

DigiPortX is a transportable direct digital x-ray imaging system. It uses the DR flat panel technology. It is used for conventional x-ray diagnosis in RAD for tuberculosis (TB) and other standard exams. Up to 200 exams per day. Average of 20.000 / year.

DigiPortX is composed of four parts :

- Portable X-ray generator of 2.5 or 3,3kW, 40 to 100kV, 0.32 to 100mAs and focus size of 1.2mm.
- Flat Panel detector of 41cmx41cm (200µm) Gadox, 14 bits and 2046x2046Pxls.
- Ruggedized portable computer for image treatment and display as well as for patient information management. The software is Dicom 3.0 compatible. Quick picture display.
- Mechanical stand allowing easy patient positioning in seated position (seat height is controlled by electric jack). Standard focal distance is 1m, optional extender to 1.5m.

Power supply is adapting to poor conditions. UPS option for extremely poor conditions. The whole set is contained in 3 metallic easily transportable cases and is compatible with station wagon car or SUV. Installation time less than 1 hour.

DigiPortX can be installed in any room where :

- People can easily move around it.
- The operator can stay at least 2 m behind the X-ray generator focus.
- People waiting for a radiography can stay in a different room or at least at 10 m away from the X-ray generator.

(The ground must be stable and horizontal, and able to withstand the total load).

FEATURES

DIGITAL IMAGE DETECTOR 41X41cm

- Based on a very sensitive 14-bit flat panel, giving a wide contrast range.
- 410 by 410 mm entrance detector, no geometrical image distortion.
- 2048 by 2048 pixels, with 200µm by 200 µm pixels.
- Image acquisition time less than 12 s.
- Certified by WHO - World Health Organization.

- 2.4 kW 30 (35) mA at 80 kVp.
- 20 (30) mA at 100 kVp.

- Build-in X-ray tube with thermal overload protection and focus of 1.2 mm.
- All generator parameters are monitored by microprocessor for high reliability performance.
- Manual collimator with light centring.

DIGIPORTX

STAND

- Easily and quickly installed by one person without any tool.
- Dimensions:
 - Max. length : 1400 mm (1900 with SID extender option)
 - Max. width : 849 mm.
 - Max. height : 1542 mm.
- Weight : 37 kg (39.5 kg with SID extender option).

X-RAY GENERATOR

- High frequency inverter.
- Single rad pulse.
- Use power supply line 230 V +/- 10 %, 16 A.
- Maximum power : 2.4 kW (3.2kW in option)

CASES

- **Case A (mechanical) :**
 - Length : 900 mm.
 - Width : 700 mm.
 - Height : 470 mm.
 - Weight : 52 kg (54.5 kg with SID extender option).

- **Case B (electronics module, computer, and detector) :**
 - Length : 780 mm.
 - Width : 660 mm.
 - Height : 230 mm.
 - Weight : 42 kg.

- **Case C (generator) :**

- Length : 530 mm.
- Width : 300 mm.
- Height : 250 mm.
- Weight : 17 kg.

IMAGE PROCESSING

- Based on Windows XP operating system.
- Edge enhancement.
- Gamma, contrast and brightness control.
- Geometrical processing (rotation and mirror images).
- Standard image filters.
- High volume storage (180 GB SDD disk).
- Image available in DICOM format to be used with a DICOM viewer.
- Image exchange using standard BMP or JPEG format.
- Distance measurements.
- Digital zoom: 0.5x - 2x.

COLLIMATOR

- Manual collimator : 2 pairs of blades + extra focus.
- Covered field (at 100 cm focus to skin distance): 410 x 410 mm.
- Inherent filtration at 75 kV: 2.5 mm Al.
- Automatic lamp.
- Laser pointer.

POWER SUPPLY

- The stand and the generator require mains of 230 V at 50Hz, 16 A.
- The whole system can work with a low power group (4 kVA).

OPTIONS

- Advanced image filters.
- DVD-ROM writer.
- Windows serial printer or DICOM Ethernet printer.
- Ethernet network with other computers.
- DICOM viewer.
- Patient positioning handle (892880P005).
- Paediatric support (892880P006).
- 500 mm SID extender (892880P017).

SERVICE

- Reliable system.
- No adjustment required.
- Documentation for the Field Engineer and the final customer provided with the equipment.
- Available spare parts.
- Easy to maintain (software diagnostic, tools and error log).
- Possibility of remote maintenance.

COMPLIANCE STANDARDS - EMC COMPATIBILITY

DigiPortX complies with the following regulatory standards :

- 93/42/CEE: Medical Device Directive relating to Medical Devices.
- IEC 60601-1: Electrical Medical Devices - general requirements.
- IEC 60601-1-1: Electrical Medical Devices - electro medical devices.
- IEC 60601-1-2: Electrical Medical Devices - EMC, Electromagnetic Compatibility.
- IEC 60601-1-3: Electrical Medical Devices - radioprotection
- IEC 60601-2-7: Radiographic generators.
- IEC 60601-2-28: X-ray tube housings.
- IEC 60601-2-32: Equipments associated with X-ray devices.

