



JET 32 PLUS DR

Product Data Motorized digital mobile radiographic unit

JET 32 Plus DR is a motorized equipment designed for digital radiography, complete with rotating column and Wi-Fi Digital Flat Panel Detector. The equipment, thanks to the battery power supply, allows the operator to move it easily, performing digital radiographs, without having to connect the unit to electricity, also ensuring optimal performance in terms of image acquisition. The unit is supplied complete with a powerful and versatile Workstation, also battery-powered, thanks to which the operator can set the X-ray generator for the acquisition of the images, together with their visualization, post-processing and DICOM connectivity. Charging the battery pack is easy and quick, thanks to the main power cable cord, compatible with the Standards.

X-RAY GENERATOR - High Frequency monobloc

Maximum power	32 kW (320 mA - 100 kV @ 100 ms)
Maximum voltage	125 kV
Maximum mA	400 mA
Maximum mAs	100 mAs Option: 200 mAs
kV range	40 ÷ 125 kV (1 kV step)
mA range	25 ÷ 400 mA (13 steps)
mAs range (2-point technique)	0.1 ÷ 100 mAs (31 steps) Option: 0.1 ÷ 200 mAs (34 steps)
Exposure time	3 ÷ 1000 ms (26 steps) Option: 3 ÷ 5000 ms (33 steps)
Monobloc thermal capacity	600 kJ
Monobloc continuous thermal dissipation	65 W
Frequency	40 kHz
kV ripple	≤ 2 % @ maximum power
Leakage radiation (IEC 60601-1-3)	< 0.5 mGy/h
Total filtration	> 2.5 mm Al @ 75 kV

X-RAY TUBE

Type	Rotating anode X-ray tube
Focal spot size	Small focus 0.6 mm - Large focus 1.3 mm 1.2 mm available on request
Maximum voltage	130 kV 150 kV available on request
Anode speed	3000 r.p.m.
Anode material	RTM (other options available)
Anode angle	15° (other options available)
Maximum anode heat storage capacity	80 kJ (107 kHU) On request: 80 kJ (110 kHU) or 225 kJ (300 kHU)
Maximum continuous anode heat dissipation	300 W On request: 320 W or 500 W

COLLIMATOR

Mode of operation	Manual
Field type	Square field
Field adjustment	From 0x0 cm to 43x43 cm at 1 m F.F.D.
Light source	High intensity LED lamp (160 lux) for X-ray field simulation with automatic switching OFF programmable by software from 5 s to 120 s.
F.F.D. measurement	Retractable tape measure
Collimator manual rotation	± 90° around its vertical axis



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PANEL PC - WORKSTATION

CPU Processor	Intel® Core™, i5-4402E CPU @ 1.6 GHz
Memory	4.0 GB SO-DIMM
Storage	500 GB
CD/DVD	DVD-RW
Operating System	Windows® 10
Ports	Nr. 2 USB ports Nr. 1 LAN port
Backup battery	7800 mAh 9-cell external battery

PANEL PC - DISPLAY

Type	19" TFT active matrix panel
Backlight type	LED
Resolution	Max. 1280 × 1024 (SXGA) with 16.7 million colours
Luminance	350 cd/m ² (typical)
Contrast ratio	1000:1 (typical)
View angle (U/D/R/L)	80° / 80° / 85° / 85° (typical)

OPERATION MODE

Pre-selected radiography technique (APR)	2-point technique (kV and mAs)
Free-format radiography technique	2-point technique (kV and mAs) 3-point technique (kV, mA and ms)
Generator controls	Integrated into graphical interface 4 patients sizes selection Up to 40000 pre-programmable settings for anatomical part and kind of projection
Imaging system	Powerful workstation for a complete digital radiographic routine. All-in-one solution for generator control, image acquisition and display, post-processing and DICOM connectivity. Its aim is to acquire, process, display and send patients' radiological images and related data.

