R/F TV X-RAY SYSTEM

Product Data No. 041021-01

DIAGNOSTIC RADIOGRAPHIC FLUOROSCOPIC TV SYSTEM

MXHF-1500RF

SYSTEM OUTLINE

MXHF-1500RF is controlled by Digital key panel console that displays KV, mA and mAs with APR menu programmed. And its R/F diagnostic table provides full patient support through all radiographic & fluoroscopic procedures from 90 degree vertical to 15 degree trend with an automatic stop at the horizontal position. The table is 85cm height and 213cm long flat tabletop, sliding 50cm toward to the head end and the foot end.

It is fully integrated and coupled to spot-film device capable of housing a image intensifier & spot film support tower which allows maximum patient accessibility in cross table examinations. Moreover, the spot film device is being designed to be slid parking around the tabletop surface so that the tabletop in free of obstacles.

For the Fluoroscopy application, motor driven collimator synchronized to the overhead I.I movement to show real time fluoroscopic imaging. And static High Frequency Generator is powering for the 2 tubes that approach to Radiographic and Fluoroscopic operations and maintained by digital display mechanism.

The floor to ceiling tube stand is a sturdy, functional tube support designed for heavy-duty usage with all diagnostic X-ray tables and wall Bucky stands. The amplitude of the tube movement is sufficient to make possible a wide variety of precise tube positions and angle technique procedures.

There are line-up generators (40, 50 and 64kW) that present high frequency performance for reliable imaging and the steady output from well-made generators bring more efficient diagnosis. And various options can be applied into the generators like AEC and high speed rotor function.

FEATURES

- Microcontroller and computer integration deliver reliability and accurate exposure parameter management.
- APR operating mode with 160 examination distributed across 8 anatomical regions. Simple and user-friendly technique reprogramming on site.
- Automatic parameter correction for patient thickness, tissue density, film.screen speed and source image distance.
- Manual override technology permits the operator to modify the recommended kV, mA and time.
- Sophisticated self-diagnostic capability and descriptive error messaged allow for fast and well-defined initial diagnostics.
- Compact display console is ideally suited for small control rooms.
- Comprehensive service program provides accurate troubleshooting and minimize downtime.
- Automatic tube overload protection, selectable 80% or 100%.
- Automatic Exposure Control can support either four solid state detectors or ion chambers.
- Automatic Brightness Stabilizer produces optimal fluoroscopic images.
- Supports one or two x-ray tubes in either radiographic or radiographic and fluoroscopic mode

TECHNICAL SPECIFICATION

R/F Tilting Bucky table

Table top dimensions :	213cm X 75cm
Height from floor :	84cm
Table top composition :	Laminated structure
Table top-to-film distance:	7.5cm
Table top Al. equivalence :	<1.0mm Al
Table top weight limit :	135kg
Table top movement :	Manual. 2-way floating top
Longitudinal travel :	100cm
Transverse table top travel	none
Table locks :	Electromagnetic brakes
Table lock controls:	Full-length button switches.
Table bucky:	Super speed
Bucky travel	103cm
Total center-to-center Radiographic coverage :	161cm
Grid	40 lines/cm, 8:1 line ratio
Cassette size :	10 X 10 ~ 17 x 17 inch
Distance to focus :	34 ~ 44 inches
Tilting range :	+90° ~ -15°
Spot film formats :	14 x 14 " (35 x 35cm) 11 x 14" 10 x 12" (24 x 30cm) 8 x 10" (18 x 24cm)
Weight of the table unit :	320Kg
Power Consumption :	110/220 VAC, 50/60Hz

Floor-to-ceiling Tube stand

Design :	Vertical column assembly, vertical carriage assembly, base assembly. Ceiling & floor rail.
Balancing mechanism :	Counter weight balanced
Ceiling height :	248 ~ 299cm from the GND level
Ceiling rail (length) :	300cm
Floor rail (length) :	350cm
Vertical carriage max. load :	55Kg
Vertical tube travel:	150cm (48 to 198cm from floor level to focal spot)
Transverse tube travel:	38cm, with detent at table center
Longitudinal tube travel:	250cm
X-ray tube rotation:	+/- 180° (detents at +90° ~ -90°)
Tube stand column rotation:	+/- 180° (detents at +90° ~ -90°)
Locks:	Electromagnetic brakes for vertical, Transverse, longitudinal and Rotations
Tube arm console controls:	Longitudinal, transverse, vertical, and rotational lock control buttons
Tube arm console displays:	SID and tube angle around horizontal axis
Weight :	153Kg
Power consumption :	DC 24V
Under table tube movement :	Fixed type

