

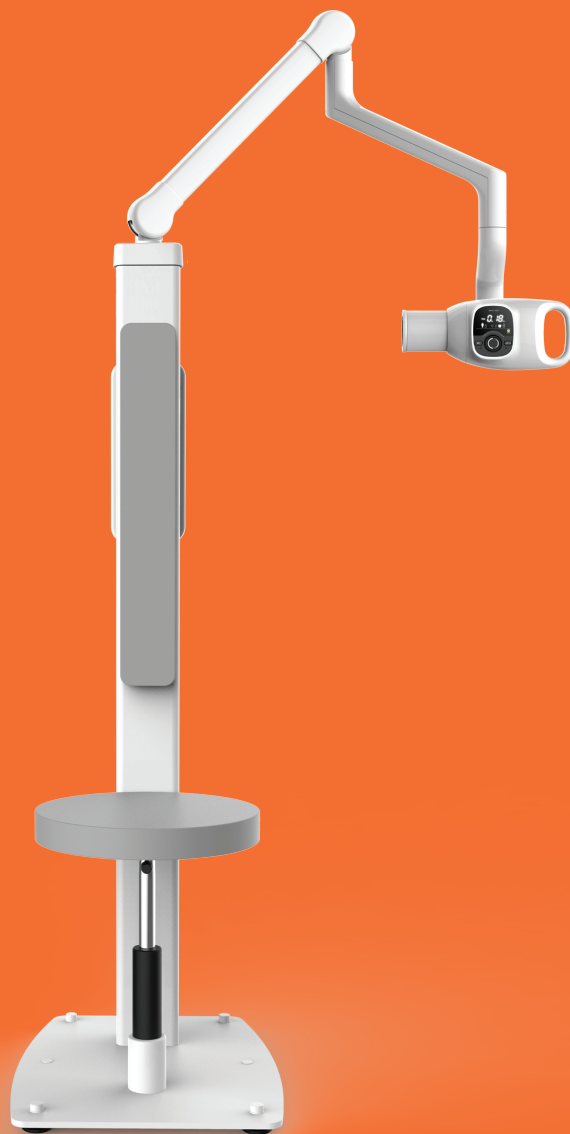
EzRay™ Chair

Installation Manual

Model : VEX-S300C

Version : 1.24

• ENGLISH



vatech

Notice

This manual covers the hardware installation procedures for the **EzRay™ Chair (Model: VEX-P300C)**, an intra-oral dental X-ray unit. An installation manual and user manual are shipped with each hardware unit.

Equipment in this manual refers to the **EzRay™ Chair**.

Option in this manual refers to the functions or features that are left to the customer's or user's choice.

It is recommended to review this manual before installation to ensure the proper set-up of the equipment and the installer's safety.

EzRay™ Chair (Model: VEX-P300C) is in steady improvement. Due to the product enhancement and changing policies, the information in this manual may be subject to change without notice, justification, or notification of the persons concerned

All brand names and logos used in this manual are copyrighted.

For additional information not covered in this manual or the accompanying documentation, please contact us at:

VATECH Co., Ltd.

TEL: (+82) 1588-9510

e-mail: gcs@vatech.co.kr

Manual Name: EzRay™ Chair (Model: VEX-P300C) Installation manual







Version: 1.24



Publication date:2021-05

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Conventions Used in this Manual

The following symbols are used throughout this manual to emphasize information or indicate a potential risk to the equipment or user. Make sure that you fully understand each symbol and obey the instructions, which appear to the right of the symbol.

	Warnings indicate information that should be followed with the utmost precision. Failure to comply with warnings may result in severe damage to the equipment and physical injuries to the patient or operator.
	Cautions indicate a situation that demands prompt but careful action, remedy, or emergency attention. Failure to comply with cautions may result in injury to the patient or operator.
	Important symbols indicate a necessary action or instruction.
	Note symbols indicate information that will help to optimize the performance of equipment. To make the most of your equipment, carefully read the note instructions.
	Radiation symbols indicate a possible danger of radiation exposure.
	ESD susceptibility symbols indicate that equipment is susceptible to damage due to electrostatic discharge.

	<p>Warnings Regarding X-ray Radiation</p> <ul style="list-style-type: none"> • This equipment may need to be installed in an approved location, as it can be dangerous to the patient or operator. • Stationary radiation shielding must be installed to protect the operator from radiation. • Improper use of X-ray equipment can cause injury to the patient. All national standards for radiation safety must be observed. • Before exposing an X-ray, the operator must provide the patient with protective clothing. Pregnant women must consult with a doctor before being exposed to an X-Ray.
<p>IMPORTANT</p>	<p>Failure to read and understand the information provided in this manual may result in physical injury, damage to the equipment, or equipment failure. Be sure to read each chapter and understand the containment information before beginning the installation procedure.</p>
	<ul style="list-style-type: none"> • Before installation, the installer must read and understand the installation instructions thoroughly. • The installer must install the system according to the instructions provided by this manual and perform the appropriate procedures. • If the equipment has been stored at temperatures below 10°C (50°F) for more than 2 hours, please wait until it reaches room temperature before plugging the equipment into an outlet. • Only VATECH certified technicians should be installed and involved. • Do not connect any parts or equipment that are not part of the equipment to this equipment. (IEC 60601-1-1) • Any equipment not approved by VATECH must comply with the applicable standards: IEC 60950-1 for IT equipment (ex: PC) and IEC 60601-1 for medical electrical equipment. • All operators of this equipment are responsible for ensuring that the requirements outlined in IEC 60601-1-1: Safety Requirements for Medical Electrical Equipment are fully met to ensure the safety of patients, operators, and the environment. • Use an ESD (electrostatic sensitive device) wristband during installation and connect it to a ground wire.

	<ul style="list-style-type: none"> • Touch a ground point to discharge static electricity before handling PCB boards.
IMPORTANT	<p>Installation site</p> <ul style="list-style-type: none"> • Proper shielding of the room is essential: Since these requirements vary depending on the country, it is the installer's responsibility to verify that all applicable radiation safety requirements are met. • This equipment should not be installed near other devices. • Do not install the equipment in an area that is exposed to strong electromagnetic fields. • Do not install the equipment in an area where there is the risk of an explosion. • The electrical installation of this system shall comply with all local code requirements for electro-medical systems: IEC 60364-7-710:2002. • It is recommended that an uninterruptible power supply (UPS) is installed at the same time as the equipment.
IMPORTANT	<p>This equipment complies with the following standards:</p> <ul style="list-style-type: none"> • IEC 60601-1 • IEC/EN 60601-1-2 • IEC 60601-1-3 • IEC 60601-1-6 • IEC 60601-2-65 • ISO 13485 • 21 CFR 1020.30 & 21 CFR 1020.31

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1. Introduction

1.1 Manufacturer Liability

As the manufacturer, VATECH assumes liability for the safe and reliable installation and operation of this equipment only when:

- Equipment installation, including software installation, has been carried out by an authorized agent by this installation manual.
- The electrical installation has been carried out by the appropriate requirements specified in IEC-60363.
- Genuine original or approved replacement parts are used.
- Maintenance/repair service has been performed by a qualified technician(s) from one of our authorized agents.
- The equipment has been used under normal conditions by the user manual.

1.2 Customer Liability

Site planning and preparation are the liability of the customer. The following points should be considered fundamentally important to all customers of this product:

- Install all necessary materials before equipment is delivered.
- Complete the floor, ceiling, and walls of the room before installing the equipment.
- Install proper-sized junction boxes, with covers, at the necessary locations.
- Install central power with proper rated and voltage output.
- Install the circuit breaker specified in this manual.
- Please provide the installer with the current dimensions of the room including hallway and door size.

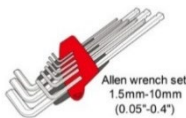
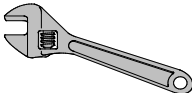
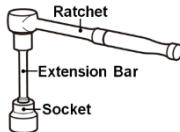
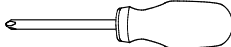


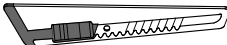
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2. Before Installing the Equipment



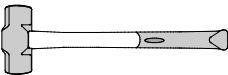




NOTICE

Two installers are required to install the equipment safely.

2.1 Tools required

Item	Figure	Size
Wrench Set	 Allen wrench set 1.5mm~10mm (0.05"-0.4")	1.5mm ~ 10mm
Monkey Spanner		200mm
Ratchet with extension bar and socket	 Ratchet Extension Bar Socket	Socket: 13mm (for M8), 17mm (for M10)
Phillips screwdriver with magnet tip		L=200mm
Spirit Level		Type 70/300
Anti-static gloves		-
Knife		-

2. Before Installing the Equipment

Item	Figure	Size
Tape Ruler		5m
Marker Pen (thick tip)		-
hammer		-
Multi-meters		-
Hammer drill		-
Cutting Pliers		-
Setting tool EHS PLUS		-

2.2 Unpacking the Boxes

IMPORTANT

Check the packaging for signs of damage visually before opening the package. If it appears damaged, do not open the package and immediately contact the shipping company, agent, or VATECH.

CAUTION

Wear anti-static or general-purpose gloves.
(Refer to [Parts and Accessories List](#).)

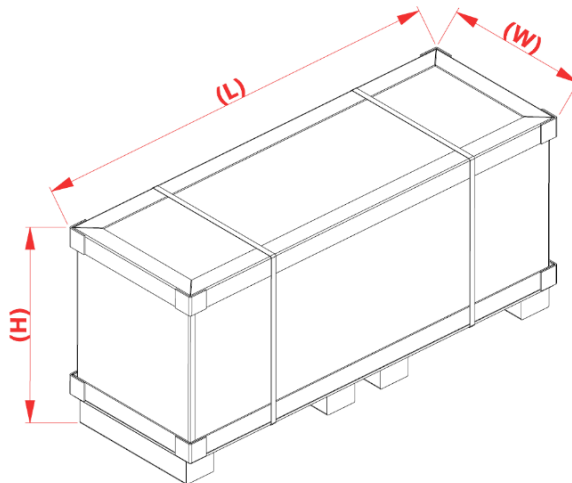
Anti-static gloves

Part Number: 45
Quantity: 1 EA



Package Size

Item	Size (mm / inch)	Weight (kg / lbs)
Length (L)	1,580 / 62.20	68.0 / 149.91
Width (W)	560 / 22.05	
Height (H)	725 / 28.54	



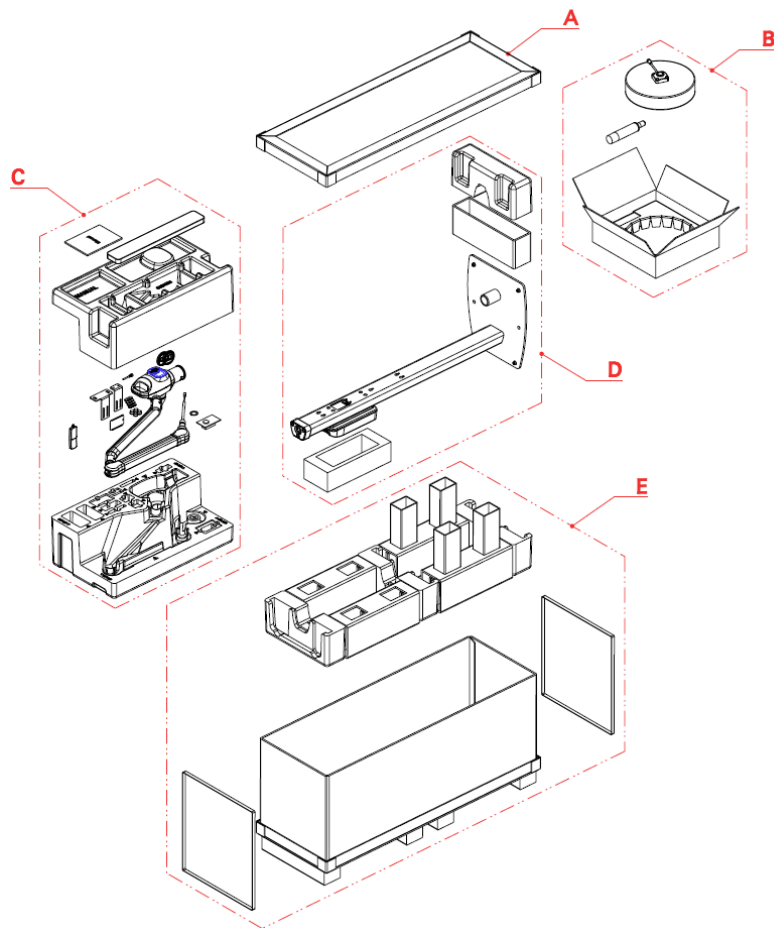
2. Before Installing the Equipment

Unpacking the Main Box

1. Move the main box to a location close to the installation location and convenient for installation.
2. Unpack each box in the following order.