EXPOSURE CONTROL

Hand switch	Two-step hand switch complete of spiral cable extendable up to \cong 3.8 m
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MECHANICAL FEATURES

Type of equipment	Motorized mobile device with arm and X-ray group completely counterbalanced
Rotating column	$\pm 90^\circ$ with foot-pedal operated mechanical detent (+ 90° / 0° / - 90°)
Brake	Dead man brake system
Focus-floor distance	Variable from 470 mm to 2000 mm
Monobloc yoke support rotation	- 90° ÷ + 90°
Monobloc rotation in the yoke	- 35° ÷ + 190°
Overall dimensions in transport position	1150 × 640 × 1600 (H) mm
Weight	\cong 280 kg (without Flat Panel Detector)



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EQUIPMENT FEATURES

Motion control	Via handgrips pair, one with a thumbwheel joystick for the equipment motion and the other with a push button for enabling movement
Maximum movement speed	5 km/h forward running and 2 km/h reverse running
Maximum slope that can be overcome	5°
Equipment power on, motion and radiographic exposure enabling	Via 3 steps key selector switch
Battery state of charge indication	LED digital indicator
Battery pack	A battery pack for the power supply needs of the entire equipment, composed by two VRLA AGM batteries, maintenance free, non-hazardous for air/sea/rail/road transportation, 100% recyclable
Batteries pack recharging time	≅ 2 h
Motion autonomy	≅ 10 km
X-ray exposures autonomy	≅ 450 X-ray exposures (100 kV 20 mAs)
Main power supply cord specifications	Cable that can be automatically wound on a spring cable reel, with a useful cable length of ≅ 4 m and plug 230V ~, 2P + T, 16A (IEC 60884-1)

SAFETY AND PROTECTION

Automatic control and protection of the filament current
Overcurrent protection
Overvoltage protection
X-ray tube overload protection
Monobloc kHU automatic survey
Errors description
Motion failure: traction wheels mechanical unlocking to allow easily to the operator the equipment moving

POWER SUPPLY REQUIREMENTS

Voltage	100 ÷ 240 Vac single phase
Frequency	50 ÷ 60 Hz
Nominal current	8 ÷ 5 A



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SOFTWARE - Software to capture, view and process radiological images

Acquisition	<ul style="list-style-type: none"> Multi Language Noise Reduction Contrast stretching Edge Enhancement Zoom Digital Rotation APRs and exams set-up Backup & Restore Patients' data to insert manually or automatically through Worklist Possibility to show generator, patient and images data directly to the monitor PACS and DICOM systems Possibility to control the generator from a software virtual console Virtual keyboard
Post-processing	<ul style="list-style-type: none"> 90° anti-clockwise rotation Horizontal and Vertical Inversion Rotation Advanced processing LUT management Electronic collimators Overview Detector zoom level Detector magnification Grid suppression Graphic functions (Text, Angle, Calibration, Grid, Ruler, Black mask, Image statistics, Frame, Arrow)
DICOM	<ul style="list-style-type: none"> Pack 1 (Base, Print, Worklist) MPPS (Modality Performed Procedure Step) CD/DVD DOSE SR (Radiation Dose Structured Report)
Optional	<ul style="list-style-type: none"> DICOM Query/Retrieve DICOM Storage Commitment Dual Detector managing Software grid Orthopaedic measures



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Wi-Fi FLAT PANEL DETECTOR - Canon Electron Tubes & Devices Co. Model FDX3543RPW

Sensor protection plate	Carbon fiber plate								
Cooling	Natural air cooling								
X-ray Conversion Layer	Cesium Iodide (CsI) with Amorphous Silicon (a-Si) Photodiode								
Active area	430 (H) x 350 (V) mm								
Pixel matrix	2466 (H) x 3040 (V) pixels								
Pixel pitch	140 μ m								
Cycle time	12 s shot to shot (WLAN) 9 s shot to shot (Ethernet)								
Limiting resolution	3.7 Lp/mm (typical)								
MTF (2.0 Lp/mm, 70 kVp, 1x1)	36 % (typical)								
DQE (DQE (0), Quantum - Limited)	> 70 %								
A/D conversion	16 bits								
Energy range	40 \div 150 kVp								
Maximum entrance dose	4 mR (linear output range)								
Image acquisition exposure period	500 ms standard (500, 1000, 1500, 2000, 2500, 3000, 3500, 4000 ms)								
Auto Exposure Detection (AED)	Available in Tethered and Wireless mode								
Double Exposure	Available in Tethered mode								
Overall dimensions	383.5 x 459.5 x 15 mm								
Weight	\cong 3.2 kg								
Li-ion Battery									
Nominal Capacity	3400 mAh								
Overall dimensions	245 x 130 x 8.5 mm								
Weight	\cong 385 g								
Environmental conditions									
Temperature	<table border="1"> <thead> <tr> <th>Under delivery and stock</th> <th>Under operating</th> </tr> </thead> <tbody> <tr> <td>- 15 \div + 55 $^{\circ}$C (+ 10 \div + 35 $^{\circ}$C for long time storage)</td> <td>+ 10 \div + 35 $^{\circ}$C</td> </tr> <tr> <td>10 \div 95 %</td> <td>20 \div 75 %</td> </tr> <tr> <td>50 \div 106 kPa</td> <td>70 \div 106 kPa</td> </tr> </tbody> </table>	Under delivery and stock	Under operating	- 15 \div + 55 $^{\circ}$ C (+ 10 \div + 35 $^{\circ}$ C for long time storage)	+ 10 \div + 35 $^{\circ}$ C	10 \div 95 %	20 \div 75 %	50 \div 106 kPa	70 \div 106 kPa
Under delivery and stock	Under operating								
- 15 \div + 55 $^{\circ}$ C (+ 10 \div + 35 $^{\circ}$ C for long time storage)	+ 10 \div + 35 $^{\circ}$ C								
10 \div 95 %	20 \div 75 %								
50 \div 106 kPa	70 \div 106 kPa								
Humidity (non-condensing)									
Pressure									
Optional									
Flat Panel anti-shock frame with handle									
Flat Panel anti-shock frame with handle complete with grid 215 l/inch, R=8:1									



