

DIRECT RADIOGRAPHY SYSTEM

DX-D 600



HIGH-PRODUCTIVITY, EXCELLENT IMAGE QUALITY, DIRECT RADIOGRAPHY SYSTEM WITH STATE-OF-THE-ART DESIGN IN THREE CONFIGURATION OPTIONS.

- Two-detector, high-productivity, high-throughput general radiography system with three configuration options: from manual, to semi-automatic, to fully-automatic
- DICOM connectivity to PACS, HIS/RIS
- Superior contrast detail provided by MUSICA² processing, producing exam-independent consistent image quality
- Cesium Iodide DR detector technology, giving significant patient dose reduction potential
- Can be integrated with Agfa HealthCare CR systems, bundling the high quality and flexibility strengths of each technology
- Implementation of the new IHE REM (Radiation Exposure Monitoring) profile

The DX-D 600 unites state-of-the-art design with Agfa HealthCare's top-of-the-line image quality to create this high-productivity solution, with either direct radiography (DR) or mixed DR and computed radiography (CR) capabilities. A family of ceiling mounted systems with configurations ranging from a manual to a fully motorized, auto-positioning solution, it is ideal for facilities with a high patient load that are looking to streamline workflow and increase throughput. The DX-D 600 interfaces with the NX Workstation, which also features the X-ray soft console, for an integrated workflow that communicates seamlessly with PACS, HIS and RIS. Both APR and X-ray parameters are downloaded on the soft console when a patient is selected from the HIS/RIS via the NX Workstation, and the study is selected.

Consistent with the DX-D family the DX-D 600 features Cesium Iodide detector technology, which offers excellent image quality and immediate image availability. GOS technology (Gadolinium Oxy-Sulphide) can also be integrated, tailored to the customer's needs. Agfa HealthCare's unique MUSICA² image processing delivers consistency and superior contrast detail.

Configurations to meet every need

The DX-D 600 comes in three different configurations. The versatile manual system offers the possibility of a mixed CR/DR configuration, with a fixed detector in the wall stand and a cassette-sized detector in the table, or two cassette-sized detectors in the wall stand and the table, or a single detector that can be switched between the wall stand and the table. The semi-automatic configuration includes vertical tracking on table and wall stand, and fixed or portable DR detectors in both the wall stand and the table. The fully-automatic system offers the latest in state-of-the-art auto-positioning technology, as well as fully-automated tracking. Features include motorized vertical tracking on table and wall stand; horizontal tracking for the table, together with auto-positioning; and fixed or portable DR detectors in both the wall stand and the table. But each configuration, even fully robotized, still enables quick and effortless manual positioning, a must for emergency situations.

Features such as the innovative tube head design with touch screen control panel, the integrated soft console on the NX monitor, grid sensing for both table and wall stand, solid state AEC (Automatic Exposure Control) for high-speed accuracy and collimators with DAP (Dose Area Product meter) and LED lighting make the DX-D 600 a premium X-ray room.

Ultimate ease of operation, in any situation

This solution can efficiently handle the most demanding situations. The versatile ceiling suspended tube crane operates with a touch sensor keypad, which controls all the ceiling support movements and the display of the X-ray parameters and patient details. The fully-motorized wall stand bucky has vertical tracking, and the fully-automated version offers the prospective option to enable DR Full Leg/ Full Spine functionality. The radiographic table, which supports a superior patient load of 300 kg (661.39 lbs), has both horizontal and vertical tracking. The auto-positioning of the fully-automatic system can be programmed for all required positions, and automatically returns to a selectable parking position if required.

MUSICA²: tuned for the best results

Agfa HealthCare's 'gold standard' MUSICA² image processing has been specially adapted and tuned to enhance the excellent DR image quality.

Exam-independent, it ensures consistent image quality and high contrast detail. The superior image quality also gives the potential for significant dose reduction. And, with the same look-and-feel for MUSICA², NX and DX-D 600, workflow is further improved in the integrated DR radiography room.

Detector technology with dose reduction potential

The DX-D 600 offers the choice of GOS and Cesium Iodide technology, for high quality and high productivity. The superior image quality of the Cesium Iodide offers the potential for significant patient dose reduction, while the immediate availability of images speeds up workflow and reduces patient waiting times. Additionally, with the extended dose reporting radiology supervisors can search the NX database, in order to create reports evaluating the department dose performance based on the Exposure Index data.

Combine CR flexibility and DR performance

The DX-D 600 can be integrated with Agfa HealthCare's CR systems, such as the DX-G and DX-M. Built on needle crystal detector technology, the combined systems deliver the high image quality and potential for dose reduction of DR, with the flexibility of cassette-based CR systems.

