

The ddRAura OTC RT is a motorized, automated digital X-ray system. It includes a motorized ceiling suspension, motorized wall stand and mobile patient table. The motorized wall stand is synchronized with the ceiling suspension to maintain the selected SID, as well as vertical and horizontal X-ray beam position. This intelligent automation and synchronization allows the ddRAura OTC RT to perform advanced applications, such as single focus auto stitching for scoliosis and long leg images, combining up to 5 images. The smart 10.1" tube mounted touchscreen console allows the technologist to control and view generator, collimator, system position and patient procedure list information as well as image preview. Additionally, the concealed cabling and lightweight construction of the ddRAura OTC RT allows for easier manual movements. Multiple configurations of fixed or wireless detectors are possible providing state-of-the-art technology and image quality. The ddRAura OTC RT offers unlimited and customizable automatic positioning (APS) via a handheld remote and effortless manual positioning for unprecedented efficiency and versatility. The ddRAura OTC RT is an excellent choice for demanding orthopedic departments and spine clinics.



### Technical Data

#### Ceiling Suspension

Overhead tube system with motorized motions of all movements. Automatic positioning system.

|                            |                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Longitudinal movement      | 340 cm (134") for 4 m longitudinal rails, motorized                                                                                              |
| Transversal movement       | 240 cm (94") for 3 m transversal rails, motorized                                                                                                |
|                            | Customized rail option for both long. and transverse available                                                                                   |
| Telescope travel range     | 180.0 cm motorized (150.0 cm optional)                                                                                                           |
| Source to ceiling distance | 105 to 285 cm (70.9 to 112")                                                                                                                     |
| Tube $\alpha$ rotation     | $\pm 175^\circ$ motorized and manual, with stops every $90^\circ$                                                                                |
| Tube $\beta$ rotation      | $\pm 165^\circ$ motorized and manual                                                                                                             |
| Synchronization            | Automatic tracking to table and wall stand                                                                                                       |
| Stop positions             | Software configurable                                                                                                                            |
| Tube control               | 10.1" tube mounted touchscreen console for control and view of generator, collimator, system positioning, procedure selection and image preview. |

#### Wall Stand

Motorized wall stand with motorized tilting option and auto-positioning, rotating bucky tray for wireless 35 x 43 cm detector

|                              |                                                                                             |
|------------------------------|---------------------------------------------------------------------------------------------|
| Detector vertical travel     | Manually from 28 to 180 cm (11.0 to 70.8"), center to floor (optionally motorized) Detector |
| Detector tilt function       | Optional -20 to +90°, manual or motorized                                                   |
| Detector rotation            | Internal manual rotation of detector                                                        |
| Synchronization              | Tube tracking                                                                               |
| X-ray grids                  | Removable 85 L/cm (215 L/inch) 10:1, FD 110 / 180 cm, 150 cm optional                       |
| Built-in AEC chamber         | 5-field solid state sensors                                                                 |
| Automatic collimator control | Wall stand mounted collimation controls (Option)                                            |

#### Mobile Patient Table

Simple and ergonomic design with a radiolucent tabletop and two independent foot brakes

|                         |                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Table dimensions        | Length overall: 212 cm (83.4")<br>Length without handles: 200.6 cm (78.9")<br>Width: 64 cm (25.2")<br>Height: 67.6 cm (26.6") |
| Maximum weight capacity | 225 kg (496 lbs.)                                                                                                             |
| Table weight            | 49.8 kg (110 lbs.)                                                                                                            |

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### Thales Flat Panel Detector's

| Brand Model         | Pixium RAD 4343R-C     | Portable3543EZ-C (WIFI) | Portable 2430EZ-C (WIFI) |
|---------------------|------------------------|-------------------------|--------------------------|
| Technology          | Amorphous silicium/CsI | Amorphous silicium/CsI  | Amorphous silicium/CsI   |
| Active area         | 423.3 x 425.4 mm       | 421 x 345 mm            | 284 x 222 mm             |
| Active pixel matrix | 2860 x 2874            | 2846 x 2330             | 1920 x 1500              |
| Pixel size          | 148 µm                 | 148 µm                  | 148 µm                   |
| Limiting resolution | 3.38 lp/mm             | 3.38 lp/mm              | 3.38 lp/mm               |
| DQE @ 0 lp/mm       | 65%                    | 70%                     | 65%                      |
| MTF @ 1 lp/mm       | 61%                    | 61%                     | 61%                      |
| AD conversion       | 16-bit                 | 16-bit                  | 16-bit                   |
| Detector dimensions | 500 x 490 x 45.5 mm    | 459.5 x 383.5 x 15.6 mm | 327.5 x 267.5 x 15.6 mm  |
| Weight              | 11.7 kg                | 2.8 kg                  | 1.6 kg                   |
| Ingress protection  |                        | IP43                    | IP43                     |
| Battery autonomy    |                        | 8h                      | 8h                       |
| Distributed load    |                        | 300 kg                  | 150 kg                   |
| Point load          |                        | 150 kg                  | 100 kg                   |

