

MICRO-X | ROVER PLUS

TECHNICAL SPECIFICATION



1 — X-RAY TUBE

Models: Rover Plus	MXU-RV35
X-ray tube type	Carbon Nano Tube (CNT) Technology with stationary anode
Housing type	Stainless steel
Tube Voltage Range:	40 kVp to 120 kVp
Tube Current Range:	20 mA to 90 mA
Nominal focal spot size	Variable 0.9 to 1.9 IEC 60336 equivalent at 0.1 increments
Nominal anode input power (IEC 60613)	9 kW for 12 ms
Nominal radiographic anode input power (IEC 60613)	6.7 kW
Target diameter	15 mm
Target angle	14 degrees
Target material	Tungsten
Heat storage capacity of anode	27 kHU
Max. heat content of tube assembly	19.3kJ
Maximum housing continuous heat dissipation	25 W
Inherent filtration	2.5 mm Al at 75 kV IEC 60522
Loading factors for leakage radiation	120 kVp 0.23 mA
High voltage connector	CA175 Pancake connector

2 — X-RAY GENERATOR

Power output:	9 kW
Technique range	kVp: 40 kVp to 120 kVp mAs: 0.2 to 80 per ISO Series R'20 Time (ms): 5 to 1500 (not user selectable) mA: 20 mA to 90 mA (not user selectable)
mAs accuracy	+/- (10% + 0.2 mAs)
Coefficient of linearity	≤ 0.1
Coefficient of reproducibility	≤ 0.05 for kVp and mAs parameters

3 — COLLIMATOR ASSEMBLY

Manual collimator	Custom integrated design
Light output	Average luminance of 160 lux at 100 cm
Lamp type	LED
Inherent filtration	≤ 0.5 mm Al at 75 kV IEC 60522
Filter slot	Optional paediatric filter can be installed by the user using the slot located in the front of the tube head just below the handle. It does not block light field.
Paediatric filter (<i>option</i>)	1.2 mm Al + 0.1 mm Cu

* May not be available in all geographies.

4 – DOSE AREA PRODUCT METER

Type	Vacu Tec – model VacuDAP 156 00 18
Upper limit of response range	0.8 nC/cGy-cm ²
Saturation	98% at 400 V, 1 Gy/s
Energy range	40 to 150 kV
Energy dependence	5% over the 40 to 110 kV range
Chamber filter effect	0.2 mm Al equivalent at 70 kV

5 – PHYSICAL CHARACTERISTICS

Height	1300 mm (51.2 in), head in docked/transport position, exc. cable
Width	Wheel base: 583 mm (22.9 in) Main chassis: 500 mm (19.7 in)
Length	1371 mm (53.9 in), head in docked/transport position
Weight	112 kg (247 lbs)
Drive handle height	1000mm (39.37 in)
Operating specifications	Temperature range: +10°C to +30°C Relative humidity range: 30% to 60% Atmospheric pressure range: 70 kPa to 106 kPa

6 – DRIVE CHARACTERISTICS

Drive type	Manual
Speed	Walking speed
Brakes	Dead Stop Braking controlled through buttons located on the drive controls
Maximum incline	5 degrees (head in docked, transport position)

7 – X-RAY TUBE MOVEMENTS

Vertical focal spot position (from floor)	Minimum: 712 mm (28.03 in) Maximum: 2148 mm (84.6 in) fully extended
Arm rotation range	±239 degrees (relative to docked position)
Tube angulation	Tube angulation (alpha): ±110 degrees Head tilt (tau): -16 to +98 degrees (axially through tube; zero is tube pointing straight down)
Collimator rotation range	±120 degrees (rotates independently of the X-ray tube)

MOVEMENT FORCE

Vertical (zeta – z)	53 N
Horizontal (gamma)	3.5 lbf (15 N)
Column rotation (beta)	20 N·m
Tube angulation (alpha)	24 N·m
Tube tilt (tau)	18 N·m

