



C-arm mechanical data

- Parking dimensions (HxLxD) 73.4in (1865mm) x 35in (890mm) x 75.4in (1915mm)
- Weight 683lb (310kg)
- Motorized vertical movement 17.7in (450mm)
- Horizontal movement 8.5in (215mm)
- Panning movement $\pm 12^\circ$
- Rotation $\pm 275^\circ$
- Motorized rotation $\pm 45^\circ$ (optional)
- Orbital rotation 160° (65° to 95°)
- Mechanical balancing on all movements
- SID
 - 42in (1066mm) (detector 21x21)
 - 42.5in (1080mm) (detector 30x30)
- Free space in C-arm
 - 31.8in (808mm) (detector 21x21)
 - 32.3in (821mm) (detector 30x30)
- C-arm depth 27.8in (707mm)
- Min height of the monobloc from the ground 4.6in (117mm)
- Manual movements except vertical movement
- Color-coded brake handles
- Handles along the entire C
- Positioning handle on detector housing
- Directional handle with integrated brake
- Balanced weight for ease of positioning and overcoming small obstacles
- Cable sweepers on the four wheels
- Wheel cover in soft plastic material
- Printer holder (**opz**)
- Structure of the "C" in aluminum
- Connection cable with C-arm 19.6 ft (6m)
- Adjustable monitor holder arm

Power supply

- Single phase power supply
- Voltage 120 Vac, 230 Vac $\pm 10\%$, 50Hz, 60 Hz
- Max. consumption in Fluoro 10A
- Max. consumption in Rad 22A
- Consumption in Standby 300VA
- Power connectors available
 - SCHUKO
 - BS 1363
 - NEMA 5-20P

Environmental working conditions

- Temperature 10-35 $^\circ\text{C}$
- Relative humidity 20-70 % (without condensation)

X-ray tube (with rotating anode)

- Anode material RTM
- Fochi 0.3-0.6mm
- Focal spot 10°
- Anode diameter 2.9in (73mm)
- Anode heat content 225kJ (300kHU)
- Max heat dissipation 1300W (104kHu/min)
- Rotation 3000rpm
- Nominal anode input power
 - 6kW (small focus)
 - 25kW (large focus)
- Nominal tube voltage 130kVp
- Average duration 5000 hours in fluoroscopy

Monobloc (with rotating anode)

- Max power 5kW
- Heat content 1020kJ (1377kHU)
- Heat dissipation
 - 150W - 12kHU/min
 - 270W - 22,6kHU/min (with active cooling)
- Filtration 3mmAl_{eq} (@70kV)
- Maximum loading time in fluoroscopy
 - 53min 60sec ON, 60 sec OFF @15i/s, 75kV, 6mA_{avg}
 - 87min 60sec ON, 60 sec OFF @15i/s, 75kV, 6mA_{avg} (with active cooling)
- Radiation dispersion $< 0.8\text{mGy/h}$ @120kV-4mA scopia

Generator

- Frequency 40kHz
- Voltage range 40-120kV
- Voltage resolution 1kV
- Ripple $< 1\%$
- Max power
 - 5kW
- Max current in continuous fluoroscopy
 - 6mA @100kV
- Current range in pulsed fluoroscopy
 - 0.4-50mA
- Fps in pulsed fluoroscopy pps 1,2,3,4,6,8,12,15
- Current range in Rad mode
 - 23-100mA

Collimator

- Multiple field collimation
- Symmetrical and asymmetrical collimation
- Virtual collimation without radiation emission
- Automatic collimation on the acquisition fields
- Additional automatic filtrations
 - 2mmAl
 - 1mmAl + 0.1mmCu
 - 1mmAl + 0.2mmCu

Dose Area Meter (optional)

- Sensitivity $1\text{mGy} \times \text{cm}^2$
- The dose data is stored in the exam
- Possibility of sending with DICOM RDSR
- Management of different units of measurement

Integrated Laser (optional)

- Class1M
- Positioned on the detector and on the monobloc
- Switching on and off from the control panel
- Automatic power off

Detector 21x21 (PaxScan® 2121DXV)

