Omnera® 400T

Manual-Positioning Digital Radiographic System

Planning Guide

Technical Publication: 0180-095-485-EN Rev. 4.1

Canon

CANON MEDICAL SYSTEMS USA, INC.

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Notices

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Trademarks

Contents

Contents

1 Introduction

1.1 System Description

1.1.1 Intended use

The system is a stationary X-ray system, intended for obtaining radiographic images of various portions of the human body in a clinical environment.

The system is not intended for mammography.

1.1.2 System Overview

Fig. 1-1 shows the main parts of a System.

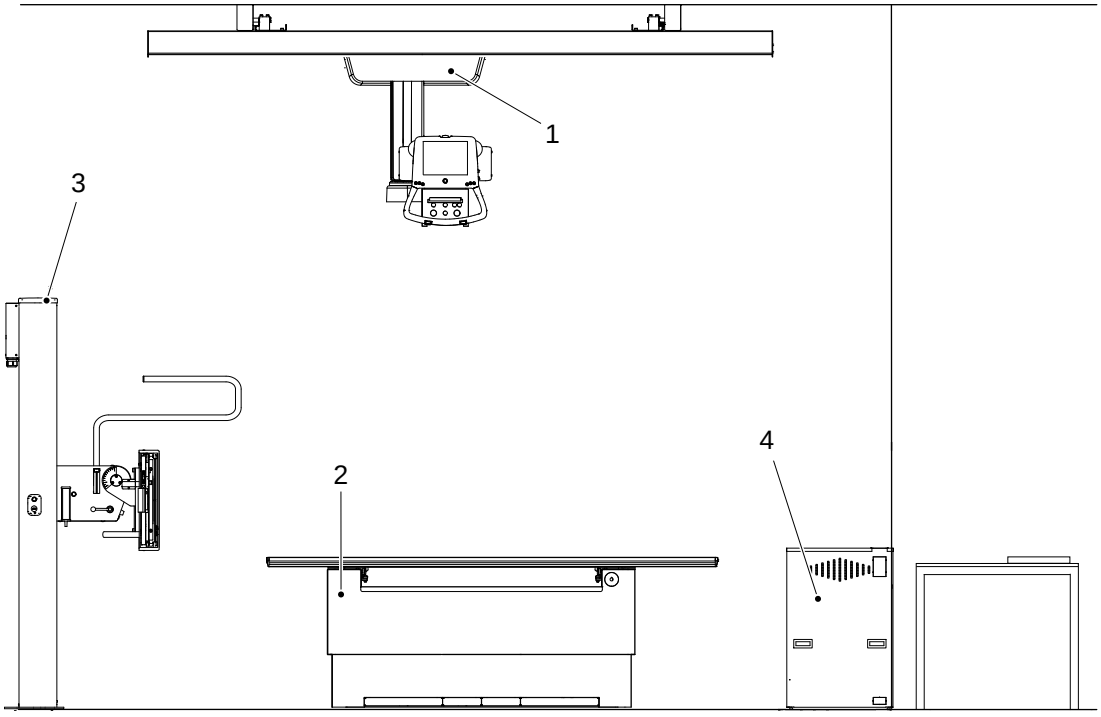


Fig. 1-1 System Overview

1. *Overhead Tube Crane (OTC)*
2. *Table (Closed table 0181 Standard or Two column table 0055 option)*
3. *Wall stand*
4. *Cabinet*

2 Environment Specifications

2.1 Placement of non-medical components

Non-medical components may not be placed inside the patient environment according to regulations (IEC 60601-1).

The standard defines a sphere of 1.5 m around the patient as the patient environment.

The Ceiling support can be operated across the entire rail grid, i.e. the 1.5 m boundary must be placed outside the rail grid. Also take into account the patient entries and exits and the possibility for the patient to walk around in the examination room. In practice, this means that no non-medical components can be placed inside the walls of the examination room.

There is a possibility of using an indicator lamp, alerting when an examination is going on.

2.1.1 Image system computer

Image system computer used and other similar devices are normally non-medical components. The image system computer and the including touch-screen used in the system is no exception and may therefore not be placed inside the examination room.

2.2 Room and installation specification

WARNING!

It is strongly recommended to mount and use a permanent, lockable switch to turn off and lock the System power. This is necessary when working with the installation and the maintenance of the System.

2.2.1 Wall clearance

According to regulations and standards (IEC 60601-1), a minimum distance of 500 mm between moving motorized parts and surrounding walls, and/or permanently installed objects must be considered when planning the room layout. Since the Ceiling suspended x-ray tube support and the Wall stand is manually operated (except from the Z-movement of the Ceiling suspended x-ray tube support), the clearance requirement does not apply to Table.

The table top movement can be limited to allow a smaller room size, or if objects are placed within the 500 mm zone. The stroke is adjustable via mechanical end stops, placed on each side of the table top.

2.2.2 Ceiling Height

The System has three configurations allowing a ceiling height between 2500 mm and 3050

Table 2-1

Ceiling height (mm)	Vertical column stroke (mm)	Ceiling rails
2500-2700	1450	Low ceiling rails.
2700-2850	1450	Standard ceiling rails. (Standard configuration).
2850-3050	1700	Standard ceiling rails.

2.2.3 Installation Cube

If it is not possible to mount the System in the ceiling, an installation cube is needed. There are two standard heights. For more information, please contact the Manufacturer. The ceiling height configuration must be chosen when the System is ordered.

Table 2-2

Ceiling height (mm)	Vertical column stroke (mm)	Installation Cube
>2500	1450	Low ceiling.
>2800	1700	Low ceiling.

2.3 Ceiling / Floor / Wall Specification

The performance of the System is highly depending on the pre-installation work that has to be done on the ceiling, the floor and the wall.

The Manufacturer does not take responsibility of the ceiling, floor or wall construction. The Manufacturer recommends the ceiling, floor and wall to be levelled 1mm/m.

Local regulations and specifications must be observed.

The specifications specified in this section, do not apply for earthquake risk regions. For more information and specifications regarding risk assessments and calculations, please contact the Manufacturer's sales department.

Local regulations and specifications must also be observed. The forces listed in this document are not always in correspondence with the local and/or national regulations.

2.3.1 Included in Shipment

- Expansion bolts (standard type) for the Table and the Wallstand.
- Expansion bolts (standard type) for the Installation cube (option).
- A drilling template for the Table and a marking template for the Wallstand.
- Spacers for the Table, Wallstand and Ceiling suspended x-ray tube support installation cube (option).
- Insulation kits for all System components.
- Mounting kit for the ceiling rail Y (Unistrut mounting brackets, etc.). See **Fig. 2-1**.
- Mounting kit for the installation cube (wall mounting brackets, etc.) (option).

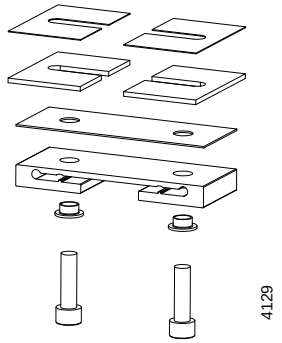


Fig. 2-1 Mounting kit for the ceiling rail Y

2.3.2 General Information Not Included In Shipment

- Appropriate sub construction for the ceiling rail Y, e.g. Unistrut, must be provided (not included in shipment).
- Cable runs or similar must be supplied (not included in shipment).
- Screws, bolts, or similar for mounting the cable outlet for the overhead tube crane must be supplied (not included in shipment).
- Alignment tools, such as rotating lasers or similar, must be supplied (not included in shipment).

2.4 Ceiling specification

The Ceiling suspended x-ray tube support requires a ceiling with sufficient load capacity (not within the scope of this document), e.g. concrete. If the ceiling construction is not sufficient, an Installation cube solution is available.

The Installation cube solution is to be ordered as an option. The on-site subconstruction, normally consists of Unistrut rails or other comparable support profiles (not included in shipment).

The Unistrut rails are mounted directly to the ceiling. The ceiling rails Y, with a standard length of 4000 mm, are then mounted on the Unistrut rails, see **Fig. 2-2** and **Fig. 2-3**. The ceiling rails Y can also be mounted directly to the ceiling, see **Fig. 2-2** and **Fig. 2-3**. As a third option, if the ceiling height is low (2500 mm-2700 mm), the Y rails of the Installation cube can be directly mounted to the ceiling (must be ordered separately), see **Fig. 2-2** and **Fig. 2-3**.

Each ceiling rail Y must have at least 5 fixation points with a suspended distance (A) that is depending on the length of the traverse rails Y. Each fixation point must withstand a load of at least 5kN.

At least 5 Unistrut rails, equally divided, must be used for a standard ceiling rail Y length (4000 mm). The total load each Unistrut rail must be able to withstand is minimum 7 kN. The Unistrut fixation points shall not be placed directly under the ceiling rails Y.

The ceiling rails Y must be leveled (+/- 1 mm) over the entire grid. Spacers for leveling the rails are included in the shipment. Also included is the cable outlet for the Ceiling suspended unit.

Manufacturer’s specifications of on-site subconstruction and the “Service and Installation Manual”, included at delivery, must be observed Check that necessary fixation points are present at the ceiling. Use Unistrut rails or similar mounted with a distance of 800 mm and 2900-3100 mm above the floor.

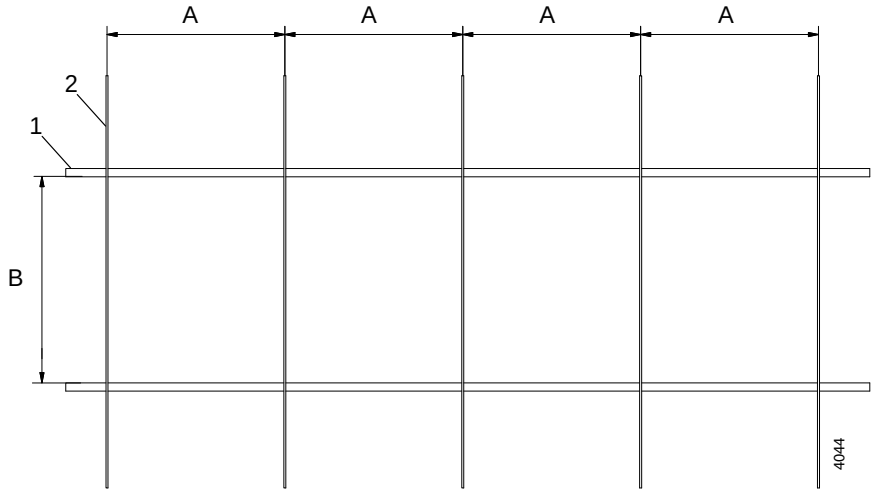


Fig. 2-2 Ceiling specification

1. *Ceiling suspended unit rail (Y)*
2. *Unistrut rail or similar*

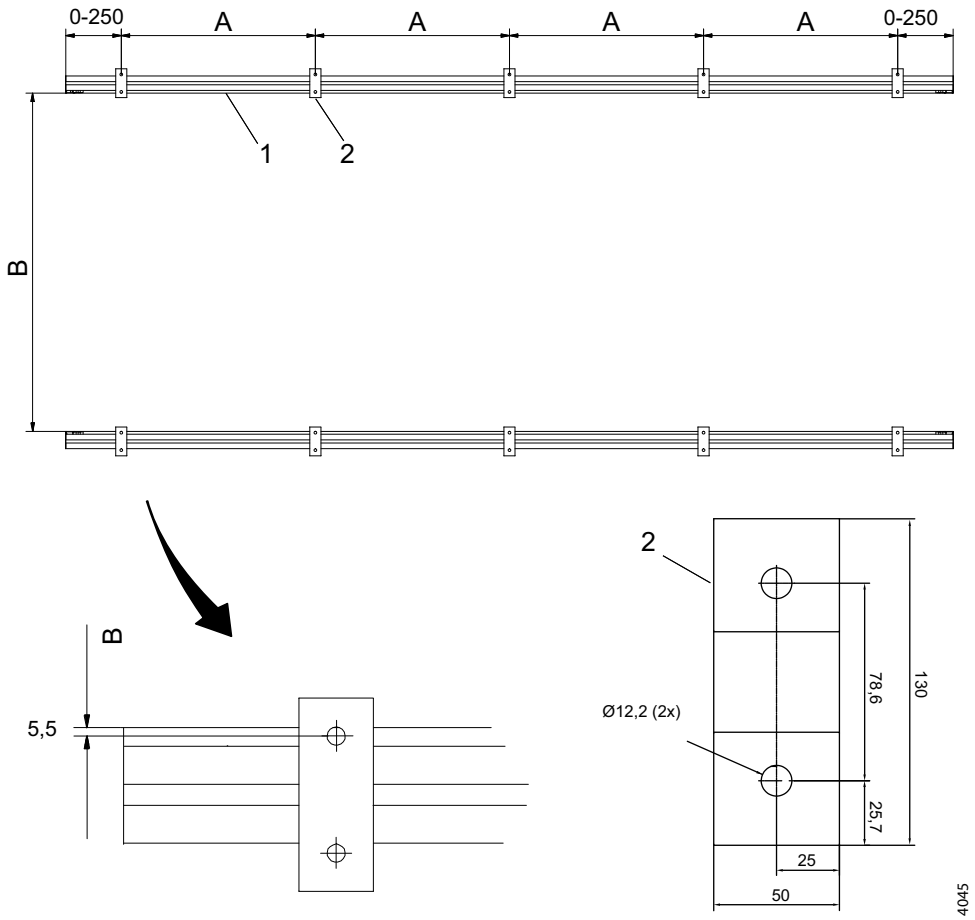


Fig. 2-3 Ceiling rails Y mounted directly to the ceiling

1. Ceiling suspended unit rail (Y) *2. Fixation block*

Table 2-3 Length traverse rail

Length traverse rail X	**4000 mm**	**3000 mm**	**3000 mm**	**2748 mm (Low ceiling)**
Length ceiling rail Y	5000 mm	5000 mm	4000 mm	3748 mm
Min. no of fix points / Y rail	6	6	5	5
Measure A	850-1100 mm	850-1100 mm	850-1100 mm	850-1100 mm
Measure B	2800-3200 mm	2800-3200 mm	2800-3200 mm	2778 mm

Note!

The ceiling suspended unit rails shall be parallel ± 1 mm.

2.5 Floor Specification

The Table and the wall stand must be installed on a solid base with sufficient load capacity (not within scope of this document), e.g. concrete.

The floor must be able to withstand the pull forces supplied on the expansion bolts. The pull forces for the components are listed in **Table 2-4**, see also **Fig. 2-4**, **Fig. 2-5**(option) .and **Fig. 2-6** .

The table and the wall stand must be levelled to 1 mm/m.

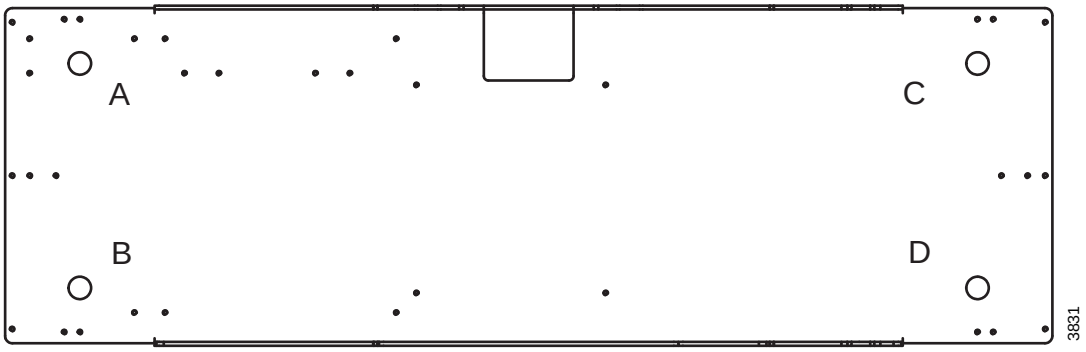


Fig. 2-4 Drilling template —standard table 0180

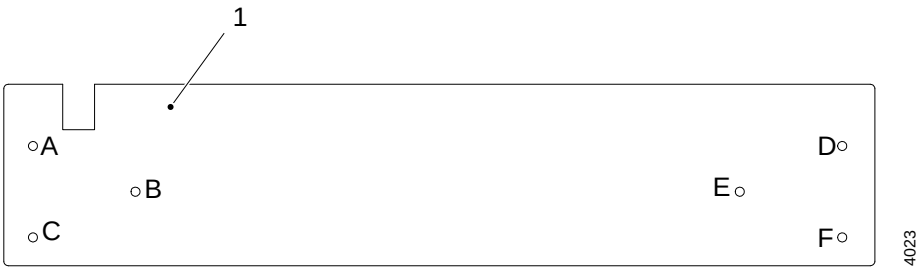


Fig. 2-5 Drilling template — table 0055, option

1. Head end

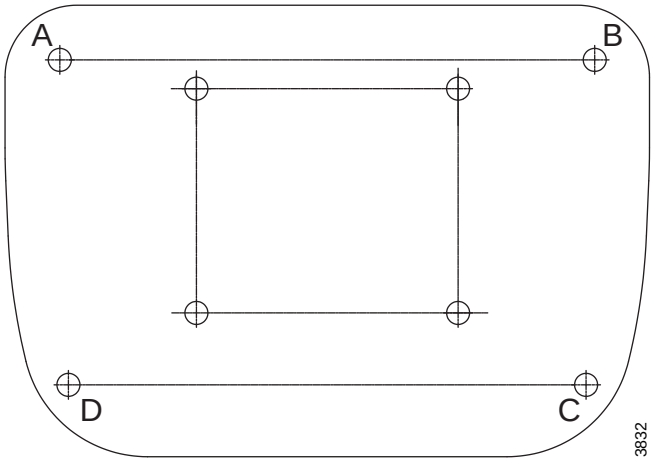


Fig. 2-6 Marking template, wall stand (Isolation plate)

Note!

The isolation plate for the wall stand shall only be used as a marking template and not as a drilling template, due to the large hole size.

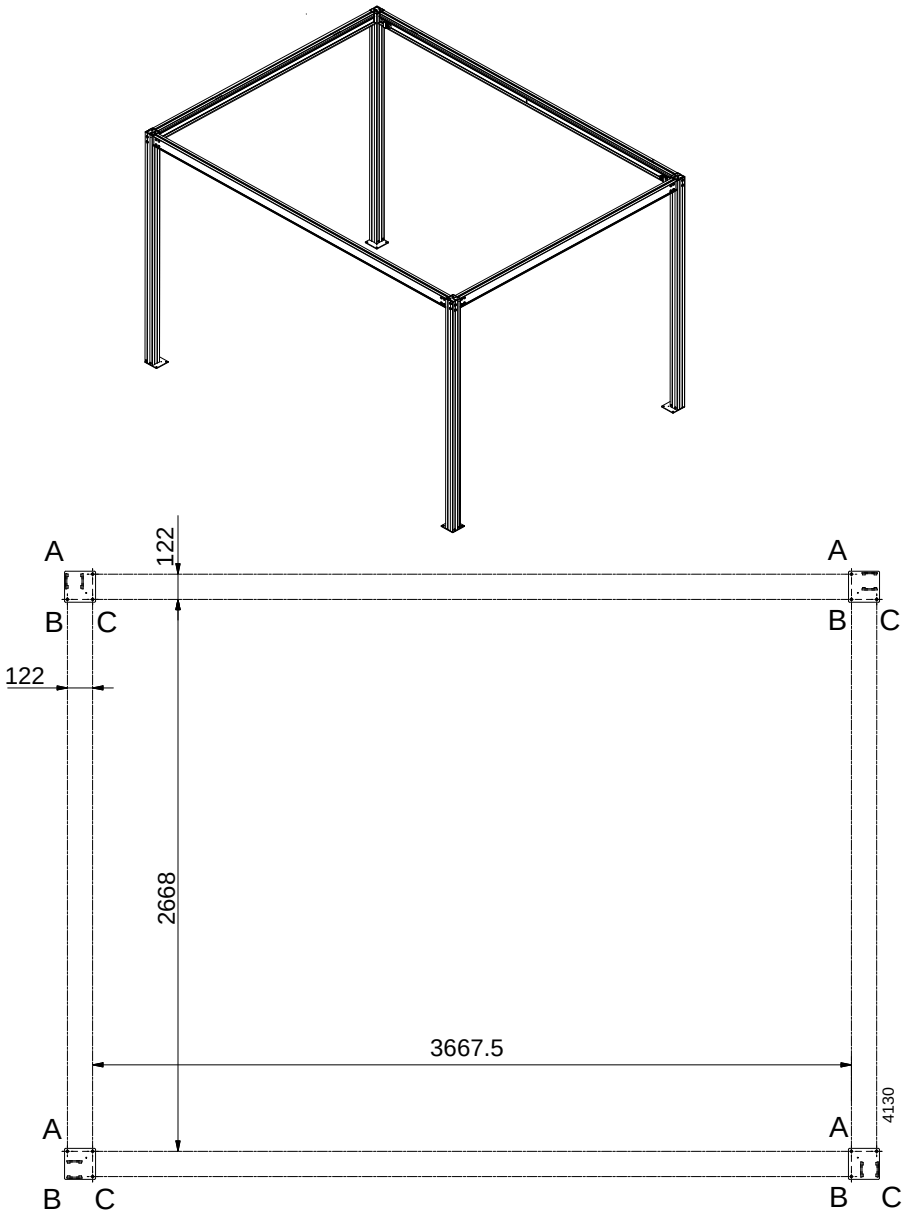


Fig. 2-7 Installation cube

Table 2-4

Mounting point	**A**	**B**	**C**	**D**	**E**	**F**
Force table	5 kN	5 kN	5 kN	5 kN	5 kN	5 kN
Force wall stand	5 kN	5 kN	5 kN	5 kN	-	-
Installation Cube	5 kN	5 kN	5 kN	-	-	-

M10 expansion bolts are provided for the table and the wall stand.