Ceiling suspension (option)

Design :	Full spring balanced
System playload support capability :	27 ~ 32Kg
Vertical travel :	120cm
Longitudinal travel :	350cm
Transverse travel :	250cm
Rotation of vertical axis :	±180° with manual stop every 90°
Rotation of horizontal axis :	±180° detent every 90°
Positioning indicators :	Dual digital LED display indications with focal spot to tabletop SID (inch) & to bucky SID. Tube angle (Roll) indicates ± 90° at the vertical axis.
Automatic positioning selection :	Longitudinal – 100cm (40"), 180cm (72") to wall bucky position SID Vertical – 100cm (40") to table bucky Transverse – table center position

Collimators

Collimator type:	Manual (Multi-layer, square field X-ray collimator, 6 pairs of lead-lined shutters)
Field lamp:	150W, 24VAC
Lighting timer :	Less than 30 sec
Average luminosity:	Over 160 lx
Alignment light:	Lamp
Inherent filteration:	1.5mm aluminum
Retractable measuring tape	
Leakage dose :	100mR/h/m
Minimum exp scope at SID 100cm :	< 5 x 5cm
Maximum exp scope at SID 65cm :	< 35 x 35cm
Under table collimator :	Motor driven mechanism

Wall Bucky

Standard type:	Non-tilting Bucky, counter weight balanced. Free standing mounting type
Bucky:	Super speed
Vertical Bucky travel :	129cm (from 37 to 166cm)
Vertical movement :	Manual, fully counterbalanced
Front plate to film distance:	3 cm
Cassette sizes:	Up to 14 x 17 inch

Cassette insert :	From left to right
Oscillating Grid:	40 lines/cm, 8:1 line ratio focused at 129cm
Bucky front Al. equivalence:	<0.5 mm at 100 kVp
Locks :	Electromagnetic brakes
Left or Right load weight:	145kg
Power requirement :	120VAC 50/60Hz
Option :	Bucky device with 90° upward tilting, fully horizontal from the vertical position. Free standing mounted type.

Option

AEC (Automatic Exposure Control)

Bucky ion chamber and/or Table ion chamber

High speed rotor (for E7239X only)

Standard Accessories

- Compression band
- Hand grip
- Apron
- Barium Enema Kit
- Glove
- Caliper
- Hand switch
- DP Tank

Optional Accessories

High Spec Grid : 10:1, 12:1 and 16:1 (over 40 lines/cm)

X-ray Tube

GENERATOR POWER OUTPUT	Toshiba E7239X (40kW)	Toshiba E7252X (50kW, 80kW)
Tube Type :	Rotating Anode	Rotating Anode
Anode Voltage :	40~125 kVp	40~150kVp
Speed starter :	2700(50Hz)/3200(60Hz) RPM	2700/3200/9700(50/60/180Hz) RPM
Focal spots :	1.0 – 2.0 mm	0.6 – 1.2 mm
Power ratings (60Hz):		
Small Focal Spot:	22.5/47 kW – Single Phase	27 kW
Large Focal Spot:	21/43 kW – Three Phase	75 kW
Anode heat storage capacity:	140 KHU	300 KHU
Target angle :	16°	12°

Image Intensifier

6" : Toshiba E5759SD-P1

9" : Toshiba E5764DS-P1

** Details are shown in related Product Data.*

High Frequency X-ray GENERATOR

Power Output

	LINE POWER	BY PSU
40 kW	mA Range : 40~500 500mA @ 80kVp 300mA @ 100kVp 200mA @ 125kVp	
50kW	mA Range : 40~640 640mA @ 78kVp 500mA @ 100kVp 300mA @ 150kVp * with E7252X only	
80kW	mA Range: 40~800 800mA @ 100kVp 640mA @ 125kVp 500mA @ 150kVp	

Line Voltage range (VAC) and Phases

LINE POWERED Automatic Line Compensation	380~400 VAC (3 phase) 50/60Hz, +/-10% *** OVERLOAD PROTECTION AND AUTOMATIC TUBE CURRENT CONTROL*
** PSU (Power Storage Unit, Option) Automatic Line Compensation	110~230 VAC / 500W (1 phase) +/-15% ** only for 40/50kW*

Radiographic kVp range in 1 kVp steps Accuracy	40~125/150 (+/-1%)
Exposure Time range Accuracy	0.001~ 10 seconds (+/-1%)
mAs Range	0.1~500mAs
Anatomical Programming	256 Anatomical Views