### Varex Flat Panel Detector's

| Brand Model         | PaxScan 4343R v3       | PaxScan 4336W v4 (WIFI) | PaxScan 4343W (WIFI)   |
|---------------------|------------------------|-------------------------|------------------------|
| Technology          | Amorphous silicium/CsI | Amorphous silicium/CsI  | Amorphous silicium/CsI |
| Active area         | 424 x 424 mm           | 424 x 339 mm            | 421 x 421 mm           |
| Active pixel matrix | 3052 x 3052            | 3032 x 2436             | 3032 x 3032            |
| Pixel size          | 139 µm                 | 139 µm                  | 139 µm                 |
| Limiting resolution | 3.6 lp/mm              | 3.6 lp/mm               | 3.6 lp/mm              |
| DQE @ 0 lp/mm       | 78%                    | 78%                     | 76%                    |
| MTF @ 1 lp/mm       | 56%                    | 57%                     | 57%                    |
| AD conversion       | 16-bit                 | 16-bit                  | 16-bit                 |
| Detector dimensions | 469 x 469 x 37 mm      | 459.5 x 383.5 x 15 mm   | 459.5 x 459.5 x 15 mm  |
| Weight              | 6.2 kg                 | 3.0 kg                  | 3.3 kg                 |
| Ingress protection  |                        | IP54                    | IP68                   |
| Battery autonomy    |                        | 1600 images/8h          | 1600 images/8h         |
| Distributed load    |                        | 150 kg                  | 300 kg                 |
| Point load          |                        | 100 kg                  | 200 kg                 |

### iRay Flat Panel Detector's

| Brand Model         | Mars1717V (WIFI)       | Mars 1417V (WIFI)      |
|---------------------|------------------------|------------------------|
| Technology          | Amorphous silicium/CsI | Amorphous silicium/CsI |
| Active area         | 427 x 427 mm           | 420 x 345.6 mm         |
| Active pixel matrix | 3072 x 3072            | 2800 x 2304            |
| Pixel size          | 139 µm                 | 150 µm                 |
| Limiting resolution | 3.6 lp/mm              | 3.3 lp/mm              |
| DQE @ 0 lp/mm       | 66%                    | 59%                    |
| MTF @ 1 lp/mm       | 70%                    | 67%                    |
| AD conversion       | 16-bit                 | 16-bit                 |
| Detector dimensions | 460 x 460 x 15.1 mm    | 460 x 384 x 15.2 mm    |
| Weight              | 4.3 kg                 | 3.6 kg                 |
| Ingress protection  | IPX1                   | IPX1                   |
| Battery autonomy    | 5h                     | 5h                     |
| Distributed load    | 150 kg                 | 150 kg                 |
| Point load          | 100 kg                 | 100 kg                 |

### X-Ray HV Generator

|                                  |                |                |                 |
|----------------------------------|----------------|----------------|-----------------|
| Model                            | EMD EPS 50     | EMD EPS 65     | EMD EPS 80      |
| Max. power                       | 50 kW          | 65 kW          | 80 kW           |
| Frequency                        | up to 240 kHz  | up to 240 kHz  | up to 240 kHz   |
| kV range                         | 40 to 150 kV   | 40 to 150 kV   | 40 to 150 kV    |
| mA range                         | 10-630 mA      | 10-800 mA      | 10-1000 mA      |
| Time range                       | 1 to 10'000 ms | 1 to 10'000 ms | 1 to 10'000 ms  |
| mAs range                        | 0.1 to 630 mAs | 0.1 to 800 mAs | 0.1 to 1000 mAs |
| Automatic exposure control (AEC) | Yes            | Yes            | Yes             |
| Dual speed starter               | Yes            | Yes            | Yes             |