The manufacturer specification and the Service and Installation manuals, included at delivery for both components, must be observed.

2.6 Wall Specification

The walls are usually only used for mounting the cable outlets for the ceiling support, the wall stand and the system cabinet. Therefore, the only specification for the walls is that it must be possible to mount and secure the cable outlets. Screws, bolts, or similar for mounting the cable outlets must be supplied (not included in shipment).

The Installation cube shall be mounted to the wall. There are four wall fixation points, and each fixation point must withstand a load of at least 0.5 kN. The wall attachment allows to place the installation cube 0-1000 mm from the wall. If the distance to the wall is small, the attachment must be shortened to a correct length. When the Installation cube is placed close to the wall, make sure that a suitable placement of the cable outlet is possible.

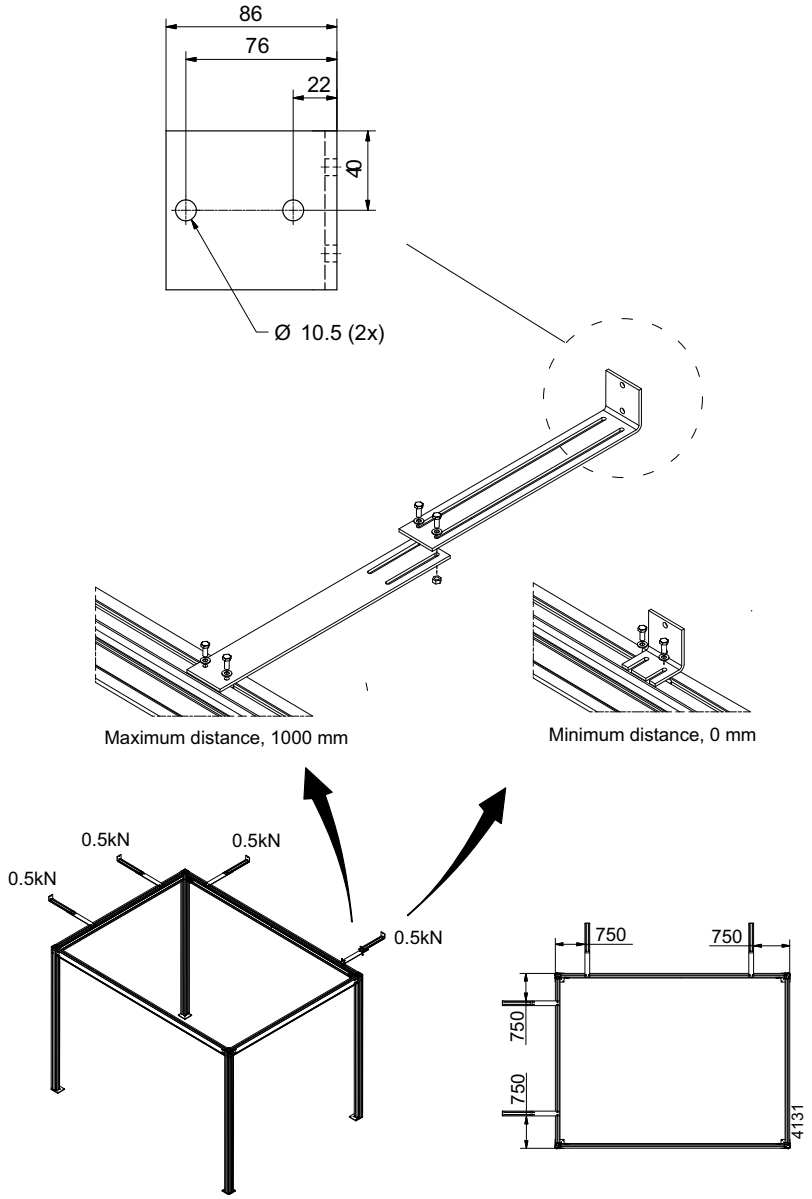


Fig. 2-8 Wall Specifications

2.7 Electrical Building Installation

The Machinery directive 2006/42/EC requires the system to be fitted with means to isolate it from all energy sources.

WARNING!

This equipment must only be connected to supply mains with protective earth.

WARNING!

Always turn off the power and lock the main switch before service or maintenance.

Note!

A lockable disconnecting device on the mains, to disconnect the system from mains power, must be installed according to national wiring rules

2.7.1 Power Ratings And Line Requirements

The product requires a three-phase electrical line with a protective earth ground (4 or 5 wires).

The transformers in the system cabinet, requires a tap configuration.

The generator has an automatic main line selection (no transformer tap configuration required).

The voltage has to be manually set to:

- 3 Phase VAC ±10%
- 400 VAC 50Hz
- 400 VAC with neutral 50 Hz
- 480VAC 60Hz
- Maximum wire gauge 4 AWG (25 mm²)
- Required fuse 63 A, 3-phase, b-curve

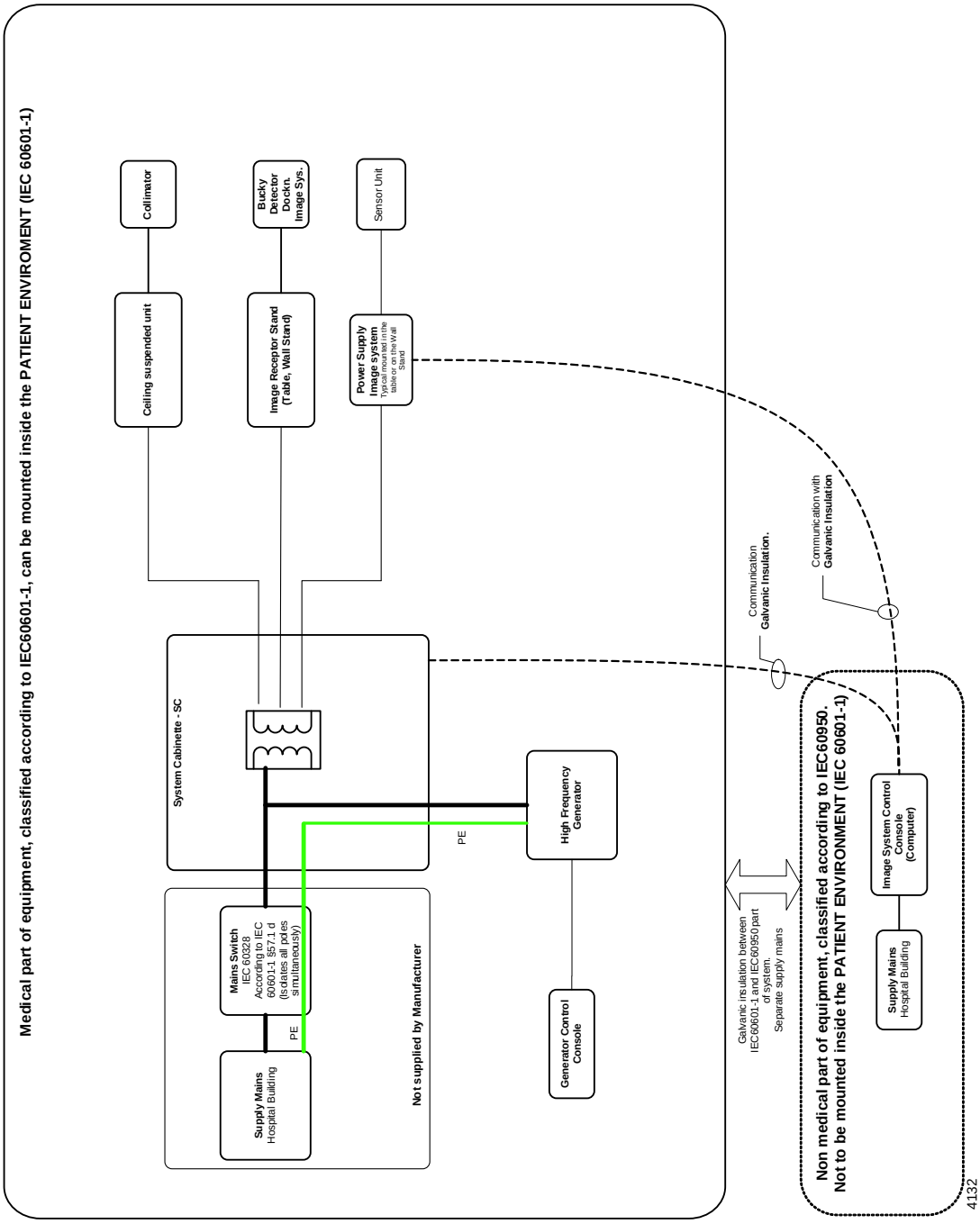
Note!

For more information about tap configuration see Installation and Service Instructions.

Generator Series and Mains Voltage	Generator Momentary Line Current	Apparent Mains Resistance	Recommended Minimum			
			Mains Disconnect to Generator (15 ft/5 m max)	Generator Service Rating	Distribution Transformer Rating	Ground Wire Size
50 kW 400 VAC, 3p	100 A	0.17 Ω	13.3 mm² (AWG 6)	100 A	65 kVa	13.3 mm² (AWG 6)
65 kW 400 VAC, 3p	125 A	0.13 Ω			85 kVa	
80 kW 400 VAC, 3p	155 A	0.10 Ω			105 kVa	
50 kW 480 VAC, 3p	80 A	0.24 Ω			65 kVa	
65 kW 480 VAC, 3p	105 A	0.19 Ω			85 kVa	
80 kW 480 VAC, 3p	130A	0.15 Ω			105 kVa	

Recommended service disconnect (as per the above table):

- All wiring and grounding should comply with the national electrical code or equivalent.
- All wiring must be copper.
- The disconnecting switch shall be located within reach of the operator.


Medical part of equipment, classified according to IEC60601-1, can be mounted inside the PATIENT ENVIROMENT (IEC 60601-1)
Collimator
Ceiling suspended unit
Bucky Detector Dockn. Image Sys.
Image Receptor Stand (Table, Wall Stand)
Sensor Unit
Power Supply Image system Table mounted in the table or on the Wall Stand
System Cabinette - SC
High Frequency Generator
Generator Control Console
Mains Switch IEC 60328 According to IEC 60601-1 57.1 d (Isolates all poles simultaneously)
Supply Mains Hospital Building
PE
Not supplied by Manufacturer
Communication Galvanic insulation.
Communication with Galvanic insulation
Galvanic insulation between IEC60601-1 and IEC60950 part of system. Separate supply mains
Non medical part of equipment, classified according to IEC60950. Not to be mounted inside the PATIENT ENVIRONMENT (IEC 60601-1)
Image System Control Console (Computer)
Supply Mains Hospital Building
4132

2.7.2 Cable Duct Specification

All cables shall be enclosed in cable channels, cable ducts or conduits according to regulations (IEC 60601-1).

The following notes shall be considered;

- Avoid cross-overs and forming of cable coils.
- Use appropriate dimensions.
- Consider the bending radius of the cables.
- If using conduits, consider that the connectors of the high voltage cables should be able to be pulled through.
- Cable channels or cable ducts shall be used for on-the-floor installations.

3 Installation And Servicing Space

3.1 Wall Stand

3.1.1 Tiltable Image Receptor Holder

Front - Rear Direction

If different values apply for a fixed detector, these are specified within brackets.

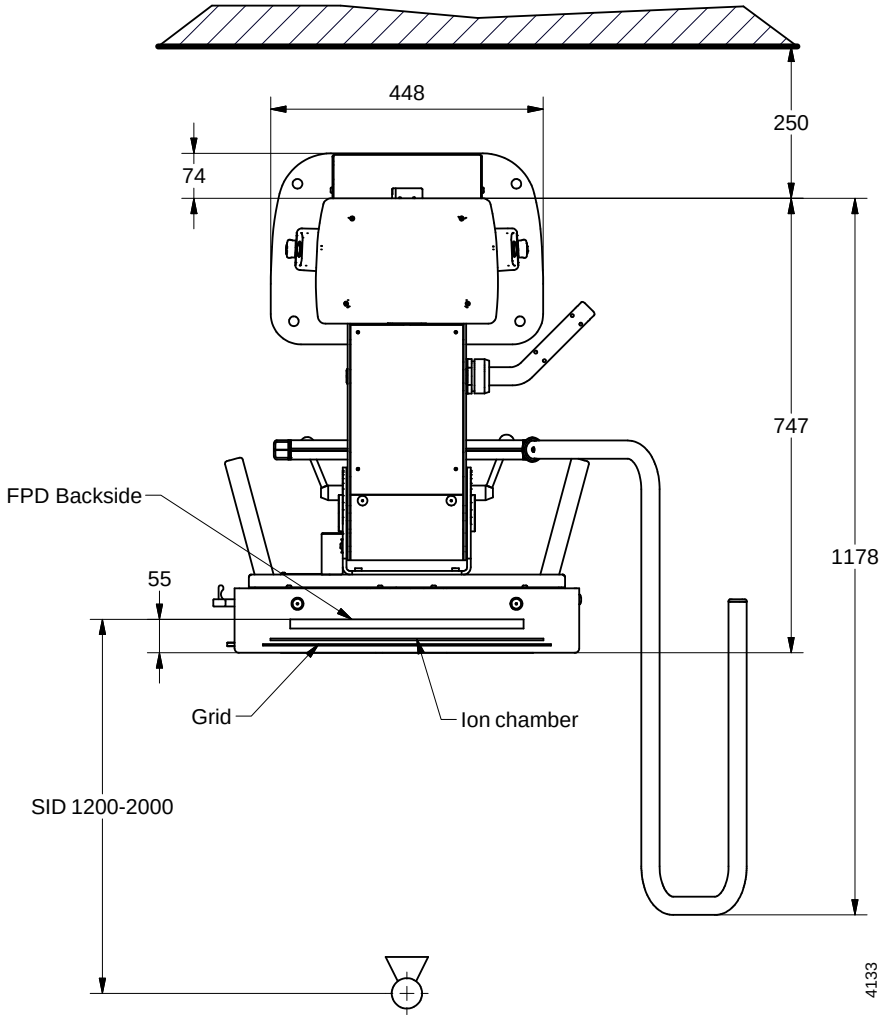


Fig. 3-1 Tiltable Image Receptor Holder

3.1.2 Exposure with Tilted Detector Holder (Canon CXDI portable FPD)

The space for tilted exposure, see below.

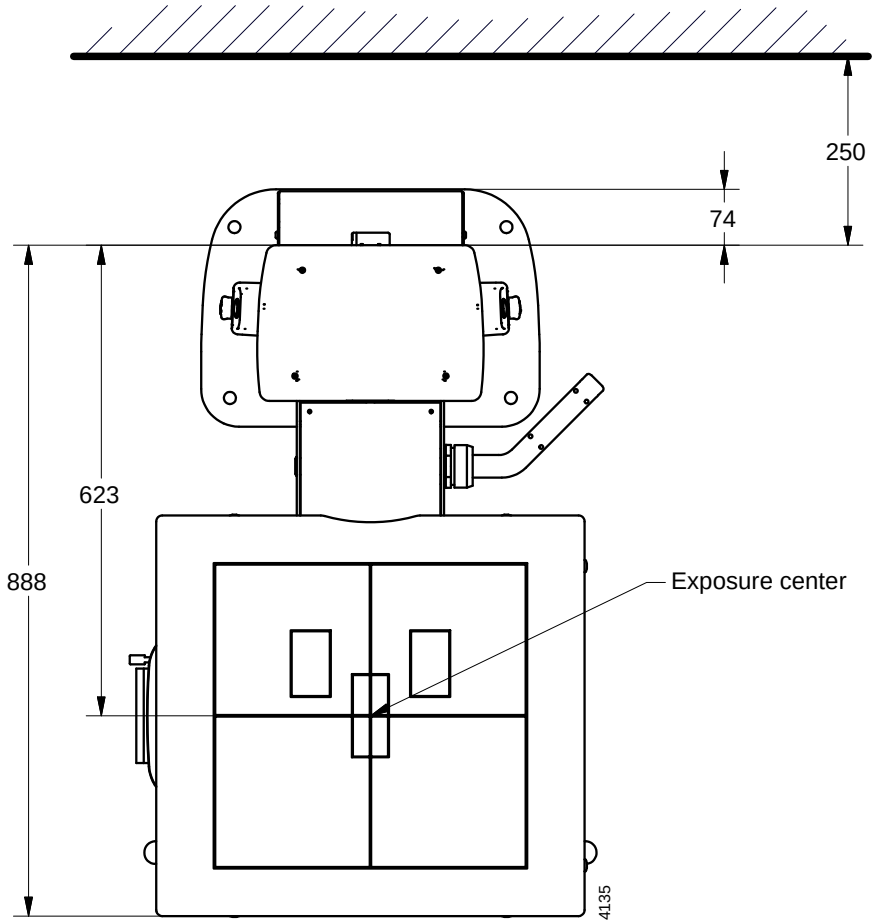


Fig. 3-2 Exposure with Tilted Detector Holder (Canon CXDI portable FPD)

3.1.3 Tiltable Detector Holder (Canon CXDI Portable FPD)

Left - Right Direction

With grid-loading slot on the left-hand side (default).

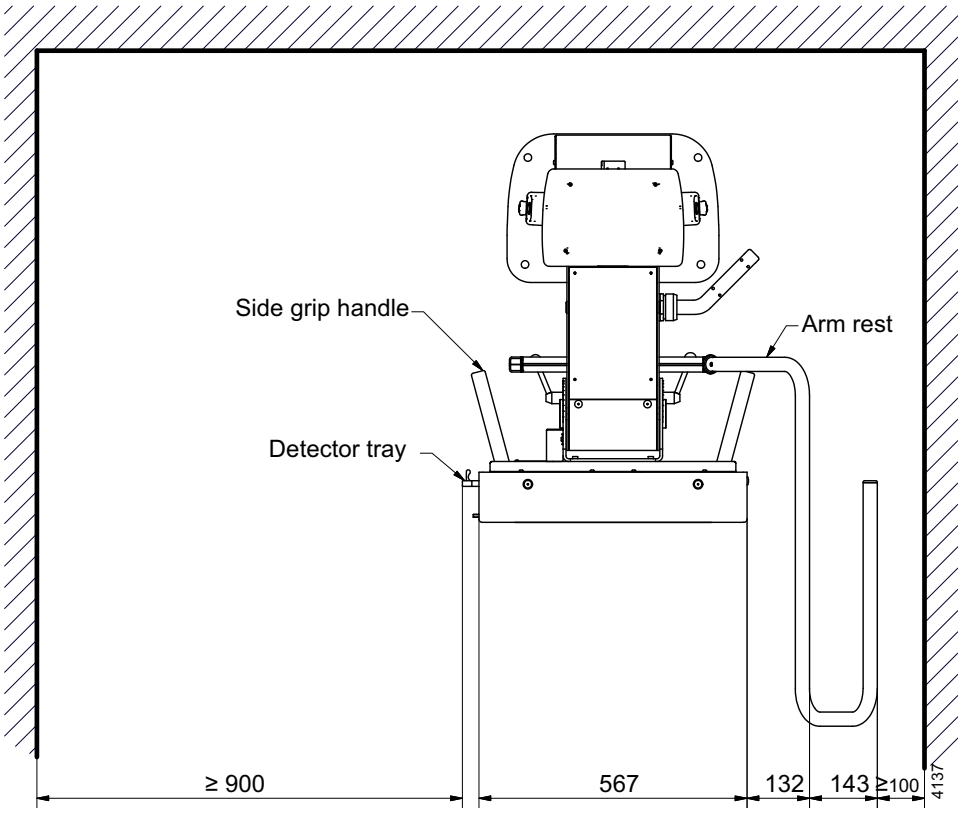


Fig. 3-3 Tiltable Detector Holder (Canon CXDI Portable FPD)

3.1.4 Tiltable Detector Holder (Canon CXDI Portable FPD)

Left - Right Direction

With the grid-loading slot on the right-hand side.

