



DISCOVERY50

Digital Radiography
System



IMAGING SYSTEMS



DISCOVERY 50

Description

- *Wireless Transmission*
- *The brand-new wireless flat panel detector and 5G network transmission get rid of unnecessary cables.*
- *Four Exposure Modes*
- *Hand switch, remote control, softer timer and visual console.*
- *Remote Control*
- *The system supports remote control with an effective distance for 15 meters, which avoids signal obstruction due to walls.*
- *Sensitive Collision-prevent Design*
- *The system includes a proposed automatic brake. The trolley would brake automatically, once it detected obstacles ahead.*
- *Optional Chest-radiography Stand and Mobile Imaging Bed*

Generator

a) X-ray tube and generator are designed in separate type
b) Maximum output power: 56KW
c) Nominal output power: 50KW
d) Output current range: 1~630mA
e) Tube voltage range: 40~150KV (step 1KV)
f) Current time product range: 0.1~640mAs
g) Exposure time range: 1ms~10s
h) Inverter frequency: 500KHz, deviation $\pm 10\%$
i) Automatic APR linkage function
j) Equipped with overload protection

X-Ray Tube

a) Focus size: 0.6mm/1.2mm
b) Focus power: 27kW/75kW
c) Tube voltage range: 40~150kV
d) Anode heat capacity: 300kHU
e) Anode target Angle: 12°
f) Anode speed: 9700 RPM
g) Protection device: oil pressure protection

Collimator

a) LED Laser collimator

Anti-Collision

a) Anti-collision mode: obstacle contact sensor

Mobile stand information

Width: 540mm
Height of the machine during movement: 1350mm
Column structure: collapsed column
X-ray tube support mode: L arm (column type)
Column rotation range: $\pm 315^\circ$
Distance from the focus of tube to the ground SID: 610~2096mm
Telescopic stroke of tube along the with arm: 560mm
Rotation of the x-z tube: $\pm 180^\circ$
Y-Z plane rotation of the tube: $+90^\circ \sim -30^\circ$
The whole machine weight less than 450kg
Contractile charging cable

Flat Panel Detector

Quantity: 1pc
FPD Type: a-Si
Image area: 17" x 17"
Dimensions (L x W x H): 460mm x 460mm x 15.1mm
Weight: 4.6kg
Effective size: 432mm x 432mm
A/D Converter: 14 bit
Pixel matrix: 3072 x 3072
Pixel size: 139 microns
DQE: 66%
Spatial resolution: $\geq 3.4\text{lp/mm}$
Max. weight allowed: 200kg
Number of images taken with one charge (1 image per minute): 200 images in 3.5h with full performance
Battery recharge time: 2.5 hours
Image processing time: 12s
Battery Qty.: 2pcs
Data transmission: Wireless
Data interface: GigE/802.11n
Frequency range of wireless signals: 2.4G and 5G

Imaging workstation

CPU: INTEL CORE i3
Memory capacity: 4GB DDR
SSD: 64GB
Mechanical hard disk: 500 GB
Multi-touch capacitive screen
Screen size: 21.5 inches
Screen resolution: 1920×1080
System version: Win10
Network environment: gigabit Ethernet LAN and 2.4g and 5G wireless network



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Image acquisition software

Image acquisition function
Automatically obtain patient information from the hospital's HIS system or RIS system or establish local medical records.
Setting of exposure parameters: setting of kV, mA, mAs and ms.
Image processing function
Automatic window width and window level adjustment, ROI window width and window level adjustment, gray scale transformation, and parallel display of single or multiple images
Image zooming function: most suitable for image, zoom in, zoom out, local zoom in and actual size
Image rollover: left and right rollover, up and down rollover, 90° rollover
Image filtering: noise reduction, bone level, tissue details, contrast, etc.
Marking function: text marking, arrow and other marking and deletion
Image measurement: linear measurement, Angle measurement and rectangle measurement
Image adjustment: window level gain, window width gain, grayscale stretch, negative reversal, sharpening, enhancement strength, etc.
Other functions: image movement, label selection, image clipping and other functions.
Image management function
DICOM function and database management: the system supports the standard DICOM3.0 function, which can transfer data to other medical imaging workstations.
A variety of laser film printing functions: support various sizes of film printing;
Case management function
Medical records can be stored, retrieved and inquired, and cases can be deleted, cleaned and browsed.
Function of printing diagnostic report: the function of printing diagnostic report is added. The built-in diagnostic report template and knowledge base of the system can output integrated report of text and text.
System monitoring function
It has real-time monitoring functions such as heat capacity of tube, state of high voltage generator, temperature of detector, exposure statistics and remaining electric volume.

Electric Engineering

Built-in battery type: Lithium
Exposure mode: built-in battery exposure and wall current exposure
Battery capacity: 1200 exposures (standard adult chest X-ray condition); Travel 100km
Drive mode: dual motor drive, control the left and right drive wheels separately
Movement mode: electric drive, infinitely variable speed
Maximum moving speed: 5km/h
100V- 240 VAC
Charging time is no more than 5 hours



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