7 – X-RAY TUBE MOVEMENTS**HOLDING FORCE**

Vertical (zeta)	40 lbf (175 N)
Horizontal (gamma)	20 lbf (93 N)
Column rotation (beta)	4 lbf (17 N)
Tube angulation (alpha)	26 N·m (230 in lb)
Tube tilt (tau)	28 N·m (250 in lb)

8 – ELECTRICAL / CHARGE CAPACITY

Number of batteries	5
Type	LiFePO ₄ , also called LFP for Lithium Ferro-Phosphate
Nominal voltage	14.4 Vdc each, total battery bank of 72 Vdc
Capacity	7.5 Ah each
Charge power requirements	100 to 240 Vac, 50/60 Hz, 11 A to 5.5 A (1100 W max.)
Battery LED	Light indicator displays battery charge level

9 – STORAGE

Detector/grid storage	There are 3 slots: • One 25 x 30 cm • One 35 x 43 cm • One 43 x 43 cm or One Grid Holder
Miscellaneous storage	Disinfectant wipes, gloves, infection control bags, paper requisites
Portable grid and grid holder options	Grid holder with handle on both the long and short axis

10 – PREP / EXPOSE SWITCH

Wired remote	Replaceable prep / exposure switch
--------------	------------------------------------

11 – IMAGING STATION - PREVIEW MONITOR

Type / size	Liquid Crystal Display (LCD), thin film transistor (TFT) 39.6 cm (15.6 in) viewable image size.
Display ratio	Full-HD (1920 x 1080)
Contrast ratio	800:1 (typical)
Response time (white-black)	30 ms
Software Platform	Features: Integrating exposure control, detector control, and image output Operating System: Microsoft Windows 10 LTSC 2019 (64-bit)
Hardware Platform	Processing Module: Intel Core i5-7300U Memory: 16GB RAM Minimum On-board Storage: 250GB SSD
DICOM Standards	DICOM 3.0 compliance: • DICOM Work List • DICOM Store • DICOM Print • DICOM Modality Performed Procedure Step • DICOM Store Commit