### X-Ray Tube

|                                 |               |               |                      |
|---------------------------------|---------------|---------------|----------------------|
| Model                           | RAD60         | RAD92         | SV 150/40/80C-100(L) |
| Anode heat capacity             | 400 kHu       | 600 kHu       | 800 kHu              |
| Dual Anode speed                | 2700/9700 rpm | 2700/9700 rpm | 3600/10800 rpm       |
| Focal spot                      | 0.6 / 1.2 mm  | 0.6 / 1.2 mm  | 0.6 / 1.0 mm         |
| Target angle                    | 12°           | 12°           | 12°                  |
| Target diameter                 | 100 mm        | 100 mm        | 100 mm               |
| Max. Anode cooling rate         | 100 kHu/min   | 140 kHu/min   | 140 kHu/min          |
| Nominal X-ray tube voltage      | 40-150 kV     | 40-150 kV     | 40-150 kV            |
| X-Ray Tube Housing heat content | 1500 kHu      | 1500 kHu      | 1500 kHu             |
| Nominal input power             | 40 / 100 kW   | 40 / 100 kW   | 40 / 80 kW           |

### Automatic Collimator

|                        |                                                               |
|------------------------|---------------------------------------------------------------|
| Light power            | White LED                                                     |
| Shutters               | Motorized or manual operation                                 |
| Filters                | 1 mm Al + 0.1 mm Cu, 1 mm Al + 0.2 mm Cu, 2 mm Al + 0.3 mm Cu |
| Collimator rotation    | ± 90°                                                         |
| Light field luminosity | > 230 lx                                                      |
| Integrated DAP         | Optional                                                      |

### Workstation

|                                  |                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High performance imaging console | Multi-core processor, 500 GB HDD, 4 GB RAM, CD/DVD, keyboard and mouse, Wi-Fi router                                                                                                                                                                                                                                                                |
| User interface monitor size      | 23" 2MP DICOM calibrated touchscreen monitor                                                                                                                                                                                                                                                                                                        |
| Features                         | Avanse DR imaging software, Image copy / paste, crop and annotate, DICOM MWL, Print and Store, CD/DVD burn with DICOM viewer, Exposure index / Deviation index, Auto and manual image processing, Query Retrieve, Procedure mapping, MPPS, Reject analysis, Undo / Image reload, Auto shutter, Image measurements, Image preview, Automated storage |

### Standards

|              |                                                                                                                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| According to | FDA: This product complies with CDRH 21 CFR, Subchapter J, as of the date of manufacture.<br>CE: This medical product corresponds to the "COUNCIL DIRECTIVE concerning medical devices 93/42/EEC". |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Options

|                                   |                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAP meter                         | Dose area product (DAP) meter to measure, record and store the applied radiation dose in the DICOM header of the patient's image.                                   |
| X-ray generator                   | 50 kW, 3-phase, 65 kW, 3-phase, 80 kW, 3-phase                                                                                                                      |
| X-ray tube                        | 400 kHU, 600 kHU, 800 kHU                                                                                                                                           |
| Manual collimator                 | Manual Collimator LED with / without filters, positioning laser                                                                                                     |
| Collimation control on wall bucky | Collimator and light control on mounted on the wall bucky                                                                                                           |
| Detector options                  | Fixed 43 x 43 cm detector CsI, wireless 35 (36) x 43 cm detector CsI, wireless 24 x 30 cm detector CsI                                                              |
| Additional X-ray grids            | Carbon fiber removable 85 L/cm (215 L/inch) 10:1, FD 110 cm, 150 cm, 180 cm external holder with grid for 353EZ detector, 40 L/cm (103 L/inch) 8:1 FD 100 to 180 cm |
| Automated stitching package       | Fully automated single focus image acquisition for scoliosis and long leg studies. Up to 5 images. Includes stitching software application and stand.               |
| Shorter OTC column                | 150 cm (59") column stroke for shorter ceiling height                                                                                                               |
| Custom ceiling rails              | Extended/custom rail length for specified room geometry                                                                                                             |
| Weight bearing platform           | Various options available                                                                                                                                           |
| Mobile patient table              | Fixed height                                                                                                                                                        |
| Barcode reader                    | 2D codes scanner                                                                                                                                                    |
| Card access reader                | Individual identification cards for effortless system login                                                                                                         |

#### Environmental Conditions

##### Operating

|                              |                                   |
|------------------------------|-----------------------------------|
| Ambient temperature          | +15 °C to +30 °C (59 °F to 86 °F) |
| Recommended room temperature | +20 °C to +25 °C (68 °F to 77 °F) |
| Relative air humidity        | 30 to 75%                         |
| Air pressure                 | 700 to 1060 hPa                   |

##### Storage / Transport

|                       |                                    |
|-----------------------|------------------------------------|
| Ambient temperature   | -20 °C to +55 °C (-4 °F to 131 °F) |
| Relative air humidity | 10 to 95%                          |
| Air pressure          | 700 to 1060 hPa                    |