OPTIONS

- X-ray Generator 125 to 150 kVp upgrade
- Battery Powered Generator (PSU, Uninterrupted)
- A.E.C (Automatic Exposure Control) function with 1 or 2 ion chamber
- High Spec Grid (10:1, 12:1, 16:1) to table bucky or wall bucky
- Ceiling suspension for tube

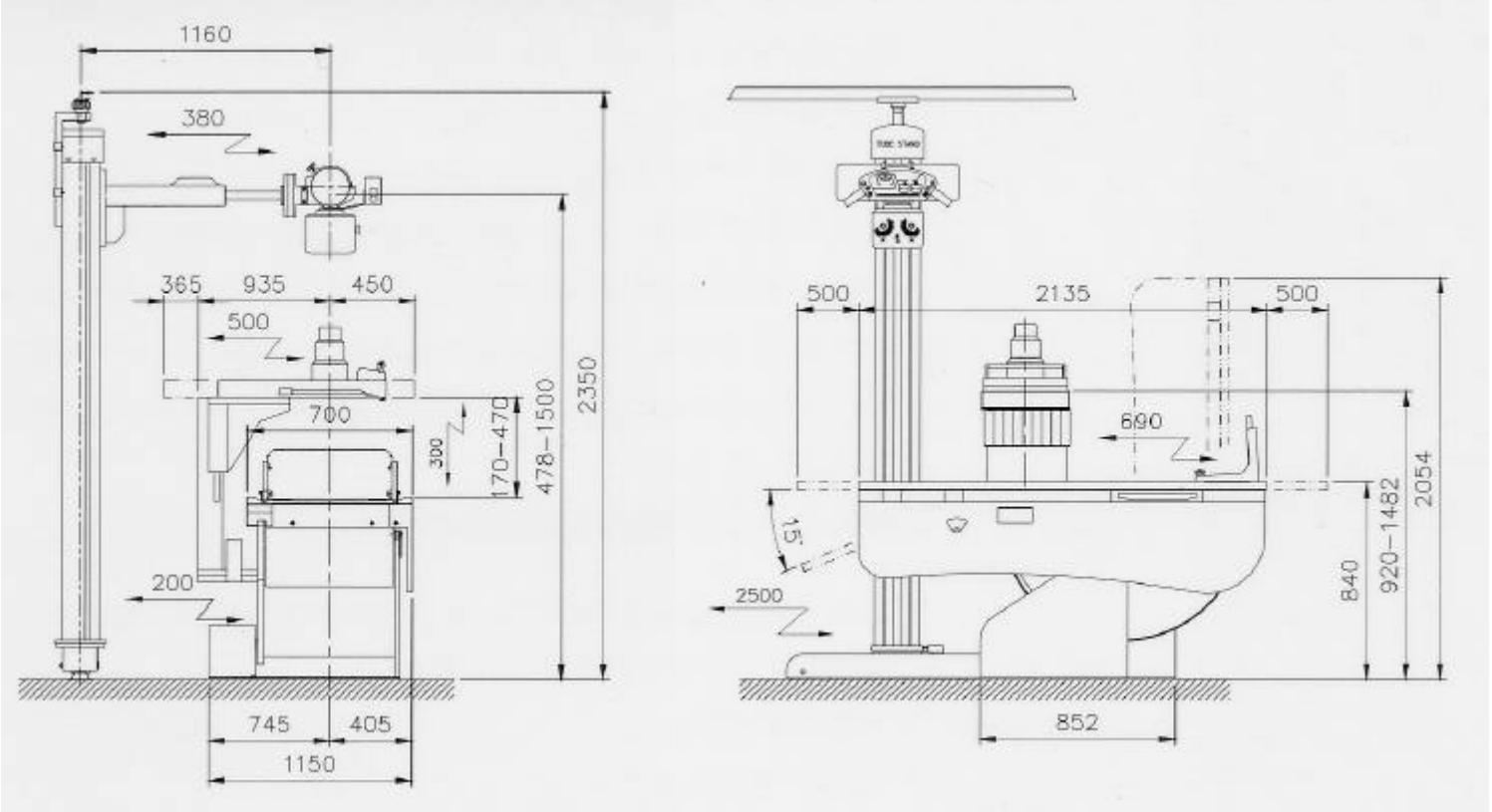
Packing dimension and mass

Carton No.	Dimension (L x W x H) cm	Mass (Kg) Net/Gross
Carton 1	244 x 134 x 122	280 / 350
Carton 2	250 x 122 x 128	250 / 320
Carton 3	362 x 16 x 17	40 / 80
Carton 4	220 x 59 x 78	150 / 220