Services & Support

Agfa HealthCare offers service agreement solutions tailored to the individual customer's situation. The service agreements are available in Basic, Comfort and Advanced levels, making lifecycle costs predictable.

A worldwide team of some 1,000 service professionals is at your disposal to provide support at all phases of your project. As an additional service, they can help you customize your examination tree or link RIS protocol codes, for an even higher return on investment. Furthermore, this team carries out tasks that go well beyond maintenance, including value added services such as super user training, staff training and software upgrades.

technical

SPECIFICATIONS

ENVIRONMENTAL REQUIREMENTS

There are no special environmental conditions required for the safe operation of the ceiling suspension. However, it is not designed for the use in the presence of explosive or flammable gases as might be found in operating rooms.

Operating

- Atmospheric pressure

Minimum	700 hPa
Maximum	1,060 hPa
- Relative humidity

Minimum	30 %
Maximum	75 %
- Ambient temperature

Minimum	15° C
Maximum	30° C

Transport and storage

- Atmospheric pressure

Minimum	500 hPa
Maximum	1,060 hPa
- Relative humidity

Minimum	10 %
Maximum	100 %
- Ambient temperature

Minimum	-40° C
Maximum	70° C

PRODUCT WEIGHT

- Carriage 60 kg (132.28 lbs)
- Column 43.8 kg (96.56 lbs)
- Tube support + L-block 20.2 kg (44.53 lbs)
- Tube-collimator (max. weight) 45 kg (99.21 lbs)
- Tube head console 3.5 kg (7.21 lbs)
- X&Y movement 8 kg (17.63 lbs)
- Carriage covers 6.2 kg (13.67 lbs)
- Hose + cables 27.4 kg (60.41 lbs)

- Total without ceiling rails system 207.4 kg (457.24 lbs)
- 2 longitudinal rails (6 m) 43.2 kg (95.24 lbs)
- Bridge or transversal rails (3.5 m) 31.7 kg (69.88 lbs)
- Cable support rail (6 m) 5 kg (11.02 lbs)
- Total with ceiling rails system 287.3 kg (633.39 lbs)
- Wall stand assembly 178 kg (392.42 lbs)
- Spacer 6 kg (13.23 lbs)
- Lateral bar 8 kg (17.64 lbs)
- Tilting assembly 15 kg (33.07 lbs)

PATIENT TABLE

- Tabletop width 86.8 cm (34.17 inch)
- Tabletop length 220 cm (86.61 inch)
- Table height 58 to 92 cm
(motorized adjustment) (22.83 to 36.22 inch)
- X-ray absorption < 1.3 mm Al
(0.05 inch)
- Tabletop travel longitudinal 109.5 cm (43.11 inch)
(+60 cm, -49.5 cm)
(+23.62 inch,
-19.49 inch)
- Tabletop travel transverse 25 cm (\pm 12.5 cm)
9.84 inch (\pm 4.92 inch)
- Tabletop material Carbon fiber
- Max. patient weight 300 kg (661.39 lbs)
- Bucky travel along table access 61 cm (24.02 inch)
- Automatic exposure control 3-field solid state sensors

CEILING MOUNTED X-RAY TUBE SUPPORT

- Minimum source-ceiling distance 726 mm (28.58 inch)
- Vertical telescope travel range 1,584 mm (62.36 inch)
- Tube rotation range, alpha -135° +135°
- Catch positions Configured by software
- Tube rotation range, beta -180° +180°
- Catch positions Configured by software

DETECTOR

- Image size:

43 x 35 cm	3,072 x 2,560 pixels
43 x 43 cm	3,072 x 3,072 pixels
- Resolution:

9 mega pixels/	7.8 mega pixels
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- Scintillator:

Cesium Iodide/GOS	Photodiode Array
Contiguous a-Si	matrix Superior
Imaging Cycle Time	

COLLIMATORS

- Inherent filtration

2 mm Aluminum	equivalent
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- Full field light localizer

200 lx	
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- Additional filtration

1 mm Al + 0.1 mm Cu	1 mm Al + 0.2 mm Cu
2 mm Al or 1 mm Al	
- Rotation

up to maximum	$\pm 90^\circ$
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WALLSTAND

- Vertical Movement

1,495 mm (58.9 inch)	400 to 1,895 mm
above floor (center to	center) (15.7 to
74.6 inch)	
- Tilting bucky

