

VetiX S300 Series

Veterinary Digital Radiography System

Specification



1 General Description

It is clinically indicated for digital radiography of the chest, abdomen, bone and soft tissue.

2 High voltage generator

2.1 Overview

- Maximum inverter frequency: 460 kHz
- Manufacturer: Mindray Animal Medical
- Model: AM30G
- KV-mA-ms. KV-mAs real-time adjustment control with high accuracy
- General 100 -240 V AC power distribution

2.2 Parameter

- Nominal electric power: 32kW
- Maximum electric power: 32kW
- Tube current range: 10 mA~500 mA Large mAs reduce blurring due to organ movement, especially beneficial for chest x-ray
- Current-time product: 0.1mAs~125mAs
- Loading time range: 1 ms~8000 ms
- Tube voltage range: Adjust the 40 kV~125 kV number key, and the minimum adjustment step is 1 kV
- Maximum output power loading parameters: 80kV 400mA 100ms
- Cooling mode: Natural air cooling
- Input power specifications: AC single-phase, 100 -240VAC, $\pm 10\%$ 50/60 Hz ± 1 Hz

- Radiation Dose: Displayed on the Workstation DROC User Interface

3 X-ray tube assembly

3.1 Overview

X-ray emitting elements in the DR device

3.2 Parameter

- Rotating anode X-ray tube
- Manufacturer: Canon
- Model: E7239X
- Anode Speed: 50 Hz at a minimum of 2700 min or 60 Hz at a minimum of 3200 min
- Anode heat content: 100 kJ (140 kHU)
- Maximum anode heat dissipation: 475 W (667 HU/s)
- Target angle: 16°
- Target material: Rhenium-Tungsten faced Molybdenum
- Nominal Focal Spot Value: Dual focus 1.0/2.0
- Nominal anode input power:
 - 50 Hz: 21kW/42.5kW
 - 60 Hz: 22.5kW/47kW (60 Hz)
- Maximum tube current:
 - Small focus 340 mA
 - Large focus 570 mA
- Tube voltage: 125 kV
- Nominal continuous input power: 180 W (15 kHU/min)
- X-ray tube assembly heat content: 900 kJ(1250kHU)
- Cooling mode: Natural air cooling
- Permanent filtration of tube assembly: 0.9mmAl/75 kV

4 Flat panel detector

4.1 Overview

Light and thin design, reliable performance

4.2 Parameter

- Model: AME4343R
- Scintillator fluorescent material: CsI
- Detector array material: a-Si
- DQE: DQE values at spatial frequencies 0 lp/mm, 0.5 lp/mm, 1.0 lp/mm, 1.5 lp/mm, 2.0 lp/mm, 2.5 lp/mm, 3.0 lp/mm, and 3.5 lp/mm with doses of RQA5 and 10 μ Gy. The typical values are 0.56, 0.42, 0.35, 0.29, 0.25, 0.21, 0.17, and 0.11, with a deviation of no more than -0.06.
- Typical value of effective dimension: 43 \times 43 cm
- Pixel spacing: 140 μ m
- Pixel matrix: 3072 \times 3072 pixels
- Valid data bits (AD conversion bits): 16 bits
- Spatial resolution: ≥ 3.6 lp/mm
- Imaging time: ≤ 5.0 s
- Preview time: ≤ 2.3 s
- Cooling mode: Natural cooling
- Data transmission mode: Wired
- Protection class: IP54
- Power-on/off function: The monitor can be powered on and off synchronously with the main unit.

5 Collimator

5.1 Overview

- Zoom and collimate the X-ray beam

- Manufacturer: Mindray Animal Medical
- Model: XS-01

5.2 Collimator parameters

- Intrinsic filtration: ≥ 1.7 mmAl/75 kV
- Light field indicator: LED
- Maximum beam size: $\geq 43 \times 43$ cm (When the SID is 1 m)
- Minimum beam size: 0 \times 0 cm
- Input power: 24 V DC
- Illuminance: ≥ 150 lux/SID 1m
- Total Filtration: ≥ 2.5 mmAl (70kV)

6 Stationary floating table

- Size of table top (Length and width), either-or:
 - 1500 mm \times 650 mm
 - 1200 mm \times 650 mm
- Bed height: 770 mm
- Tabletop weight bearing: 80 kg
- Tabletop movement:
 - Horizontal: ≥ 200 mm
 - Longitudinal: ≥ 100 mm
- Filter on the tabletop: ≤ 1.2 mmAl/100 kV