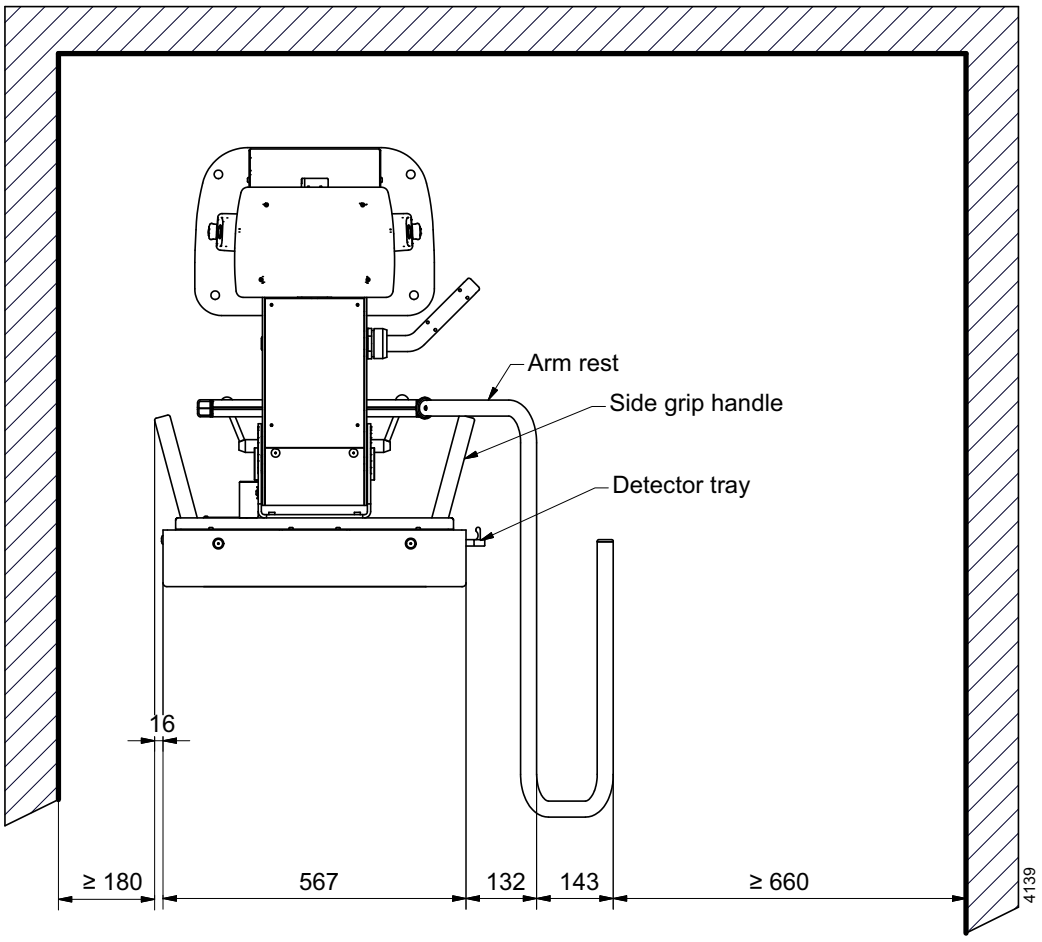


Fig. 3-4 Tiltable Detector Holder (Canon CXDI Portable FPD)

3.1.5 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

Front - Rear Direction

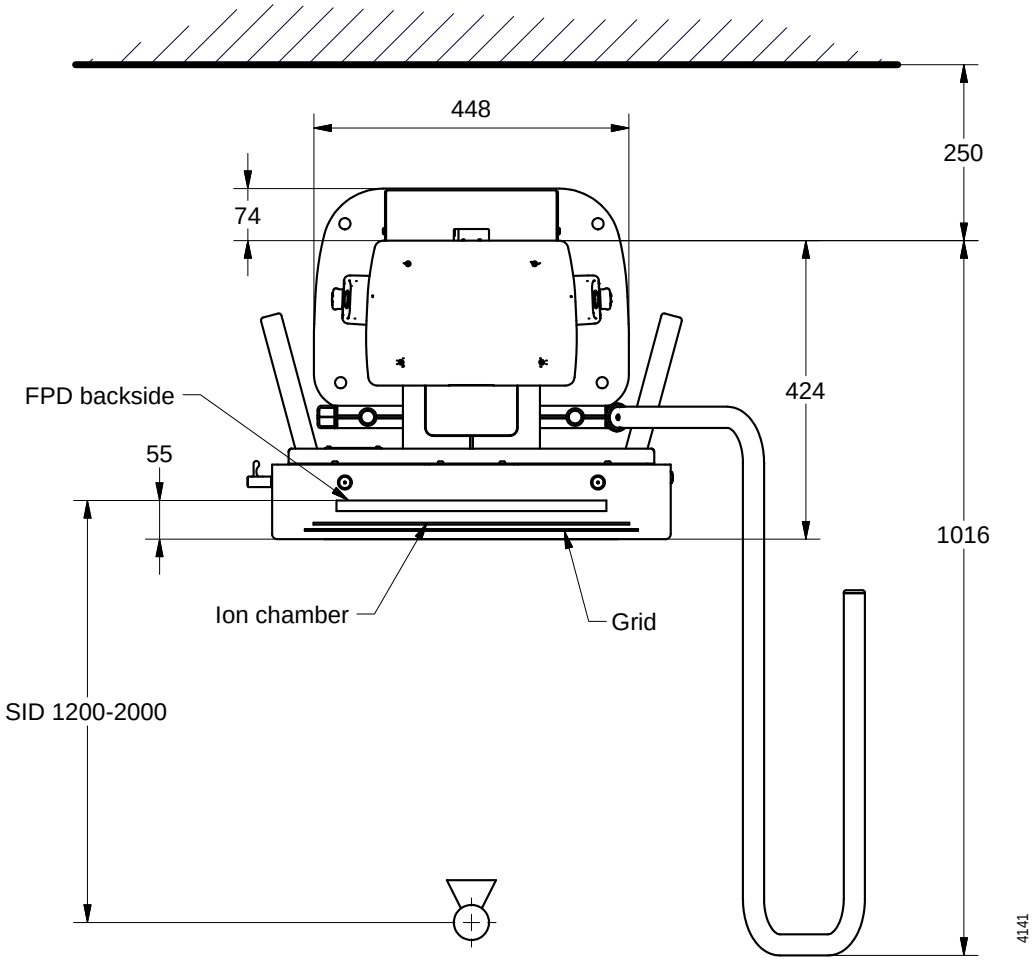


Fig. 3-5 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

3.1.6 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

Left - Right Direction

With the grid-loading slot on the left-hand side (default).

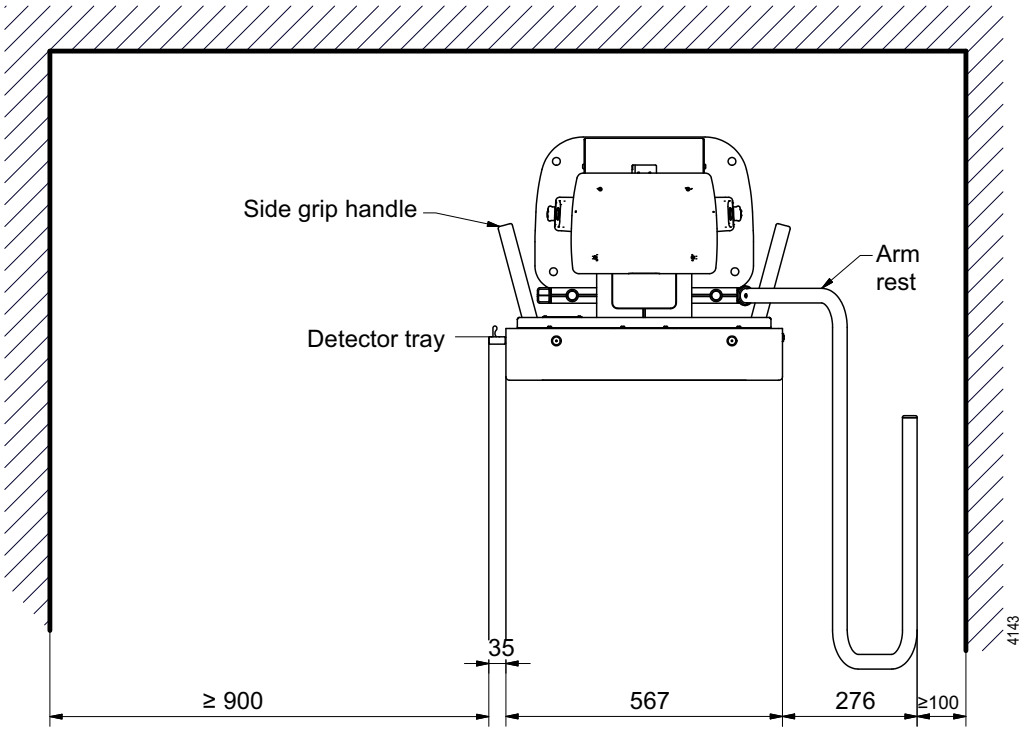


Fig. 3-6 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

3.1.7 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

Left - Right Direction

With the grid-loading slot on the right-hand side.

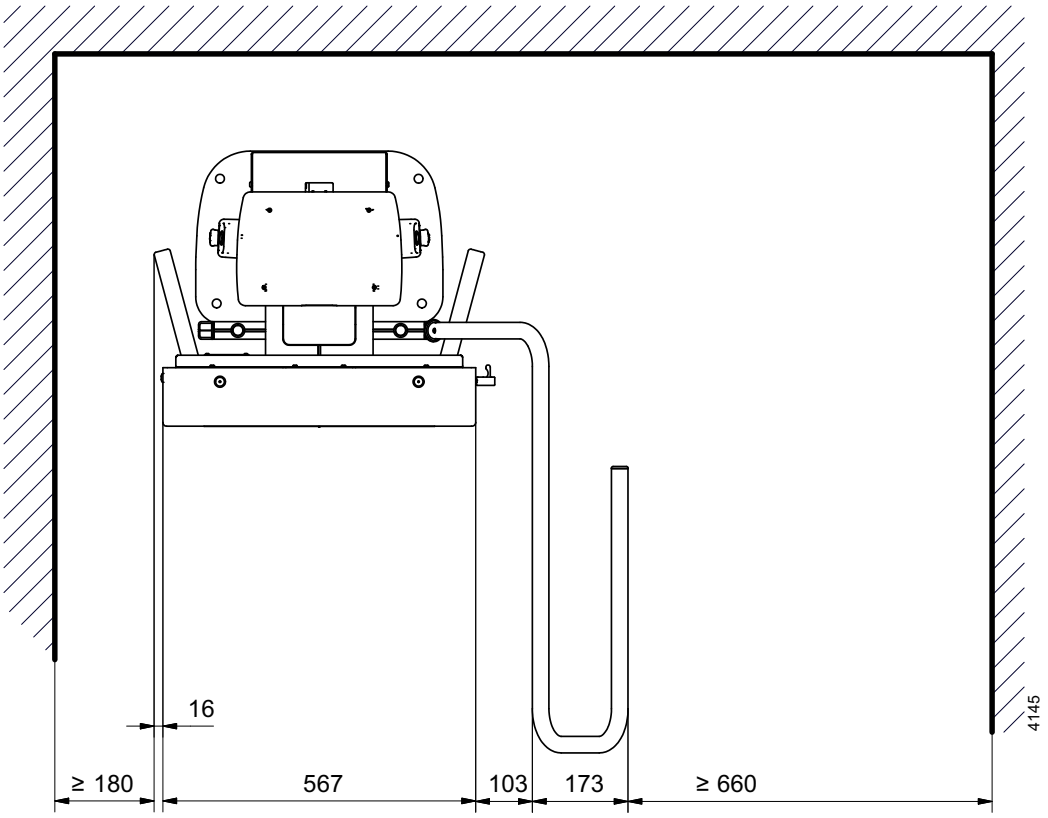


Fig. 3-7 Non-tiltable Detector Holder (Canon CXDI Portable FPD)

3.2 Table

3.2.1 Front - Rear / Left - Right Direction

In **Fig. 3-8**, a lateral space required for: mounting/dismounting the table top is not considered.

When the table top is to be mounted/dismounted for installation and maintenance, a space of 2424 mm or more need to be reserved, either on the right or the left of the Table, as a longitudinal space of the table top.

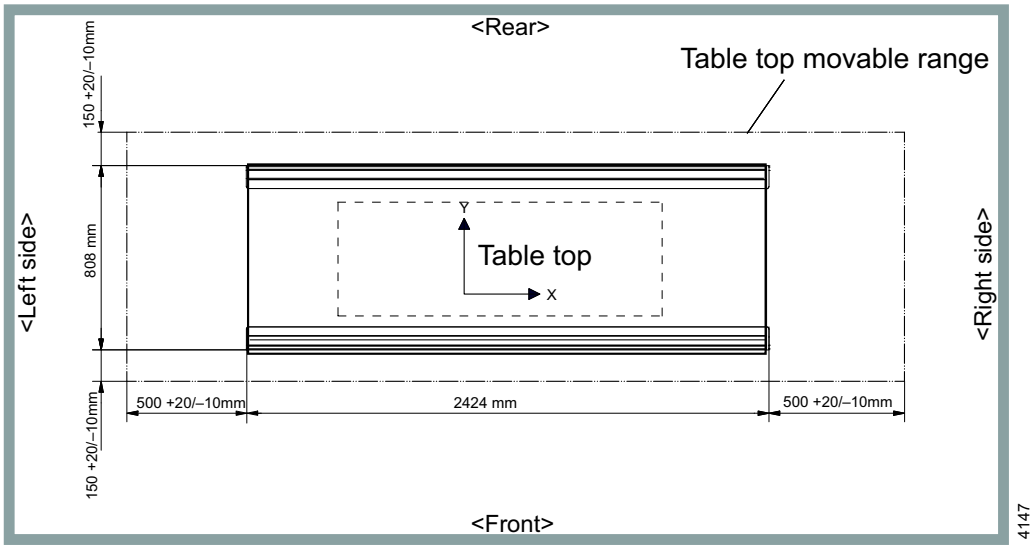


Fig. 3-8 Front - Rear / Left - Right Direction

3.2.2 Height Direction

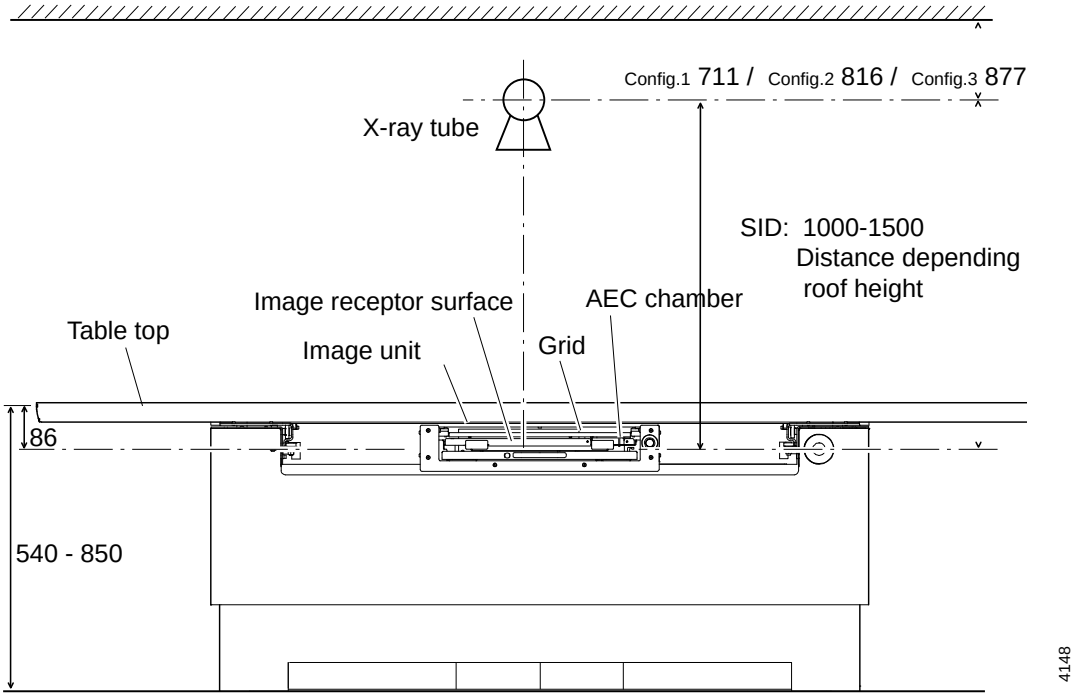


Fig. 3-9 Height Direction

The x-ray transmission area of the table top is as shown below.

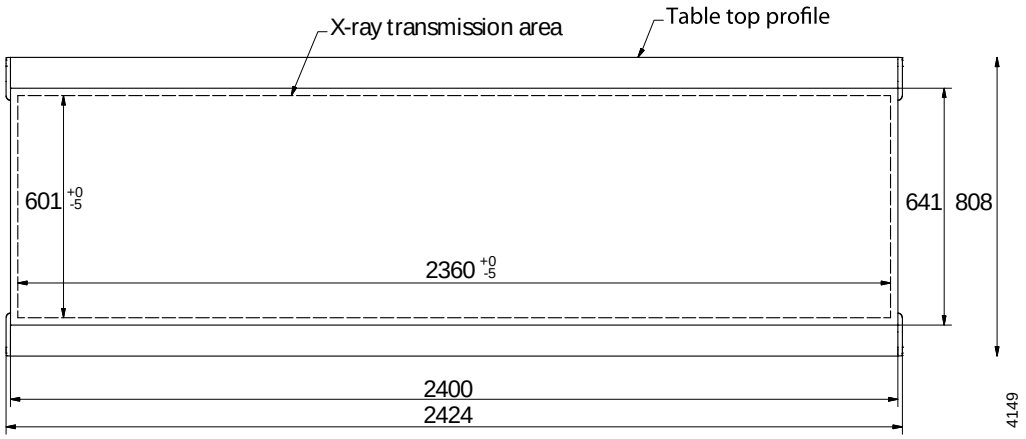


Fig. 3-10

Installation And Servicing Space

Table

4 Anchoring Locations

Anchor locations in the installation space and the servicing space are shown below.

4.1 Wall Stand

4.1.1 Tiltable Detector holder (Canon CXDI Portable FPD)

With grid/detector-loading slot on the left-hand side (default).

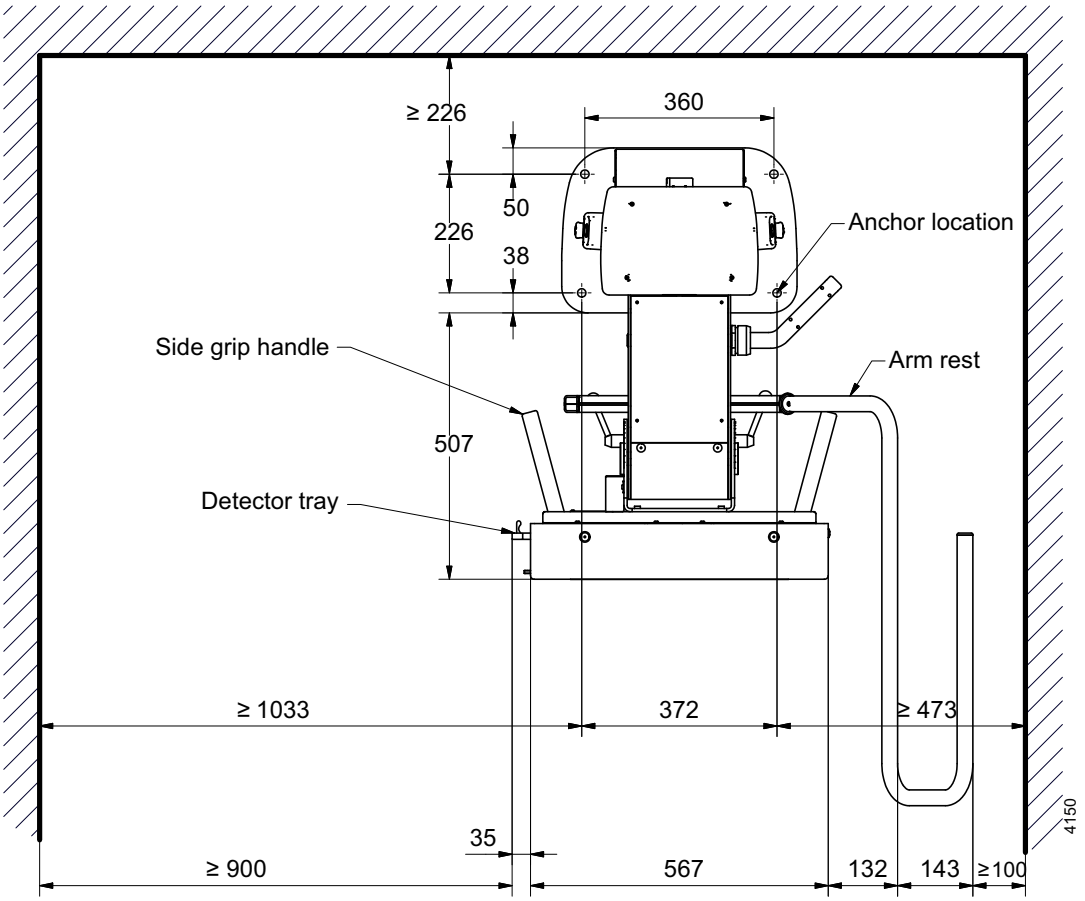


Fig. 4-1

4.1.2 Tiltable Detector Holder (Canon CXDI 401 G/C)

With grid-loading slot on the left-hand side (default).

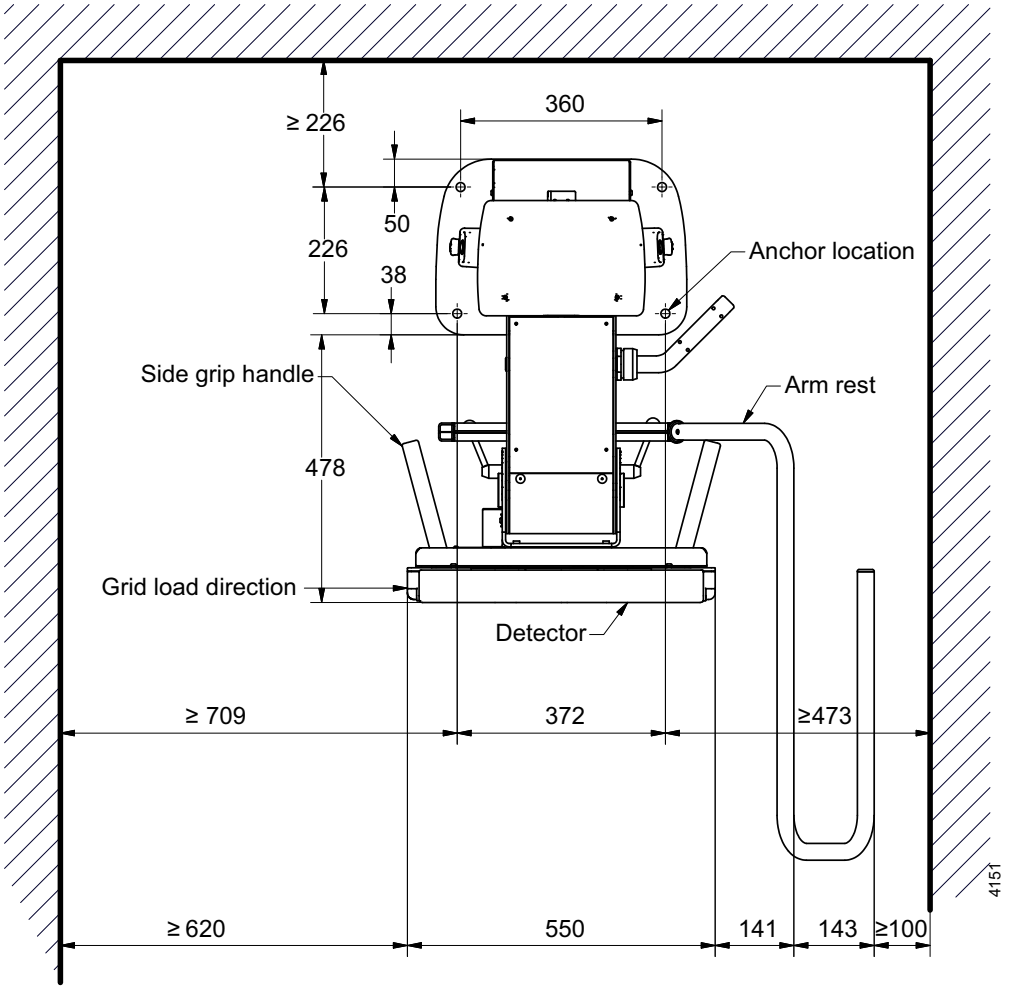


Fig. 4-2

4.1.3 Tiltable Detector Holder (Canon CXDI Portable FPD)

With grid/detector loading slot on the right-hand side.

