Connexity

Connexity is a 90/90 universal Remote tilting table System with single end support, variable height tabletop designed for radiographic and fluoroscopic examinations using 43 x 43cm R/F flat panel.

The special single end support tabletop allows full rear access and easy patient transfer from the stretcher to the tabletop. The longitudinal displacement of the X-Ray tube and of the detector assembly of 160 cm allows a 203 x 43 cm patient coverage area eliminating the need of patient repositioning.
**Positioner**
- Maximum tilt angle: +90°
- Maximum Trendelenburg angle: -90°
- Tilting speed: 4.5 °/sec.
- Tilt angle display: Alpha-numeric LCD display with +/- 1° accuracy

**Patient tabletop**
- Tabletop dimensions: 2435 x 732 mm
- Radio-transparent area: 2345 x 510 mm
- Tabletop material: Carbon Fiber
- Tabletop inherent filtration: 0.7 mm Al/eq at 100 Kvp
- Patient maximum weight: 180 Kg as per IEC601-1
- Tabletop minimum height: 500 mm
- Tabletop vertical travel: Stepless from 0 to 800 mm/sec
- Tabletop lateral travel: Stepless from 0 to 300 mm/sec
- Maximum tabletop rear access distance: 530 mm
- Tabletop - detector distance: 93 mm

**Tube stand**
- Longitudinal travel of RX tube: 1850 mm
- Longitudinal travel of SFD/RX tube: 1605 mm
- Useful radio transparent area: 2035 x 810 mm
- Longitudinal travel speed: Stepless from 0 to 150 mm/sec
- RX tube angulations: ±40°
- Minimum SID: 1150 mm
- Maximum SID: 1800 mm
- SID adjustment possibility: Stepless
- SID adjustment speed: 35 mm/sec
- Minimum Beam/Floor distance (Tilt = +90°): 420 mm
- Maximum Beam/Floor distance (Tilt = +90°): 2125 mm
- Minimum Beam/tabletop edge distance: 285 mm
- RX tube rotation movement: Manual
- RX tube rotation angle: ±180°

**Compression device**
- Motorized compression cone with double safety system (mechanical and electrical)

**Automatic collimator**
- Motorized beam hardening filters: 0.1 mm Cu + 0.5 mm Al - 0.2 mm Cu + 0.5 mm Al.

**Anti collision safety features**
The unit is equipped with different HW/SW safety devices that prevent the possibility of collision with floor, ceiling, or walls. In addition, the most important movements are protected by double level safety circuits. The first level, when activated, stops the related movement and the activation of signaling LED corresponding to the allowed movements. The second level is activated only if the first level fails, and disables immediately the motor.

**Power requirements**
- Power supply voltage: 400 Vac 3 phase
- Power supply voltage tolerance: +/- 10%
- Power supply frequency: 50 / 60 Hz
- Maximum power: 4 KVA

**Weights and Dimensions**
- Unit maximum dimensions (LxHxW): 2460 x 2530 x 1928 mm
- Unit weight: 1.300 Kg
- Control desk weight: 20 Kg

**X-ray tube and housing**
- Rotating anode Max. RPM: 3.000/9.000 rpm
- Anode material: Rhenium - Tungsten - faced Molybdenum - Graphite
- Anode diameter: 102 mm
- Target angle: 12°
- Maximum tube voltage (Kvp): 150KV
- Maximum power (KW) at 9.000 rpm: 40KW small focus - 100 KW large focus
- Maximum power (KW) at 3000 rpm: 30KW small focus - 60 KW large focus
- 2 Focal spots (mmxmm): 0.6x0.6 - 1.2x1.2
- Anode thermal capacity: 600 kHU - 425 kJ
- Housing thermal capacity: 2.000.000 HU - 1.480.000 J
- Maximum Anode cooling rate: 168.000 HU/MIN - 2000W
- Maximum Housing cooling rate with fan: 36.000 HU/MIN - 445 W