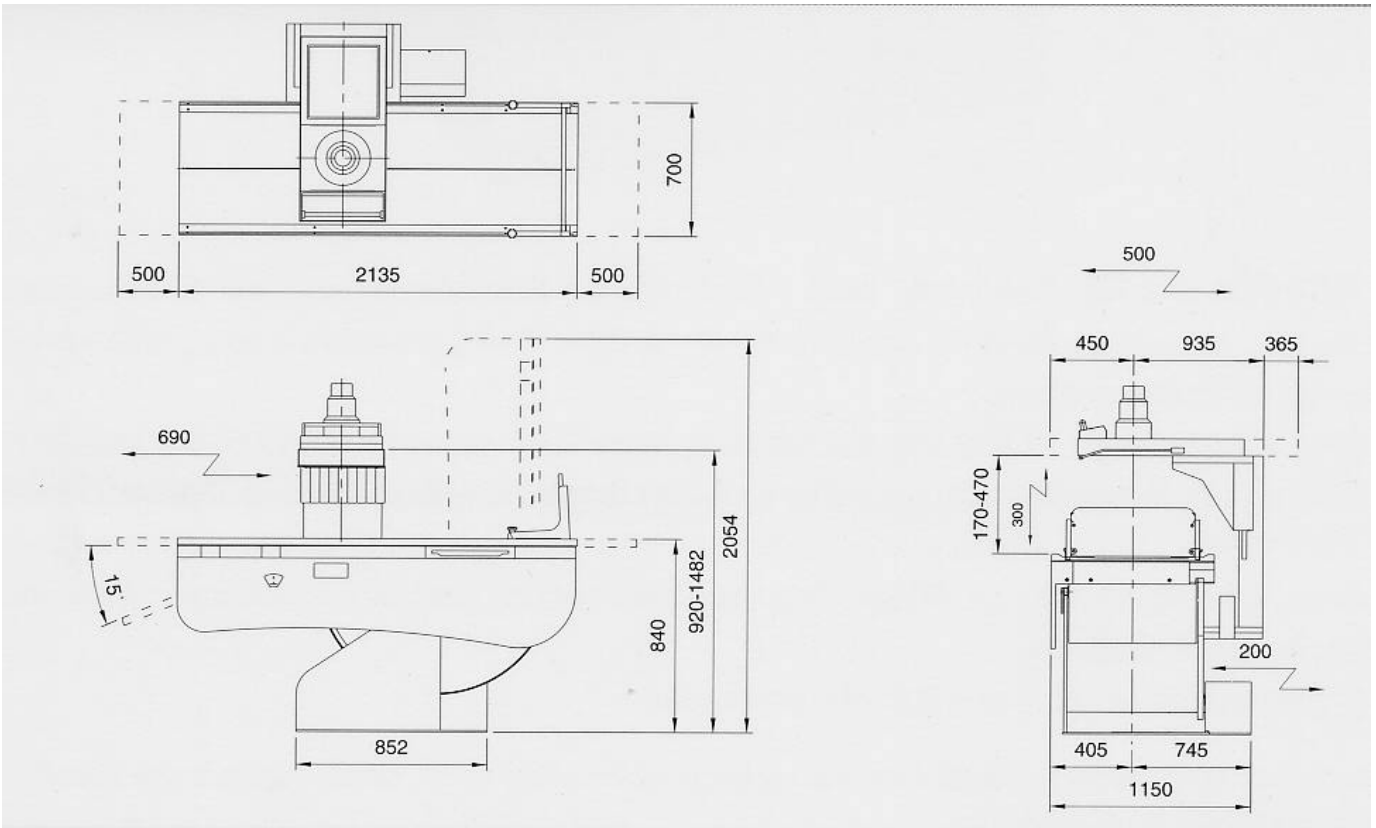
DIMENSIONS

: Find the technical details on the technical specification chart.

