



Quality imaging, practical investment

Philips DuraDiagnost – specifications

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Conformity

The DuraDiagnost X-ray system by Philips Healthcare complies with the provisions of the Medical Device Directive 93/42 EEC (CE label) and satisfies the IEC standards.

Ambient conditions

Temperature

Operation	+18°C to +30°C (+64°F to + 86°F)
Storage	-10°C to +55°C (+14°F to +131°F)

Rel. humidity

Operation	30% to 75%
Storage	10% to 95%

Air pressure 700 hPa to 1060 hPa (10 psi to 15 psi)

Altitude 3000 m (9843')

1. Overview of room configurations

The DuraDiagnost family is a flexible range of digital radiography (DR) systems that provides fast and smooth examinations for your patients. Whether you choose a single or dual detector table-based design, each room solution supports outstanding workflow efficiency, premium DR imaging, and confident diagnostic decision-making.



Efficiency room

With two fixed detectors or one fixed detector/one SkyPlate wireless portable detector, vertical stand, X-ray tube floor stand, and height adjustable table to provide an efficient workflow



Value room

With a single SkyPlate wireless portable detector, X-ray tube floor stand, and height adjustable table to enhance clinical flexibility and ROI



Chest room

With single fixed detector, vertical stand and X-ray tube floor stand to provide fast chest exams

2. Rooms

The Philips DuraDiagnost Efficiency room provides an efficient workflow for healthcare providers. It offers the opportunity for enhanced patient care, ergonomic procedures and a good return on investment.

Every DuraDiagnost Efficiency room comes fully outfitted with two detectors, vertical stand, X-ray tube floor stand, and table. The distinction is found in the detector combinations.

2.1 Efficiency room

Efficiency room	Height adjustable table and two fixed detectors
Efficiency room High Performance	Height adjustable table, one fixed and one SkyPlate wireless portable detector

Main components

Hardware

Option 1: Efficiency room

- Dual fixed digital detector
- Height adjustable table
- Vertical stand

Option 2: Efficiency room HP

- One fixed detector and one SkyPlate wireless portable detector
- Height adjustable table
- Vertical stand

Floor-mounted tube column with X-ray tube assembly

Generator and X-ray tube pack (50 kW and RO1750)

Eleva workspot with 19" LCD touch screen

Software

Eleva application and examination database software

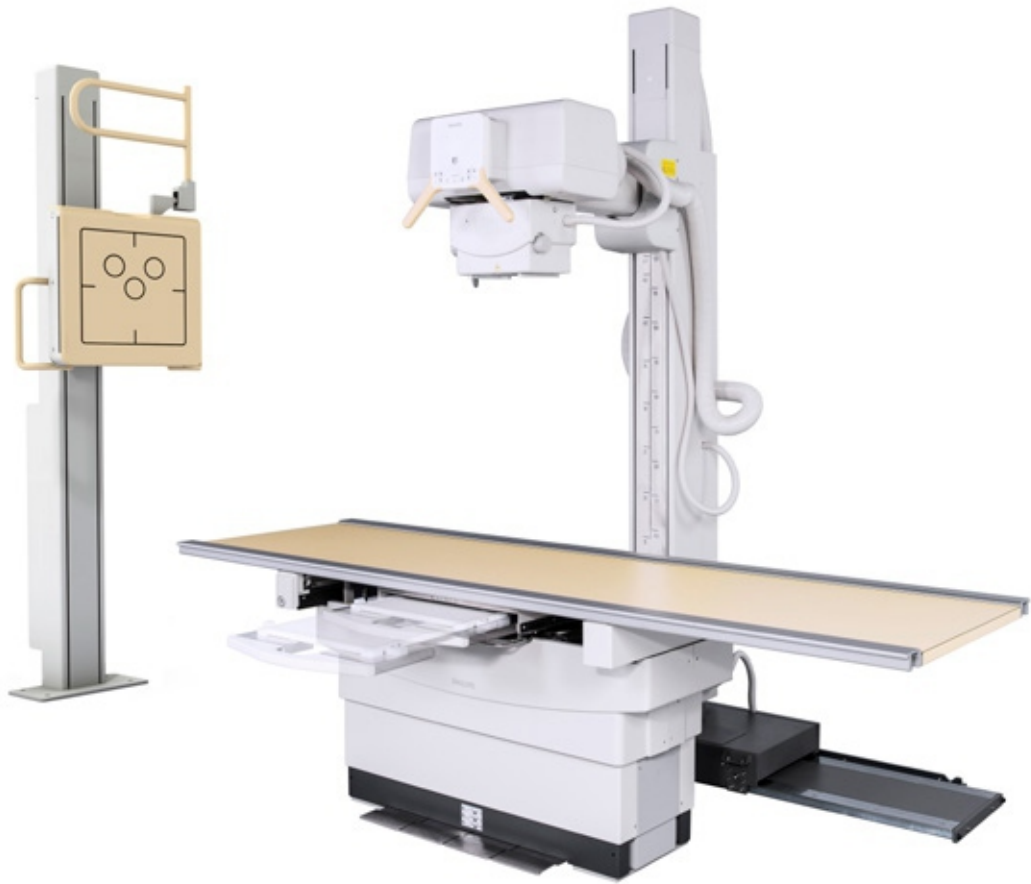
Integrated generator control

UNIQUE image processing



Knee AP

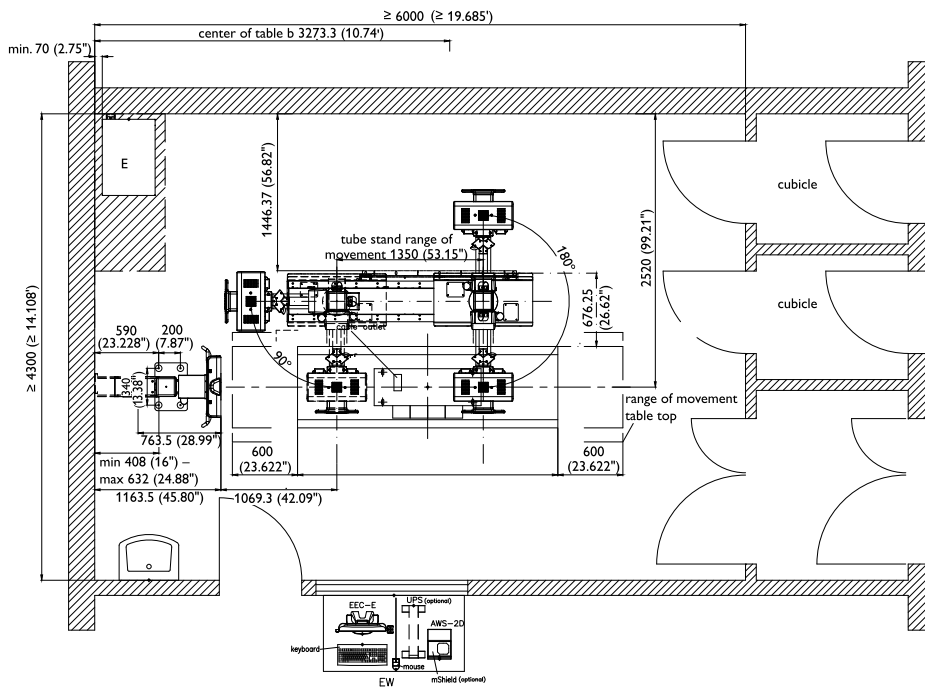
Perform knee AP examinations comfortably with the height adjustable table