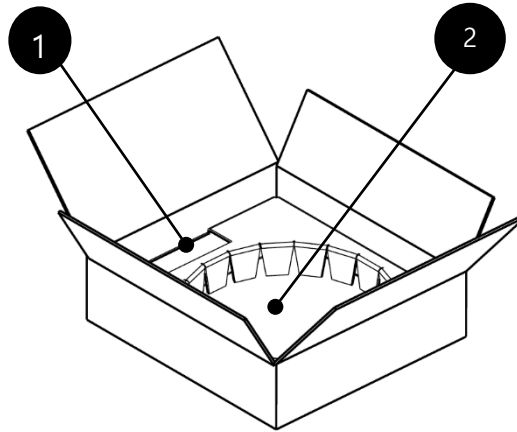
A → B → C → D → E

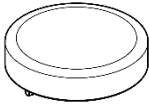

- A. Top cover
- B. Chair box
- C. Arm assembly box
- D. Base assembly
- E. Main Box



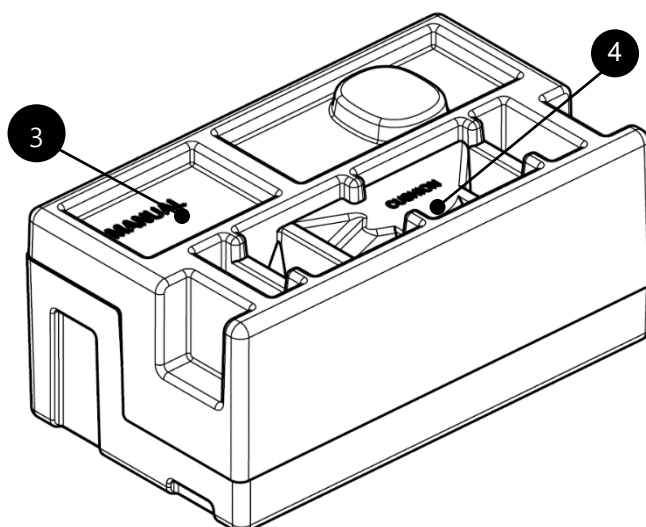
2.3 Checking the components


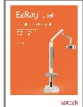

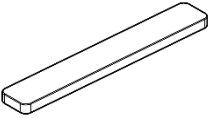
Chair box(B)



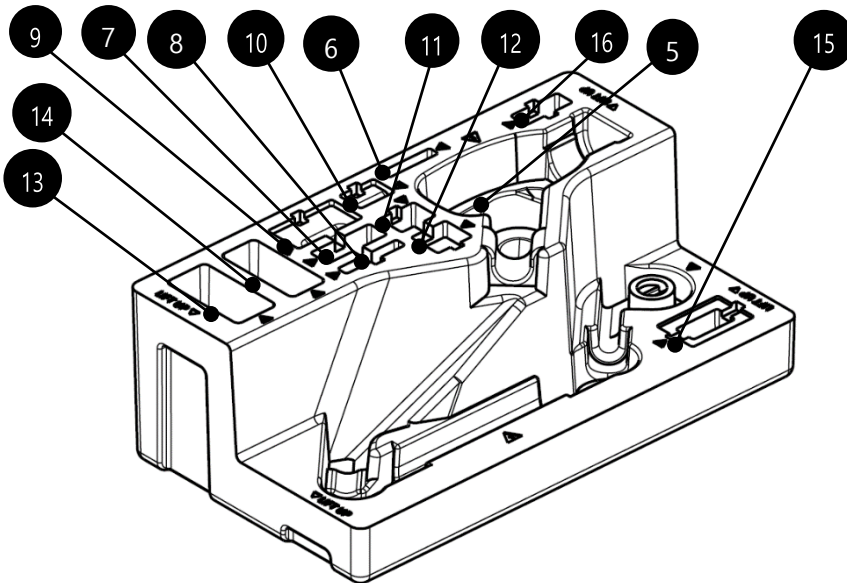
No.	Item	Figure	Quantity	Description	Confirm
1	Chair cushion		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	Cylinder		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No

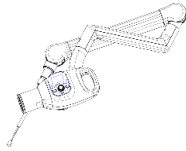







Arm assembly box – Top (C)







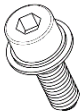











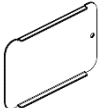

No.	Item	Figure	Quantity	Description	Confirm
3	Installation Manual		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No
	User manual		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Anti-static gloves		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	Back cushion		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No

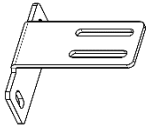

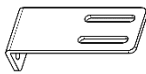





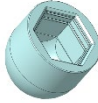







Arm assembly box – Bottom (C)











No.	Item		Figure	Quantity	Description	Confirm
5	Arm assembly			1		<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Fixed swivel bolt			1		<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Wall mount bracket Double stud	Fisher anchor (M10 x L40)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
		Fisher Bolt (M10 x L35)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No

2. Before Installing the Equipment

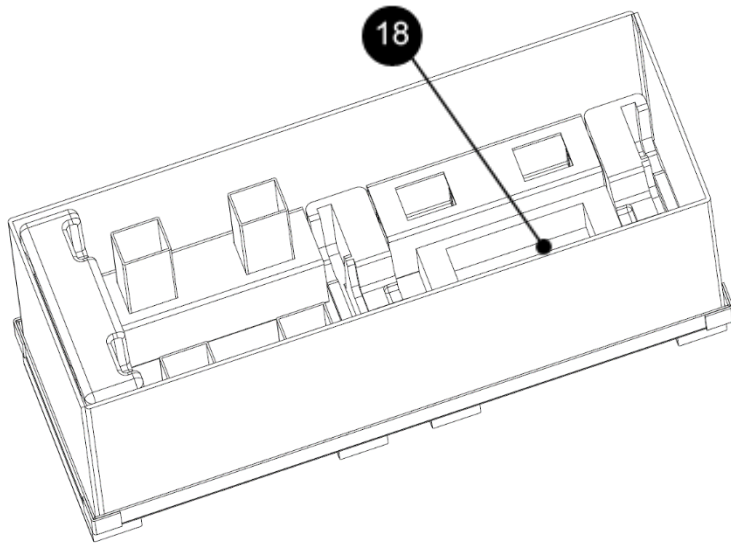
No.	Item		Figure	Quantity	Description	Confirm
7	Wall mount bracket Double Stud	Hexagon head Screw for wood (M8 x L60)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
		Flat washer (M8)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Wall mount bracket	Wrench bolt (M8 x L25 2 SEM)		4		<input type="checkbox"/> Yes <input type="checkbox"/> No
		Spring washer (M8)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
		Nut (M8)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Column cover	Machine screw (M3 x L8)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Column FGND	Machine screw (M4 x L6)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
		Star Washer (M4)		2		<input type="checkbox"/> Yes <input type="checkbox"/> No
8	Column cover			1		<input type="checkbox"/> Yes <input type="checkbox"/> No

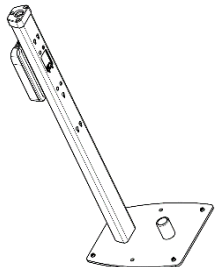
No.	Item	Figure	Quantity	Description	Confirm
9	Wall mount bracket B		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
10	Wall mount bracket A		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
11	Silicon cap		12		<input type="checkbox"/> Yes <input type="checkbox"/> No
12	Foot cap		4		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Bolt Silicon Cap		11		<input type="checkbox"/> Yes <input type="checkbox"/> No
13	Remote Exposure Switch assembly (Including holder and double-sided sticker)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
	AC power cable		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
14	Door interlock cable (option)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No

2. Before Installing the Equipment

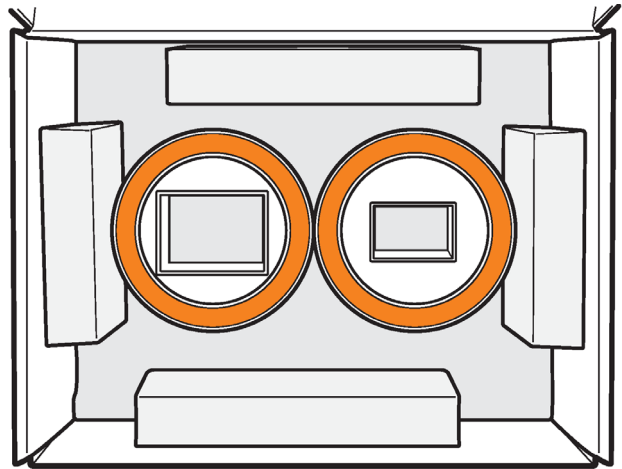
No.	Item	Figure	Quantity	Description	Confirm
	Remote Exposure Switch cable (Doorbell Type) (Standard or Optional) *		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
15	Remote Exposure Switch (Doorbell type) (Standard or optional) *		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
16	Rectangular cover 2x3 (option)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
	Rectangular cover 4x3 (option)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No

* the standard item in the U.S only (the item is provided as an option in other regions).

Main Box (E)

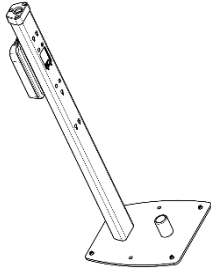
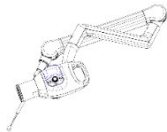




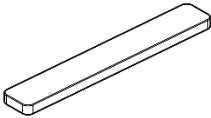

No.	Item	Figure	Quantity	Description	Confirm
18	Base assembly		1	-	<input type="checkbox"/> Yes <input type="checkbox"/> No

C/S Component Box (Optional)







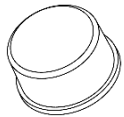


No.	Item	Figure	Quantity	Explanation	Confirm
1	Rotating Rectangular Cover 2x3 (3x2) (Option)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No
2	Rotating Rectangular Cover 4x3 (3x4) (Option)		1		<input type="checkbox"/> Yes <input type="checkbox"/> No

Parts and Accessories List

Part No.	Item	Specification	Figure	Quantity	Confirm
1	Base assembly	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	Arm assembly	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Machine screw	M4 x L6		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	Star Washer	M4		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	Cover pillar	SPC1		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Machine screw	M3 x L8		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Back cushion	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
8	Wrench bolt	M6 x L20 2 SEM		5	<input type="checkbox"/> Yes <input type="checkbox"/> No

2. Before Installing the Equipment

Part No.	Item	Specification	Figure	Quantity	Confirm
9	Wall mount bracket A	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
10	Wall mount bracket B	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
11	Wrench bolt	M8 x L25 2 SEM		4	<input type="checkbox"/> Yes <input type="checkbox"/> No
12	Spring washer	M8		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
13	Nut	M8		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
14	Fixed swivel bolt	M8		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
15	Fisher anchor	M10 x L40		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
16	Fisher Bolt	M10 x L35		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
17	Hex screw for wood	M8 x L60		2	<input type="checkbox"/> Yes <input type="checkbox"/> No

Part No.	Item	Specification	Figure	Quantity	Confirm
18	Flat washer	M8		2	<input type="checkbox"/> Yes <input type="checkbox"/> No
19	Chair cushion	-			<input type="checkbox"/> Yes <input type="checkbox"/> No
20	Cylinder	-			<input type="checkbox"/> Yes <input type="checkbox"/> No
21	Silicon cap	Silicon (White)		12	<input type="checkbox"/> Yes <input type="checkbox"/> No
22	Foot Cap	-		4	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Bolt Silicon Cap	-		11	<input type="checkbox"/> Yes <input type="checkbox"/> No
23	Remote Exposure Switch assembly	Including holder and double-sided sticker		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
24	AC power cable	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
25	Door interlock cable	Option		1	<input type="checkbox"/> Yes <input type="checkbox"/> No

2. Before Installing the Equipment

Part No.	Item	Specification	Figure	Quantity	Confirm
26	Remote Exposure Switch cable (Doorbell type) *			1	<input type="checkbox"/> Yes <input type="checkbox"/> No
27	Remote Exposure Switch (Doorbell type) *			1	<input type="checkbox"/> Yes <input type="checkbox"/> No
28	Rectangular cover 2x3	Option FOV: 2x3 (3x2)		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
29	Rectangular cover 4x3	Option FOV: 4x3 (3x4)		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
30	Installation Instruction	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
31	User manual	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
32	Anti-static gloves	-		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
33	Rotating Rectangular Cover 2x3	- Material: ABS - FOV: 2x3 (3x2)		1	<input type="checkbox"/> Yes <input type="checkbox"/> No
34	Rotating Rectangular Cover 4x3	-Material: ABS - FOV: 4x3 (3x4)		1	<input type="checkbox"/> Yes <input type="checkbox"/> No

*. the standard item in the U.S only (the item is provided as an option in other regions).