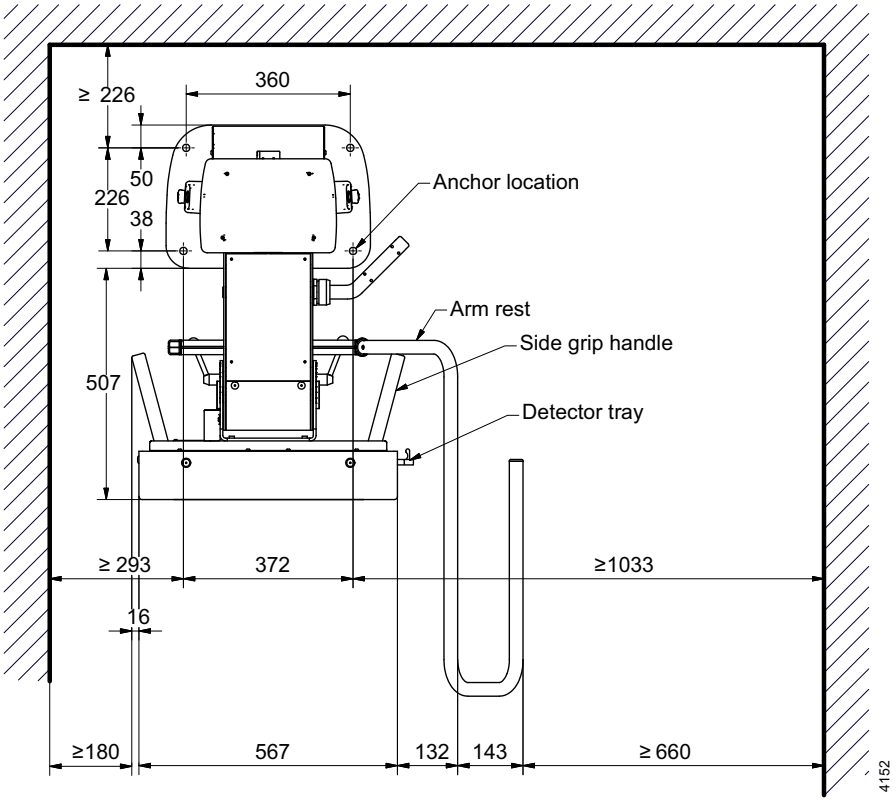


Fig. 4-3

4.1.4 Non-tiltable Detector Holder (CXDI Portable FPD)

With grid/detector-loading slot on the left-hand side (default).

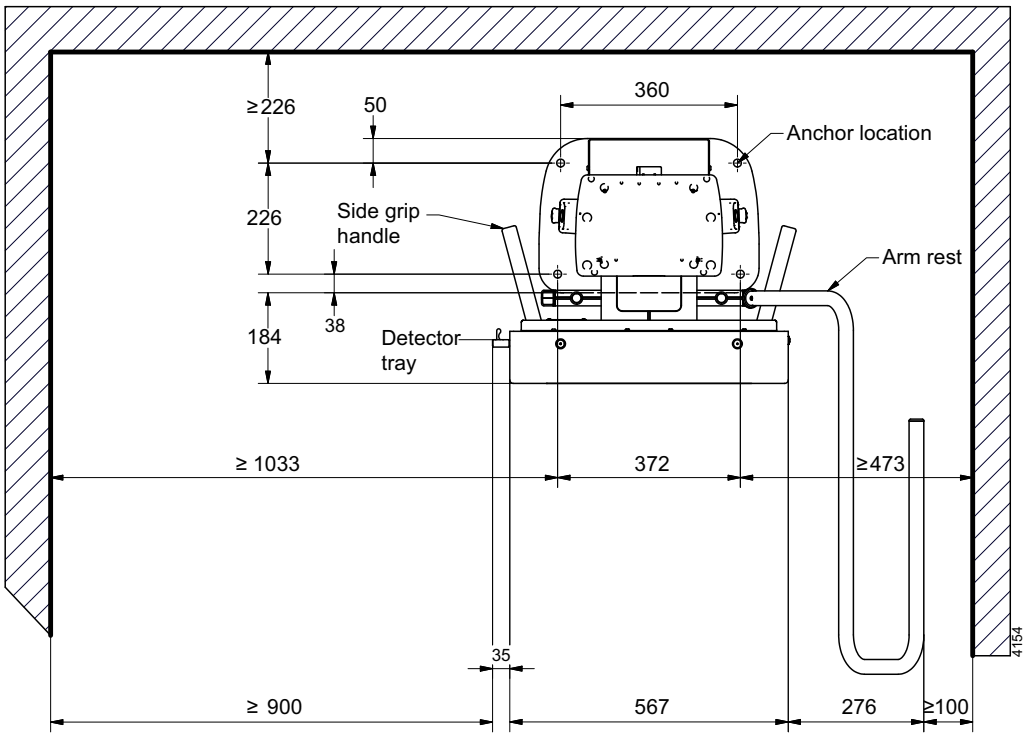


Fig. 4-4

4.1.5 Non-tiltable Detector Holder (CXDI Portable FPD)

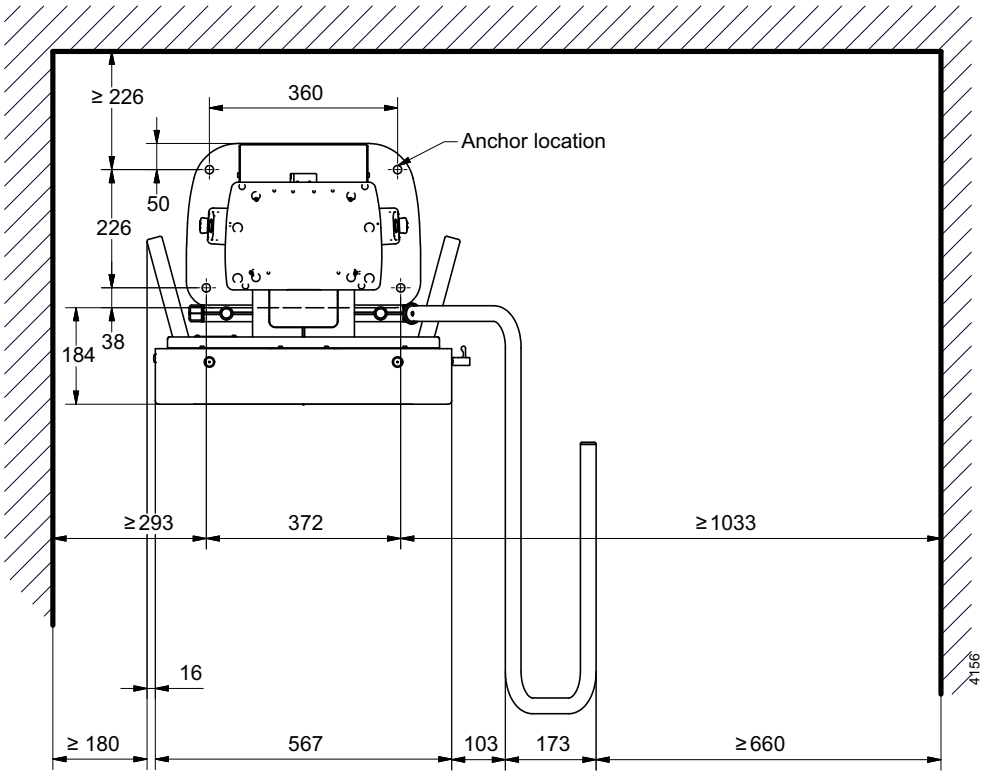


Fig. 4-5

4.2 Table

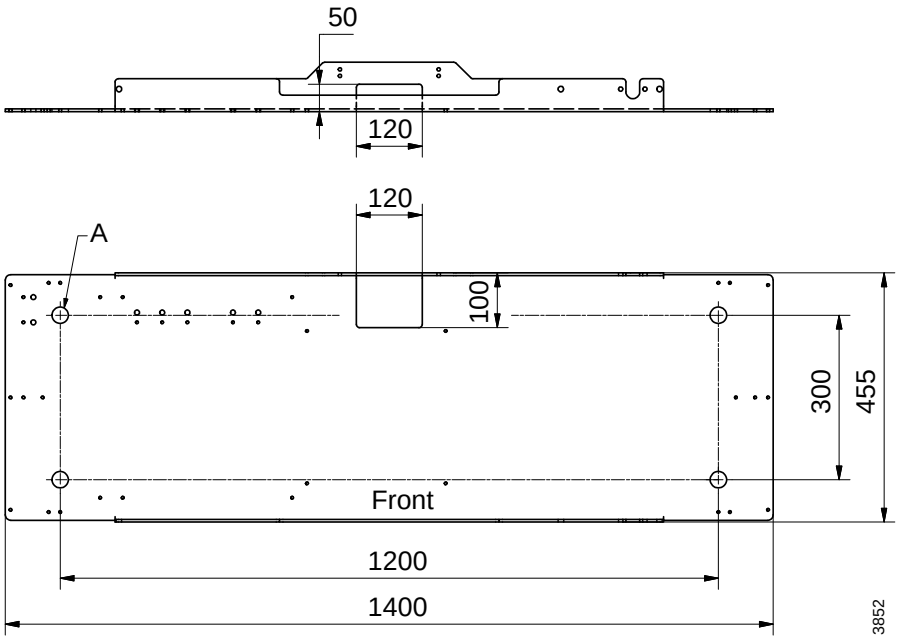


Fig. 4-6 Table

Unit mm

A Anchoring location

5 Room layout

5.1 Installation Proposal

The layout proposals, displayed in the drawings on the next pages, are chosen to optimize the performance of the system with usability and ergonomics in mind. The chosen layout proposal considers the tube heel-effect, cable conduits, work space etc, as well as safety issues such as wall clearance and possible collision zones. The room appearance (furniture, lights, fire protection devices etc.) is not considered in the layouts.

The versatility of the system allows a minimum room dimension of 3500x4500 mm. Implementing the system in a small room (<4200x4500) limits the moving range of the table top (see Wall clearance in chapter 2). The 4200x4500 mm room dimension allows an 800 mm table top stroke which gives total body coverage of a 2500 mm patient. The 800 mm table top stroke is used in all layout proposals, except for layout 6 and 7 where the table top is fixated in the longitudinal direction.

The layouts are valid for the tube Varian Rad 14/Diamond and collimator Ralco 302 (manual). For other types of tubes and collimators when planning the room, see page 6-2.

Implementing the system in a small room limits the moving range of the table top.

5.1.1 Reference

Recommended placement of doors

Alternative placement of components

Movement range

Orientation point, correspond to the mounting point E of the Table. For more information see Floor specification for the Table, in chapter Environment specification

5.1.2 Room layout 1

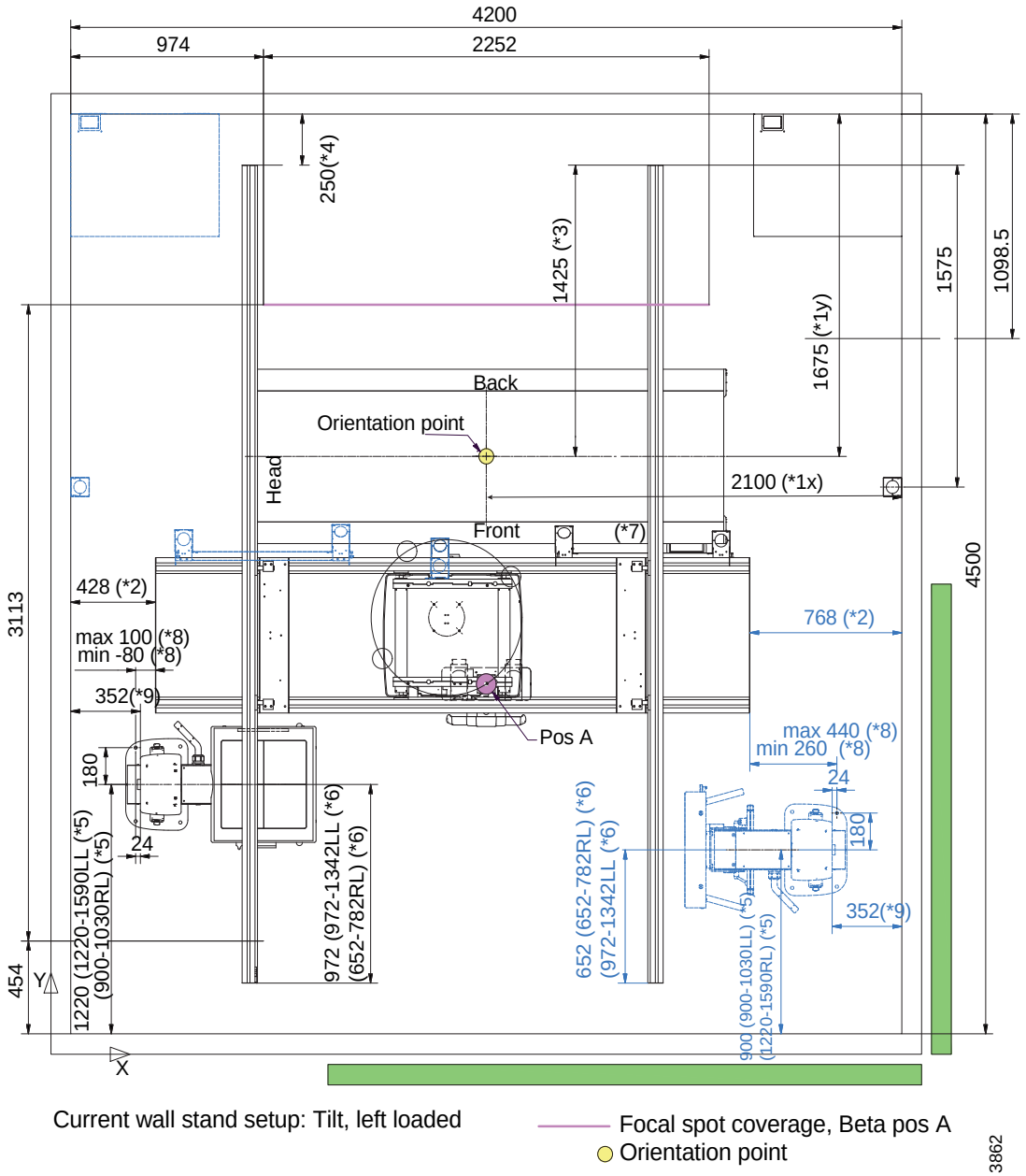


Fig. 5-1

Layout 1 is the preferred layout. The layout enables quick and easy positioning of the system and minimizes the masses that need to be moved. The layout also enables a wide range of examination possibilities due to the large working area.

The placing of the Wall stand on the "left-hand" side is a result of the Heel effect of the X-ray tube.

The Wall stand has a detector holder with loading from the left side enabling the operator to work from an optimal position at all times. This option is also valid if the wall stand is supplied with tilt.

This System installed in a room with similar size and with the components placed as described in **Fig. 5-1**, usually requires 16m cable length, which also is the standard configuration, see also **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall or table. If non tilt wall stand is used there will be more space to place it since foot print is smaller and horizontal projection doesn't have to be considered.

If recommended dimension are overridden, necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorised movements according to IEC 60601-1 3rd edition.

- **(*1x) and (*1y)** is chosen considering a limited stroke of the table top (X +/- 400 y +/ -150) and a 500 mm clearance to wall and cabinet. If cabinet is placed somewhere else **(*1y)** is minimum 1100mm. If lateral projection should be performed see (*3) for minimum requirements. Smaller rooms require further table top stroke limitations (max table top movement range X +/-500mm, Y +/-150).
- **(*2)** is chosen due to the room size in layout 1 (**Fig. 5-1**) and centers the focal spot coverage area in X-direction related to the room and table. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen considering a lateral projection from the back side of the table. If the table top is centered over the table minimum distance is 1289 mm. A minimal distance of 1189 mm can be chosen, but requires that the table top is moved to its outer position (towards the front of the table).
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall.
- **(*5)** is chosen to give the operator enough space to work freely with the ceiling suspended unit and the wall stand (see also **(*6)**). It's allowed to mount arm rest on both sides when those min and max dimensions are withheld. Both left hand load detector holder (LL) and right hand load detector holder (RL) are described with min and max dimensions.
- **(*6)** is chosen to give the operator enough space to work freely with the bucky/detector holder since the chosen configuration is loaded from the left side. The traverse cable outlet **(*7)** shall, if possible, always be placed at the opposite side of the wall stand to avoid collisions. If the recommended placing of the traverse cable outlet is not possible, **(*6)** should not exceed 800 mm.
- Also consider the traverse cable conduits when placing the traverse cable outlet on the same side as the wall stand. The conduits will hang down over the head end of the table when choosing this option.
- **(*8)** is chosen to enable a SID of up to 2000 mm and to enable the ceiling suspended unit to be aligned with the image receptor when the wall stand bucky/detector holder is tilted.
- **(*9)** is chosen to enable exposures in the center of the tilted detector. See also **(*8)**. The distance, measured from the back of the wall stand, is variable but must not be less than 250 mm due to the cable outlet of the wall stand.

5.1.3 Room layout 2a

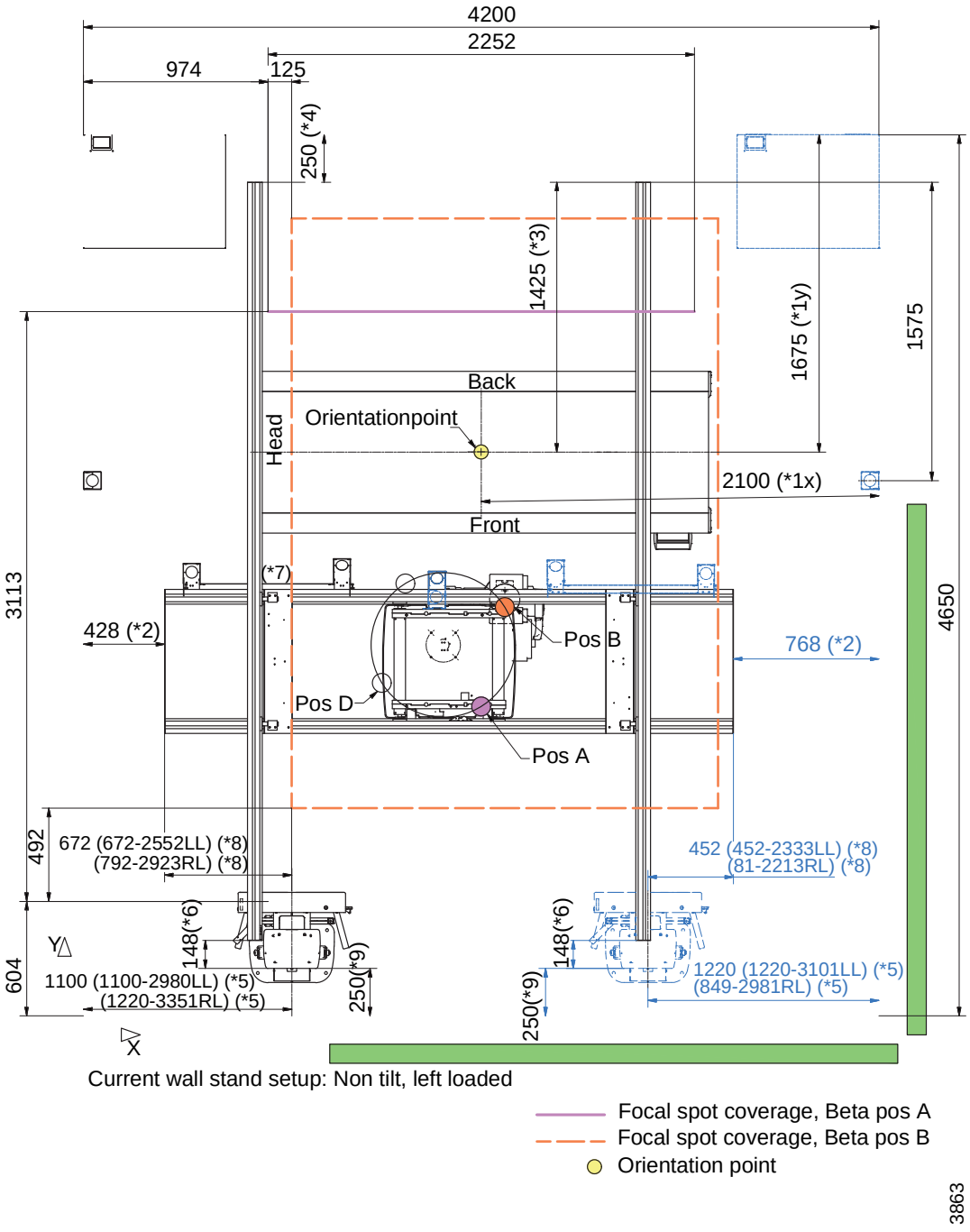


Fig. 5-2

This layout is a variation of layout 1. It is only valid with a non-tilting wall stand and this option may be considered if the room layout, e.g. placement of doors, does not allow layout 1 to be chosen. The downside of selecting this layout is the larger room that is required and the extended amount of mass that has to be handled during examinations using the wall stand.