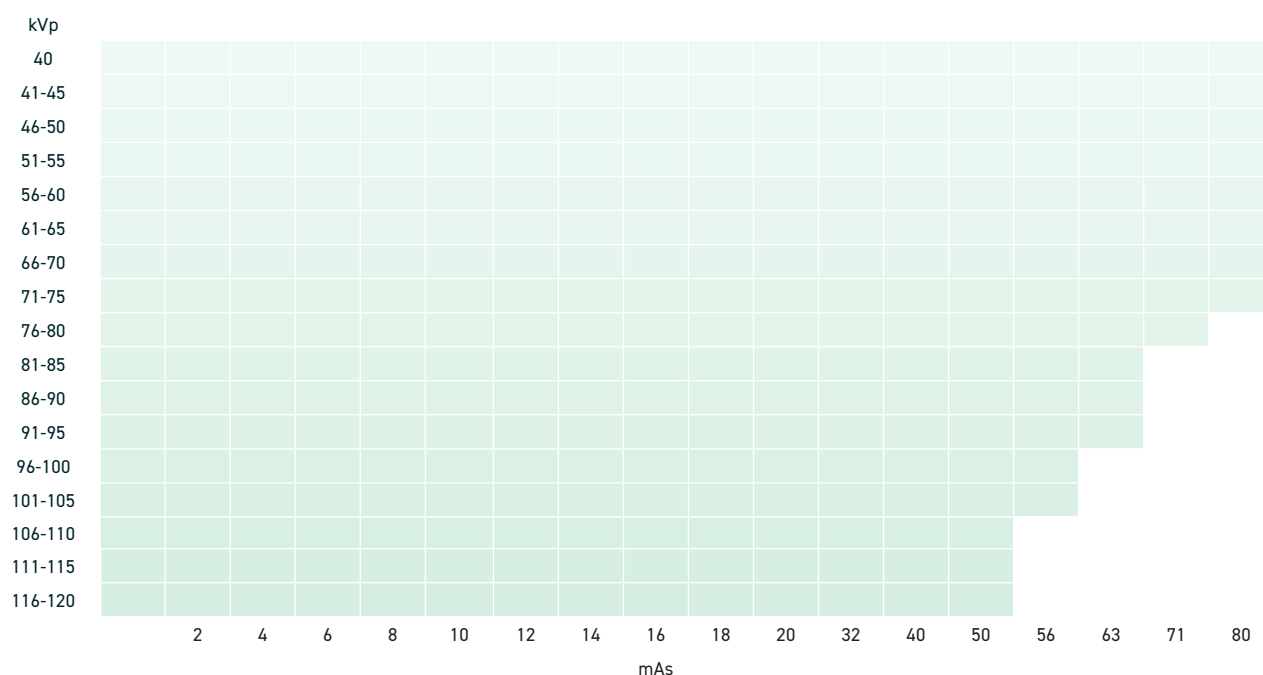
12 — OPERATOR CONSOLE TO HOSPITAL NETWORK WIRELESS COMMUNICATIONS

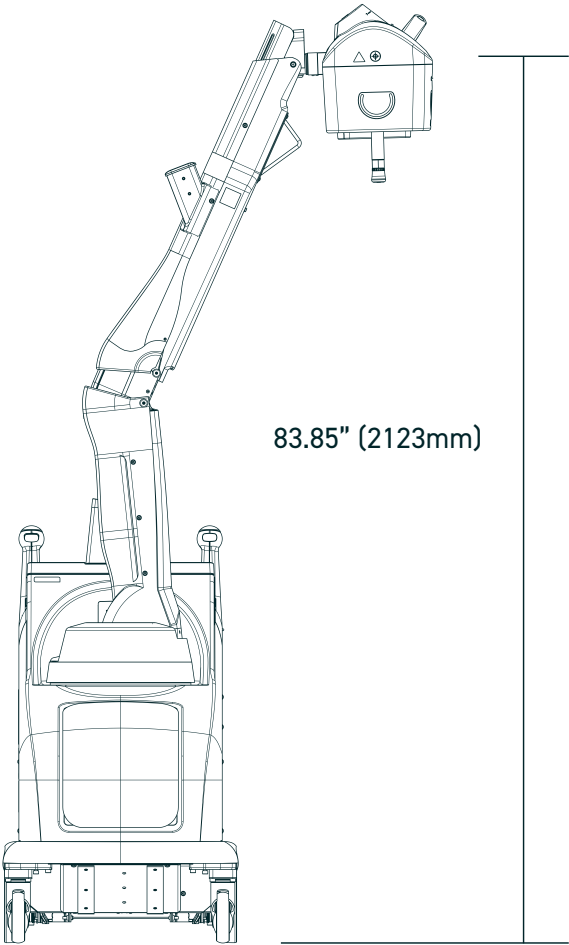
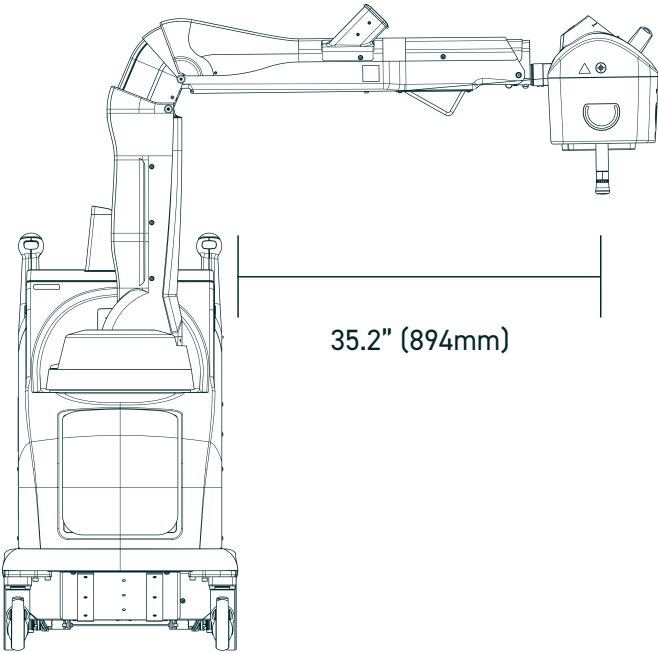
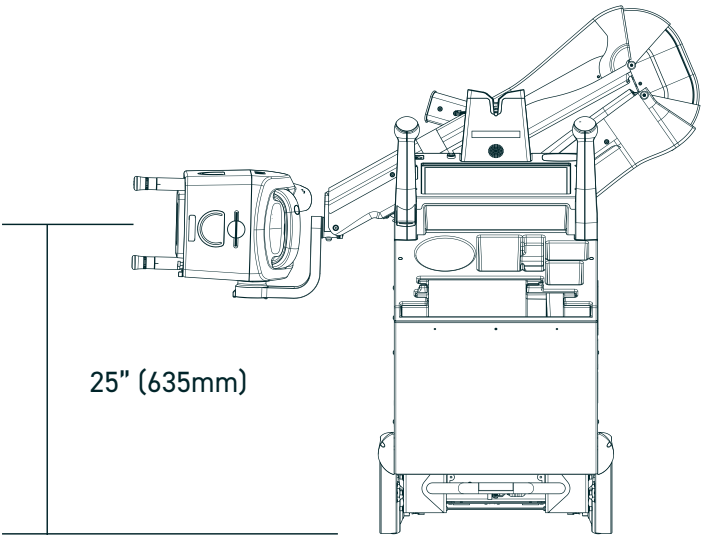
Network protocol	TCP/IP
Network type	(W)LAN
Wireless protocol	802.11 a/b/g/n/ac
Frquency band	2.4 GHz and 5 GHz
IP addressing	DHCP or Static IP for wireless and wired connections