3. Equipment Installation

3.1 Base Assembly Installation



Please work with two people for safety because the weight of the equipment is heavy.

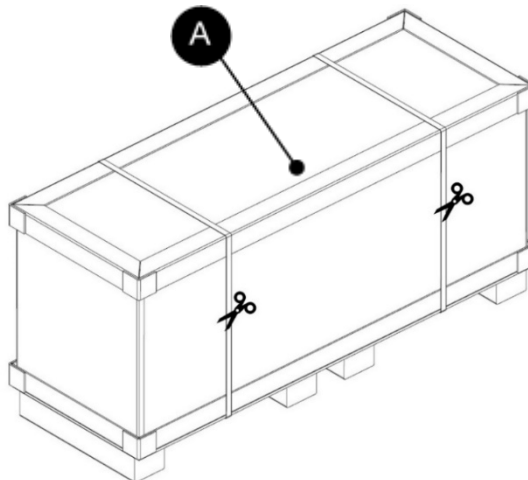
Be sure to work together when transporting before unpacking or when removing the base assembly from the box.

IMPORTANT

Make sure that there is enough room for the arm to move and the type of floor and wall where the base assembly will be installed.

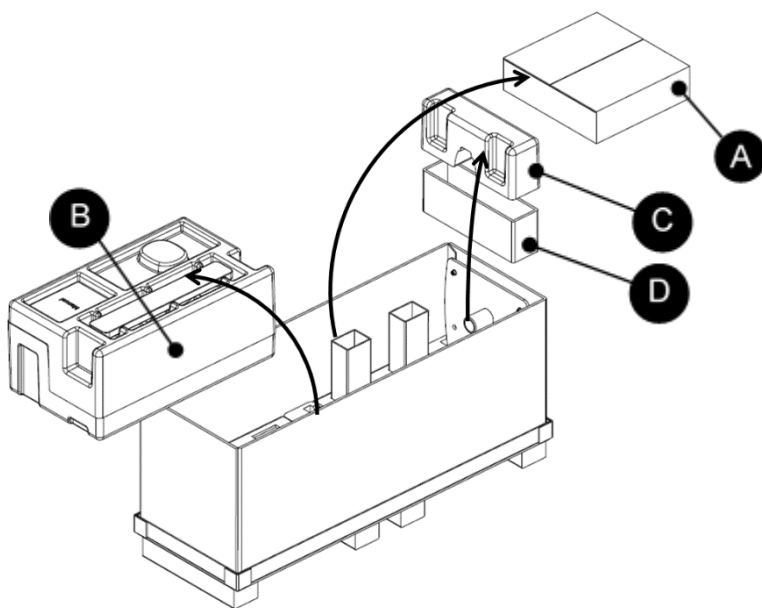
- The protrusion/recess on the floor should be at most 10mm.
- The wall must be strong enough to hold anchor bolts.
- The place should be free of obstructions within a radius of 1.5m around the pole of the equipment.

1. Place the main box on a flat surface, disconnect the band and remove the top cover (A). When transporting the main box, use a forklift or cart, or move two or more people together. (weight: approximately 68kg)

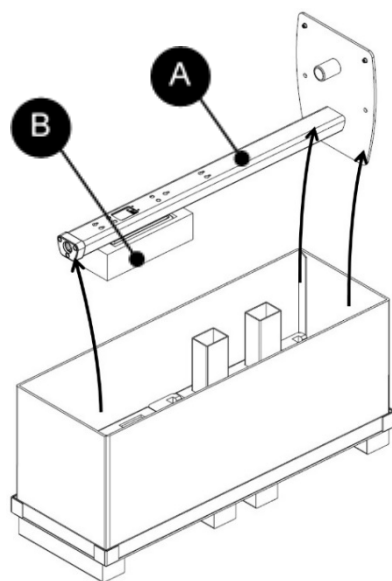


3. Equipment Installation

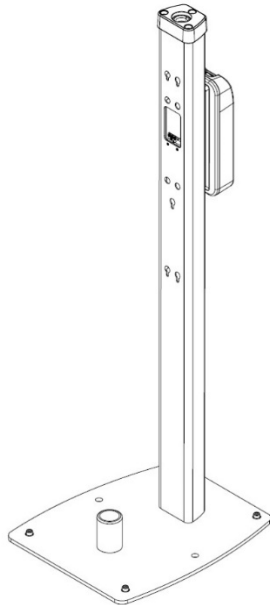
2. Remove the chair box (A) and the arm assembly box (B) and store them in a safe place. Remove the EPS packing material (C) and the square tube (D) that surround the base at the bottom.



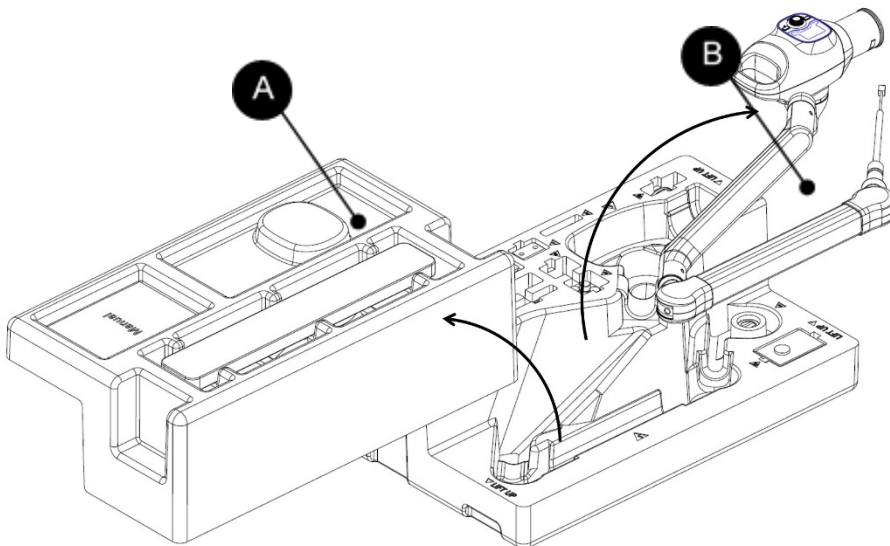
3. Take out the Base assembly (A) and remove the packing material (B). Be sure to hold the top and bottom of the two groups together and pull it out since the weight of the base assembly (A) is significantly heavy. (weight: approximately 31kg)



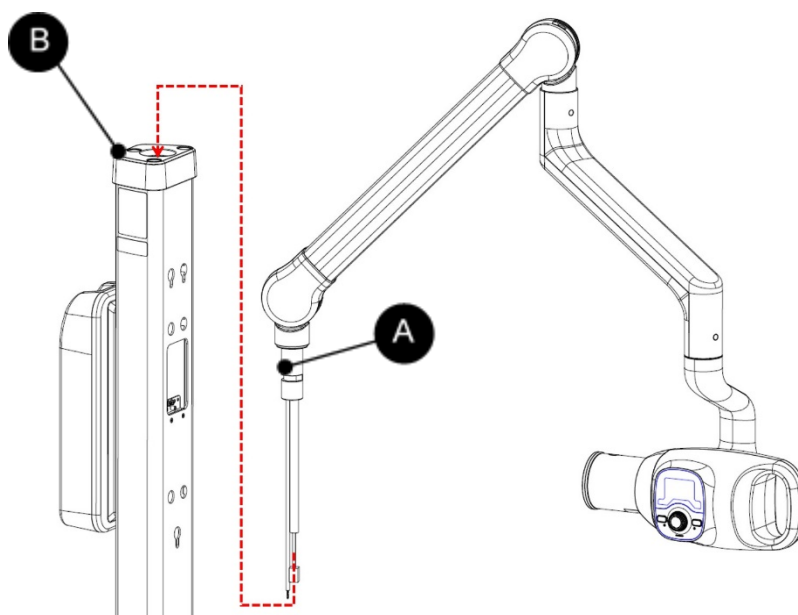
4. Stand on a flat surface where install the base assembly.



5. Open the Top cover (A) of the Arm assembly box and place it to a safe, level surface, and carefully remove the arm assembly (B). Now, hold the arm with both hands so that the arm is not rotated suddenly due to its weight.



6. Put the shaft (A) of the Arm assembly into the top hole (B) of the base assembly.



When installing the cable, ensure not to tangle or twist the cable inside the column to move it.

3.2 Cable Connection



Wear anti-static gloves whenever handling cables and electronic boards.

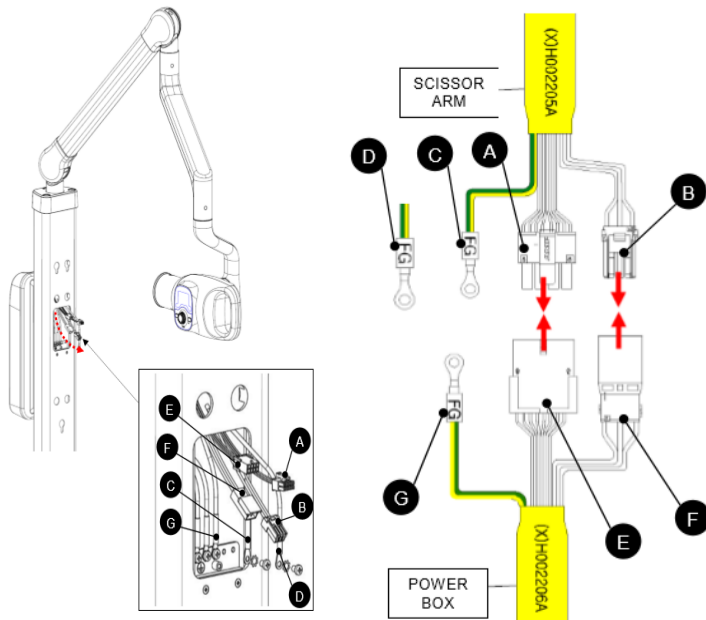


- Do not wear a thick jacket.

IMPORTANT

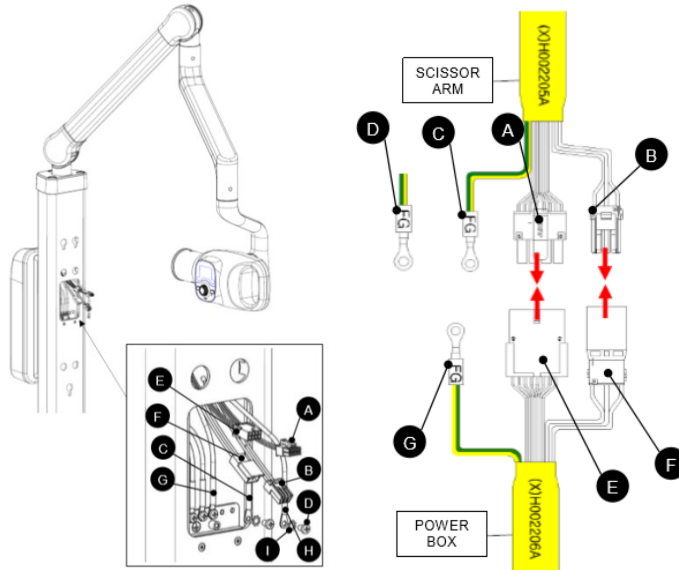
Always make sure that the cable is fully connected. Incorrect connection may result in poor X-ray performance.

- Pull out the cable (A, B, C) and GND cable (D) from the Arm assembly through the square holes in the column. Be careful not to damage the cable or connector.



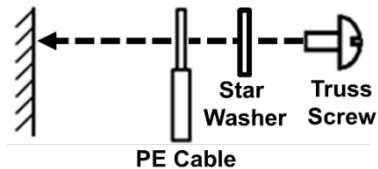
3. Equipment Installation

2. Connect the connector (A, B) from the Arm assembly, and the connector (E, F) included in the column to each color. Connect the two GND terminals (C, D) with round head M4 x L8 thread (H) and star washers M4 (I). The GND terminal (G) is already connected at the factory.