An efficient workflow with two DR detectors in one room

Dimensions

All dimensions in mm



Room layout – top view Efficiency room/Efficiency room HP

Philips DuraDiagnost Value room is designed for a cost-effective, performance-oriented entry into digital radiography. Its ease of ownership and exam versatility make it a sensible choice.

The DuraDiagnost Value room consists of a single SkyPlate wireless portable detector, X-ray tube floor stand, and height adjustable table.

2.2 Value room

Value room	Height adjustable table and one SkyPlate wireless portable detector
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Main components

Hardware

Height adjustable table and vertical stand with one SkyPlate wireless portable detector
 Floor-mounted tube column with X-ray tube assembly
 Generator and X-ray tube pack (50 kW and RO1750)
 Eleva workspot with 19" LCD touchscreen

Software

Eleva application and examination database software
 Integrated generator control
 UNIQUE image processing



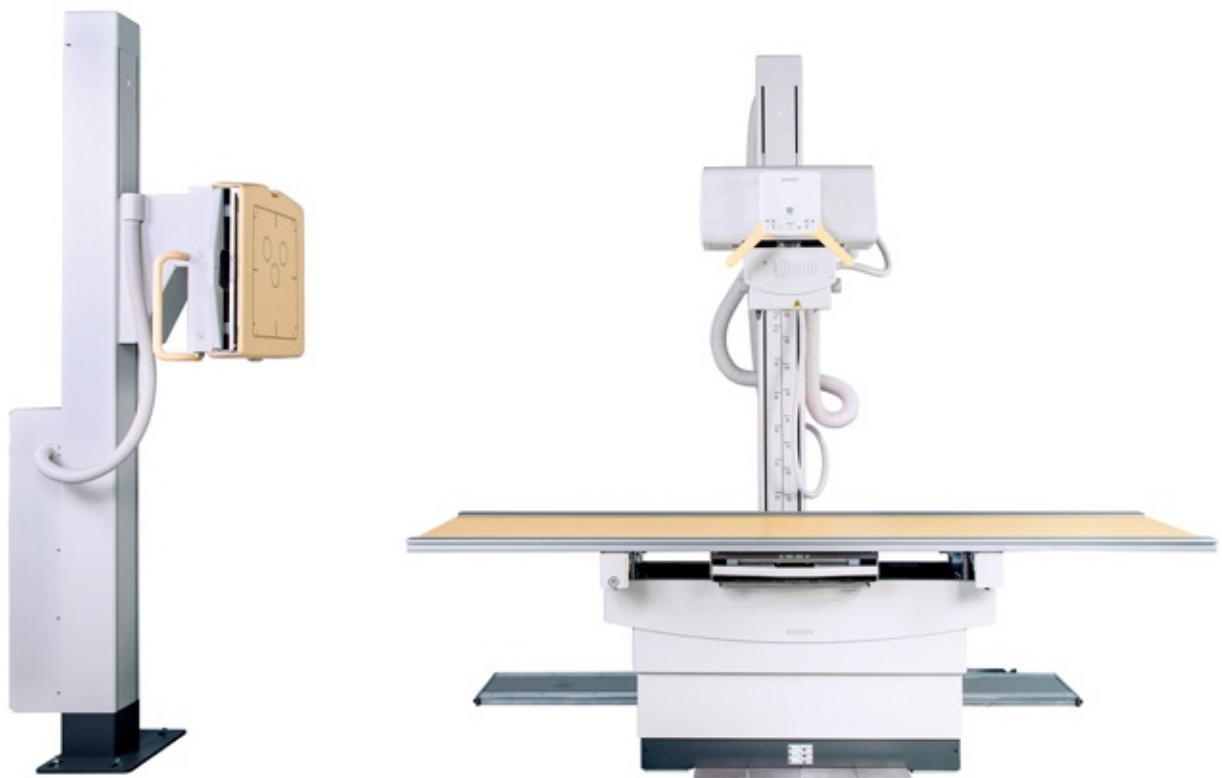
Chest PA Standing

Detector inserted into the detector carrier of the vertical stand



Elbow lateral

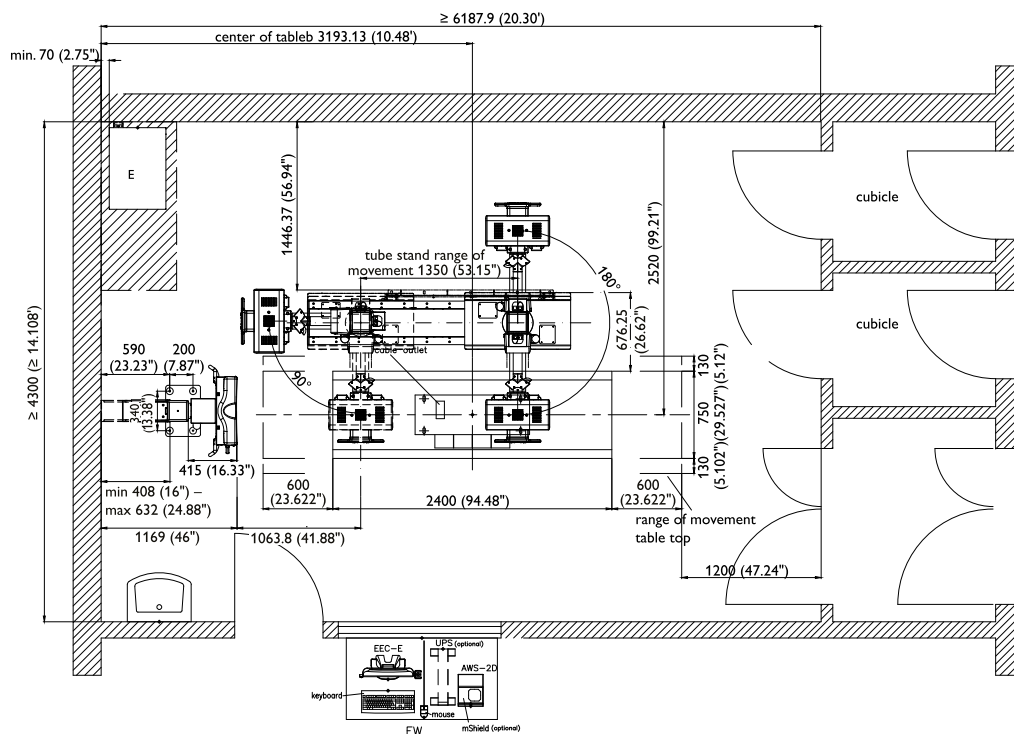
Convenient and easy patient positioning with a height adjustable table and lightweight SkyPlate portable detector