CLASSIFICATION

According to IEC 60601-1, 2005 clause 6 :

- Clause 6.1 Applied parts - Type B.
- Clause 6.2 Class I device.
- Clause 6.3 IP21.

ELECTROMAGNETIC COMPATIBILITY

Device complies with EN 60601-1-2 :

- CISPR 11: Emissions - class A.
- CISPR 11: Conduction - class A.

DigiPortX has been designed to be used in an electromagnetic environment as described hereafter.

The customer or the user is responsible to make sure that the environment is compatible.

RF emissions - CISPR

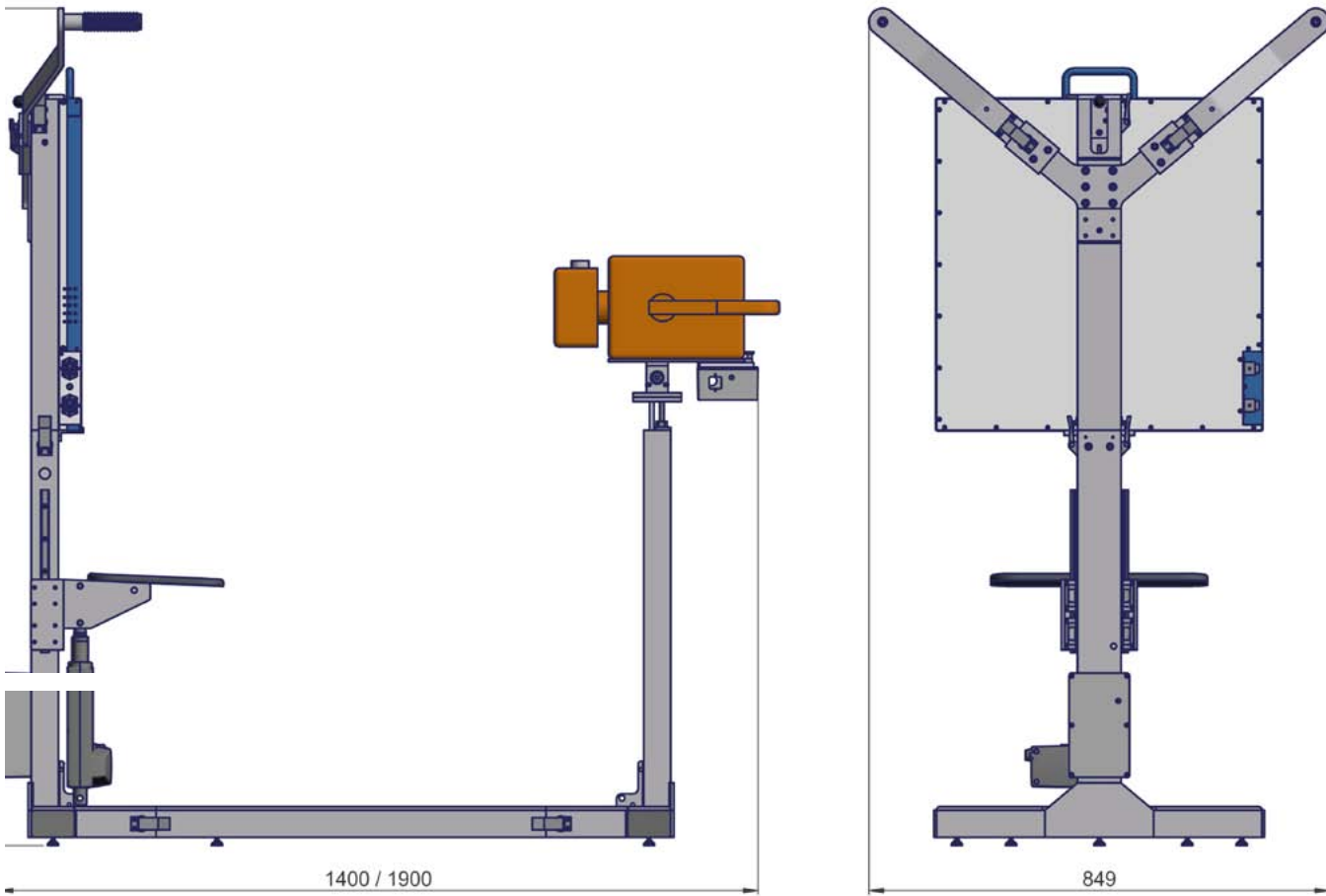
Group 1 DigiPortX uses RF energy only for internal purpose.

So RF emissions are very low and may not cause interferences with other devices in its proximity.

Class B DigiPortX can be used in any building including houses connected directly to the low voltage supply.

Harmonic emissions and voltage oscillation not applicable

Mechanical outline



DigiPortX

Transportable digital x-ray diagnosis for Tuberculosis