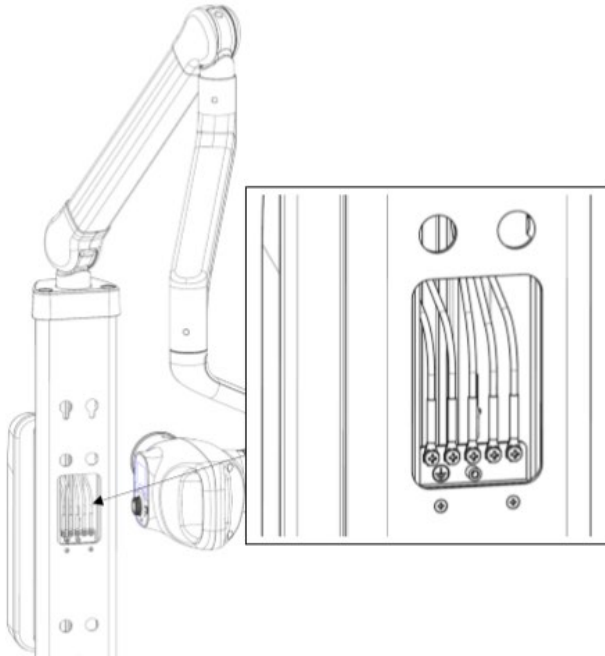


Use the truss screw (H) and star washer (I) when connecting the protective earth (PE) cable to the protective earth conductor. Please refer to the figure below.

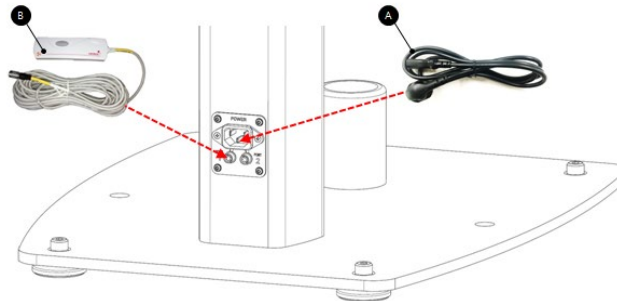
IMPORTANT



3. Tighten the cable and connector in the square holes of the post.

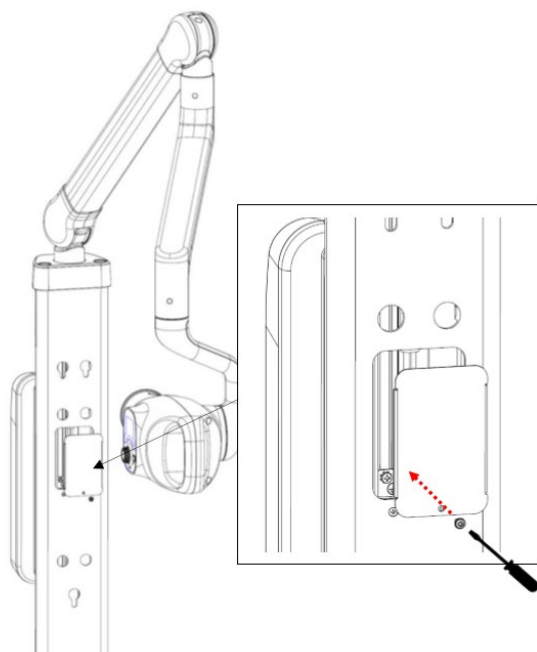


4. Check the operation by connecting the power cable (A) and the exposure switch (B) to each terminal.

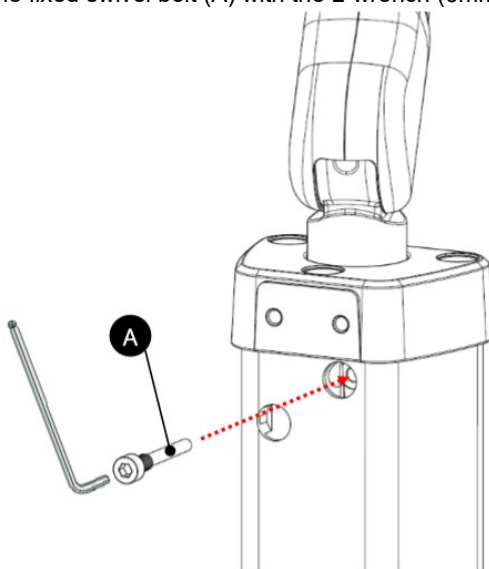


3. Equipment Installation

5. If there is no problem in operation, fasten the column cover (A) with screw washer bolt M3 x L6 (B).



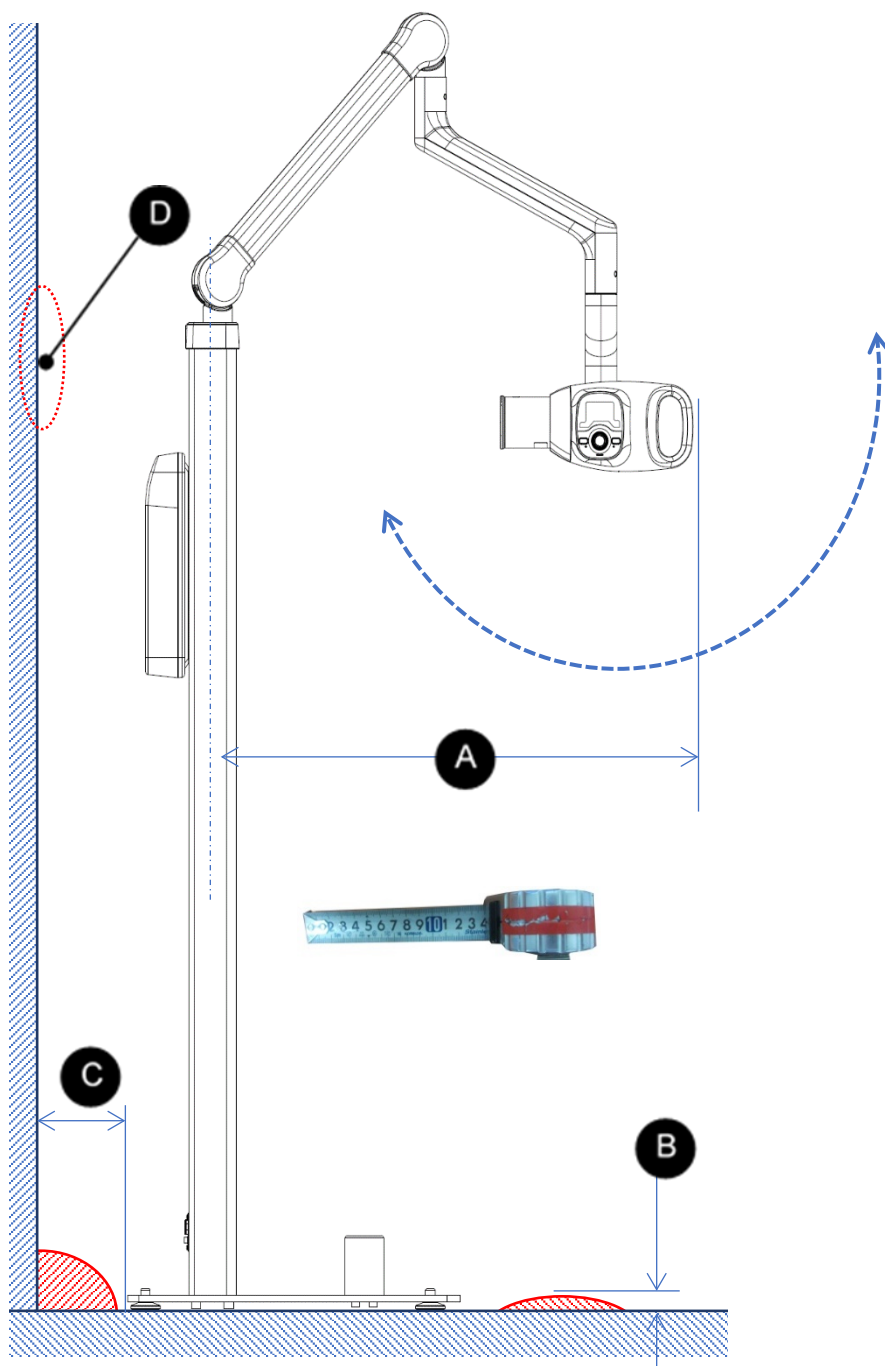
6. Fix the fixed swivel bolt (A) with the L-wrench (6mm).



3.3 Wall Mount Bracket Installation

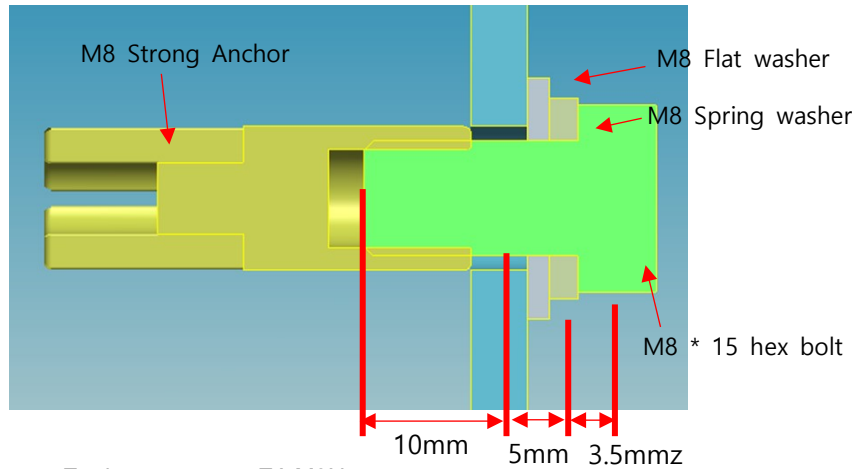
Mounting sequence

1. Determine where the assembly is to be finally installed. The installable conditions are as follows. The wall mount bracket can be only installed if all the following conditions are met.
 - There should be no jamming in the turning radius (A) of the arm (minimum 1.5m)
 - The bottom should be even and flat (B: protrusion / recess max. 10mm)
 - The obstacle should not exceed 150mm in the space (C) between the wall and the Base
 - If not more than 150mm, install a wall mount bracket on the wall (Move to 2-①)
 - If more than 150mm, install an anchor bolt on the bottom (Move to 3-①)
 - Anchor bolts should be installed on the wall (D).
 - If anchor bolt can be installed on the wall, install wall mount bracket on the wall (Move to 2-①)
 - If anchor bolt cannot be installed on the wall, install anchor bolt on the bottom (Move to 3-①)



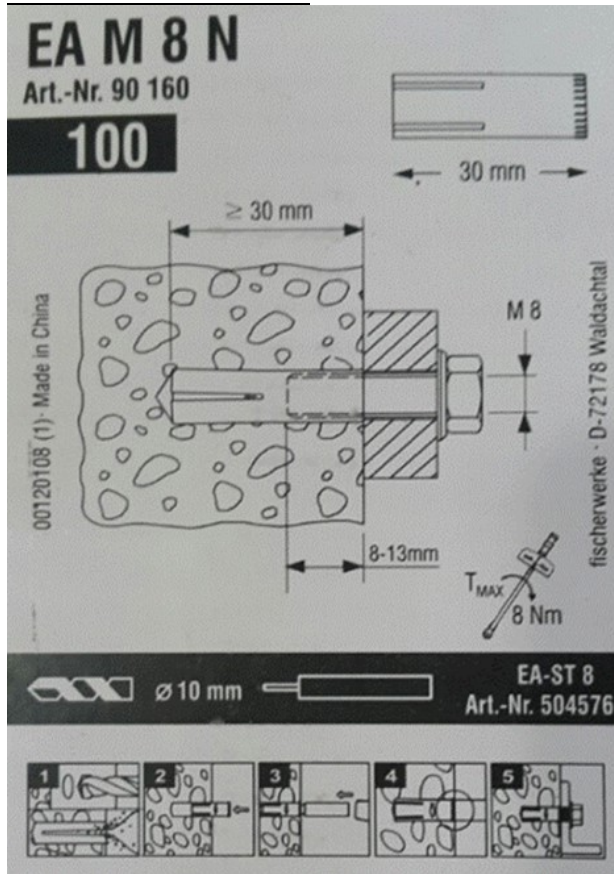
Wall Mount Fixed anchor bolt Specification and installation method

Anchor bolt specification



- Equipment name: EA M8N
- material: Steel (anchor, bolt)
- Surface treatment: Trivalent white zinc plated (anchor, bolt)
- Anchor: M8 Strong Anchor(Female)
- Bolt: M8 x 15 hex bolt
- Bolt Grade: 10.9 grade
- Washer: M8 Spring washer
- Washer: M8 Flat washer

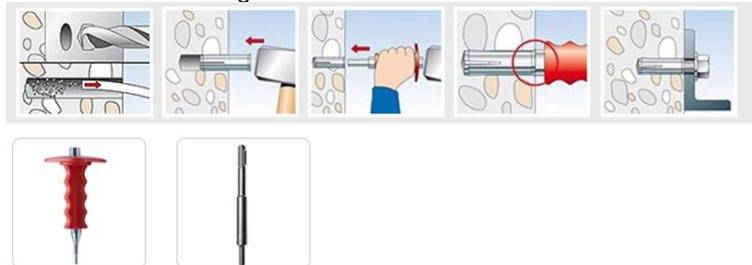
How to install an Anchor bolt



Position the hammer set on the perforation hole and use a hammer to insert the anchor base until it is at the surface height.