Application flexibility with cassette sized SkyPlate wireless portable detector

Dimensions

All dimensions in mm



Room layout – top view Value room

The Philips DuraDiagnost Chest room simplifies dedicated chest and other vertical exams. It increases patient comfort and provides fast patient positioning, while ensuring Philips standards in DR technology. This dedicated room includes a single fixed detector; vertical stand, and X-ray tube floor stand.

2.3 Chest room

Main components

Hardware

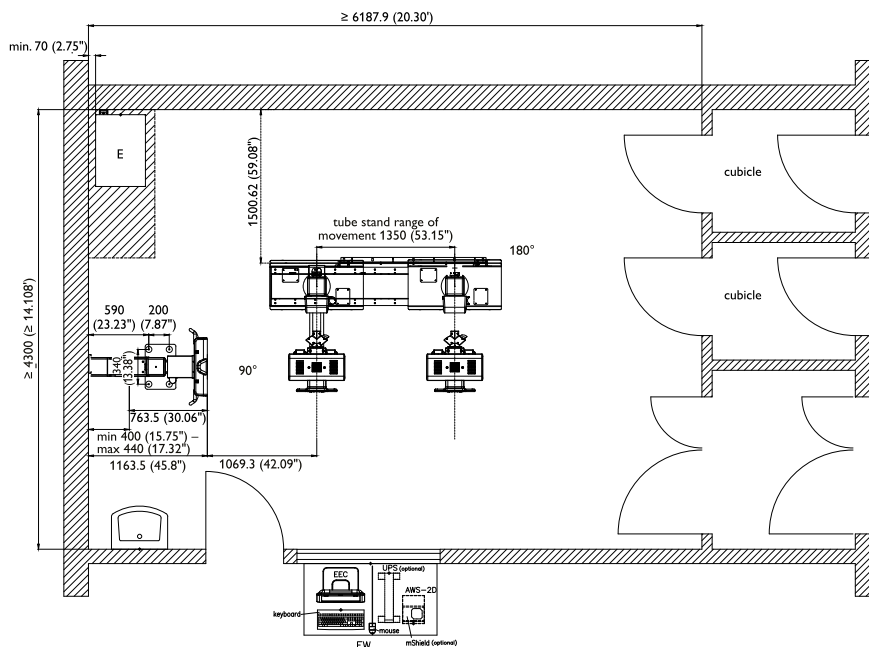
- Vertical stand with digital flat detector
- Floor mounted tube column with X-ray tube assembly
- Generator and X-ray tube pack (50 kW and RO1750)
- Eleva workspot with 19" LCD touchscreen

Software

- Eleva application and examination database software
- UNIQUE image processing

Dimensions

All dimensions in mm



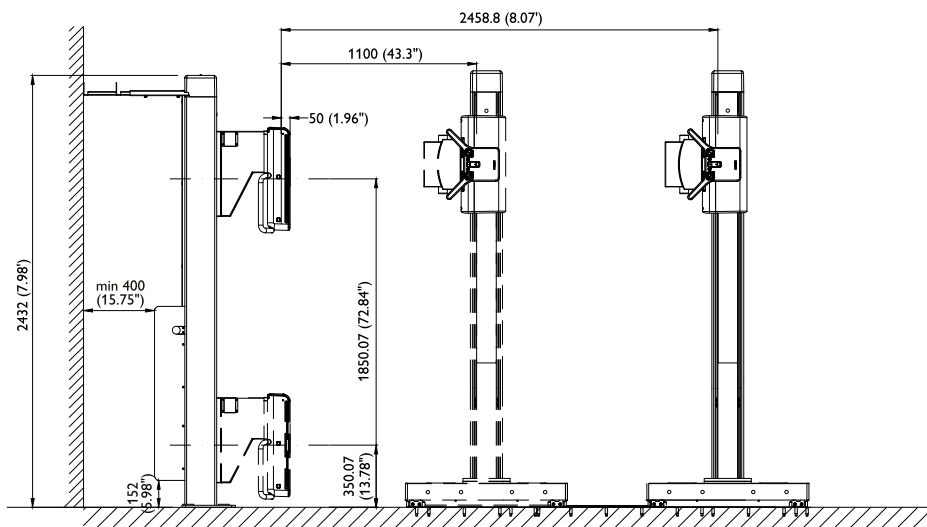
Room layout – top view Chest room



Dedicated operation: ideal for quick chest exam environment

Dimensions

All dimensions in mm



Room layout – front view Chest room

Hardware and software options are universal for all DuraDiagnost room configurations.

2.4 Optional hardware and software

Optional

Hardware

SRO33100 tube with 65/80 kW generator

Dose Area Product (DAP) package

Uninterruptable Power Supply (UPS)

Software

DICOM communication package

mShield dedicated firewall protection

Clinical Quality Control (QC)

DICOM Media

PCR integration

PCR stitching



3. Image quality

DuraDiagnost features Philips UNIQUE image processing software, which delivers consistent, quality images for all anatomical areas. It automates the contrasting process and quickly provides the kind of harmony and clarity normally achieved with manual input.

Our robust flat detectors can withstand shocks and vibrations and are stable at a range of temperatures and humidity. The 17" x 17" fixed digital detector supports large size diagnostic images. The 14" x 17" SkyPlate wireless portable detector gives you untethered access to a wide variety of patient positions.