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Wi-Fi FLAT PANEL DETECTOR - Rayence Model 1417WCC

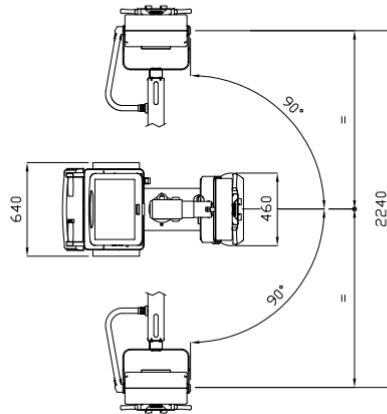
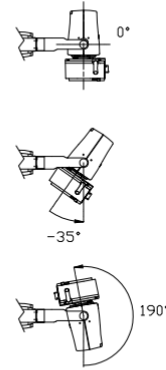
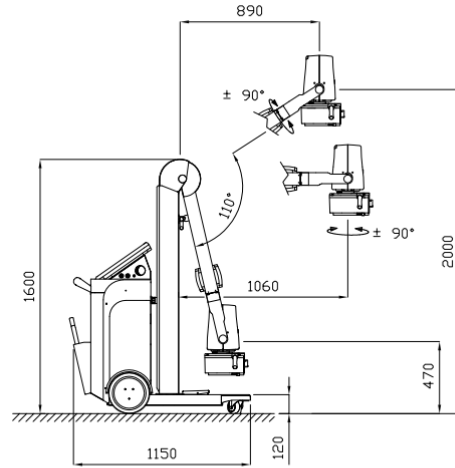
Sensor protection plate	Carbon fiber plate	
Sensor type	Amorphous Silicon with TFT (Single panel)	
Scintillator type	CsI:TI	
	127 type	140 type
Active area	357.6 x 422.7 mm	350.0 x 427.3 mm
Total pixel matrix	2816 x 3328 pixels	2500 x 3052 pixels
Effective pixel matrix	2756 x 3268 pixels	2440 x 2992 pixels
Pixel pitch	127 µm	140 µm
Limiting resolution	2.5 ÷ 3.93 Lp/mm	2.5 ÷ 3.57 Lp/mm
MTF (@ 1 Lp/mm)	Min. 50 % / Typ. 59 %	Min. 50 % / Typ. 57 %
DQE (@ 0.1 Lp/mm)	Min. 50 % / Typ. 65 %	Min. 50 % / Typ. 65 %
A/D conversion	14 / 16 bits	
Energy range	40 ÷ 150 kVp	
Trigger mode	Manual Mode Auto Trigger Mode (Auto Exposure Detection)	
Preview time	≤ 2 s (2 x 2 binning)	
Overall dimensions	460 x 384 x 15 mm	
Weight	≅ 3 kg (battery included)	
Li-ion Battery		
Nominal Capacity	3400 mAh	
Overall dimensions	236.2 x 127.8 x 6 mm	
Weight	≅ 300 g	
Environmental conditions	Under delivery and stock	Under operating
Temperature	- 10 ÷ + 50 °C	+ 5 ÷ + 35 °C
Humidity (non-condensing)	10 ÷ 80 %	30 ÷ 75 %
Pressure	/	70 ÷ 106 kPa
Optional		
Flat Panel anti-shock frame with handle		
Flat Panel anti-shock frame with handle complete with grid 215 l/inch, R=8:1		



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DIMENSIONS



PD-153-E Rev. 01 - 21.10.2020

Note: Specifications are subject to change without prior notice.



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