The sleeve is extended into the inner bolt by the EHS PLUS setting tool and extends to the perforated wall.

The EHS PLUS setting tool must be on the rim of the anchor.

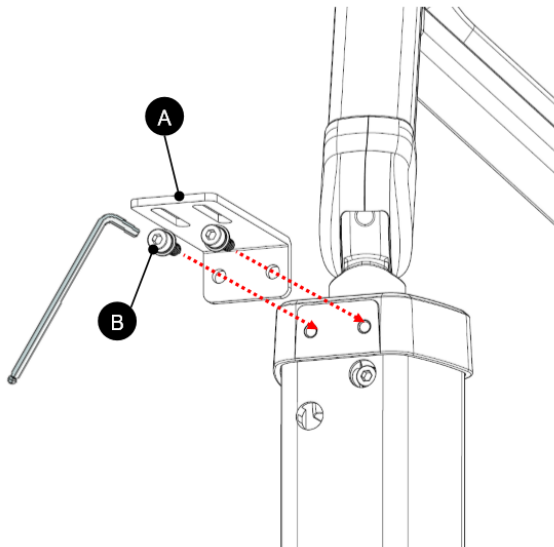


1. Drilling

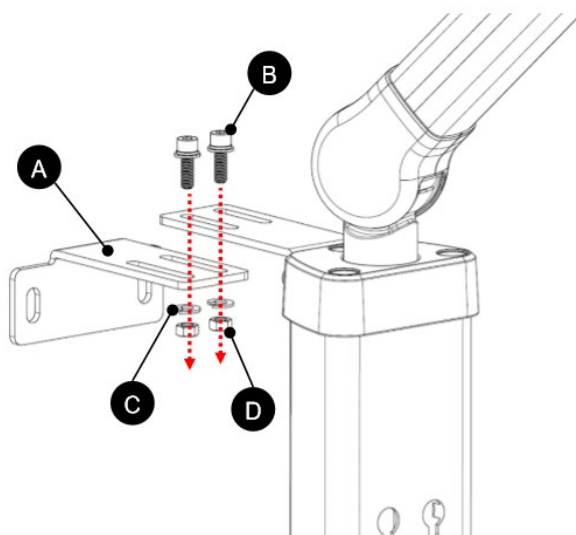
- Hole diameter: $\Phi 10\text{mm}$
- Hole depth: 30mm

2. Removing burr in holes
3. Insert Anchor
4. Punch the anchor base with a hammer until it reaches the surface height.
5. Internal bolt expansion
6. Expanded by inserting it into the inner bolt with a dedicated tool, extended to the perforated wall.
7. Assembled using hex bolts and washers
 - T_{\max} : 8Nm

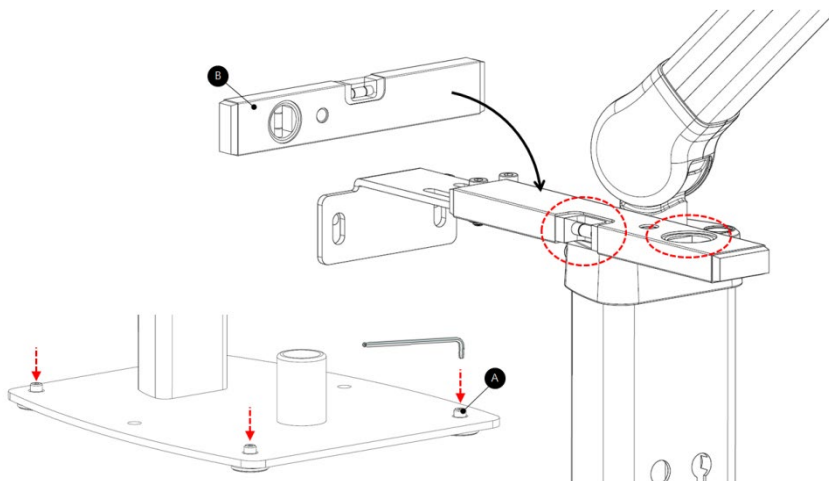
2. ① Tighten the wall mount bracket A (A) with two wrench bolts (2SEMS) M8 x L25 (B). Securely fasten with an L-wrench (6 mm).



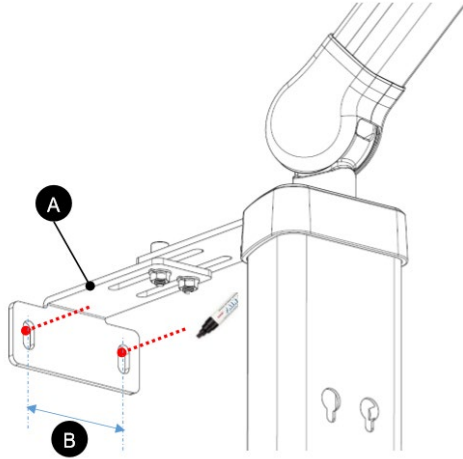
- ② Temporarily assemble the wall mount bracket B (A) with two wrench bolts (2SEMS) M8 x L25 (B), two spring washers M8 (C), Nut (D).



3. ① When you have decided the installation position, Align the four-foot levels (A) horizontally with the L-wrench (6mm). Place the Spirit Level (B) on the top of the column and check the level.

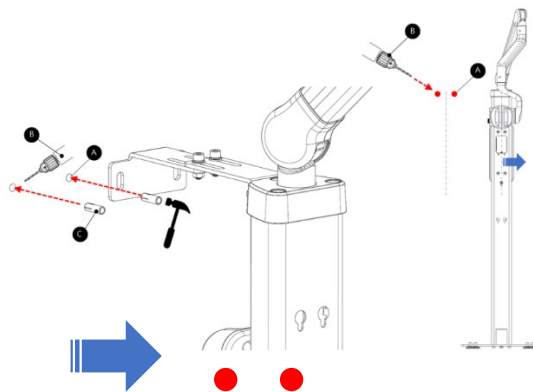


- ② Place the temporarily assembled wall mount bracket B (A) on the wall and mark the position of the hole to be drilled on the wall. The space of (B) is approximately 94 mm.

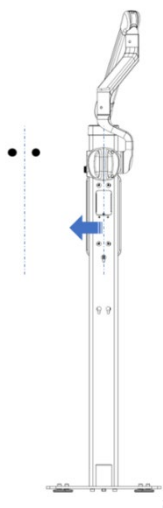


- ③ Place the equipment in another position for a while and drill two holes in the wall at the marked position (A) using the hammer drill (B).

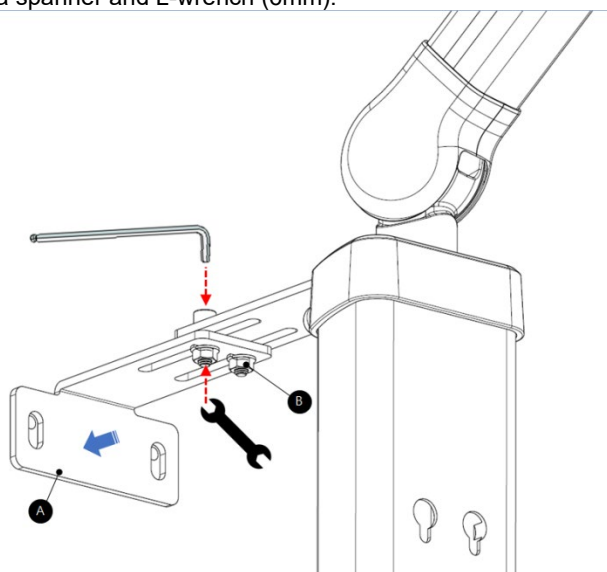
- If the wall is concrete, install two Fisher anchors M8 x 30 (C) in the drilled holes.
- If the wall is plywood, go to 2-⑥.



- ④ Move the instrument back to the position where the anchor is to be installed and check the level. (If necessary) Adjust the level again.

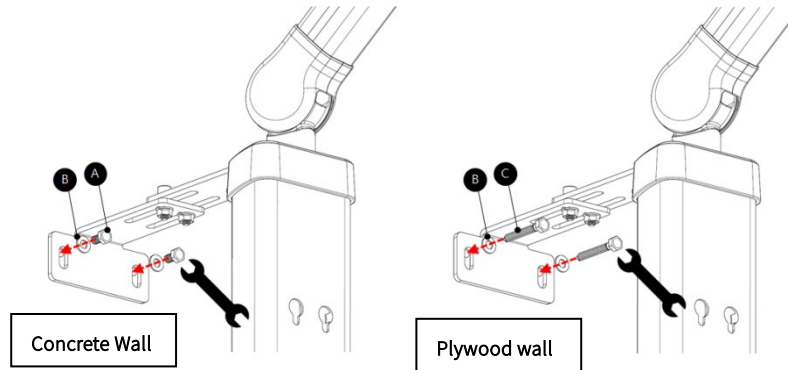


- ⑤ While tightening the wall mount bracket B (A) against the wall, firmly fix the nut (B) with a spanner and L-wrench (6mm).

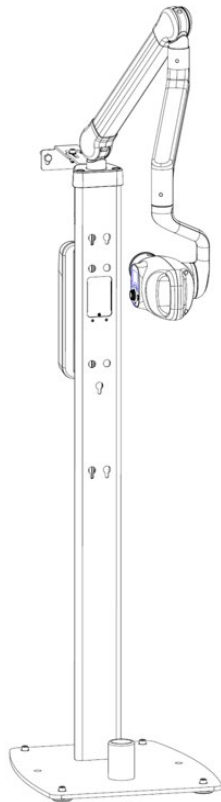


⑥ If the wall is concrete, fix two hexagonal bolts M8 x L15 (A) and M8 washer (B) to the fisher anchor.

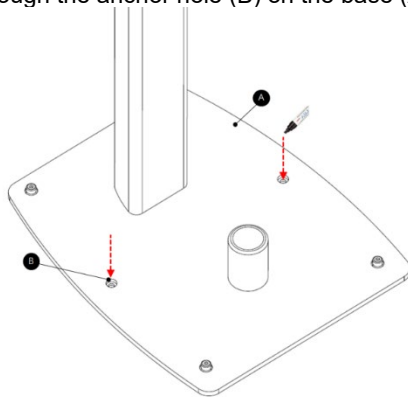
- If the wall is plywood, fix the two wood bolts M8 x L60 (C) and M8 Washer (B).



⑦ Check that the equipment is installed correctly.

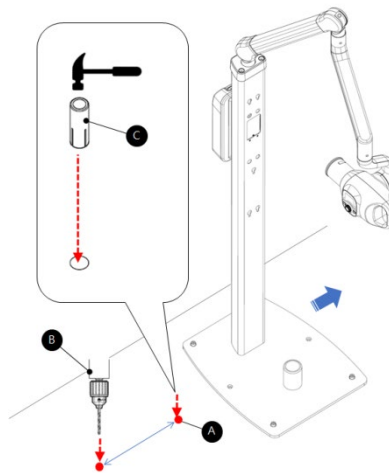


4. ① Once you have decided where to install it, mark the mounting position on the floor through the anchor hole (B) on the base (A).

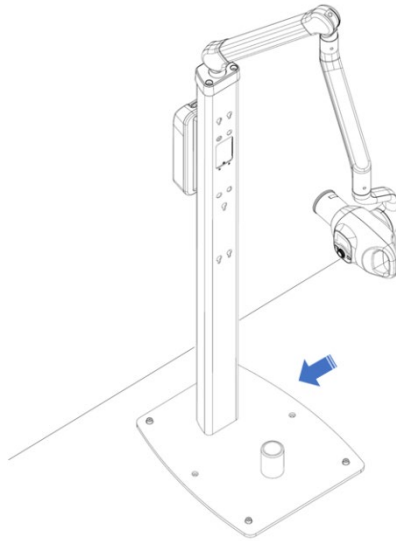


- ② Place the equipment in another position for a while and drill two holes in the floor at the marked position (A) using the hammer drill (B). The flooring must be concrete.