3.1 Flat Detector

Detector	Fixed detector	SkyPlate wireless portable detector
Scintillator	Gd ² O ² S	Cesium Iodide (CsI)
Detector size	43 cm x 43 cm (17" x 17")	35 cm x 43 cm (14" x 17")
Image matrix size	2874 x 2869 pixel	2400 x 2880 pixel
Pixel size	148 µm	148 µm
A/D conversion	16 bits	16 bits

3.2 UNIQUE multi-resolution image processing

DuraDiagnost, supported by UNIQUE:

- Maximizes the capabilities of the flat detector
- Detects the appropriate region of interest
- Assures anatomy specific image processing

UNIQUE is excellent for both viewing on the monitor and for printing. Image quality is enhanced while simultaneously preserving the images' natural appearance. In addition, the parameters can be adapted to suit user preferences.

UNIQUE at a glance

- Harmonizes contrast
- Enhances weak details and attains detail accuracy in all areas
- Achieves consistently high image quality



Chest PA



Shoulder AP



Hip, patient standing

4. Digital workflow

A digital (filmless) workflow is more convenient and faster when compared to an analog radiography process. With smooth-running procedures, you will be able to spend more time with your patients. The Eleva user interface uses the information from the radiology images system (RIS) to automatically set the right pre-adjustments for image processing, printing and export to PACS or printer. All generator functionality is fully integrated into the Eleva workspot, saving you space and time.

4.1 Eleva Workspot

Eleva Workspot

Hard disk	<ul style="list-style-type: none">• 500 Gb total• 203 Gb for the image data (equivalent to approximately 11548 images)
RAM storage capacity	4 Gb
Interfaces	<ul style="list-style-type: none">• Ethernet 10/100/1000 Base-T Gigabit• DICOM interface• Detector interface• Memory stick support for QC
CD writer	DVD/CD writer
Monitor	• 19" LCD color touch screen monitor
Keyboard with mouse and function buttons	For entering administrative patient data and for operating the screen menus
Image data	
Data volume	Up to 18 Mb/image
Matrix depth	15 bit/pixel
Power supply	
Mains voltage	115 V / 230 V (+10%, -15%)
Mains frequency	50 Hz / 60 Hz
Current input	max. 4 A
Fuse	10 A



In the control room, the intuitive Eleva user interface with integrated generator control requires less space and enhances workflow efficiency.

4.2 DICOM (optional)

DuraDiagnost is DICOM compatible. This means that you can benefit from all relevant DICOM services offered via this common medical data transfer standard. Storing, retrieving, printing and other features will improve your workflow.

You can choose between the complete DICOM package, which includes:

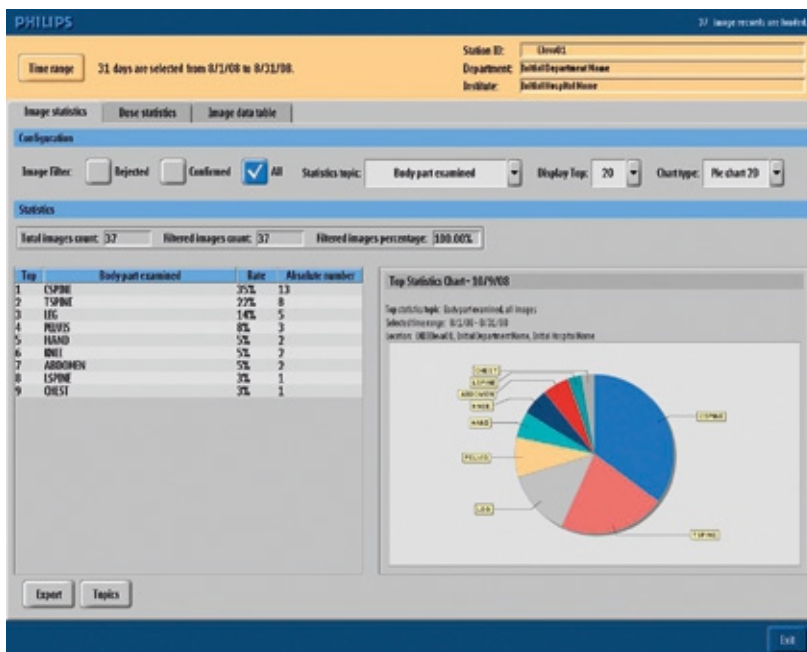
- DICOM WLM and Classic RIS (Work List Management)
 - DICOM MPPS (Modality Performed Procedure Step)
 - DICOM Print
 - DICOM Image Export, which includes the services DICOM Store and Storage Commit
- Or you can choose each DICOM function individually.

4.3 Clinical Quality Control (optional)

This convenient statistical tool for images enables users to analyze all images according to, for example, number of images per examination type or number and reasons for rejections. It can also be used to monitor and analyze general imaging parameters. The data files can be downloaded for further use or archived on a standard PC. It is a great tool for providing advice on quality standards in the department and for training situations.

4.4 mShield (optional)

Philips mShield is part of an overall strategy to safeguard the integrity of data on medical information systems. It protects Philips modalities from malicious cyber attacks.



Clinical QC image statistic tool

5. X-ray generation

The Philips dual-focus rotating anode X-ray tubes provide excellent performance over a long lifetime. The range of Philips generators features a modern architecture based on a modular design. It uses high performance components which can be combined into customer specific solutions. The generator control console is integrated in the Eleva user interface to streamline workflow. It also enables dose reporting. It shares the same generator and tube with Philips premium DR.

5.1 Generator

Generator	50 kW	65 kW	80 kW
High-voltage generator	The converter generator generates high voltage equivalent to DC voltage		
Mains voltage	400 V / 480 V ($\pm 10\%$); 50 Hz or 60 Hz, 3-phase		
Max. mains resistance at 400 V	0.3 Ohm	0.2 Ohm	0.2 Ohm
Max. mains current at 400 V	112 A	134 A	160 A
Nominal power (IEC)	50 kW	65 kW	80 kW
Max. tube voltage	150 kV	150 kV	150 kV
Max. tube current (at 70 kV)	630 mA	928 mA	1000 mA
Max. tube current (at 100 kV)	500 mA	650 mA	800 mA
X-ray tube	RO1750	SRO33100	SRO33100
mAs product (with AEC control)	0.4 mAs to 850 mAs	0.4 mAs to 850 mAs	0.4 mAs to 850 mAs
Exposure times	1 ms to 4 s		
Safety	Tube overload protection Automatic mains voltage compensation		

