DX-D 600

DIRECT RADIOGRAPHY SYSTEM

High-productivity, excellent image quality, direct radiography system with leading-edge 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
- Excellent contrast detail provided by MUSICA processing, producing exam-independent consistent image quality
- Cesium Iodide DR detector technology, giving significant patient dose reduction potential
- Can be integrated with Agfa 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 leading-edge design with Agfa'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's unique MUSICA image processing delivers consistency and excellent contrast detail.

AGFA

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 leading-edge 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 excellent 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.

MUSICA: tuned for the best results

Agfa's 'gold standard' MUSICA image processing has been specially adapted and tuned to enhance the excellent DR image quality. Exam-independent, it provides consistent image quality and high contrast detail. The excellent image quality also gives the potential for significant dose reduction. And, with the same look-and-feel for MUSICA, 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 excellent 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'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 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

DETECTOR

- Scintillator: Cesium Iodide/GOS, Photodiode Array, Contiguous a-Si
- Image size: 43 x 35 cm (3072 x 2560 pixels), 43 x 43 cm (3072 x 3072 pixels)
- Resolution: 9 mega pixels / 7.8 mega pixels
- Matrix Superior Imaging Cycle Time

PATIENT TABLE

- Dimentions (H x W x L): 580 to 920 (motorized adjustment) x 868 x 2200 mm (22.83 to 36.22 x 34.17 x 86.61″)
- Tabletop travel longitudinal: 109.5 cm, +60 cm, -49.5 cm (43.11″, +23.62″, -19.49″)
- Tabletop travel transverse: 25 cm, ± 12.5 cm (9.84″, ± 4.92″)
- Tabletop material: Carbon fiber
- X-ray absorption: < 1.3 mm Al (0.05″)
- Max. patient weight: 300 kg (661.39 lbs)
- Bucky travel along table access: 61 cm (24.02″)
- Automatic exposure control: 3- field solid state sensors

ENVIRONMENTAL REQUIREMENTS

Operation

- Temperature: +15 ~ +30° C
- Humidity: 30 ~ 75% Rh
- Atmospheric pressure: 700 ~ 1060 hPa

Storage and transportation

- Temperature: -40 ~ +70° C
- Humidity: 10 ~ 100% Rh
- Atmospheric pressure: 500 ~ 1060 hPa

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.

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)

CEILING MOUNTED X-RAY TUBE SUPPORT

- Minimum source-ceiling distance: 726 mm (28.58″)
- Vertical telescope travel range: 1584 mm (62.36″)
- Tube rotation range, alpha: -135°, +135° Catch positions: configured by software
- Tube rotation range, beta: -180° +180° Catch positions: configured by software

COLLIMATORS

- Inherent filtration: 2 mm Al equivalent
- Full field light localizer: 200 lx
- 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 ± 90°

WALL STAND

- Vertical Movement: 1495 mm (58.9″); 400 to 1895 mm (15.7 to 74.6″) above floor (center to center)
- Tilting bucky: -20° to +90° (horizontal position)
- Table surface-film plane distance: < 40 mm (1.6″)
- Radiation absorption: < 0.6 mm Al equivalent (0.02″)
- Automatic exposure control: 3-field solid state sensors
- Scatter radiation grid: 150/180 cm option (59.1 to 70.9″)

Technical Specifications

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 (additional transformer required for 80 kW generator below 480 v)
- Automatic line compensation: ± 10 %
- Power consumption: 105 kVA (Gen 64 kW); 120 kVA (Gen 80 kW)
- 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

Technical Specifications

GENERATOR VERSIONS

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 @ 0.1s		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, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000 and 10000.
AEC (Automatic Exposure Control)	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

For more information on Agfa, please visit our website on www.agfa.com ■

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