-20° to +90°	(horizontal position)
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- Table surface-film plane distance < 40 mm (1.6 inch)
- Radiation absorption

< 0.6 mm Al	equivalent (0.02 inch)
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- Automatic exposure control

3-field solid state	sensors
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- Scatter radiation grid

150/180 cm option	(59.1 to 70.9 inch)
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SYSTEM ACCESSORIES

- Table compression band
- Table hand grips
- Table mattress

- Overhead hands support for wall stand
- Hand grips for wall stand
- Vacudap 2004 (External Dose Area Meter)

CEILING SUSPENSION ACCESSORIES

- Longitudinal rails

6 m (19.46 feet)

- Longitudinal rails

5.3 m (17.19 feet)

- Longitudinal rails

4 m (12.97 feet)

- Longitudinal rails

3.4 m (11.02 feet)

- Bridge

3.45 m (11.19 feet)

- Bridge

2.75 m (8.92 feet)

- Bridge

2.5 m (8.11 feet)

- Bridge

2.25 m (7.3 feet)

- Bridge

2 m (6.49 feet)

- Auto-positioning ceiling rails for cables
- Lifting tool for installation (for first installation)
- Goalpost metallic structure

INSTALLATION DATA

- Line voltage

3-phase, 380/400/415/440	and 480 v 50/60 Hz
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(additional transformer required for 80 kW generator below 480 v)
- Automatic line compensation

$\pm 10\%$

- Power consumption

105 kVA (Gen 64 kW);	120 kVA (Gen 80 kW)
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- Ceiling height

2.60 - 2.80 m	(8.43 - 9.08 feet)
	(for normal use)

ELECTRICAL REQUIREMENTS

- Frequency

Minimum	50 HZ
Maximum	60 HZ
- Voltage

Minimum	115 V ~
Maximum	240 V ~
- Maximum current

Momentary	3.5 A
Continuous	1.6 A

GENERATORS

Generator model	SHF 335/345 (CR only)	SHF 535/545	SHF 635/645	SHF 835/845
Input power	3-phase, 380/400/415/440 and 480 v 50/60 Hz (additional transformer required for 80 kW generator below 480 v)			
Max. power (kW)	32	50	64	80
Max. mA	400	640	640	800
Power output @ 0.1 s		640 mA @ 78 kVp 500 mA @ 100 kVp 400 mA @ 125 kVp 320 mA @ 150 kVp	640 mA @ 100 kVp 500 mA @ 128 kVp 400 mA @ 150 kVp	800 mA @ 100 kVp 640 mA @ 125 kVp 500 mA @ 150 kVp
Compatible X-ray Tubes	All	All	E7252X, E7254FX, E7869X	E7254FX, E7869X
Range of radiographic parameters				
mA	From 10 mA to 800 mA through the following mA stations: 10, 12.5, 16, 20, 25, 32, 40, 50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800. (Depending on the Generator model)			
mAs	Product of mA x time values from 0.1 mAs to 500 mAs			
ms	From 1 to 10,000 milliseconds through the following time stations: 1, 2, 3, 4, 5, 6, 8, 10, 12, 16, 20, 25, 32, 40, 50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1,000, 1,250, 1,600, 2,000, 2,500, 3,200, 4,000, 5,000, 6,400, 8,000 and 10,000.			
AEC	mAs: 0.1 mAs to 500 mAs exposure time: Nominal shortest irradiation time = 1 ms			

X-RAY TUBES

Housing	Focal spot	Target angle	Heat capacity (kHU)	Anode speed
Toshiba E7239X	1.0 - 2.0	16°	140	Low
Toshiba E7876X	0.6 - 1.2	12°	230	Low
Toshiba E7884X	0.6 - 1.2	12°	300	Low
Toshiba E7252X	0.6 - 1.2	12°	300	High/Low
Toshiba E7254FX	0.6 - 1.2	12°	400	High/Low
Toshiba E7869X	0.6 - 1.2	12°	600	High/Low

Why Agfa HealthCare?

Agfa HealthCare is a global leader in the fast growing market of integrated IT and imaging systems, offering healthcare facilities a seamless flow of information and a 360° view of patient care. The company has a unique, holistic approach, enabling it to provide in-depth clinical know-how and fully integrated hospital-wide solutions. These specialized solutions integrate IT and imaging systems for Radiology, Cardiology, Mammography and Orthopaedics. Agfa HealthCare's enterprise-wide IT platform integrates all administrative and clinical data within a healthcare facility and is designed to match the unique needs of specific healthcare professionals.

www.agfahealthcare.com

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