5.2 X-ray tubes

Tube	RO 1750	SRO 33100
Focal spot	0.6 / 1.2	0.6 / 1.2
Ratings	17 kW / 50 kW	33 kW / 100 kW
Anode angle	13°	13°
Anode heat storage capacity	220 kJ (300 kHU)	220 kJ (300 kHU)
Maximum voltage	150 kV	150 kV
Tube overload protection	√	√



RO 1750



SRO 33100

5.3 Collimator

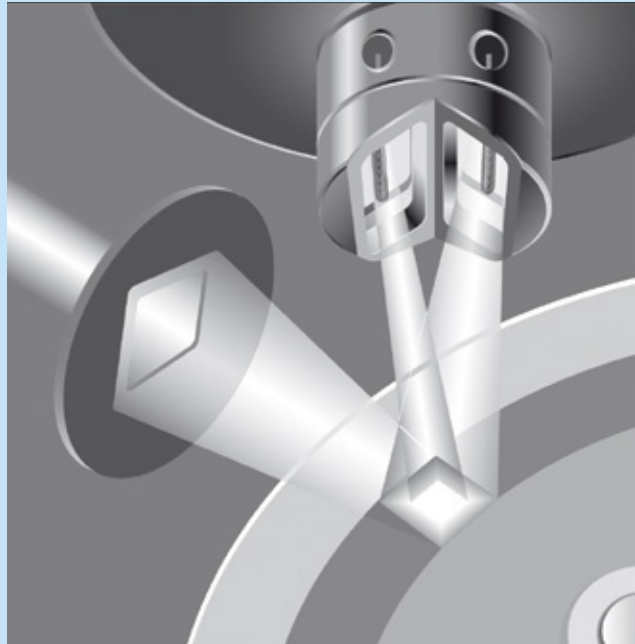
Collimator	
Type	Manual, with light field indicator
Angle of aperture and rotation	$\pm 45^\circ$
Timer switch	30 s
Inherent filter value	<0.3 mm Al at 100 kV, depending on the collimator
Added filters	2 mm Al or 1 mm Al + 0.1 mm Cu or 1 mm Al + 0.2 mm Cu or None

5.4 Automatic Exposure Control (AEC)

Sets the exposure time according to exposure voltage and object characteristics in order to automatically obtain the correct exposure.

5.5 Variofocus (optional)

The Variofocus technology is made possible by our X-ray generator. This technology creates a number of tailored focal spot sizes which are assigned to APR programs and range from the small to the large focal spot points of an X-ray tube. In this way you are always using an object-optimized focal spot and optimum geometric resolution. In addition, tube filaments are preserved through power balancing on both focus spots and reduced power load on each of them, which may result in longer tube life.



Variofocus creates a number of tailored focal spot sizes

6. X-ray tube floor stand

Easily move the floor-mounted X-ray tube stand along its rails to support different applications. It can be rotated a full 180 degrees to image patients on a trolley, handle difficult projection angles, and enhance patient comfort.

6.1 X-ray tube floor stand

for Efficiency room and Chest room

Column	
Height	240.7 cm (94.764")
Room height	min. 270 cm (106.30")
Vertical lift maximum	140 cm (55")
Central beam minimum upper floor	35 cm (13.78")
Central beam maximum upper floor	185 cm (72.835")
Rotation of tube around vertical axis	+90° to -180°
X-ray tube rotation	+/- 120°
Source-image distance	Max. 110 cm (43.31") for table and Max. 245 cm (96.46") for wall stand

6.2 SmartOne button

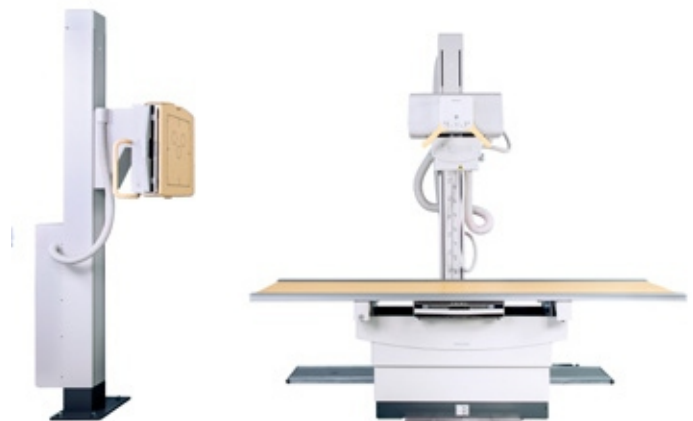
The "SmartOne" button enable the user to easily execute all geometry movements with one finger.