The wall stand has a detector holder with loading from the left side, enabling the operator to work from an optimal position at all times

A System installed in a room with similar size and with the components placed as described in **Fig. 5-2** usually requires 16 m cable length, which also is the standard configuration, see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1x) and (*1y)** is chosen considering a limited stroke of the table top (x ±400, y ±150) and a 500 mm clearance to wall and cabinet. If cabinet is placed somewhere else **(*1y)** is minimum 1100 mm. If lateral projection should be performed see (*3) for minimum requirements. Smaller rooms require further table top stroke limitations (max table top movement range X ± 500 mm, Y ±150).
- **(*2)** is chosen due to the room size in layout 1 **Fig. 5-2** and centers the focal spot coverage area in X-direction related to the room and table. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen considering a lateral projection from the back side of the table. If the table top is centered over the table minimum distance is 1289 mm. A minimal distance of 1189 mm can be chosen, but requires that the table top is moved to its outer position (towards the front of the table).
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall.
- **(*5)** is chosen to give the operator enough space to work freely with the ceiling suspended unit and the wall stand (see also **(*6)**). It's allowed to mount arm rest on both sides when those min and max dimensions are withheld. Both left hand load detector holder (LL) and right hand load detector holder (RL) are described with min and max dimensions.
- **(*5)** is also chosen to give the operator enough space to work freely with the bucky/ detector holder since the chosen configuration is loaded from the left side. The traverse cable outlet **(*7)** shall, if possible, always be placed as suggested in **Fig. 5-2**, since the cable conduits will be in the way of the operator in a projection against the wall stand. If the recommended placing of the traverse cable outlet is not possible, the projection against the wall stand requires that the tube is rotated to position D. (consider heel effect)
- **(*6)** is chosen to enable a SID of 1800 mm (2000 mm SID requires that the table top is moved towards the back of the table).
- **(*8)** is chosen to be able to align the tube and the wall stand. Max and min dimensions are stated on the drawing. See also **(*5)**.
- **(*9)** must not be less than 250 mm due to the cable outlet of the wall stand.

5.1.4 Room layout 2b

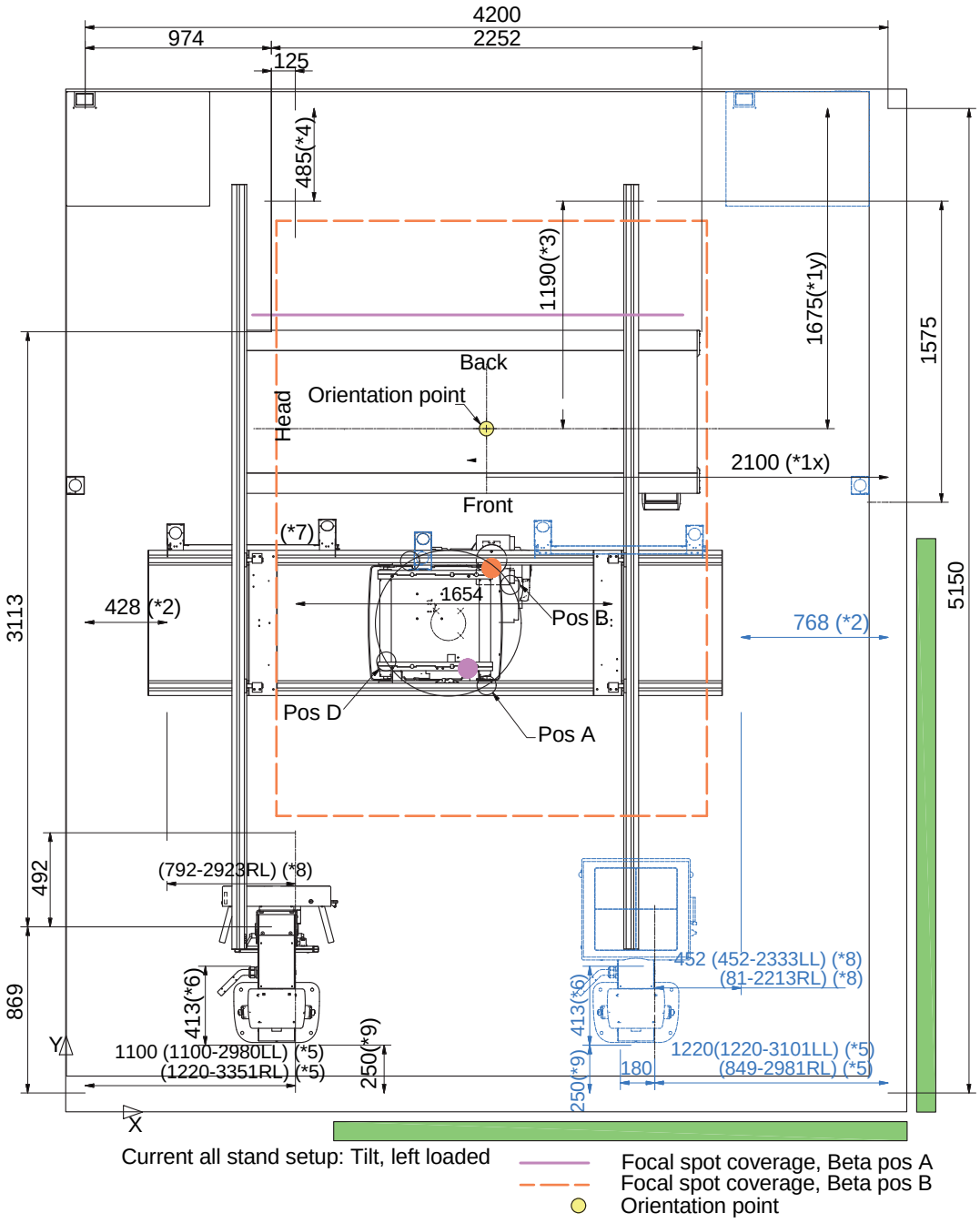


Fig. 5-3

This layout is also a variation of layout 1. It is only valid with a tilting wall stand and this option may be considered if the room layout, e.g. placement of doors, does not allow layout 1 to be chosen. The downside of selecting this layout is the larger room that is required and the extended amount of mass that has to be handled during examinations using the wall stand. It is also limited when doing lateral projections and positioning over tilted detector (Pos. A).

The wall stand has a detector holder with loading from the left side enabling the operator to work from an optimal position at all times. Working with the wall stand detector holder tilted,

will require additional operations to get the X-ray tube and the image receptor aligned (rotation of the beta axis) due to the placing of the wall stand.

A system installed in a room with similar size and with the components placed as described in **Fig. 5-3**, usually requires 16 m cable length, which also is the standard configuration, see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1x) and (*1y)** is chosen considering a limited stroke of the table top (x ± 400, y ± 150) and a 500 mm clearance to wall and cabinet. If cabinet is placed somewhere else **(*1y)** is minimum 1100 mm. If lateral projection should be performed see (*3) for minimum requirements. Smaller rooms require further table top stroke limitations (max table top movement range X ±500 mm, Y ±150).
- **(*2)** is chosen due to the room size in layout 1 (**Fig. 5-3**) and centers the focal spot coverage area in X-direction related to the room and table. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen considering a lateral projection from the back side of the table. Lateral projection requires that the table top is moved to its outer position (towards the front of the table)
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall.
- **(*5)** is chosen to give the operator enough space to work freely with the ceiling suspended unit and the wall stand (see also **(*6)**). It's allowed to mount arm rest on both sides when those min and max dimensions are withheld. Both left hand load detector holder (LL) and right hand load detector holder (RL) are described with min and max dimensions.
- **(*5)** is also chosen to give the operator enough space to work freely with the bucky/ detector holder since the chosen configuration is loaded from the left side. The traverse cable outlet **(*7)** shall, if possible, always be placed as suggested in **Fig. 5-2**, since the cable conduits will be in the way of the operator in a projection against the wall stand. If the recommended placing of the traverse cable outlet is not possible, the projection against the wall stand requires that the tube is rotated to position D. (consider heel effect)
- **(*6)** is chosen to enable a SID of 1800 mm (2000 mm SID requires that the table top is moved towards the back of the table). Ceil stand have to be in position A to be able to project in the center of the tilted detector holder.
- **(*8)** is chosen to be able to align the tube and the wall stand. Max and min dimensions are stated on the drawing. See also **(*5)**.
- **(*9)** must not be less than 250 mm due to the cable outlet of the wall stand.

5.1.5 Room layout 3

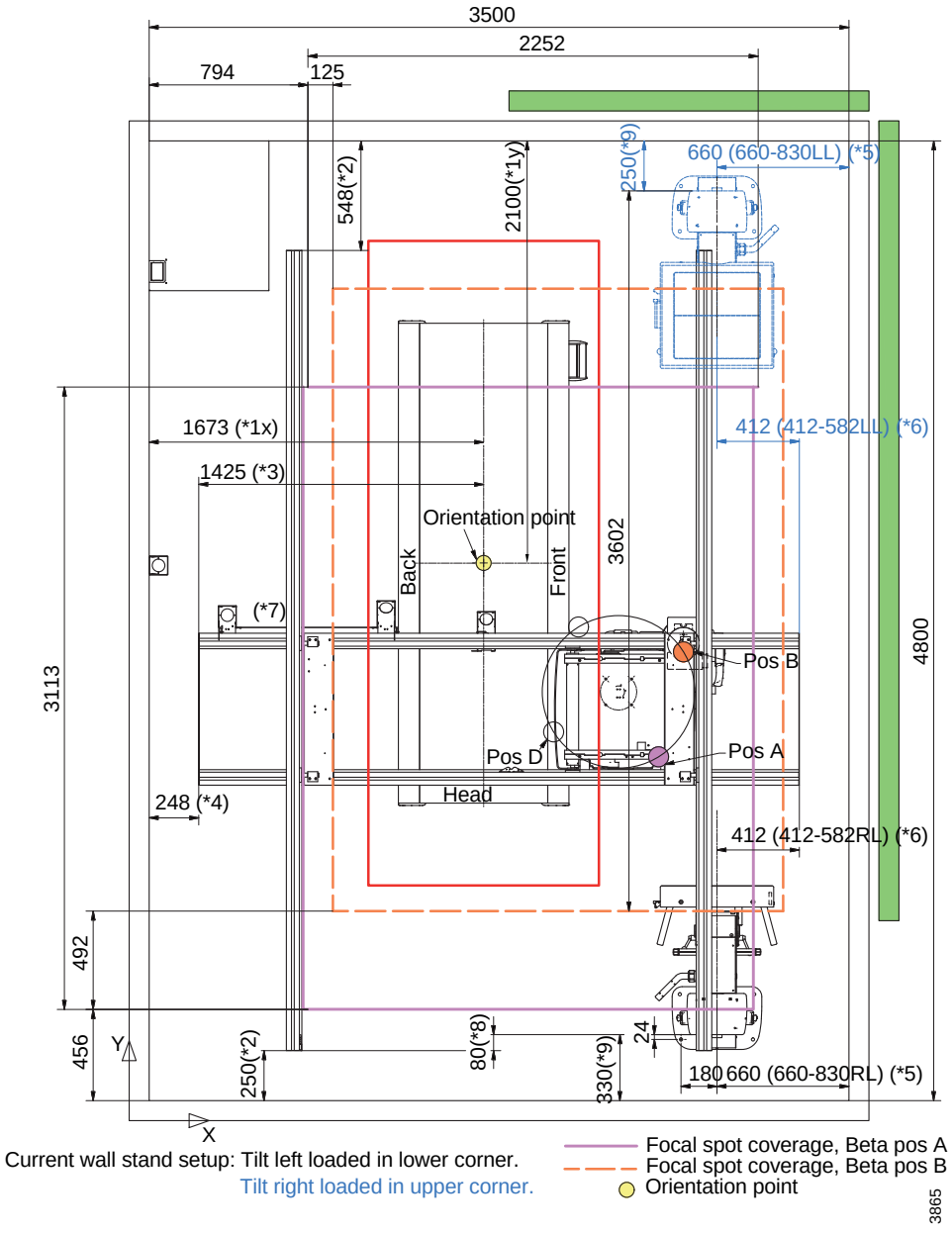


Fig. 5-4

In this layout (and in layout 4) is the ceiling rail of the ceiling suspended unit, reversed which allows the system to operate in a long and narrow room. However, by reversing the ceiling rails the ergonomics is not optimized since the operator has to move more mass during positioning.

This layout may be considered if the ceiling preparation does not allow the previous options to be selected or if the size of the room is more suitable.

For cable length see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall or table.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1x) and (*1y)** is chosen considering a limited stroke of the table top (X +/- 400 y +/ -150) and a 500mm clearance to wall and cabinet. If cabinet is placed somewhere else **(*1y)** is minimum 1100mm. If lateral projection should be performed see **(*3)** for minimum requirements. Smaller rooms require further table top stroke limitations (max table top movement range X ±500mm, Y ±150).
- **(*2)** is chosen due to the room size in layout 1, see **Fig. 5-4**. It makes it possible to cover the table and horizontal wall stand when beta is in position B. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen considering a lateral projection from the back side of the table. If the table top is centered over the table minimum distance is 1276 mm. A minimal distance of 1176 mm can be chosen, but requires that the table top is moved to its outer position (towards the front of the table). Considering the cable outlet of the Ceiling suspended unit, the distance should preferably be increased to the stated dimension on the drawing.
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall. The distance must not be less than 100 mm.
- **(*5)** is chosen to give the operator enough space to work freely with the ceiling suspended unit and the wall stand and avoid collision with the table top (see also **(*6)**). It's allowed to mount arm rest on both sides when those min and max dimensions are withheld. Right loaded is recommended in the lower corner and left loaded in the upper corner.
- **(*6)** is chosen to give the operator enough space to work freely with the bucky/detector holder since the chosen configuration is loaded from the right side (lower corner). The traverse cable outlet **(*7)** shall, if possible, always be placed at the opposite side of the wall stand to avoid collisions.
- **(*8)** is chosen to enable a SID of 2000 mm (current drawing will give a SID larger then 2800 mm). It also enables ceil stand to project in the center of the tilted detector holder.
- **(*9)** must not be less than 250 mm due to the cable outlet of the wall stand.

5.1.6 Room layout 4

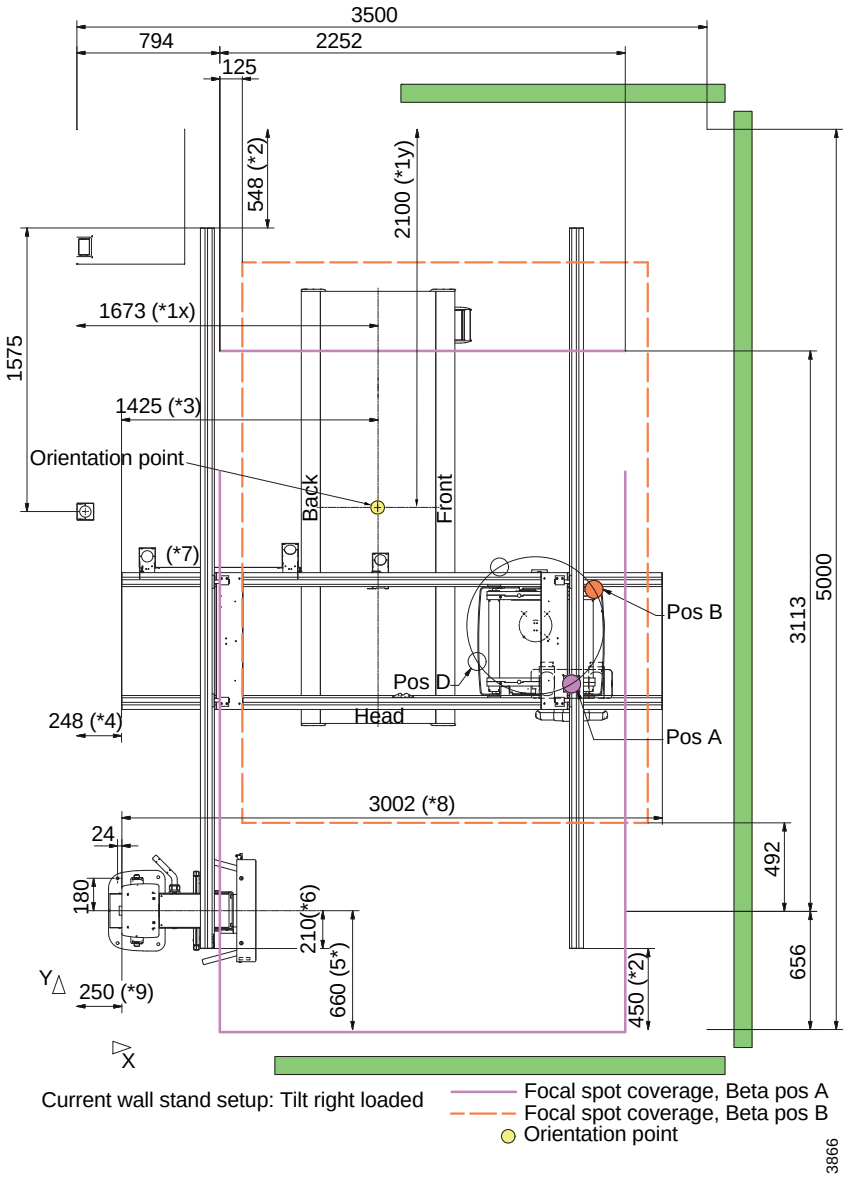


Fig. 5-5

Layout 4 shall be considered if the room is long and narrow. In this layout (as well as in layout 3) is the ceiling rail of the ceiling suspended unit reversed which allow the system to operate in a long and narrow room. However, by reversing the ceiling rails the ergonomics is not optimized since the operator has to move more mass during positioning.

The working area is considerably larger than in layout 3 as well as door placement possibilities. The detector holder has a right loading configuration in this layout.

For cable length see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall or table.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1x) and (*1y)** is chosen considering a limited stroke of the table top (X ± 400 y ±150) and a 500 mm clearance to wall and cabinet. If cabinet is placed somewhere else **(*1y**) is minimum 1100 mm. If lateral projection should be performed see **(*3**) for minimum requirements. Smaller rooms require further table top stroke limitations (max table top movement range X ±500 mm, Y ±150).
- **(*2)** is chosen due to the room size in layout 1 (**Fig. 5-5**). It makes it possible to cover the table and horizontal wall stand when beta is in position A. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen considering a lateral projection from the back side of the table. If the table top is centered over the table minimum distance is 1276 mm. A minimal distance of 1176 mm can be chosen, but requires that the table top is moved to its outer position (towards the front of the table). Considering the cable outlet of the Ceiling suspended unit, the distance should preferably be increased to the stated dimension on the drawing.
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall. The distance must not be less than 100 mm
- **(*5)** is chosen to give the operator enough space to work freely with the ceiling suspended unit and the wall stand and avoid collision with the table top (see also **(*6)**). It's allowed to mount arm rest on both sides when those min and max dimensions are withheld. Layout is valid for right hand load unit.
- **(*6)** is chosen to give the operator enough space to work freely with the bucky/detector holder since the chosen configuration is loaded from the right side. The traverse cable outlet **(*7)** shall, if possible, always be placed at the opposite side of the wall stand to avoid collisions.
- **(*8)** is chosen to enable a SID of min 2000 mm (**(*8)** min 2900). It also enables ceil stand to project in the center of the tilted detector holder.
- **(*9)** must not be less than 250 mm due to the cable outlet of the wall stand.