**X-ray generator**
- High Frequency: 200 kHz+
- Maximum current: 800 mA @ 81kV; 630 mA @ 100 kV; 65 kW
- Maximum output power: 40kV to 150kV
- Continuous fluoro kV range: 40kV to 125kV
- Pulsed fluoro kV range: 50kV to 125kV
- kV selection resolution: +/- 1 kV
- Continuous fluoro mA range: 0 to 8.0 mA
- Pulsed fluoro mA range: from 0 to 150 mA
- Exposure mA setting resolution: from 10 to 800 mA
- Exposure times range: from 0.001 to 6.3 sec
Console Touch screen console with color TFT display

Anatomical programs: $32 \times 3 \times 3 = 288$ anatomical programs freely programmable by the operator for each working station. Possibility of additional 288 anatomical selection for each working station.

Automatic Exposure Control: Computerized automatic dose control (AEC). The user can modify the exposure dose within a fixed range and can personalize the choice of the optimum exposure factors for each anatomical program.

Exposure techniques:
1. Point technique with kV selection in AEC mode
2. Two points technique with kV/mAs selection
3. Three points technique with kV/ mAs / mAs selection
Maximum number of chambers: 3
Minimum mAs value: 0.5 mAs
Maximum mAs value: 1000 mAs
Minimum exposure time with AEC: 0.015 S
Minimum exposure time without AEC: 0.001 S

Fluoro timer: Integrated fluoroscopy timer with acoustic indicator that informs the operator when 5 minutes of fluoroscopy have been exceeded. The operator can reset the timer.


Dose/Area Product detection: Integrated Exposure Dose Area Product for the dose registration and printing. The measured values can be:
- Displayed on the touch screen console by means of a dedicated software
- Printed on an adhesive label.

**Digital image processor**

Model: HIRIS RF43
Host computer memory (Mbyte): 2 Gb
Operative system: Microsoft Windows Xp
Images storage device: Hard Disk
Dimension of storage device: 160 Gb

Maximum number of images stored Standard: 8.000 images with 2880x2880x14 bit matrix

**Operative Features**

- Images acquisition in Continuous Fluoro mode
  - Nominal size (43x43 cm): 960x961x14 bit 18 f/sec. (16.384 grey levels)
  - Zoom1 (30x30 cm): 1024x1024x14 bit 15 f/sec. (16.384 grey levels)
  - Zoom2 (20x20 cm): 0.7Kx0.7Kx14 bit 30 f/sec. (16.384 grey levels) low dose

- Images acquisition in Pulsed Fluoro mode
  - Nominal size (43x43 cm): 960x961x14 bit with variable acquisition rate from 0.5 to 15 f/sec.
  - Zoom1 (30x30 cm): 1024x1024x14 bit with variable acquisition rate from 0.5 to 15 f/sec.
  - Zoom2 (20x20 cm): 0.7Kx0.7Kx14 bit with variable acquisition rate from 0.5 to 15 f/sec. low dose

- Possibility to save on the fly the interesting images. Last Image Hold.
- Noise reduction with motion sensitivity.
- Windowing.
- Multi step edge enhancement.
- Digital image reversal H/V.

**Detector**

Detector model: Pixium RF4343
Detector type: amorphous silicon photodiodes matrix
Active Area Nominal: 43 x 43 cm
Zoom 1: 30 x 30 cm
Zoom 2: 20x20 cm
Acquisition matrix: 2880 x 2880
Dynamic range: 16 bit
Pixel size: 148 um
Maximum acquisition rate: 30 f/s (Continuous or pulsed fluoro)
Resolution:
DQE@0,0 lp/mm: 65%
RQA5 BEAM AND 10 μGy
MTF @1.0 lp/mm: 55 %
   @2.0 lp/mm: 25 %
Dose levels: 0.2 - 3 uGy/fr
Maximum linear dose: 85 uGy/fr
• Images acquisition in Spot mode
  HR mode (High Resolution):
  useful area 43x43 cm: 2880x2881x14 bit with variable acquisition rate from 1 to 3 im/sec.