SECURITY

Authentication	EAP-PEAP-MS-CHAPv2 EAP-LEAP EAP-PSK The configuration with PEAP authentication is acceptable for use in the field. Note: the use of the certificate file to store authentication data, will require a service engineer to connect to the system (either on site or remotely) to update the file Note: if the hospital changes the authentication specifics or the issued certificate expires on their network side, without making the necessary changes to the certificate file, the wireless communication to the hospital may stop functioning, requiring a service call to connect. Authentication methods that require user-entered credentials at every login are not supported.
Encryption	WPA2-Enterprise or Personal with AES or TKIP
Intrusion detection / prevention	Agent runs on console to prevent unauthorized processes or services from running.

13 – EXPOSURE RANGE





15 - PRODUCT SUPPORT & TRAINING

Software updates	Upgradeable in the field by a trained operator
Field serviceability	Designed for maintenance and service in the field by field technicians
Field service & installation training & documentation	Comprehensive 'train the trainer' training program and service manuals for field technicians: • Train the Trainer Package • Preventative Maintenance Manual • Diagnostic Manual • Site Planning Guide • Adjustments & Replacements Manual • Installation Instructions • Illustrated Parts List • Acceptance & Compliance Testing
Operator training & documentation	Comprehensive training program and user manuals for operators: • Train the User package • System Hardware Guide (user manual) • Safety and Regulatory Guide • Software Operational Manual • Theory of Operation

Imaging technology supplied by:



For more information about the Micro-X Rover Plus contact:

USA: MICRO-X INC.

855 S 192nd St. Suite B600

SeaTac, WA 98148

P: +1 (919) 816 2083 E: salesteam@micro-x.com

www.micro-x.com

Australia: MICRO-X LTD.

A14 - 6 MAB Eastern Promenade

SA 5042, Australia

P: +61 8 7099 3966 E: salesteam@micro-x.com

This device is designed to perform X-Ray examinations on paediatric and adult patients, in all patient treatment areas. RX Only. THIS PRODUCT IS NOT AVAILABLE FOR PURCHASE BY THE GENERAL PUBLIC.

MAR012-1.0