5.1.7 Room layout 5

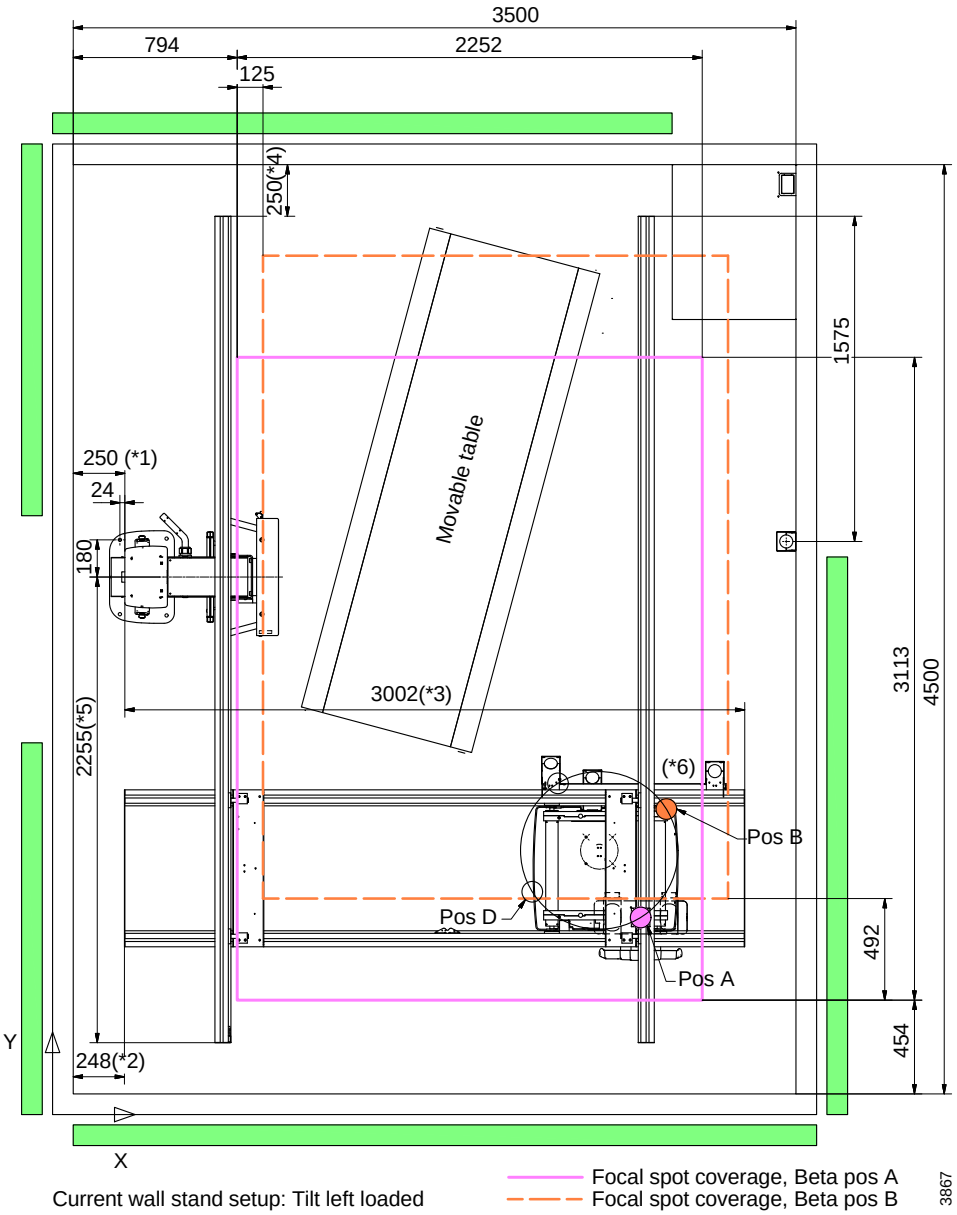


Fig. 5-6

This layout should be used if the system configuration consists of a Ceiling suspended unit, wall stand with tilt and a movable table. The ceiling rail of the Ceiling suspended unit must be reversed to enable the tube and the detector/cassette to be aligned, when the image receptor is placed under the movable table top. The detector holder has a left loading configuration in this layout.

For cable length see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall or table.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1)** must not be less than 250 mm due to the cable outlet of the wall stand.
- **(*2)** is chosen due to the room size in layout 1 (**Fig. 5-6**). It makes it possible to cover the table and horizontal wall stand when beta is in position A. **(*2)** must not be less than 100 mm.
- **(*3)** is chosen to enable a SID of min 2000 mm (**(*3)** min 2900). It also enables ceil stand to project in the center of the tilted detector holder.
- **(*4)** is chosen to give the traverse cable outlet enough clearance to the wall. The distance must not be less than 100 mm
- **(*5)** is chosen to get an equal moving distance of tube in beta position B in both directions (y-movement of the ceiling suspended unit) related to the wall stand.
- The traverse cable outlet **(*6)** shall always be placed as suggested in **Fig. 5-7** to minimize obstructions of the cable conduits.

5.1.8 Room layout 6

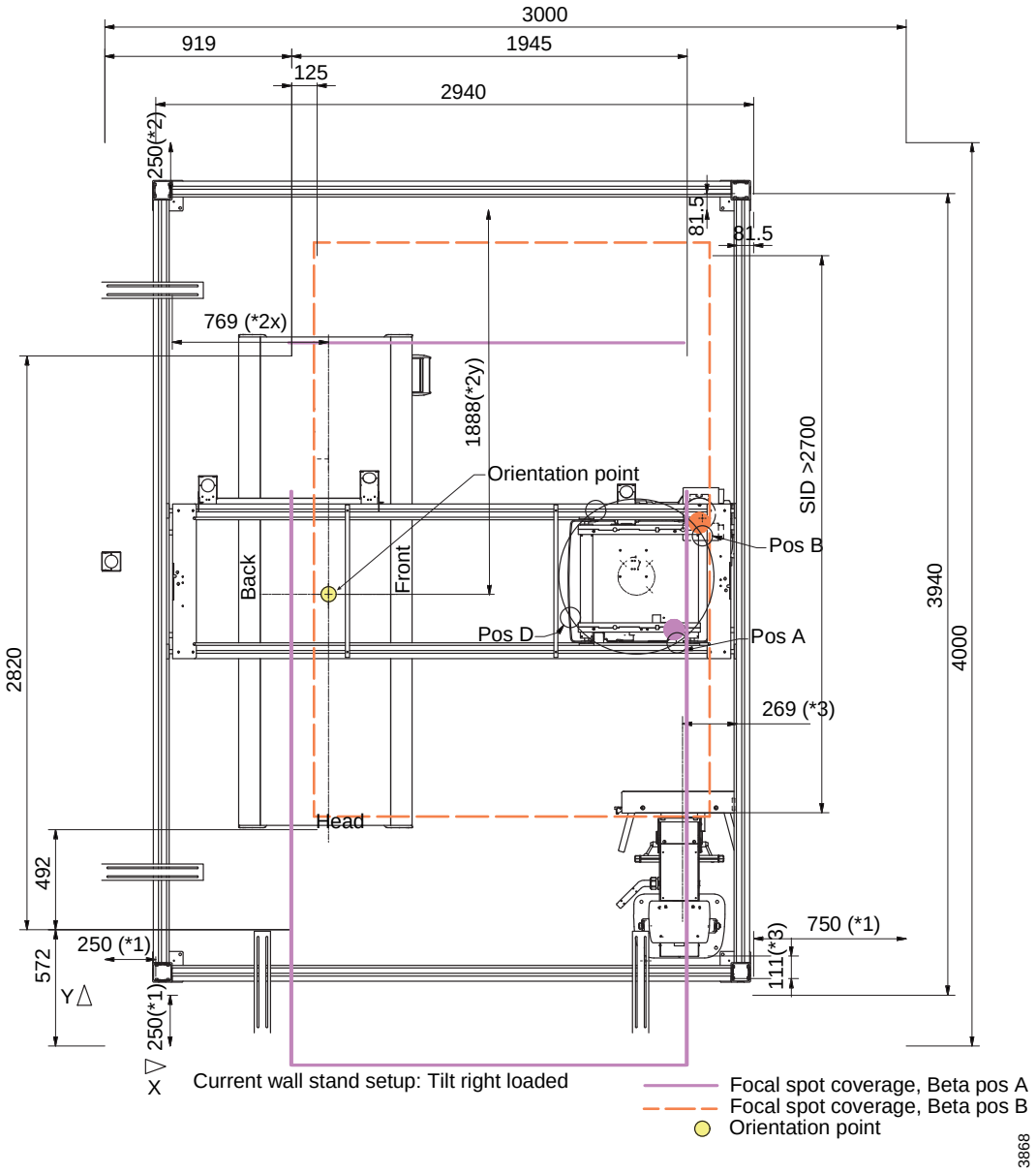


Fig. 5-7

Layout 6 is designed for very small rooms, with a low ceiling height (>=2500). To minimize the required room space, the table top could be fixed (in longitudinal direction) and the system cabinet is not placed within the room.

This layout enables the same possibilities as the other options but with some restrictions and limitations. If the table top is fixed, a full patient coverage is not possible without moving the patient.

Lateral projections from behind the table are also restricted due to the limited space available.

The table top must be pushed to the front to be able to position the tube for a lateral projection, but even then the position flexibility is restricted.

The detector holder has a right loading configuration in this layout.

For cable length see **5.2 System Connections, Page 48**.

Wall stand loading and position should be carefully planned since it will have large impact on the final layout of the room. If the use of arm rest is restricted to one side it is also possible to move wall stand closer to wall or table.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1)** must not be less than 30 mm to be able to install the cube.
- **(*2y)** is showing the table centered in Y-direction. It makes it possible to cover the table and horizontal wall stand when beta is in position B. **(*2x)** has to be 1100 to make it possible to have full lateral projection functionality. Still the table top has to be in front position. Working area of wall stand has to be considered when moving table in X-direction.
- **(*3)** enables ceil stand to project in the center of the tilted detector holder.
- Dimensions states relation between components and have to be adapted to the planned site.

5.1.9 Room layout 7

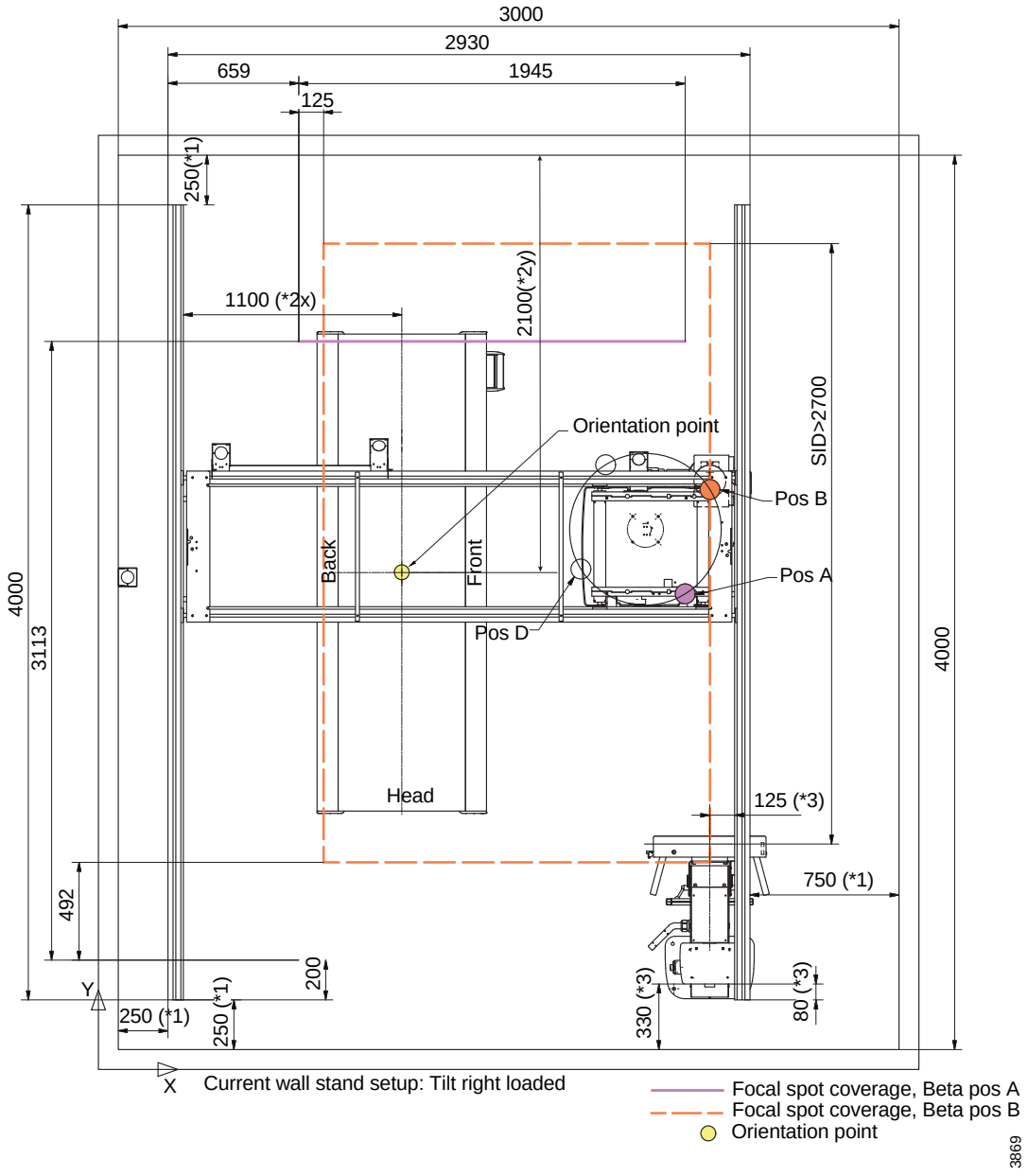


Fig. 5-8

Layout 7 is designed for very small rooms with a low ceiling height (>=2500). In this layout the Y rails of low ceiling rail type are mounted directly to the ceiling. To minimize the required room space, the table top could be fixed in the smallest room (in longitudinal direction) and the system cabinet is not placed within the room.

This layout enables the same possibilities as the other options but with some restrictions and limitations.If the table top is fixed, a full patient coverage is not possible without moving the patient.

Lateral projections from behind the table are also restricted due to the limited space available.

The table top must be pushed to the front to be able to position the tube for a lateral projection, but even then the position flexibility is restricted.

The detector holder has a right loading configuration in this layout.

For cable length, see **5.2 System Connections, Page 48**.

If recommended dimension are overridden necessary notifications, warnings and instructions have to be considered. This includes safety distances and trapping zones around motorized movements according to IEC 60601-1 3rd edition.

- **(*1)** is just reference dimensions, if less than 100 mm special arrangements regarding ceil attachment might be considered.
- **(*2y)** is showing the table position in Y-direction. It makes it possible to cover the table and horizontal wall stand when beta is in position B. **(*2x)** has to be 1100 to make it possible to have full lateral projection functionality. Still the table top has to be in front position. Working area of wall stand has to be considered when moving table in X-direction.
- **(*3)** enables ceil stand to project in the center of the tilted detector holder when beta is in position B.
- Dimensions states relation between components and have to be adapted to the planned site.

5.2 System Connections

5.2.1 Cables

The cables from the Ceiling suspended unit have two configurations; 16 m or 24 m. The cable configuration is selected when the system is ordered. The length of the cables is measured between the generator and the X-ray tube.

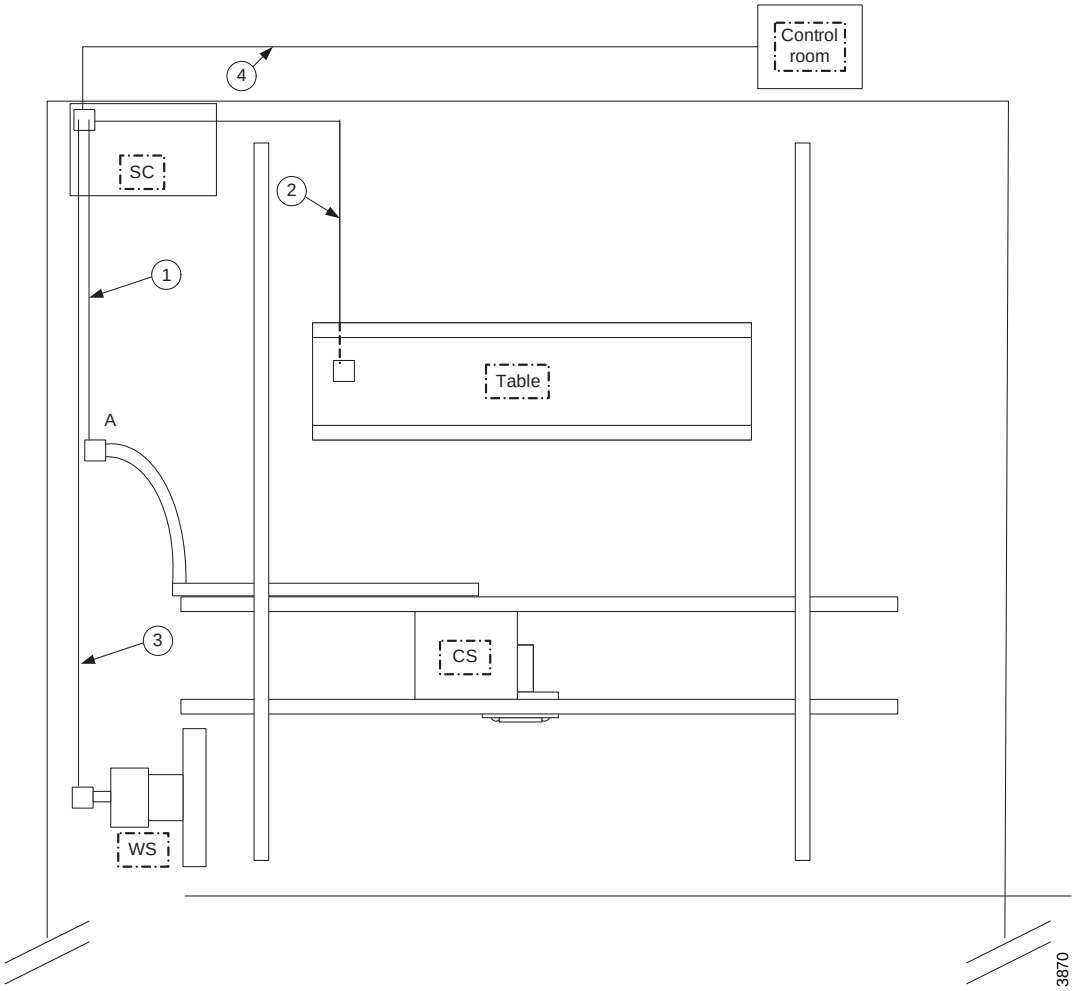


Fig. 5-9

No.	From	To	Cable channel cross section (min)	Conduit, diameter (min)	Length from outlet (max)
1	CS	SC	1320 mm ^{2}	60 mm	6 m (16 m) and 13 m (24 m)
2	Table	SC	525 mm^2	70 mm	15 m
3	WS	SC	420 mm^2	70 mm	15 m
4	SC	Control room	81 mm^2	45 mm	21 m

The length of the cables between the outlet and the System cabinet restricts where the System cabinet can be placed.

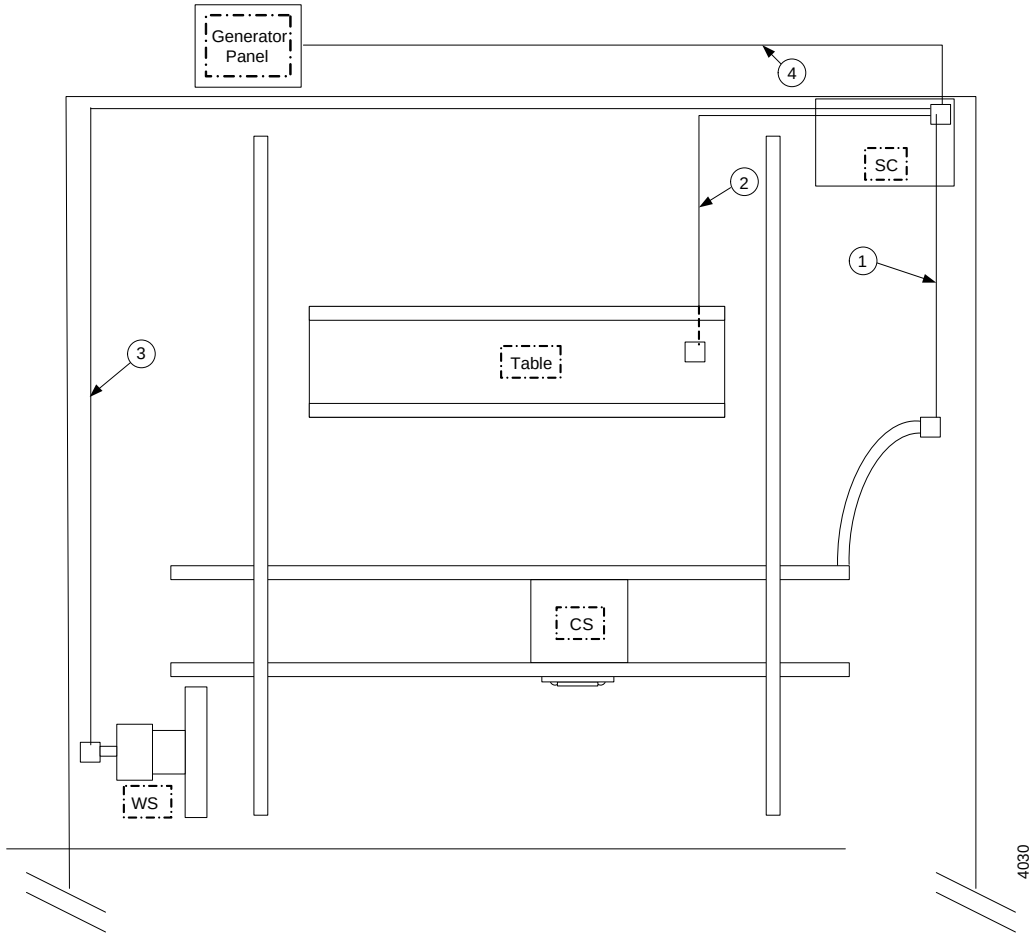


Fig. 5-10

No.	From	To	Cable channel cross section (min)	Conduit, diameter (min)	Length from outlet (max)
1	CS	SC	1600 mm²	60 mm	6.5m (20m)
2	Table	SC	900 mm²	70 mm	15 m
3	WS	SC	625 mm²	70 mm	15 m
4	SC	Control room	81 mm²	45 mm	21 m

The length of the cables between the outlet and the System cabinet restricts where the System cabinet can be placed.