  HS mode (High Speed):
  useful area 43x43 cm: 1440x1440x14 bit with variable acquisition rate from 1 to 8 im/sec.

  Direct image saving on hard disk.
  Automatic windowing.
  Multi-step/size edge enhancement.
  Real time processing.
  Post processing features:
  Single image display, overview of 2, 4, 1+5 images on one monitor.
  On line automatic processing with locally optimized contrast and sharpness.
  Zoom with magnification factor from 1,2 to 3 and image printing.
  Lens function with magnification factor from 1,25 to 3 and image printing.
  Windowing /contrast adjustment.
  Level/brightness adjustment.
  Grey scale inversion.
  Image flip Left/right; Up/Down.
  Pan & scroll.
  Image rotation in 90° steps.
  Digital edge enhancement.
  High speed spatial filter with kernel dimension selectable form 3x3 up to 11x11.
  Electronic collimator with square/circular shutters.
  Text annotation: free and programmed words.
  Graphic calculation of angles and relative distances.

  DICOM-3 protocol.
  Dicom-3 Storage service
  Dicom-3 Send service
  Dicom-3 MPPS service
  Dicom-3 Print class
  Dicom-3 Media interchange
  Dicom-3 work list

  Optional DSA package features: Real time subtraction
  Automasking, remasking, landmarking, Pixel Shift.
  Pre-programmed automatic sequences with injector-start synchronization.
  Road Mapping with maximum opacification function
  Images summation.
  8 selectable reference images.
  Angiographic calculation.
  Additional LCD monitor on cart (dual monitor cart)

  Viewing angle: 170° H/V @ contrast ratio >10
  Brightness: 700 cd/m typ.
  Contrast: 600:1 typ.
  Vertical frequency: 50 - 75 kHz
  Monitor weight (with pedestal): 10 Kg
  Monitor dimension (with pedestal): 410x105x429 mm

  System power supply
  Power supply voltage: 400 V AC - 3 phase
  Power supply voltage tolerance: ± 10%
  Power supply frequency: 50/60 Hz
  Power supply frequency tolerance: ± 1 Hz
  Maximum line requirements Apparent: 98 KVA; Active 82 KW
  Maximum line resistance: 0,20 ohm
  Stand-by power: 2 kVA

  UPS unit
  Input Voltage: 220/230/240 Vac ± 25%
  Input Frequency: 50/60 Hz ± 5%
  Power factor: > 95%
  Maximum output power: 2000 VA
  Output Voltage: 220/230/240 Vac ± 3%
  Output Frequency: 50/60 Hz ± 0,5%
  Batteries charging time: 8 hours at 90% maximum power

  Stitching module option
  Fully automated acquisition and processing of a series of images with user defined start positions on the anatomical regions of interest.
  Supports anatomies/view combinations of spine antero-posterior, spine postero-anterior, spine lateral, leg antero-posterior, leg postero-anterior
  Reconstruction length: 60, 90, 120 cm, user selectable via anatomical program selection.
  Image matrix: 3000 x 3000 x 14 bit
  Average acquisition time for a 3-image exam: 20s
  Image pasting & equalization time < 10 s

  Regulations
  Unit type per CEE 93/42:
  Type of certification: Medical device class IIb
  The unit is certified according with annex II of MDD directive
  CEE 93/42;
  IEC 601-1 + Am. 1, Am. 2
  IEC 601-1-1
  IEC 601-1-2
  IEC 601-1-3
  IEC 601-2-27
  IEC 601-2-28
  IEC 601-2-32
  IEC 613
  IEC 522

  Environment temperature range: +15 °C / +40 °C
  Humidity: From 30% to 80 % non cond.

  Monitor
  Model: 18 LCD
  Size and type: 18.1 inch AM -LCD color display - Medical Grade
  Native resolution: 1280 x 1024
  Pixel pitch: 0,2805 x.2805
About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com.

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