7 System

7.1 Physical Information

- Dimension (W \times D \times H: mm):
 - (1200 \pm 20) \times (810 \pm 20) \times (1895 \pm 20)
 - (1500 \pm 20) \times (810 \pm 20) \times (1895 \pm 20)
- Net weight (Standard configuration):
 - 1.2m tabletop: 245 \pm 15kg
 - 1.5m tabletop: 250 \pm 15kg
- Length of exposure hand switch cable: ≥ 1.5 m

- Footswitch cable length: About 3m

7.2 Others

- LED exposure indicator: Status indicator color
 - Blue: Normal operation
 - Green: Ready for exposure
 - Yellow: Load exposure

8 Image Acquisition Workstation

8.1 Basic Information of Acquisition Station

- Operating system: Windows 10 Enterprise LTSC, 64 bit
- CPU: 2.0 GHz or above
- Hard disk capacity: ≥ 500 GB
- Memory: ≥ 4 GB
- Image Acquisition Station Monitor: Color, LCD
- HP monitor, screen size: ≥ 21 inches
- Maximum resolution: 1920 \times 1080
- Touch screen size: ≥ 15 inches

9 DROC system

9.1 Overview

DROC is the operating software system used for animal exam management.

9.2 DROC Function

- Animal information entry: emergency treatment, follow-up, Worklist list, Manual registration
- Search multiple exam data of the same animal by one click
- Animal data query, editing and management

- Animal data recycle bin
- Animal data backup reminder and automatic cleaning
- Data backup and recovery: Support U disk and removable hard disk
- Multiple PACS nodes can send data at the same time.
- DICOM Task Manager
- Adjusting exposure parameters
- Common positions are provided and configurable.
- Image Post-processing
- Image Stitch
- Image preview, review and backup
- Image printing, supports connection of multiple printers
- User authority hierarchical management: Administrators and common users
- Position assistance
- Report editing, comment template and report template can be configured

10 Image Review/Key Functions

10.1 Overview

Support multi-image post-processing to provide users with convenient image adjustment.

10.2 Adjustable function

- WW/WL Adjustment
- Image cutting
- Global Zoom
- Orientation
- Image comment
- Image roaming
- Fixed size cutting

- Magnifier
- Local window
- Rotate at any angle
- Invert
- General measurement and application measurement
- 90 ° rotation
- Image
- Multi-pane display

11 Levels algorithm

11.1 Overview

- Professional customized image optimization function to provide high-quality images for diagnosis.

11.2 Function

- Enhanced style switching
- Lookup Table
- Compress
- Enhance
- Noise suppression
- Auto WL Ration
- Simplified enhancement parameters: Brightness, contrast, sharpness, noise reduction

12 Network and Data Connection

12.1 Overview

- The analyzer supports connection to the wireless/wired Internet and LAN.

12.2 Function

- DICOM 3.0
 - DICOM Verification
 - DICOM Storage

- DICOM Storage Commitment
- DICOM Print
- DICOM MPPS
- DICOM Q/R
- DICOM DIR

- To support PACS connection.

13 Environment

13.1 Operating Environment

- Temperature: 10°C~38°C;
- Relative humidity: 20 %~75%
- Atmospheric pressure: 62kPa~106kPa

13.2 Storage and transportation environment

- Temperature: -20°C ~55°C
- Relative humidity: 20 %~90%
- Atmospheric pressure: 62kPa~106kPa

14 Safety and Conformance

14.1 Quality standards

- ISO 9001

14.2 Design standards

- EN 60601-1 and IEC 60601-1
- EN 60601-1-2 and IEC 60601-1-2
- EN 60601-1-3 and IEC 60601-1-3
- EN 60601-1-6 and IEC 60601-1-6
- EN 60601-2-28 and IEC 60601-2-28
- EN 60601-2-54 and IEC 60601-2-54
- EN 62304 and IEC 62304
- EN 62366-1 and IEC 62366-1

14.3 CE declaration

The device is fully in conformance with the EC Low Voltage Directive (2014/35/EU) and EC Directive of Electromagnetic Compatibility (2014/30/EU).

NOTICE:

Not all features or specifications described in this document may be available in all probes and/or modes.

Mindray Animal Medical reserves the right to make changes in specifications and features shown herein, or discontinue the product at any time without notice or obligation. Contact your Representative for the most current information.