- Technology Amorphous Silicon matrix (aSi)
- Scintillator Cesium Iodide
- Sensitive area 205x205mm
- Pixel size 205 micron
- Matrix 1004x1004 pixel
- Resolution 2.43lp/mm
- A/D Conversion 16bit
- Dynamic range 94db
- Fill factor 77.4%
- Passive cooling
- Max acquisition frame rate 30 frame/s
- Automatic Offset calibration
- Field of view 21, 16, 12
- Compactness index 0.4
- Maximum vertical dimensions (detector-C) 24cm
- DQE @ 2 µGy, RQA5
 - 80% @ 0 lp/mm
 - 65% @ 1 lp/mm
 - 40% @ 2 lp/mm
- MTF
 - 55% @ 1 lp/mm
 - 22% @ 2 lp/mm

Detector 30x30 (PaxScan® 3030DXV)

- Technology Amorphous Silicon matrix (aSi)
- Scintillator Cesium Iodide
- Sensitive area 294x294mm
- Pixel size 194 micron
- Matrix 1516x1516 pixel
- Resolution 2.58lp/mm
- A/D Conversion 16bit
- Dynamic range 94db
- Fill factor 68%
- Passive cooling
- Max acquisition frame rate 30 frame/s
- Automatic offset calibration
- Field of view 30, 21, 16
- Compactness index 0.52
- Maximum vertical dimensions (detector-C) 24cm
- DQE @ 2 µGy, RQA5
 - 80% @ 0 lp/mm
 - 65% @ 1 lp/mm
 - 44% @ 2 lp/mm
- MTF
 - 55% @ 1 lp/mm
 - 23% @ 2 lp/mm

Video Processor

- CPU Intel i7
- S.O. Windows 10 LTSC 2019 64bits
- RAM 16Gbyte
- Hard Disk
 - 500 Gbyte SSD per SW
 - 500 Gbyte SSD per images
- Storage of static and dynamic images
 - 250.000 with detector 21x21 (max resolution)
 - 106.000 with detector 30x30 (max resolution)
- 2 USBs available
- Socket for equipotential connection
- Infrared remote control (optional)
- Ethernet 1Gbps
- Wi-Fi dual band (optional)
- Interface with injector (optional)
- Operating mode
 - Low Dose
 - High Quality
 - High Contrast
 - One Shot
 - Radiography
- Command systems
 - Programmable three-function button
 - Cable footswitch with two programmable pedals (optional)
 - Wireless footswitch with two programmable pedals (optional)
- X-ray emission signaling
 - On trolley and on view station with lamp
 - With sound signal (adjustable volume)
 - Wireless mode on room lamp with DSL kit (optional)
- Possibility of exporting DICOM and graphic images
 - USB storage devices (optional)
 - CD/DVD burner (optional)
 - LAN with DICOM (optional)

Accessories

- Active cooling
- Extension kit (only with motorized version)
 - 13" color touchscreen control panel
 - One monitor 27" with mobile support
 - 15m of video, power and connection cable
 - Footswitch with cable
- DAP (Dose Area Product)
- Footswitch with cable
- Wireless footswitch
- Login with NFC card
- Laser centering
- DSA acquisition
- Connector for contrast media injector
- DSL kit for turning on room lights wirelessly
- WLAN DICOM Wi-Fi
- CD/DVD burner
- Additional Control Panel
- Medical A6 printer
- DICOM
 - Worklist
 - Store
 - Print
 - Query/Retrieve
 - Media Export
 - MPPS
 - Storage Commitment
 - RDSR

Grid

- Material Al
- Ratio 8:1
- Lines/cm 80
- Carbon protective cover
- Removal without tools

Monitor

- 27" single monitor
- Technology color LCD
- Multi Touch surface
- Resolution 2540x1440
- Contrast ratio 1000:1
- Brightness 350cd/m² (max)
- Viewing angle 178° H/V

Control panel

- 13" display
- Technology color LCD
- Multi Touch surface
- Resolution 1920x1080 (Full HD)
- Brightness 400 cd/m² (typ)
- Contrast ratio 1000:1
- Rotation ±135°
- Tilt -5° +30°
- Synchronization with monitors