SmartOne button

6.3 Default SID

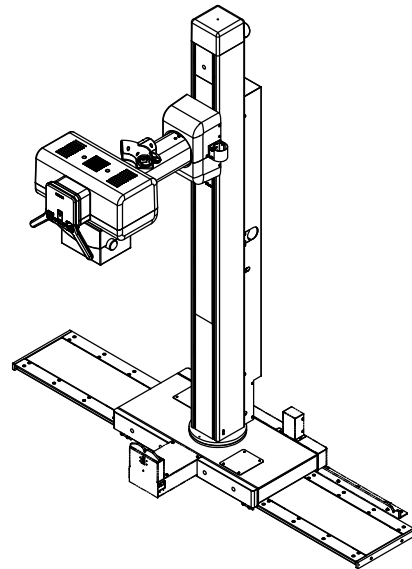
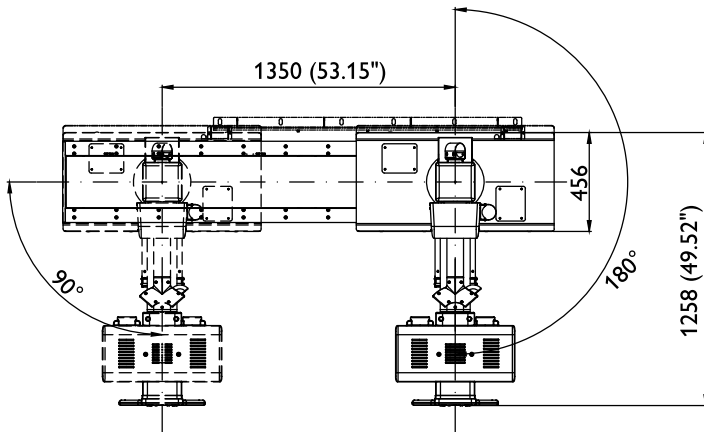
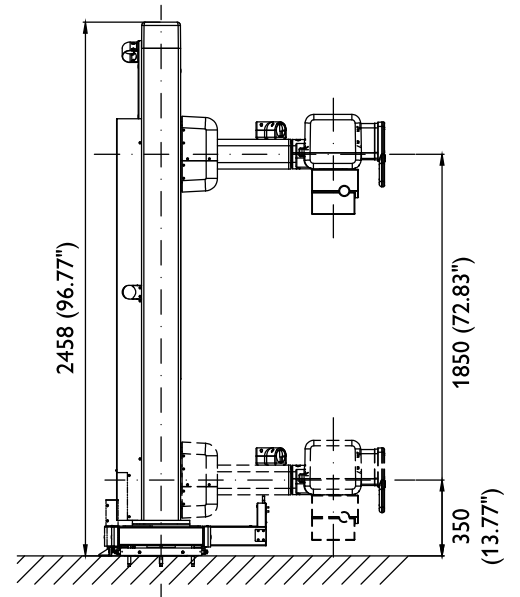
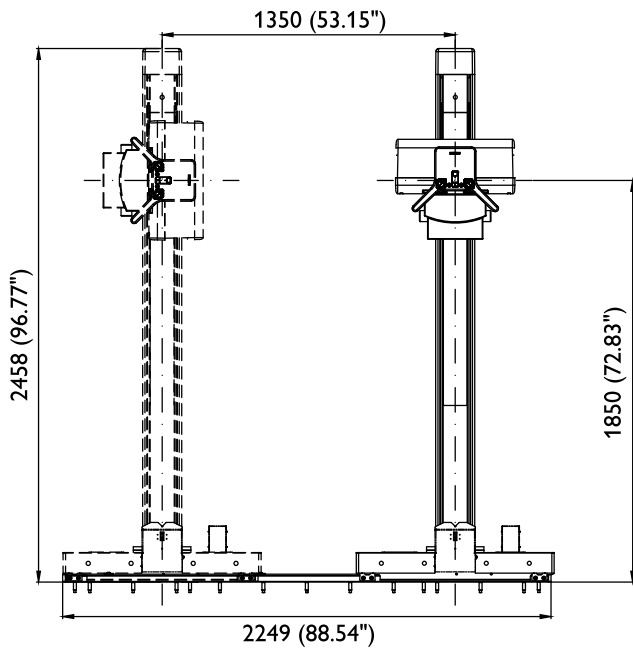
The Default SID (110 cm, 180 cm) facilitates fast positioning, thereby avoiding difficulties in finding floor distance markers.



Default SID

Dimensions

All dimensions in mm



7. Table

With a simple light touch, the free floating tabletop supports easy positioning of all patient types from pediatrics to bariatrics.

7.1 Radiographic table

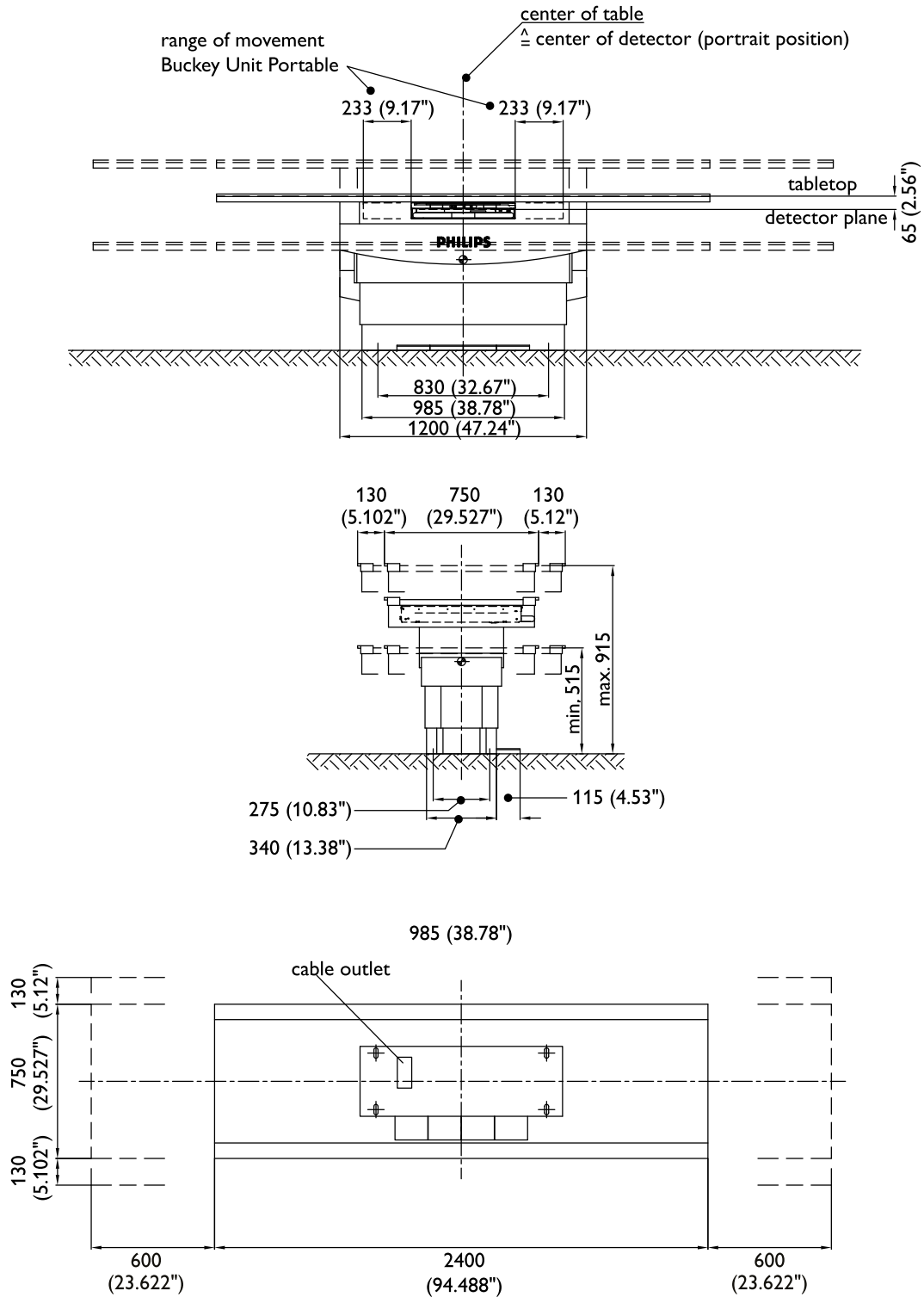
Radiographic table	for Efficiency room and Efficiency room HP
Type	Radiographic table with floating tabletop, stationary grid and three measuring chambers.
Table height adjustment	51.5 cm to 75 cm (20.28" to 29.53")
Tabletop dimensions	240 cm x 75 cm (94.49" x 29.53")
Radiation absorption	≤0.75 mm (0.029") Al equivalent at 100 kV
Tabletop travel	Longitudinal: ± 60 cm (23.62") (center to left and right 60 cm) Transverse: ± 13 cm (5.12") (center to front and back 13 cm)
Patient weight	
Static load center	375 kg (820 lbs)
Dynamic load center	318 kg (700 lbs)
Dynamic load off center	210 kg (460 lbs)
Grid in bucky	Fixed detector: 40 line/cm, 12:1, F: 110 cm (43.31") Wireless portable detector: 44 line/cm, 8:1, F: 110 cm (43.31")
Detector unit movements in longitudinal table direction	47 cm (18.50")

