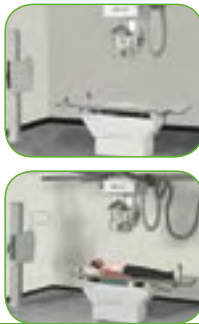
NOTES:

1. ADD OR SUBTRACT 5" (127) FOR TRANSVERSE TRAVEL.
2. VERTI-Q MOUNTING POINTS MUST WITHSTAND APPROX. 150 LBS (68.04 kg) PULL.
3. BASE TRACK MUST WITHSTAND 200 LBS (90.72 kg) PULL.
4. QUIET-LIFT MOUNTING POINTS MUST WITHSTAND APPROX. 500 LBS (226.8 kg) PULL.
5. DIMENSIONS WITHIN [ ] ARE IN MILLIMETERS.
6. 5" DIMENSION RECOMMENDED, HOWEVER, IF NECESSARY, 3" IS ACCEPTABLE.



Specifications subject to change without prior notice.

# Q-Rad-DIGITAL System Solutions



## Q-Rad-DQ System

- Dual Digital Receptor System [in Traditional Configuration]
  - Elevating Table with DR
    - \* Drawer Slide Option for Extremities
  - Wall Stand with DR
    - \* Tilt Feature Available

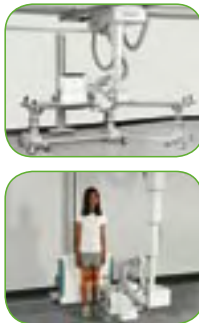


## Q-Rad-IQ System

- Dual Digital Receptor System [With Crosstable Capability]
  - Elevating Table with DR
  - Tilting/Rotating Wall Stand with DR on Horizontal Track System
    - \* Ideal for ER or Trauma Facility
    - \* Easy Positioning for cross table exams

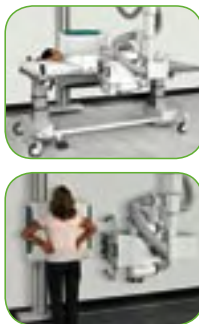


Table  
Pivots



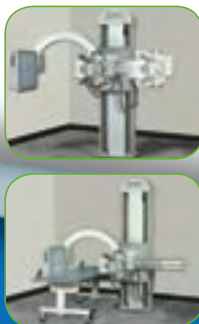
## Q-Rad-PQ System

- Single Digital Receptor System
  - Tilting/Rotating Wall Stand with DR on Horizontal Track System
  - "PIVOTING" Elevating Float-Top Table with 700 lb Patient Capacity
    - \* Ideal for ER or Trauma Facility



## Q-Rad-SQ System

- Single Digital Receptor System
  - Tilting/Rotating Wall Stand with DR on Horizontal Track System
  - Elevating Mobile Float-Top Table with 700 lb. Patient Capacity



## QV-800-UNIVERSAL System

- Single Digital Receptor System
  - Universal C-Arm Design, with variable SID
  - Fast High volume Patient throughput
  - Optional: Elevating Mobile Float-Top Table with 700 lb. Patient Capacity
    - \* Ideal for Orthopaedic Facilities and Imaging Centers

Techvision, with Quantum Q-Rad Digital systems, provides "DIGITAL IMAGE PREVIEW" and Study Review at tube/tableside.



### DIGITAL DETECTOR TECHNOLOGY:

- 17" x 17" active area
- Scintillator on a-Si TFT
- High-resolution - quantified MTF
- Low patient dose - quantified DQE

### DIGITAL IMAGE ACQUISITION CONSOLE:

- Touch-panel user interface
- RIS Modality Worklist Management interface for patient exam and grouped procedure configuration
- Generator integration
- Configurable exam procedure step sequencing
- Preview image display in <3 seconds
- Consistent grey scale presentation
- Local QC and administrative functions; zoom, window/level, Gamma, edge enhancement, cropping, digital markers, and annotation
- DICOM compliant print & store to multiple destinations
- Local archive (over 2000 images) for recall, review and resend



### DIGITAL IMAGE ARCHIVE AND DISPLAY:

- Scalable PACS - Archive and redundancy solutions
- Soft-copy display solutions from high-resolution diagnostic Workstations to patient exam room
- Hard-copy print solutions
- Image Stitching for Scoliosis and Long-Leg Imaging



# Quantum

*Quantum...Pioneering technology from the premiere innovator in imaging...*



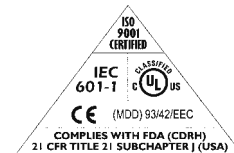
## CORPORATE OVERVIEW

Quantum Medical Imaging is a highly innovative company which designs and manufactures high quality medical radiographic systems for hospitals and imaging centers around the world. The company's mission is to supply the radiographic imaging industry with superior products for enhanced diagnostic capability.

## DESIGNED FOR TECHNOLOGISTS

Designed by a team of engineers with extensive input from technologists, Q-Rad systems are highly refined for logical and efficient operation. This unique approach to system development simplifies radiographic examinations and assures that Quantum products meet the growing needs of radiology. Quantum's technology is proven in thousands of clinical installations worldwide.

From the design stage through final product testing, Quantum Q-Rad systems integrate high quality, durable materials for robust construction and advanced electronics for optimal performance. Rigorous manufacturing standards and a commitment to evolving technologies assure long-term system value and customer satisfaction. The company's radiographic system solutions are backed by our Gold Star network of factory-authorized dealers, for sales and service.



*Innovations in Digital Imaging.*

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