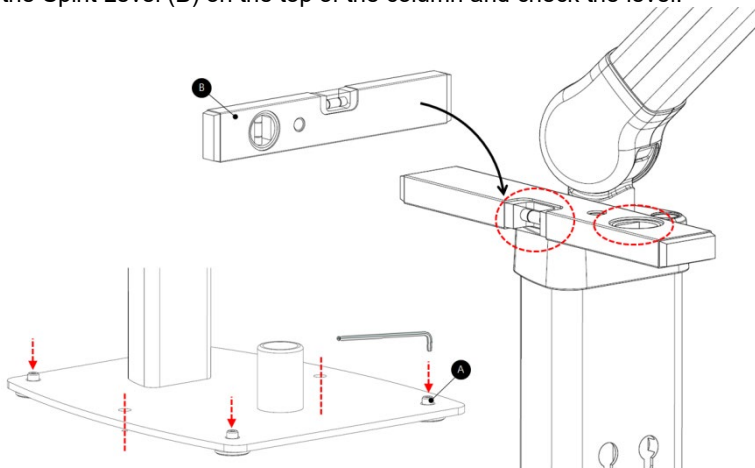
- If the floor is concrete, install two Fisher anchors M8 x 30 (C) in the drilled holes.
- If the floor is not concrete, install the wall mount bracket. Move to 2-①.



- ③ Move the equipment to the position where the anchor is installed.

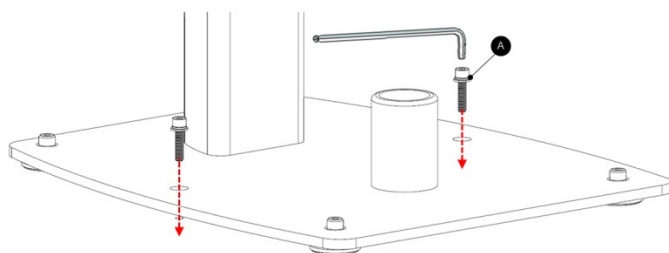


- ④ After aligning the hole where the anchor is to be installed with the hole of the base, adjust the horizontal level of the four-foot levels (A) by using the L-wrench (6mm). Place the Spirit Level (B) on the top of the column and check the level.

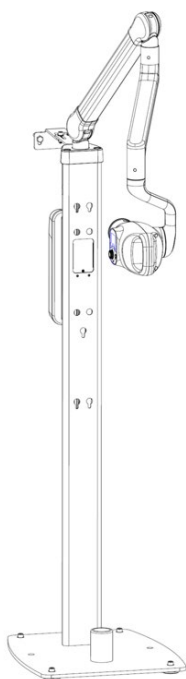


3. Equipment Installation

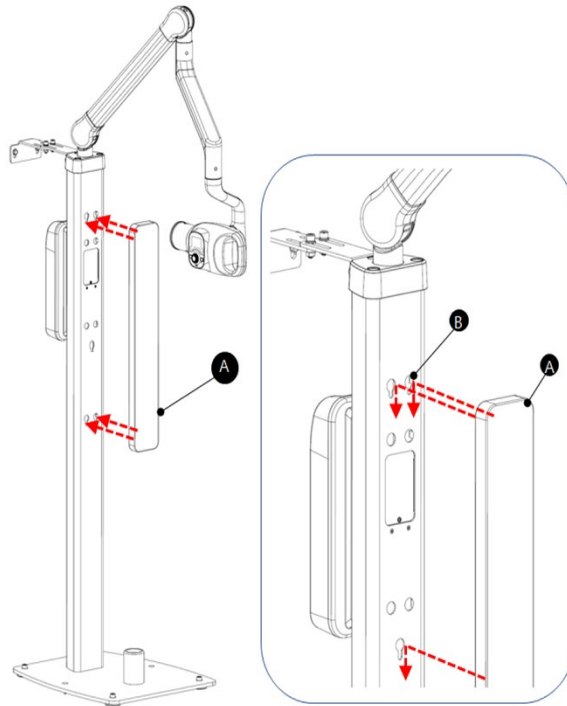
- ⑤ Fix the two wrench bolts (2SEMS) M8 x L35 to the fisher anchor with L-wrench (6mm).



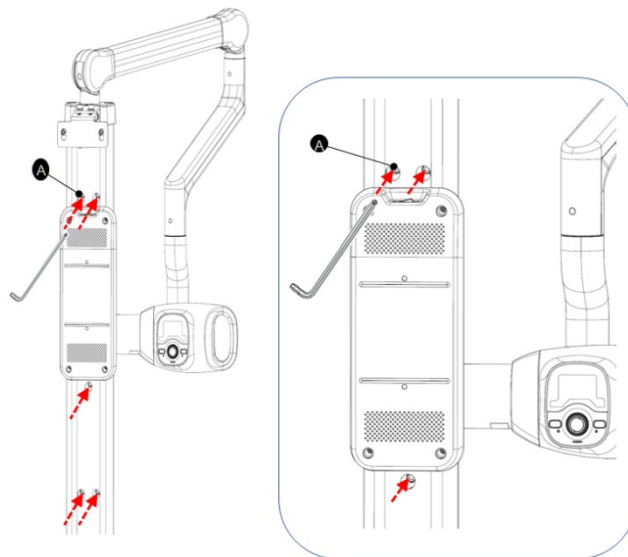
- ⑥ Check the equipment is installed correctly.



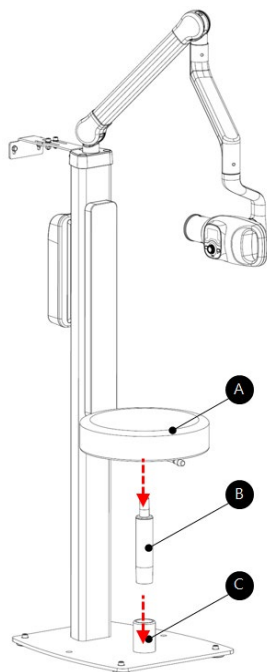
5. Insert the back cushion (A) into the hole (B) of the column and push down to secure it.



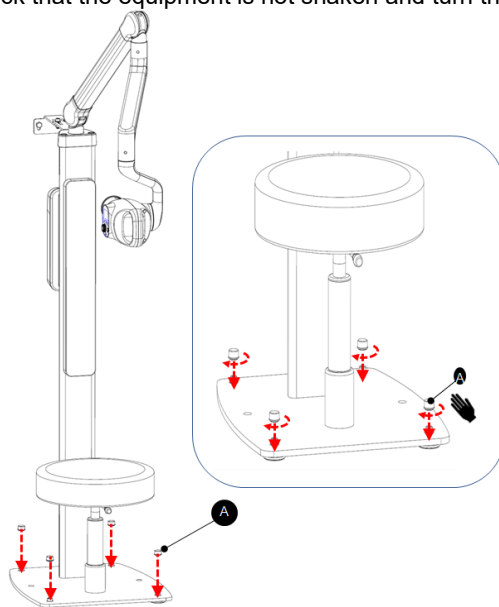
6. Fix the back cushion firmly with five screws (A) and L-wrench (5mm).



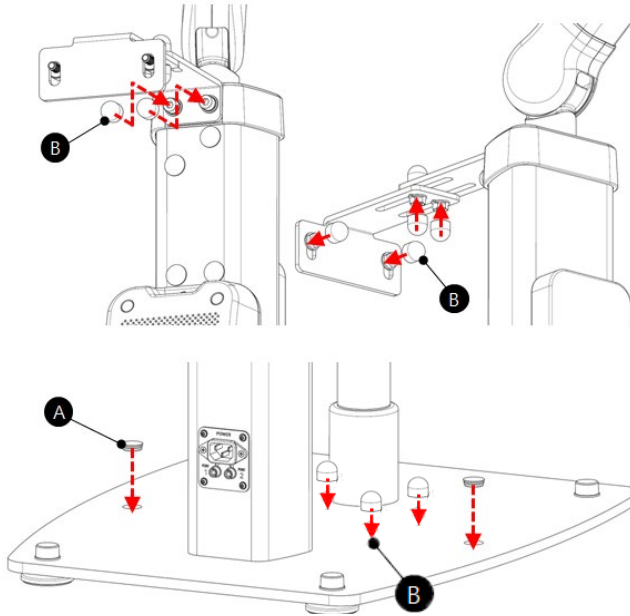
7. Insert seat cushion (A) and cylinder (B) into the support (C) of the base.



8. Check that the equipment is not shaken and turn the four-foot caps to lock.

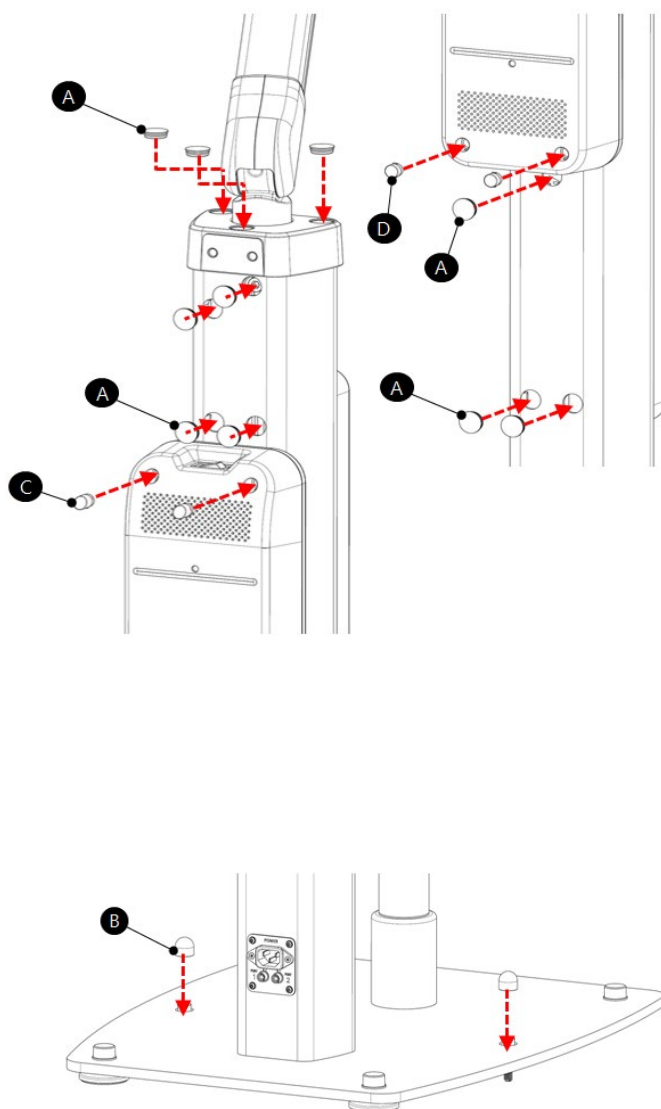


9. ① If the wall mount bracket is installed on the wall, insert a total of 24 silicone screw caps (A, B, C, D) into each hole.

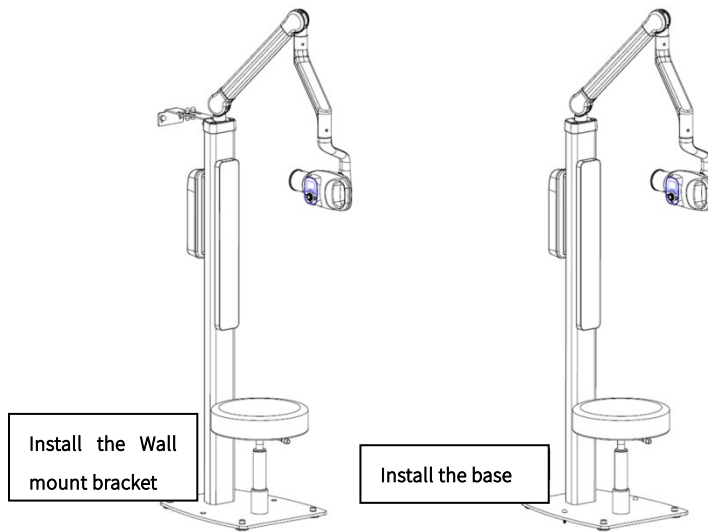


3. Equipment Installation

- ② If the anchor bolt is installed on the floor, insert a total of 24 silicone screw caps (A, B, C, D) into each hole.