#### Main Power Input - Generator

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| Line voltage                | 3-phase, 400 / 415 / 440 and 480 VAC 50/60 Hz   |
| Automatic line compensation | ± 10%                                           |
| Momentary power consumption | 65 kVA / 50 kW, 85 kVA / 65 kW, 105 kVA / 80 kW |

#### Main Power Input - System (Ceiling Suspension, Table, Wall Stand)

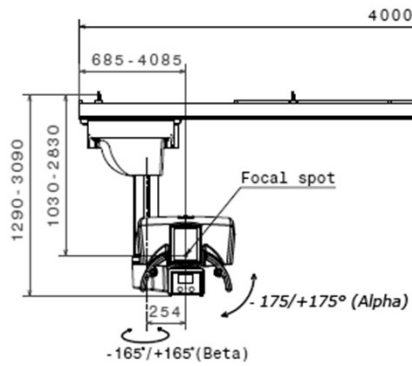
|                             |                                  |
|-----------------------------|----------------------------------|
| Line voltage                | 1-phase, 115 – 240 VAC, 50/60 Hz |
| Automatic line compensation | ± 10%                            |
| Maximum input power         | 2.9 kVA                          |

#### Weight

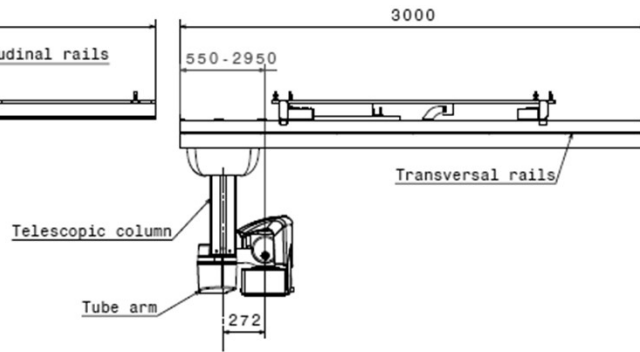
|        |                    |
|--------|--------------------|
| Weight | 440 kg (1190 lbs.) |
|--------|--------------------|

### Mechanical Dimensions in [mm]

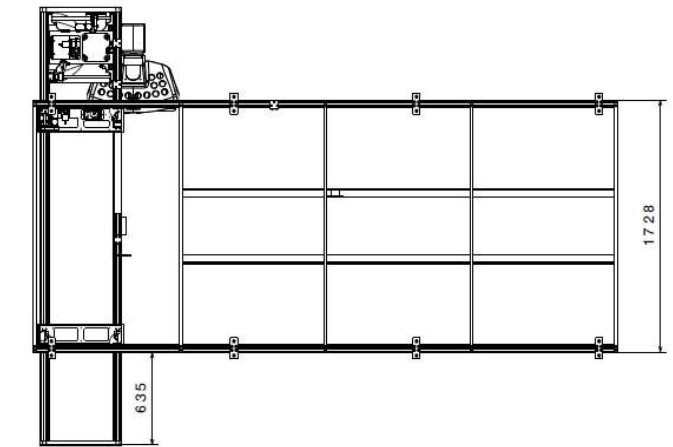
**Ceiling Suspension**  
**Front view**



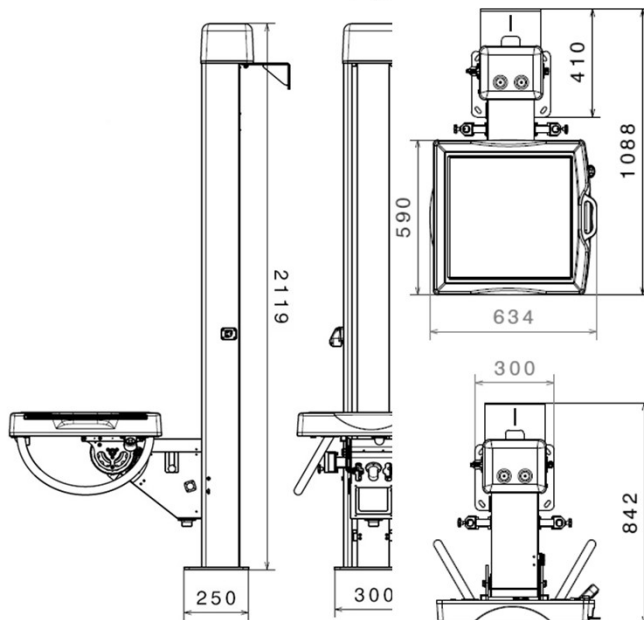
**Lateral view**



**Top View**



**Wall Stand**  
**Tilting**



Subject to technical modification.  
Our units and equipment must only be installed, serviced  
and put into operation by Swissray authorized personnel.