

The ddRAura OTC APS is a fully motorized, automated digital X-ray system. It includes a motorized ceiling suspension, floor-mounted height adjustable patient table with a four-way floating tabletop and a motorized wall stand. The patient table and motorized wall stand are 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 APS 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 APS 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 APS offers unlimited and customizable automatic positioning (APS) via a handheld remote or footswitch and effortless manual positioning for unprecedented efficiency and versatility. The ddRAura OTC APS is an excellent choice for demanding radiology departments.



Technical Data

Patient Table – 2 versions:

Elevating radiographic table with four-way floating tabletop, rotating bucky tray for wireless 35 x 43 cm detector

Table height	51.5 to 81.5 cm (20.2 to 32.2"), motorized
Tabletop size	228 x 80.6 cm (89.7 x 31.7")
Tabletop longitudinal movement	90 cm (35.42") $\pm$ 45 cm ($\pm$ 17.71")
Tabletop lateral movement	25 cm (9.84") $\pm$ 12.5 cm ($\pm$ 4.92")
Table brake system	Electromagnetic brake with foot switch controls
Tabletop X-ray absorption	< 1 mm Al equivalent (0.03")
Max. patient weight capacity	300 kg (661.39 lbs.)
Detector bucky housing travel range	50 cm (19.6")
Smart bucky system	Tracking, rotation and grid status indication
Object detector distance	Max. 7 cm (2.76")
X-ray grid	Removable 85 L/cm (215 L/inch) 10:1, FD 110 cm, 150 cm optional
Built-in AEC chamber	5-field solid state sensors
Synchronization	Table bucky tracking

Twin – leg table with 4-way floating tabletop, rotating bucky tray for wireless 35 x 43 cm detector

Table height	46.5 to 86.5 cm (18.3 to 34"), motorized
Tabletop size	240 x 88.7 cm (94.5 x 34.9")
Tabletop longitudinal movement	$\pm$ 60 cm ($\pm$ 23.6")
Tabletop lateral movement	$\pm$ 15 cm ($\pm$ 5.9")
Table brake system	Electromagnetic brake with wireless foot switch controls
Tabletop X-ray absorption	< 1 mm Al equivalent (0.03")
Max. patient weight capacity	300 kg (661.39 lbs.)
Detector bucky housing travel range	68 cm (26.8")
Smart bucky system	Tracking, rotation and grid status indication
Object detector distance	Max. 7 cm (2.76")
X-ray grid	Removable 85 L/cm (215 L/inch) 10:1, FD 110 cm, 150 cm optional
Built-in AEC chamber	5-field solid state sensors
Synchronization	Table bucky tracking

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 α rotation	$\pm$ 175° motorized and manual, with stops every 90°
Tube β rotation	$\pm$ 165° 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.

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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
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)

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	Subject to technical modification.
Point load	100 kg	100 kg	Our units and equipment must only be installed, serviced and put into operation by Swissray authorized personnel.

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	RAD14	RAD60	RAD92
Anode heat capacity	300 kHu	400 kHu	600 kHu
Dual Anode speed	2700/9700 rpm	2700/9700 rpm	2700/9700 rpm
Focal spot	0.6 / 1.2 mm	0.6 / 1.2 mm	0.6 / 1.2 mm
Target angle	12°	12°	12°
Target diameter	74 mm	100 mm	100 mm
Max. Anode cooling rate	1750 W / 60 kHu/min	100 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	1250 kHu	1500 kHu	1500 kHu
Nominal input power	32 / 77 kW	40 / 100 kW	40 / 100 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. CE: This medical product corresponds to the "COUNCIL DIRECTIVE concerning medical devices 93/42/EEC".
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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	300 kHU, 400 kHU, 600 kHU
Manual collimator	Manual Collimator LED with / without filters, positioning laser
Tilting of wall bucky	Motorized bucky tilt of +90 to -20, auto-positioning
Collimation control on wall bucky	Collimator and light control 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
Additional wireless foot controls	Additional wireless table controls for rear of table (with elevating table)
Weight bearing platform	Various options available
Patient table hand grip	Adjustable handle mounted to table for positioning tabletop and patient comfort
Lateral detector holder	Detector holder mounted to table for cross table exams using the 3543 wireless detector
Barcode reader	2D codes scanner
Card access reader	Individual identifications 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