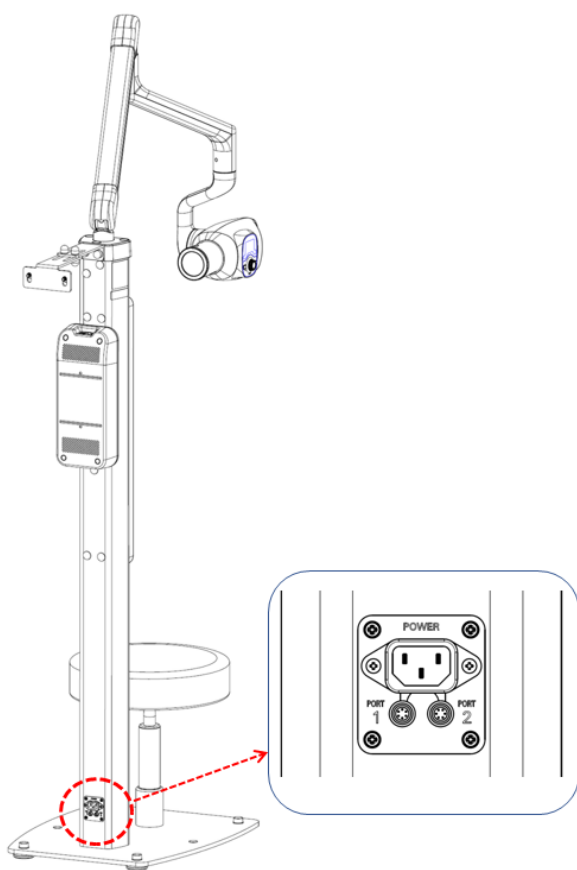
- ③ Confirm installation completion.



3.3.1 Connecting the remote exposure switch and power cable

The bottom of the column has three connectors as described below.

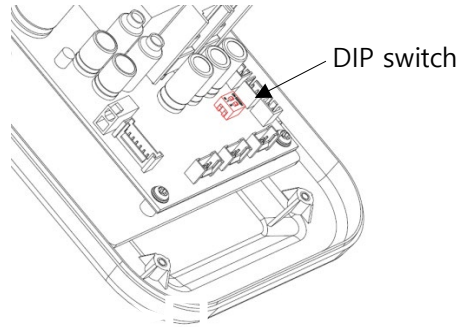
- Ports 1, 2: Remote Exposure Switch connector
- Power: AC power cable connector



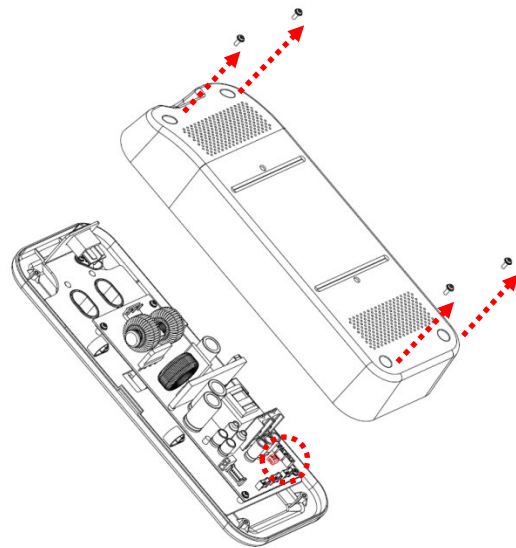
Standard and optional remote exposure switch and door interlock cable are connected to connectors 1 and 2. Check all eight possible options listed in the table below.

Before connecting the cables, make sure that the DIP switch settings are set according to the instructions in the following table.


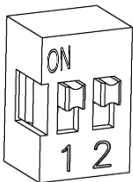


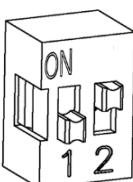
Refer to the location of the DIP switch in the following figure.



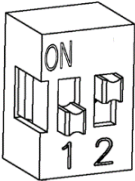


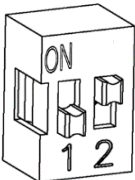


IMPORTANT



3.4 Option and DIP switch setting

Option No.	Explanation	Port 1	Port 2	Power
	DIP switch setting			
Option 1	Press (1).		Not applicable	AC power cable (option)
		(1) Remote Exposure Switch (standard)		
Option 2	Press (1).			AC power cable (option)
		(1) Remote Exposure Switch (standard)	(2) Door interlock cable (option)	
Option 3	Press (1).		Not applicable	AC power cable (option)
		(1) Remote Exposure Switch (Doorbell type) (Standard)		

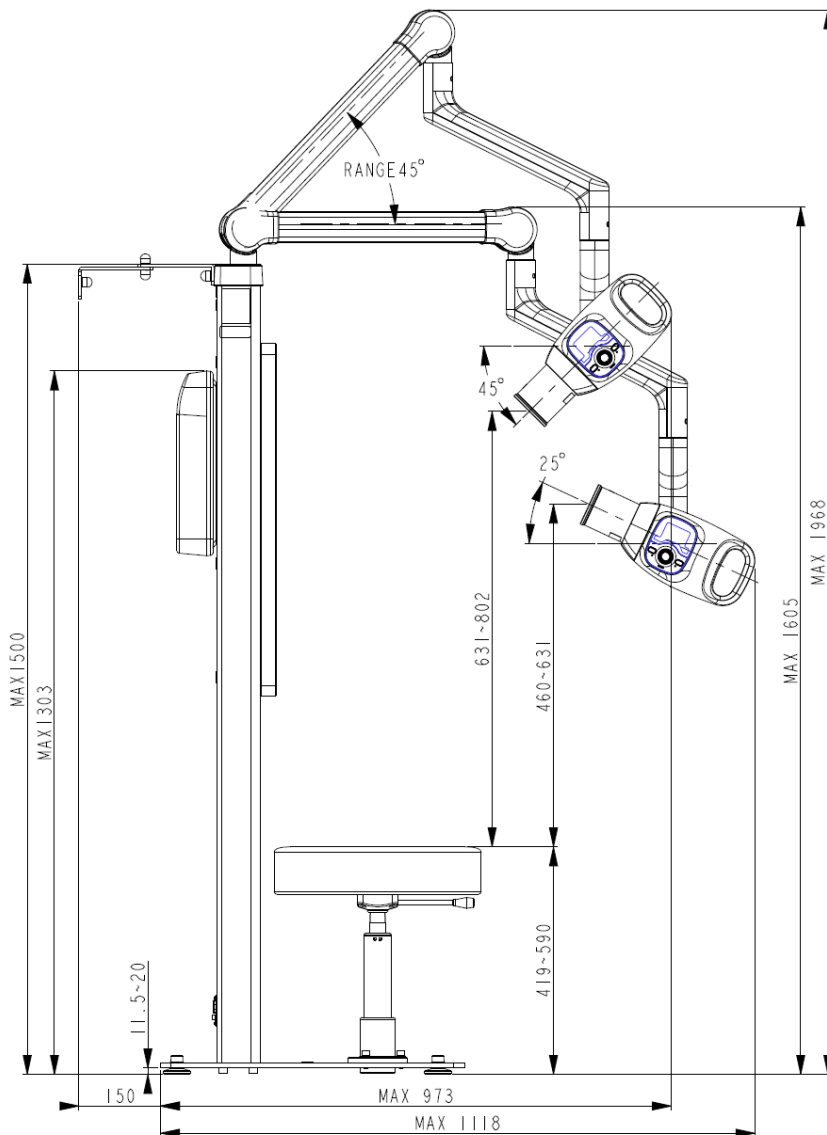
Option no.	Explanation	Port 1	Port 2	Power
	DIP switch setting			
Option 4	Press (1).			AC power cable (option)
		(1) Remote Exposure Switch (Doorbell type) (Standard)	(2) Door interlock cable (Option)	
Option 5	Press (1), (2) simultaneously.			AC power cable (option)
		(1) Remote Exposure Switch (standard)	(2) Remote Exposure Switch (Doorbell type) (Option)	

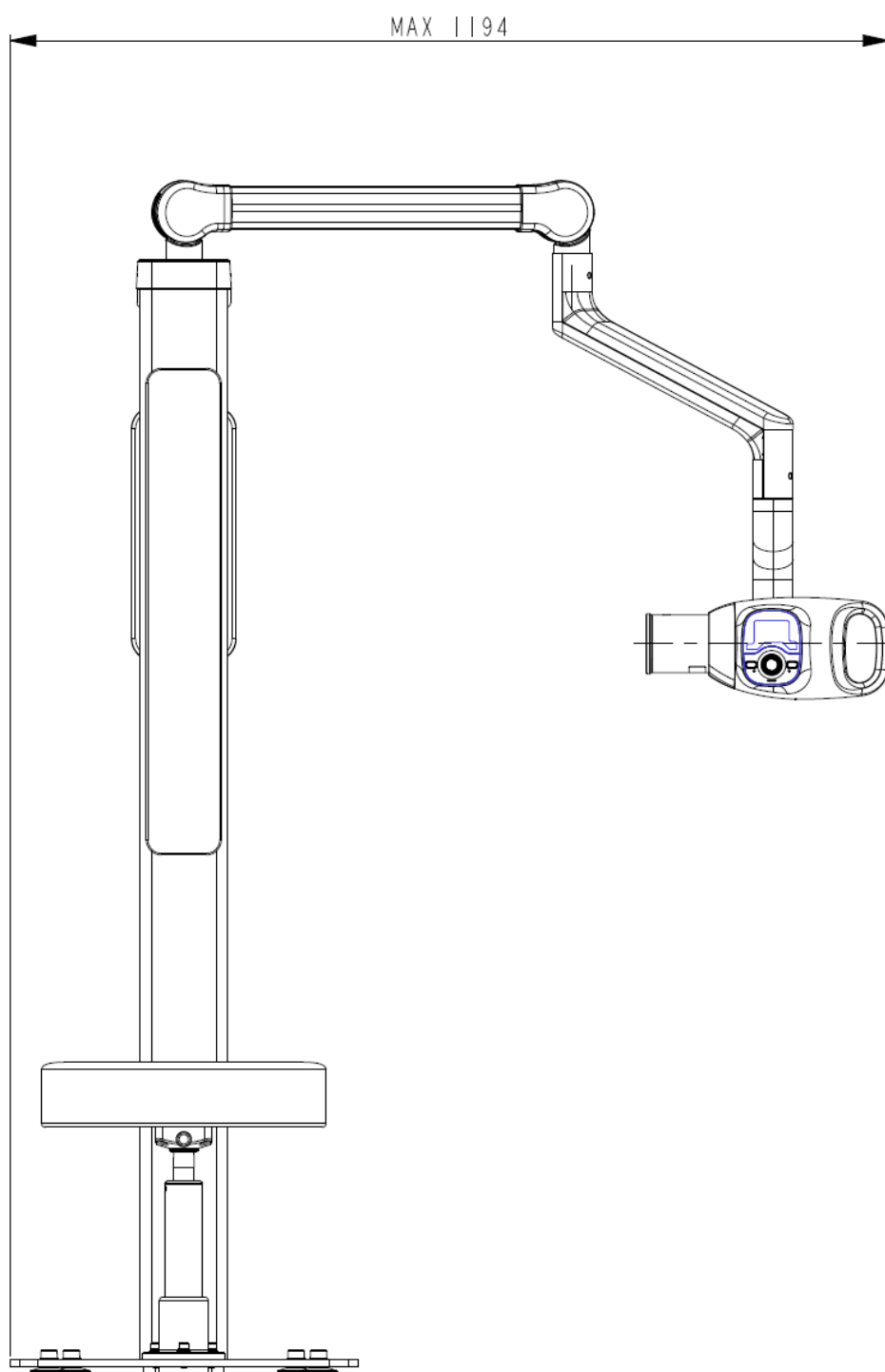
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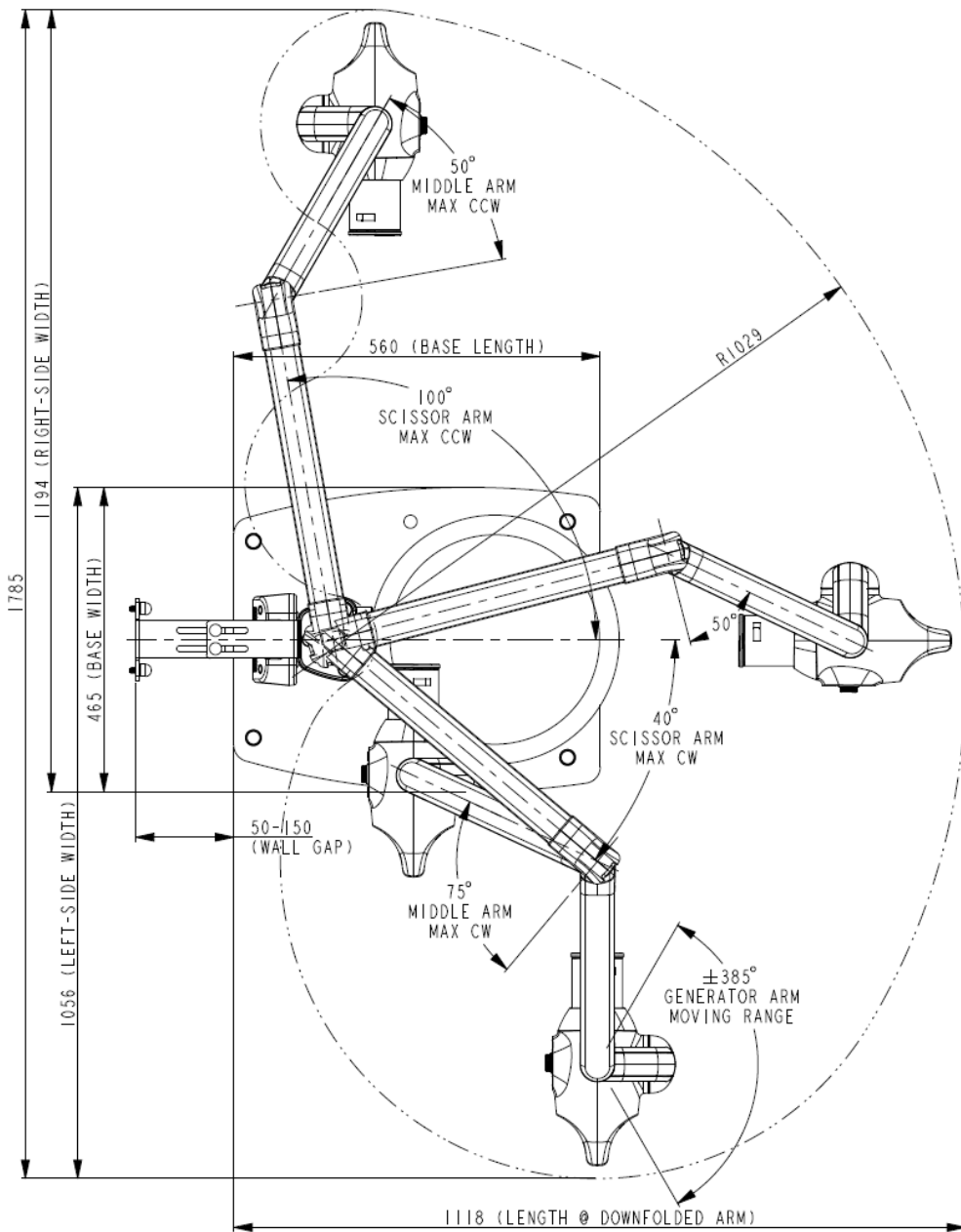
4. Equipment Specification