Radiographic table	for Value room
Type	Radiographic table with floating tabletop, stationary grid and three measuring chambers.
Table height adjustment	51.5 cm to 75 cm (20.27" to 29.53")
Tabletop dimensions	240 cm x 75 cm (94.49" x 29.53")
Radiation absorption	≤0.75 mm (0.029") Al equivalent at 100 kV
Tabletop travel	Longitudinal: ± 60 cm (23.62") (center to left and right 60 cm) Transverse: ± 13 cm (5.12") (center to front and back 13 cm)
Patient weight	
Static load center	375 kg (820 lbs)
Dynamic load center	318 kg (700 lbs)
Dynamic load off center	210 kg (460 lbs)
Grid in bucky	44 line/cm, 8:1, F: 110 cm (43.31")
Detector unit movements in longitudinal table direction	47 cm (18.5")

Height adjustable table

Dimensions

All dimensions in mm



8. Vertical stand

A wide range of vertical movement supports examinations for patients of varying height. The “EasyAlign” feature indicates the correct alignment between the detector and tube, saving technologists time walking back and forth to the patient.

8.1 Vertical stand with detector unit

only for Efficiency room and Chest room

Vertical stand with detector unit, grid and three measuring chambers

Height	240 cm (94.49")
Vertical movement	35 cm to 185 cm (13.78" to 72.84")
Fixed grid - removable	Standard grid: 40/8/140 cm (15.75"/3.15"/55.12") Option 1: Grid 40/12/180 cm (15.75"/4.73"/70.87") Option 2: Grid 40/12/140 cm (15.75"/4.73"/55.12") Option 3: Grid 60/10/180 cm (23.62/3.94"/70.86") Option 4: Grid 60/10/140 cm (23.62/3.94"/55.12")
Object-to-detector distance	4.5 cm (1.77")

Vertical stand with detector unit

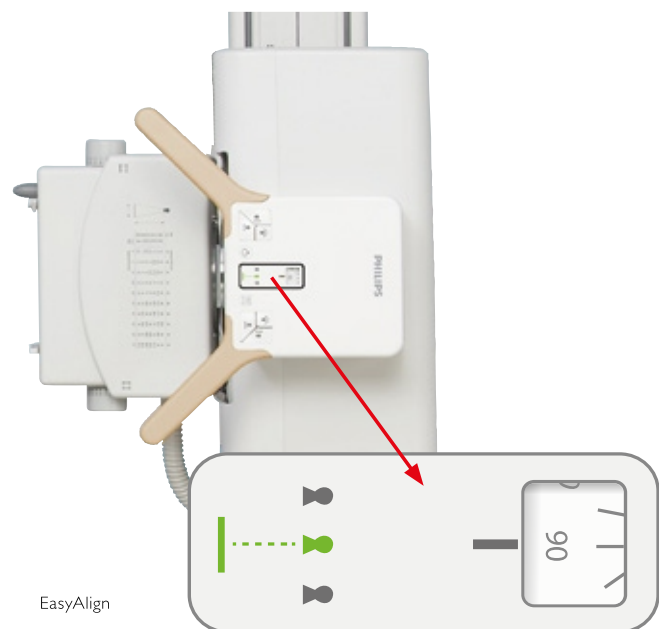
Value room

Vertical stand with detector unit, grid and three measuring chambers

Vertical movement	35 cm to 185 cm (13.78" to 72.84")
Grid ratio	Standard grid: 44 line/cm, 8:1, F: 140 cm (55.12")
Object-to-detector distance	7.5 cm (2.95")