6 Component specification

6.1 Overhead tube crane

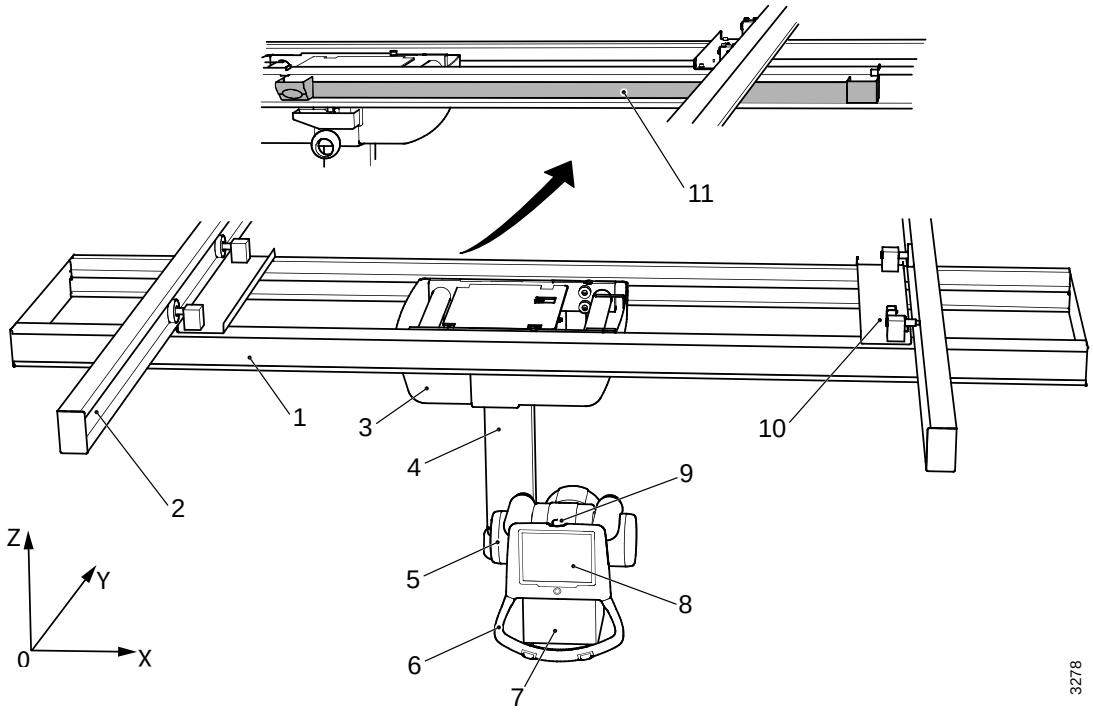
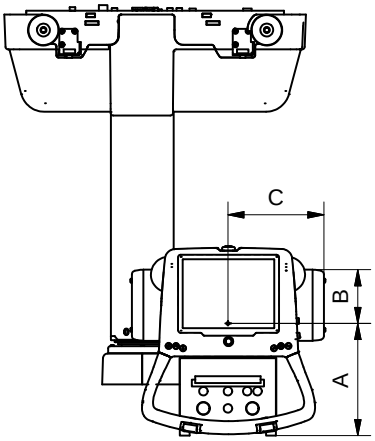


Fig. 6-1 Overview

1. *Traverse rail (X)*
2. *Ceiling rail (Y)*
3. *Ceiling wagon*
4. *Column (Z)*
5. *X-ray tube*
6. *Manoeuvre handle*
7. *Collimator*
8. *Display*
9. *Emergency stop*
10. *Distance plate and brake*
11. *Cable channel*

6.1.1 General specification



Alpha/Beta dimensions

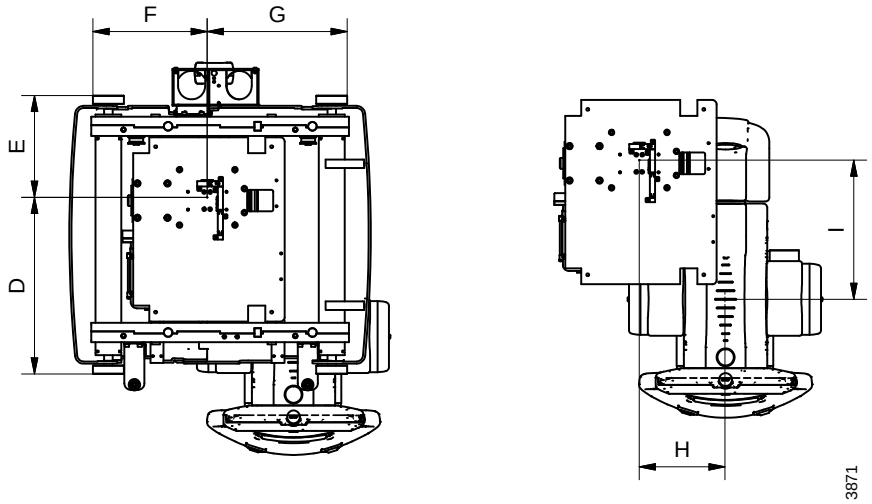


Fig. 6-2

Tube	Collimator	A	B	C	D	E	F	G	H	I
A292. G296/ B130 Varian	Ralco R302	286	125	224	412	237	270	330	201	324
A292, G296/ B130 Varian	Siemens AL02II	262	125	224	412	237	270	330	201	324

6.1.2 Movements

6.1.2.1 Ceiling wagon movements

The manual movements of the ceiling wagon are defined by the dimensions of the ceiling wagon itself and of which rail configuration that is selected. The movement range is also limited by the mechanical end stops that are placed on the ends of each rail.

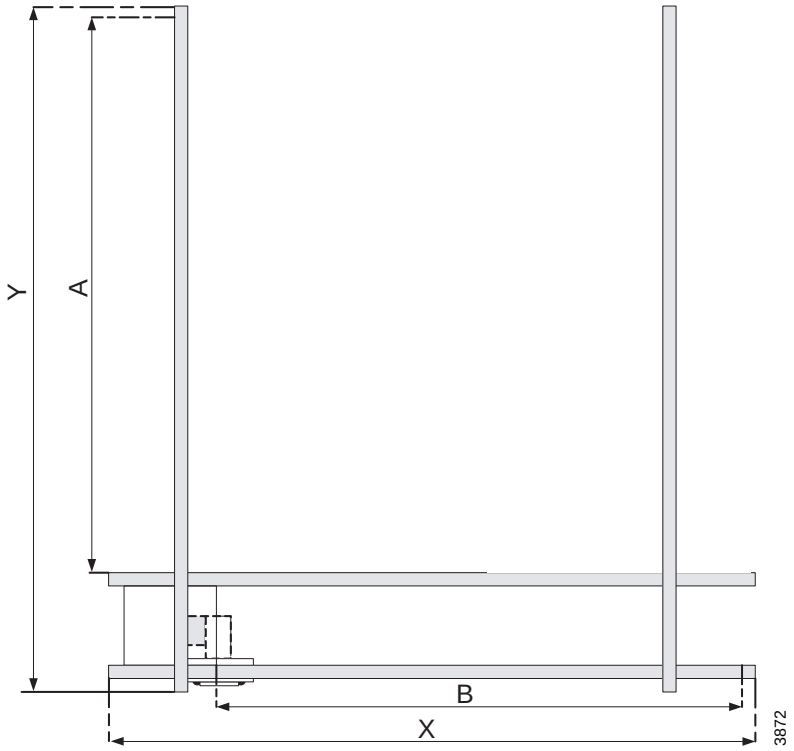


Fig. 6-3

Direction	X-rail (mm)	Y-rail (mm)	Stroke A (mm)	Stroke B (mm)
Standard	3000	4000	3113	2352
Installation cube/Low ceiling	2748	3748	2820	1945

6.1.2.2 Vertical movement range

To be able to accomodate three different ceiling heights, one short and one long column are used. The shorter column is used in configuration 1 and 2 wheras the longer column is used in configuration 3. Fully extracted, the short column reaches a length of 2180 mm and the longer column reaches a length of 2530 mm. Adding the built-in measurements. from the suspension, gives the total length of the columns. The longer column (used in configuration 3) is also 100 mm longer when fully retracted, giving a minimum length of 830 mm (short column, 730 mm).

Considering these facts, a trade-off between a high and low elevation must always be considered. For more information about the configurations, see**2 Environment Specifications, Page 3**

Note!

Configuration 1 is always delivered with a 2748 mm traverse (Low ceiling), limiting the movement range of the ceiling wagon.

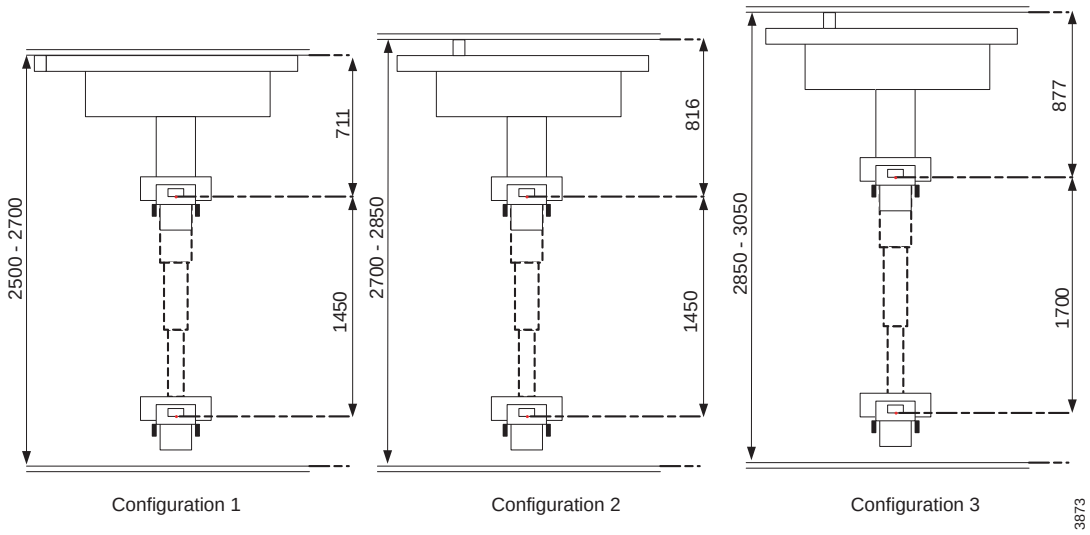


Fig. 6-4

6.1.2.3 Alpha/Beta movements

The Alpha movement has a total stroke of 337º, limited by fixed mechanical end stops. The Alpha movement has three mechanical indexes (-90º, 0º, 90º). The current Alpha angle is always shown in the display, placed in front of the x-ray tube.

The Beta movement has a total stroke of 343º, limited by a mechanical end stop. The mechanical end stop is adjustable allowing the system to be configured to suit all possible room layouts. The Beta movement has four mechanical indexes (-180º, -90º, 0º, 90º).

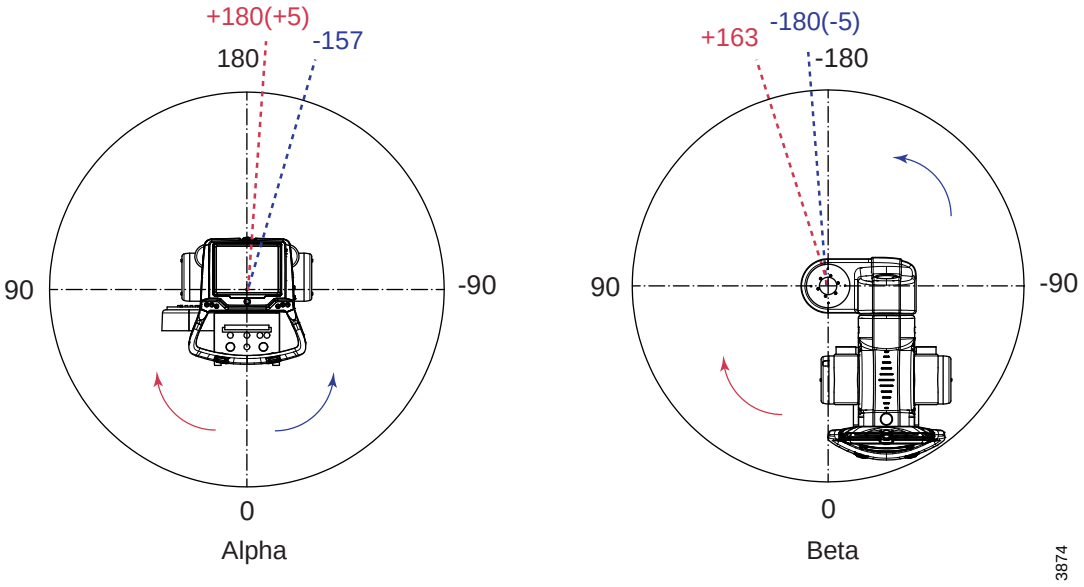


Fig. 6-5 Movement range Beta/Alpha

6.2 Wall attachment cable hose

6.2.1 Placement

The wall attachment of the Ceiling suspended unit is designed to be placed on the wall. The placement of the wall attachment is critical due to the optimized length of the cables. The wall attachment shall be placed as high as possible from the floor and on the distance (B) according to **Fig. 6-6**.

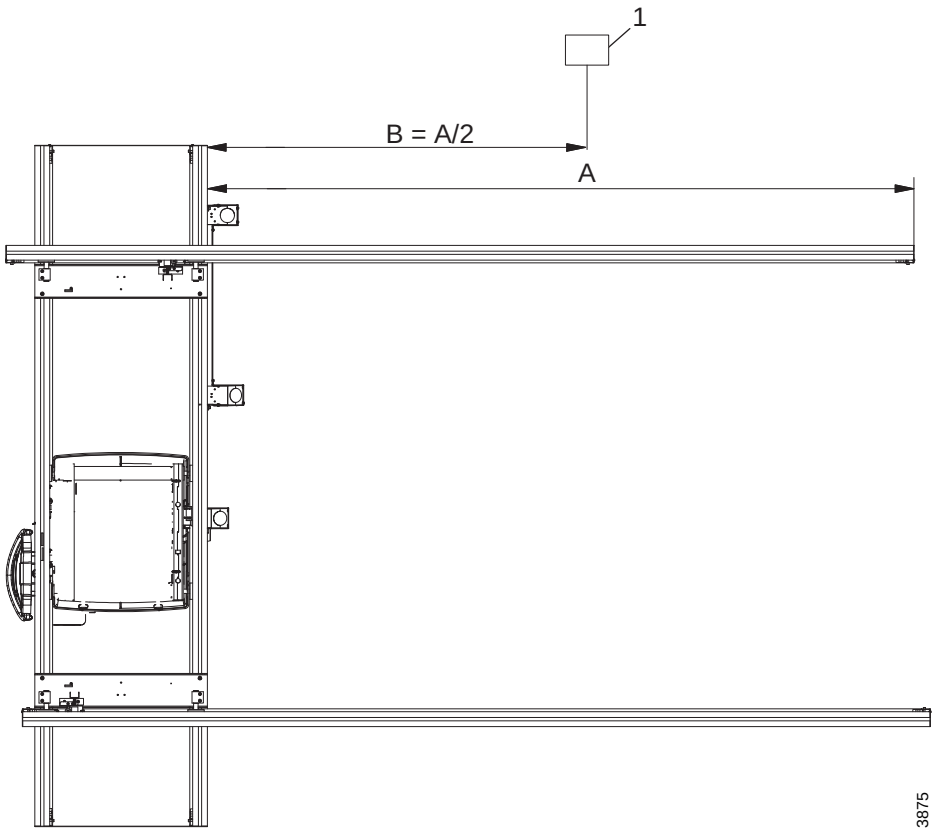


Fig. 6-6 Placing of wall attachment cable hose (1), Ceiling suspended unit.

6.3 Table

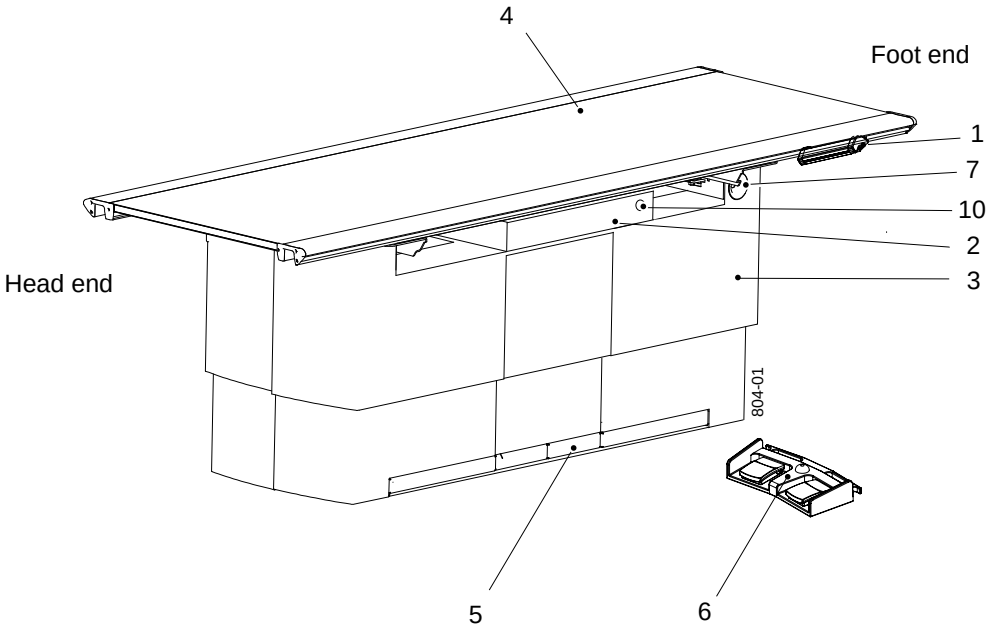


Fig. 6-7 Closed table

1. *Table hand control (X/Y/Z*
2. *Image receptor holder*
3. *Vertical lift*
4. *Table top (X/Y/Z)*
5. *Foot control, kick list*
6. *Foot control table top (X/Y/Z*
7. *Emergency stop*

6.3.1 General specification

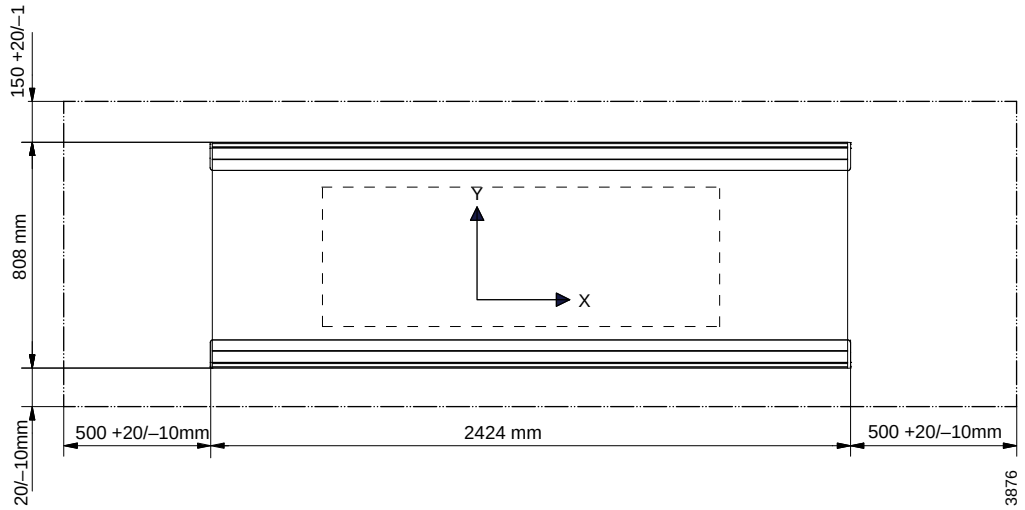


Fig. 6-8

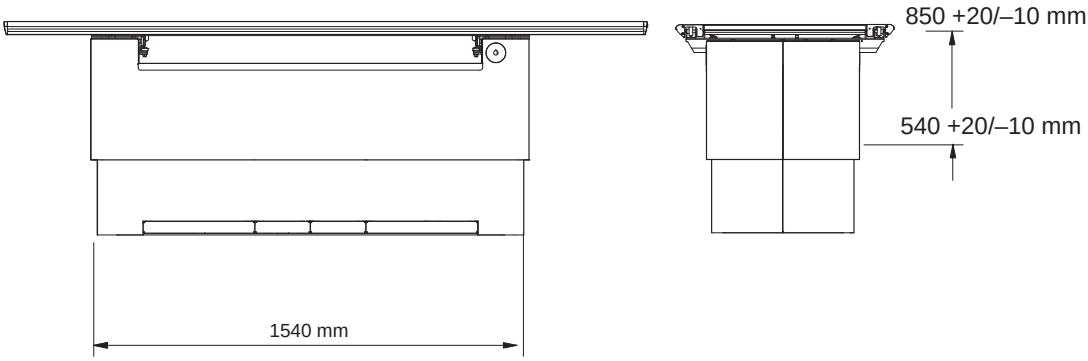


Fig. 6-9

Table top dimensions	W2424 x H540 - 850 mm (with the table top)
Table frame dimensions	W795 * L1570 *H520 mm (without the table top)
Table top dimensions	W2424 x D808 mm
Table top transparent area	2400 x 601 mm
Table top thickness	21 mm
Table top aluminium equivalence	0.9 mm
Patient load	max 250 kg
Vertical travel speed	up to 40 mm/sec
Table top weight	47 kg

Table weight	150 kg
Table weight	171 kg (including the imaging unit of approx. 21 kg)

6.3.2 Movements table top

Movement range, lateral direction (Y)	300 mm (±150 mm from centre)
Movement range, longitudinal direction (X)	0-1200 mm (±600 mm from centre)

6.3.3 Movements detector holder

Movement range, longitudinal direction	up to 800 mm

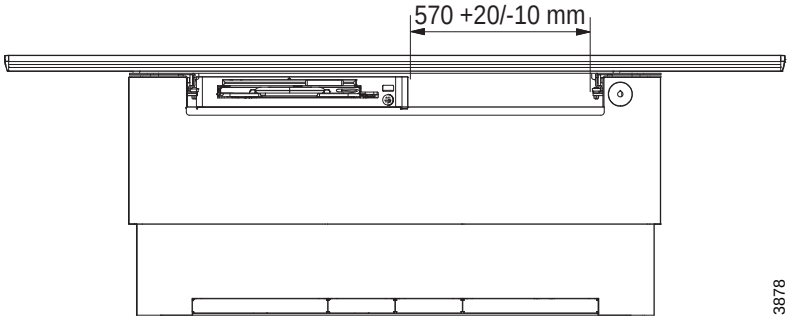


Fig. 6-10

6.3.4 Cable outlet

All cables are led through a cable outlet at the bottom of the head end foot plate. It is recommended to lead the cables in a cable duct from foot plate to the closest wall, however a cable run/channel may also be used. The cables must be enclosed.