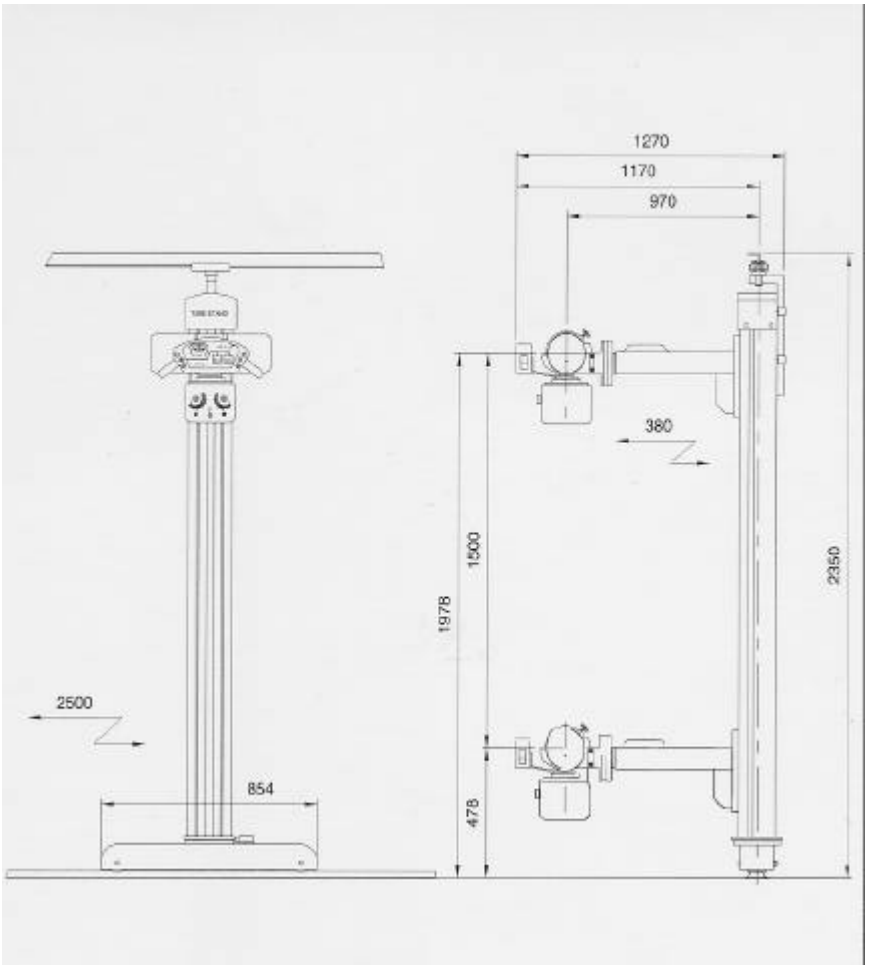
Overall dimensions

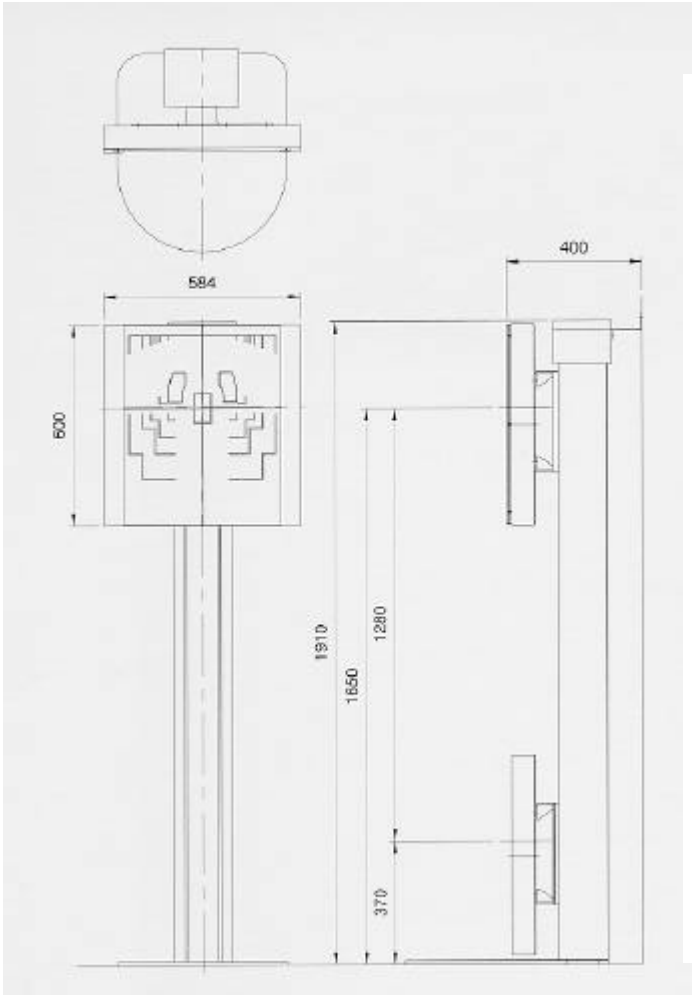


R/F tilting table



Tube stand & Wall Bucky





Ceiling suspension (option)