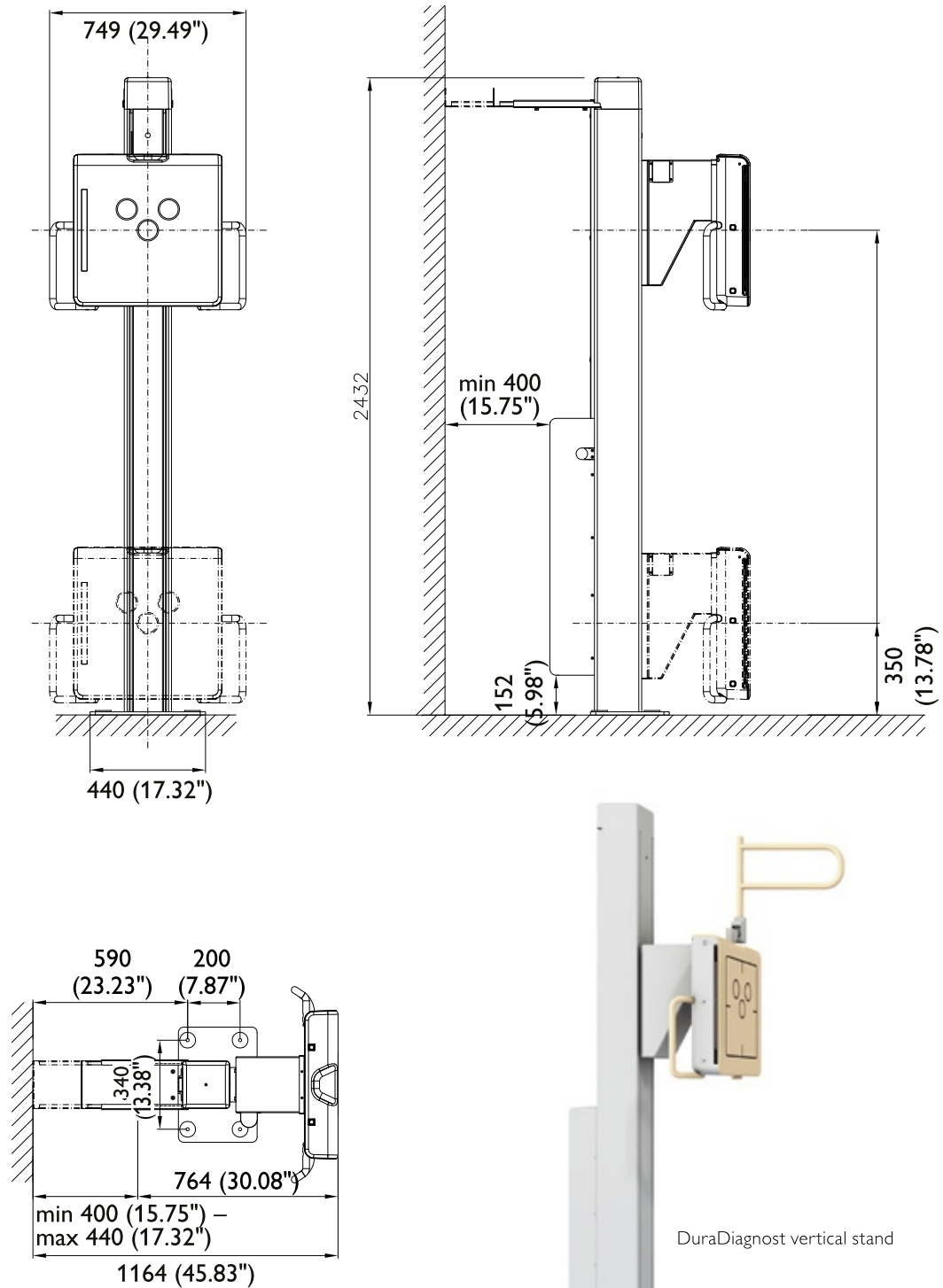
8.2 EasyAlign

The “EasyAlign” feature helps you save time by indicating the correct alignment between the detector and the tube, enhancing the technologists workflow.



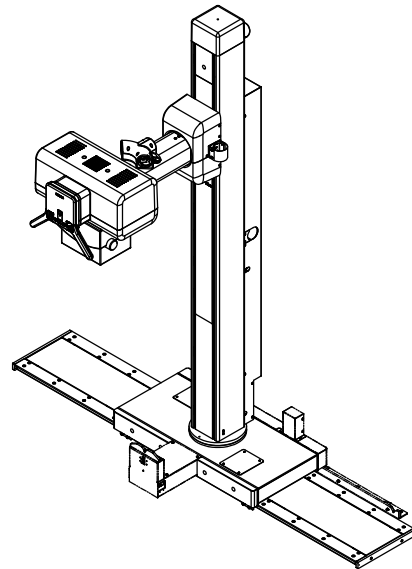
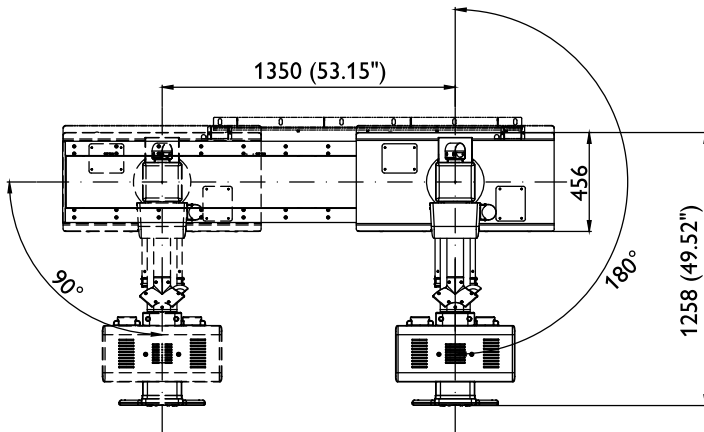
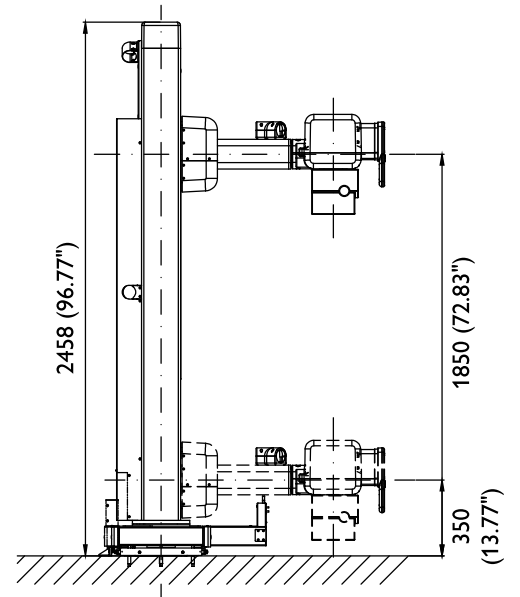
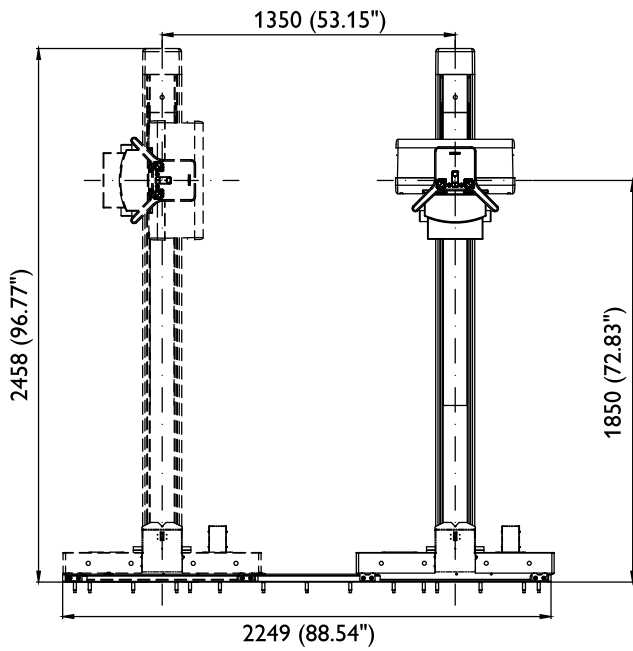
Dimensions

All dimensions in mm



Dimensions

All dimensions in mm





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