6.3.5 Table 0055

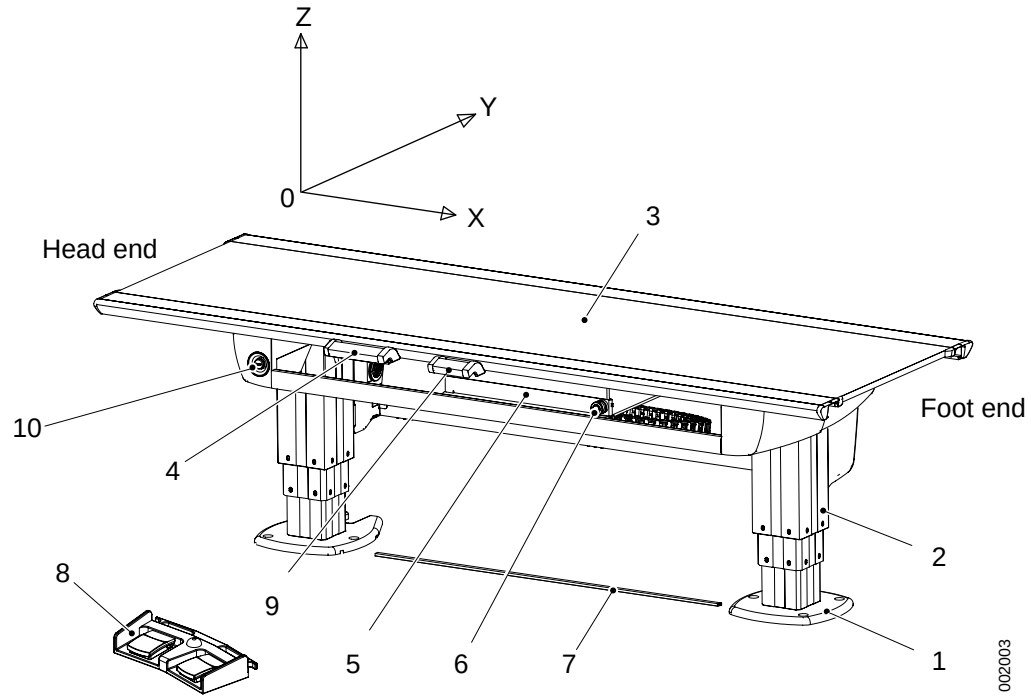


Fig. 6-11 Table overview

1. *Foot plate*
2. *Column*
3. *Table top*
4. *Table hand control (X/Y/Z, Ceiling tube pendulum movement)*
5. *Detector holder*
6. *Brake release for detector holder*
7. *XY foot control strip type (Option)*
8. *Foot control table top (X/Y/Z) (Option)*
9. *Collimator hand control (option)*
10. *Emergency stop*

6.3.5.1 General Specification

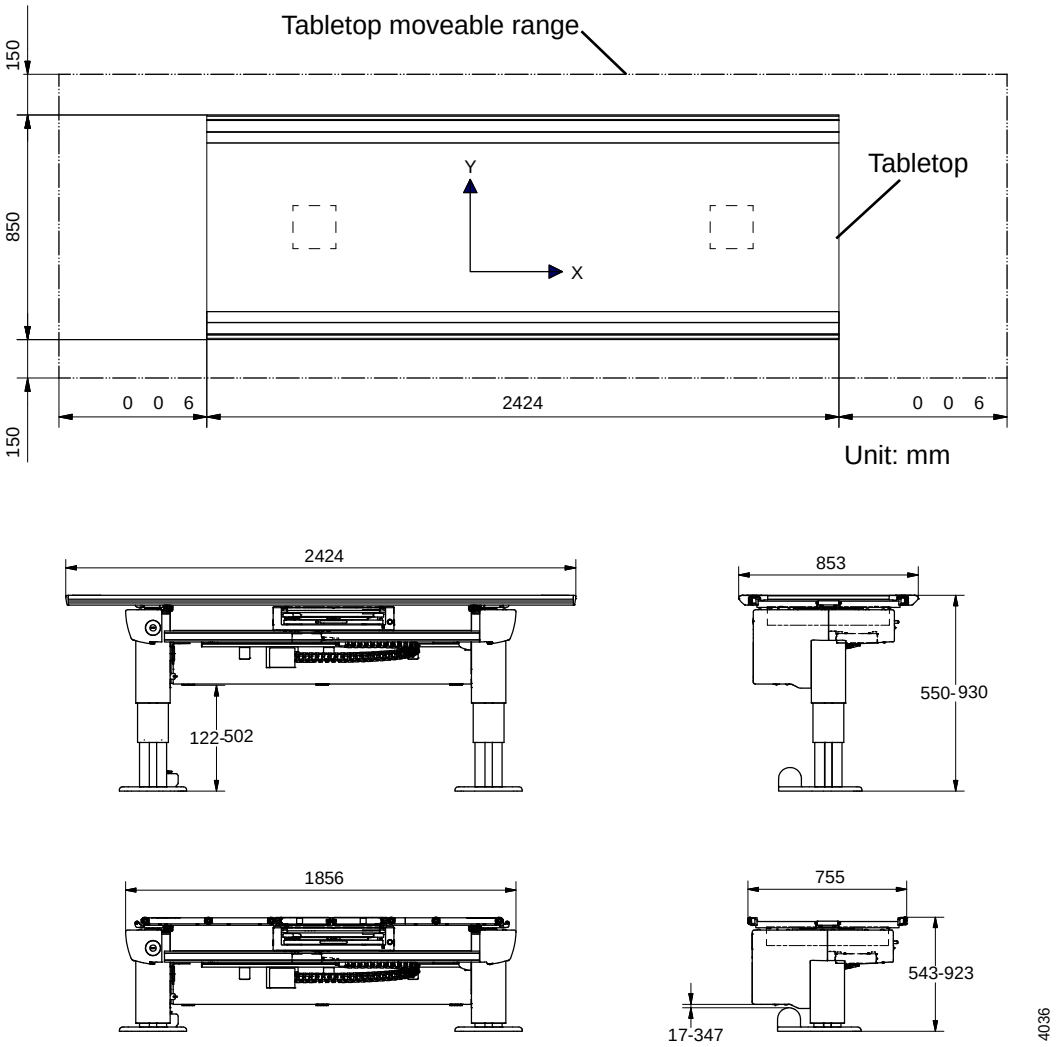


Fig. 6-12 General Specification

- Table top dimensions = W2424 x H550 - 930 mm (with the table top)
- Table top dimensions = W1722 x D689 x H537 - 917 mm (without the table top)
- Table top dimensions = W2424 x D853 mm
- Table top transparent area = 2400 x 613 mm
- Table top thickness = 21.5 mm
- Table top aluminium equivalence = 0.7 mm
- Patient load = maximum 250 kg

6.4 Wall stand

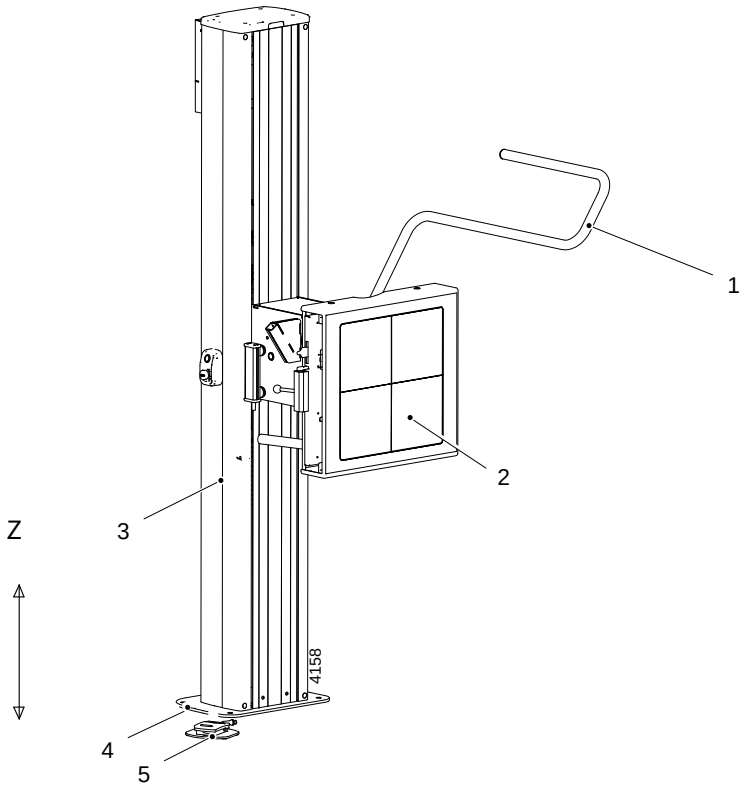


Fig. 6-13

1. *Armrest*
   (Option)
2. *Imaging receptor holder*
3. *Column*
4. *Bottom plate*
5. *Foot pedal (option)*

6.4.1 General specification

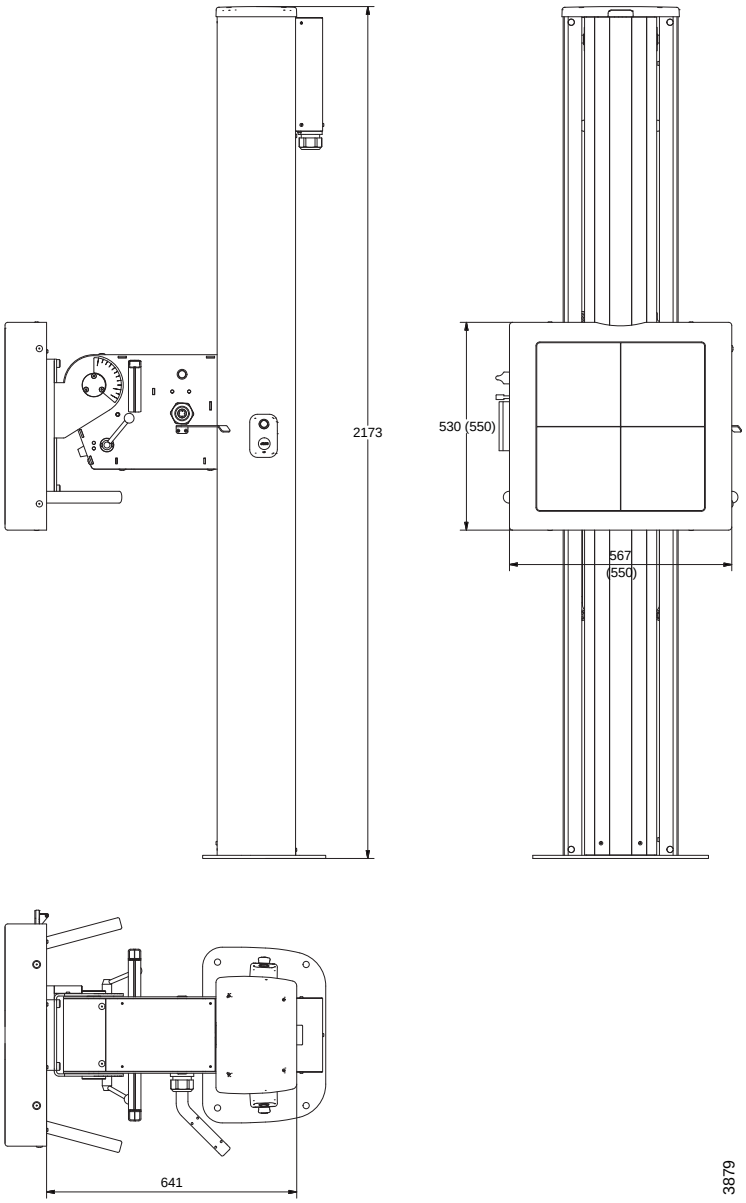


Fig. 6-14 Dimensions wall stand / image receptor

6.4.1.1 Movements

The Wall stand is supplied with a counter-weighted vertical movement. The movement is locked via an electro-mechanical brake which is normally active, thus the brake must be activated (released) before moving.

The tilt option enables the Wall stand to be used as a complement for a complete system solution (including a table) but may also be used as a supplement since the tilting function enables vertical projections, e.g. under a table or for extremities. The tilt is manually locked in any positions (form -20 º to 90º) and is also supplied with mechanical indexes in three positions (- 20º, 0º, 90º).

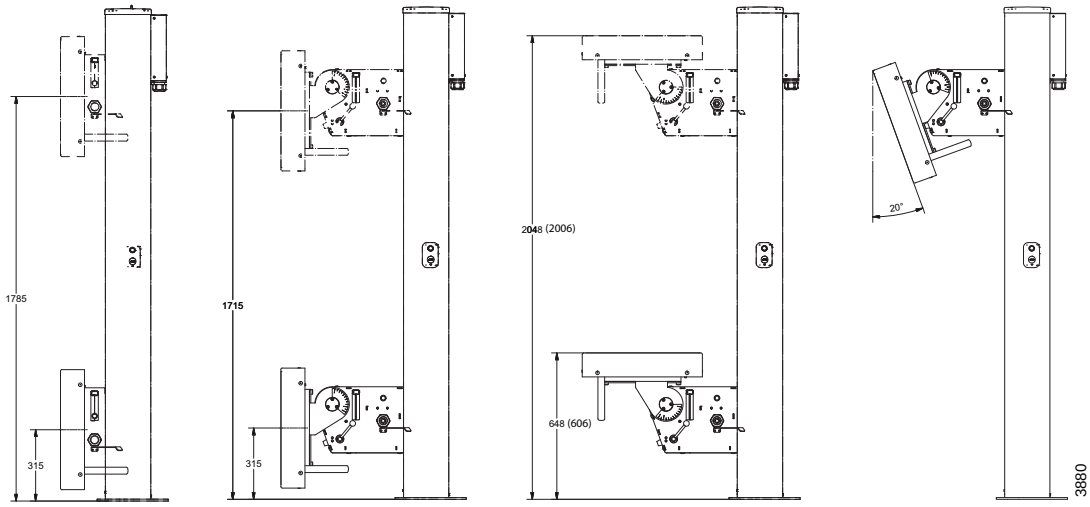


Fig. 6-15 Wall stand movement

6.5 System cabinet

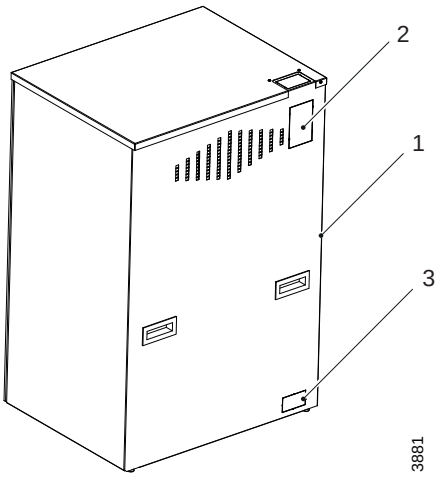


Fig. 6-16

1. *Cabinet*
2. *Cable outlet*
3. *Alt. cable outlet*

Component specification
System cabinet

7 Technical Specifications

7.1 400T System

7.1.1 Electrical characteristics

Mains voltage for the system	400 V 3N, 50/60 Hz 400 V 3~ 480 V 3~ 150 A (Short term peak value), (required fuse 63 A thermal breaker, B-curve).
Heat dissipation	689 BTU/hr

For further information, see the Tube technical data sheet, at the accompanying documents.

7.1.1.1 Classification

Classification according to IEC/EN 60601-1.

Class	Class I equipment. All dead metal parts of the equipment are electrical connected to protective earth.
Applied part	Type B
Protection against ingress of water	IPX0
Mode of operation	Intermittent operation: 20% 1 min ON / 4 min OFF
Use of anesthetic mixtures	The equipment is not suitable for use in the presence of flammable anesthetics mixtures with air, oxygen or nitrous oxide.

Classification according to IEC/EN 60601-1–2

Class	Class A

7.1.1.2 Output parameters

OUTPUT PARAMETER	MODE	GENERATOR SERIES	LOADING FACTOR
Maximum X-ray tube voltage and highest X-ray tube current at that voltage.	Radiographic (Intermittent)	80 kW	150 kV, 500 mA
		65 kW	150 kV, 400 mA
		50 kW	150 kV, 320 mA
Maximum X-ray tube current and highest X-ray tube voltage at that current.	Radiographic (Intermittent)	80 kW	1000 mA, 80 kV
		65 kW	800 mA, 81 kV
		50 kW	630 mA, 80 kV
Combination of X-ray tube current and X-ray tube voltage resulting in highest output power.	Radiographic (Intermittent)	80 kW	800 mA, 100 kV
		65 kW	630 mA, 103 kV
		50 kW	500 mA, 100 kV
Highest constant output power at 100 kV, 0.1 sec.	Radiographic (Intermittent)	80 kW	80 kW (800 mA, 100 kV, 0.1 s)
		65 kW	63 kW (630 mA, 100 kV, 0.1 s)
		50 kW	50 kW (500 mA, 100 kV, 0.1 s)
Nominal shortest irradiation time (AEC exposure).	AEC	All models (AEC control is available over the full kV and mA range)	15 ms. AEC control is achieved by varying the ms of the exposure. The AEC ms range is 15 ms to an installer-programmable maximum not to exceed 600 mAs.

7.1.2 Environmental requirements

Ambient transport and storage temperature	-40 °C - +70 °C
Ambient operating temperature	+10 °C - +40 °C
Transport and storage humidity (relative)	10-90%, non-condensing
Operating humidity (relative)	30-75%, non-condensing
Maximum transport and storage altitude	500-1060 hPa
Maximum operating altitude	700-1060 hPa

7.1.3 OTC

7.1.3.1 General

Rotation range ceiling (beta)	- 193°(±5°) ~ +155°(±10°)
Rotation range tube arm (alpha)	+193°(±5°) ~ -155°(±10°)
Column (Z stroke)	1700 mm, 1450 mm

7.1.3.2 Weight

OTC	127 kg
Tube and collimator	40 kg maximum allowed weight
Traverse rail X	60 kg
Ceiling rail Y (4 m standard)	16 kg

7.1.3.3 Speed

	Low speed	**Maximum speed**
Z movement	40 mm/s	150 mm/s

7.1.4 Cabinet

7.1.4.1 General

Dimensions (L x W x H) mm	750 x 610 x 1130

7.1.5 Wall stand

Column, Z stroke	1470 +40/-10 mm (non-tilt)

Rotation range detector holder wagon (Only the tiltable detector holder wagon).	-20° - 90°

7.1.5.1 Attenuation Equivalent

Detector holder	<=0.6 mm

7.1.5.2 Weight

Wall stand	Maximum 180 kg (160 +20/ -20 kg)
Detector	Maximum 40 kg

7.1.6 Closed table 0181

7.1.6.1 Maximum patient load

Maximum patient load	295 kg

7.1.6.2 Weight of parts

Table (with table top and vertical lift)	241 kg
Table top	47 kg
Vertical lift	14 kg

7.1.6.3 Vertical lift

Lowest table top position (from the floor to the table top surface)	540 +20/–10 mm
Z stroke	310 +40/–20 mm
Maximum travel speed	25 mm/s (MRS ≥30 mm/s)

7.1.6.4 Table top

Dimensions	2400 mm X 800 mm
X-ray transparent area	2350 mm X 580 mm
Thickness	21 mm
Length of stroke X-direction from center position (Longitudinal)	±500 +20/–10 mm
Length of stroke Y-direction from center position (Lateral)	±150 +20/–10 mm
Aluminium equivalence	≤0.9 mm
Aluminium equivalence cover detector holder	< 0.6 mm

7.1.6.5 Detector holder

Weight	Maximum 40 kg
Size (maximum)	D600 mm x W620 mm x H95 mm

7.1.7 Two column table 0055 (option)

7.1.7.1 Column

Two column table, with motorized vertical movement

Lowest table top position (from the floor to the table top surface)	550 mm
Column (Z stroke)	380 mm

7.1.7.2 Table top

Two column table with manual or motorized detector movement

Dimensions	2400 mm X 853 mm
X-ray transparent area	2400 mm X 601 mm
Thickness	21.5 mm
Length of stroke, X-direction	+/- 600 mm
Length of stroke Y-direction	+/- 150 mm
Movement range of the detector	up to 850 mm
Aluminum equivalence	0.9 mm
Aluminum equivalence cover detector holder	< 0.6 mm

7.1.7.3 Weight

Two column table, compl.	Maximum 147 kg
Table top	Maximum 47 kg
Maximum patient load	300 kg

8 Transport Specification

8.1 Crates

Table 8-1 Dimensions and Weight

Crate	Dimensions, mm	Weight, kg	Pcs
Ceiling suspended x-ray tube support	W800 x H1300 x D1500	310	1
Table	W800 x H850 x D2150	350	1
Table top	W900 x H100 x D2500	75	1
Wall stand	W800 x H1150 x D2420	250	1
Cabinet	W870 x H1330 x D720	186	1
Traverse	W830 x H390 x D4180	240	1
Installation cube	W800 x H500 x D4000	375	1

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