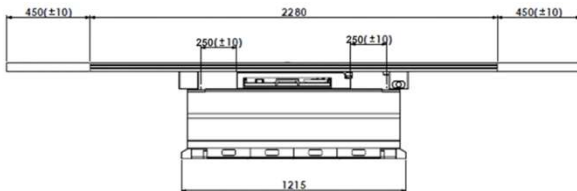
Weight

Weight	640 kg (1410 pounds)
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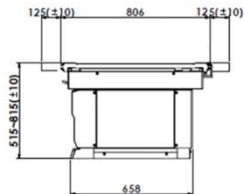
Mechanical Dimensions in [mm]

6-Way Table

Front view

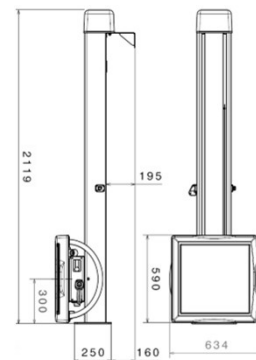


Side view



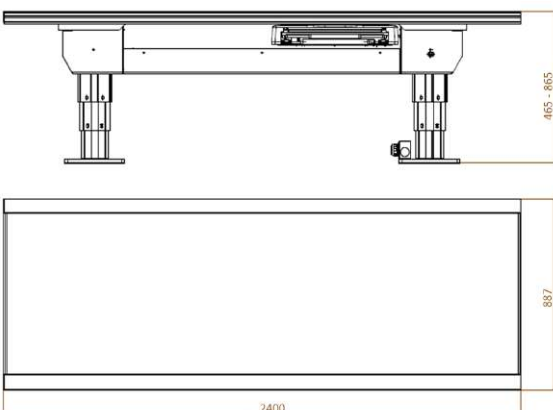
Wall Stand

Non Tilting



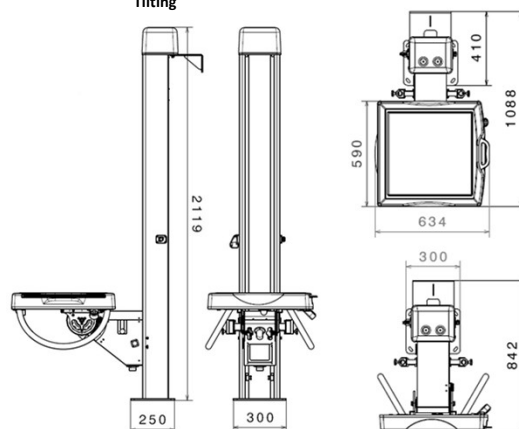
Twin-Leg Table

Front view and top view



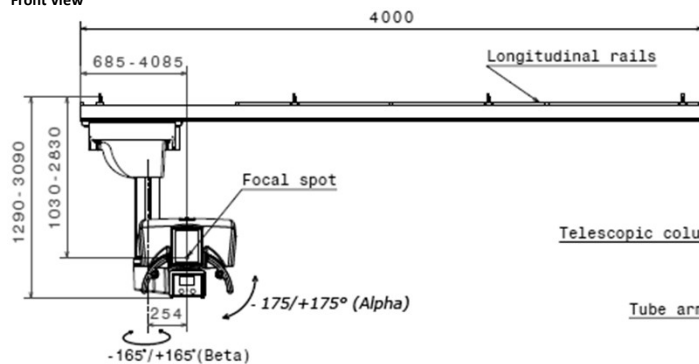
Wall Stand

Tilting

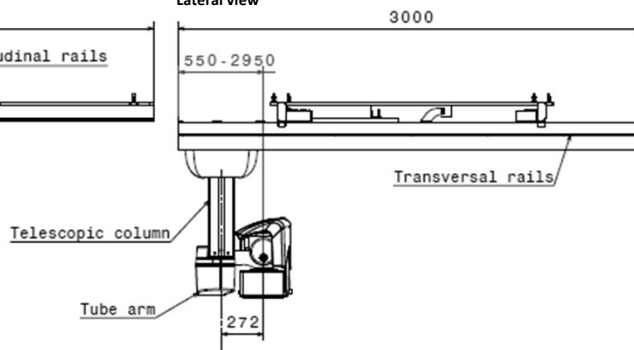


Ceiling Suspension

Front view



Lateral view



Top View