Software

- Designed for use with touchscreen interface
- Intuitive and ergonomic interface
- Access with Emergency user with limited functionality
- Patient archive database
- Manual patient entry
- Import patients and tests from worklists
- Reopening of previous exams
- Search filter on exam database
- Automatic cancellation of exams
- Reconciliation from worklist
- Exam database with image preview
- Setting the maximum dose for the exam
- Automatic dose control
- Real-time storage of images on HDD
- LIH automatic storage
- Automatic movement of images saved on Meme monitor
- Freeze images on Meme monitor
- Switch Live – Meme monitor
- Image acquisition at fps 1,2,3,4,6,8,12,15,30
- Acquisition of image sequences from 1 to 30 fps without time limitations
- Noise reduction with recursive filter
- Image enhancement with DRC (Dynamic Range Compression) system
- Edge enhancement
- Spatial filters (Smooth and Sharp)
- Rotation and inversion of images
- Pin of significant images
- Adaptive ROI to optimize quality and patient dose
- Automatic and manual mode
- Automatic and manual cine loop
- Viewing of images stored by control panel and Mem monitor
- Automatic and manual W/L adjustment
- Zoom and PAN
- Max zoom 4x
- “Full screen” image
- Collimator adjustment directly on the image
- Maximum dose alert setting
- Automatic and manual sequence storage
- Drawing lines and graphic objects on the monitor
- Stopwatch on Live Monitor and Control Panel
- Laser activation/deactivation
- Viewfinder centering display on monitor
- Automatic ABC ROI
- Automatic removal of metal artifacts
- Grayscale inversion
- Motion Detection for the reduction of motion artifacts
- Selection of fields with preview of the acquisition area
- Real-time display of dose and kerma
- Insertion of free and predefined texts
- Insertion of lines and graphic objects
- Measurements of lengths and angles
- Calibration of measurements
- Image histograms with min, max and avg value
- Creation of dose reports
- Mosaic monitor division
- Crop images
- Cineloop display, with selection of parts of sequence
- Image-by-image playback
- Print on local printer
- Export exams on USB and CD/DVD (optional)
- Possibility of anonymization of exports
- Insertion of DICOM viewer on export
- Export in DICOM, BMP, Jpeg, AVI, MP4 format

Safety and security

- Access with User/Password login
- Electromechanical safeMultilevel users
- Access with Smart Card
- Possibility of data encryption
- Encryption system for information sent over the network
- Password with complexity, duration criteria, repeatability
- Emergency buttons on C-arm and view station
- 5 minutes fluoroscopy timer
- Active control system of the monoblock and anode temperature with algorithm to avoid interruptions
- Rx activation button on Control Panel and Live monitor
- ty on vertical motor movement

DSA e Road Mapping (optional only with rotating anode)

- DSA with pedal and dedicated button
- Different pre and post mask modes
- Automatic and/or manual mask activation
- Automatic Cineloop
- Remask in post processing
- Pixel shift
- Landmarking
- Vascular tracing
- Automatic calculation of stenosis
- Roadmapping manually or using previous DSA runs
- Activation of contrast media injector (optional)

Dose reduction

- Laser on monobloc and detector
- Adaptive ROI
- Asymmetric collimator
- Additional filtrations
- Virtual collimation
- Low dose mode with dedicated buttons
- Pulsed fluoroscopy at low frames
- Automatic recognition of the anatomical part
- Automatic dose control

Exam protocols

- Pre-programmed protocols
 - o Very low dose exams
 - o Orthopedic
 - o Traumatological
 - o Neurosurgical
 - o Operations on the column
 - o Pain therapy
 - o Urology
 - o Gastro
 - o Endoscopy
 - o Pneumothorax
 - o Peripheral vascular (optional)
 - o Vascular interventional (optional)
 - o Cardiological
 - o Generic interventional (stents, ports, etc.)
 - o Cerebral vascular (optional)
- Ability to create new protocols
- Customization of existing protocols
- Disabling unused protocols
- Switching on the equipment with automatic selection of the last protocol used

DICOM (optional)

- DICOM 3 protocols
 - o Store
 - o Worklist
 - o Storage commitment
 - o MPPS
 - o Print
 - o Query/Retrieve
 - o RDSR
- Export in DICOM for processing
- Management of default DICOM nodes
- Management of multiple DICOM nodes
- Monitor display of the RDSR report
- Automatic DICOM sending at the end of the exam