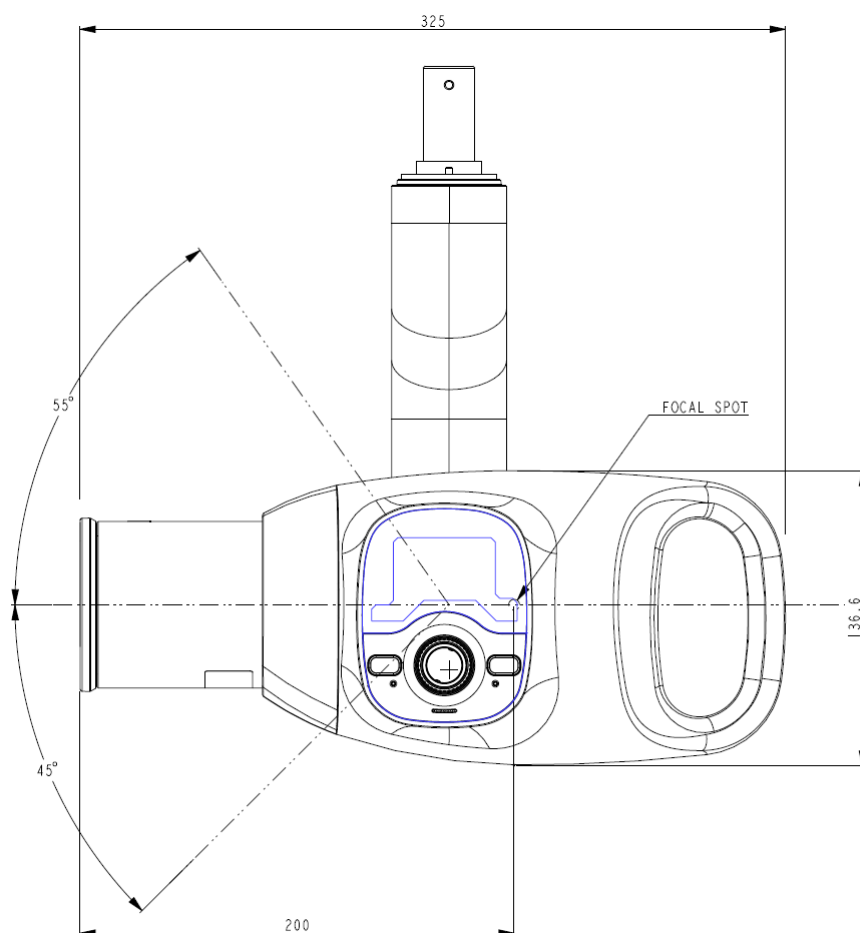
4.1 Mechanical Specification

Size



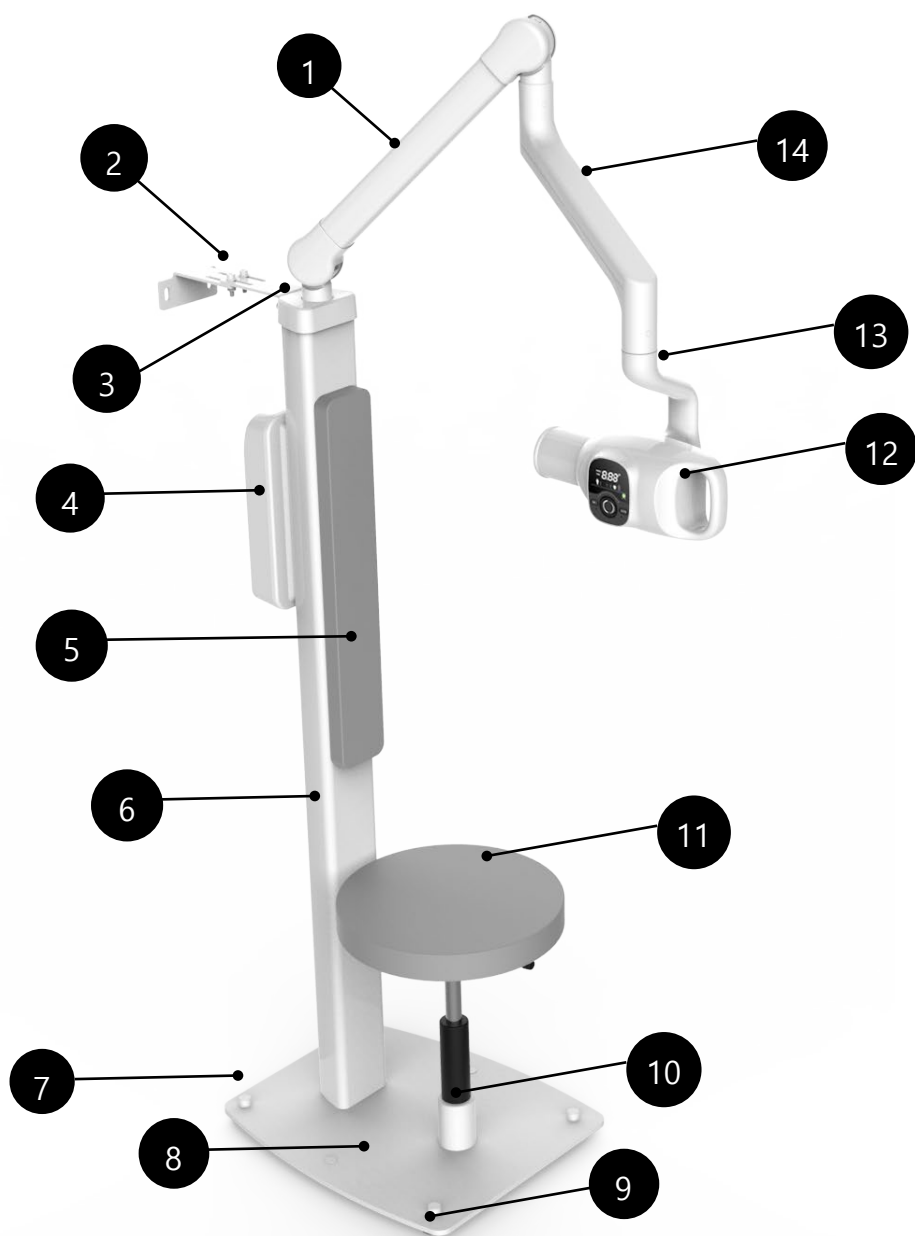






Item			Size (mm)	Weight (kg)
Whole assembly	Upstretch scissor arm		Max. 973 (L) x 1968 (H)	41.5
	Upstretch scissor arm		Max. 1116 (L) x 1659 (H)	
	Right scissor arm		Max. 1192 (W)	
	Left scissor arm		Max. 1054 (W)	
	Maximum column center radius of rotation		Max. 1026 (W)	
Base assembly			465(W) x 589(L) x 1500(H)	31
Arm assembly (unfolded)			845 (L) x 694 (H)	7.8
Power Box Assembly			140(W) x 73(L) x 340(H)	1.7
X-ray generator assembly			194(W) x 325(L) x 324(H)	2.7
X-ray beam Limit device	X-ray Beam area	Circle	80.15 x 7.7(T) FOV: < ø 60mm	0.013
		Rectangle (option)	80.15 x 10.2(T) FOV: 20 x 30 mm (30 x 20), 40 x 30 mm (30 x 40)	0.038
	0.044			
		SSD (Source to Skin Distance)		Min. 200mm

Equipment main body



No.	Item	Description
1	Scissor arm	Adjust the height of the generator head.
2	Wall mount bracket	Fix the equipment on the wall.
3	Column cap	Support shaft of the arm assembly.
4	Powerbox	Control power supplied to the equipment.
5	Column cushion	Support patients ' back.
6	Column	The central vertical frame is supporting arm assembly.
7	Foot cap	Protective cover to prevent foot-level screws from being exposed.
8	Base	The main horizontal frame is supporting the entire equipment.
9	Foot level	Adjust level when installing equipment.
10	Chair support	Fix the chair in a cylindrical shape.
11	Chair	The patient is sitting and examined.
12	Generator head.	The patient was exposed to an X-ray.
13	Generator arm	Adjust the angle of the generator head.
14	Middle arm	Adjust the direction of the generator head.

4.2 Technical Specification

X-ray generator

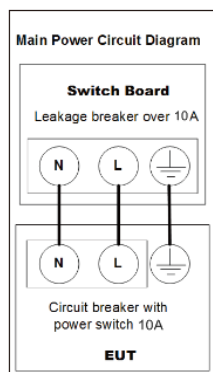
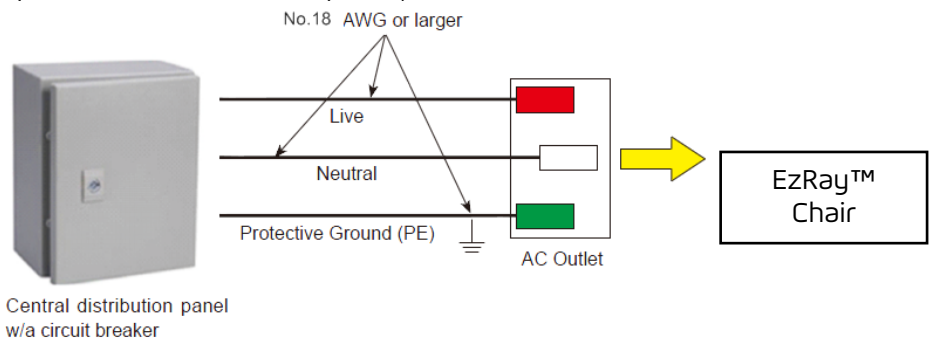
	Item	Description
High voltage generator (assembly)	Model	DG-S0102V1
	Rated output	Max. 0.2 kW
	Duty cycle	1:60 or higher (exposure time: Interval time)
	Cooling prevention	Thermistor $\geq 65^{\circ}\text{C}$
	Intrinsic filtration	1.8 mm Al / 65 kV
	77Total filtration	Min. 1.5mm Al
	Type	Inverter type
	Tube voltage	55-65 kV
	Tube current	1.0-3.0 mA
X-ray tube	Manufacturer	VATECH Co., Ltd.
	Model	V1-650304 (Stationary anode type)
	Focal size	0.4 mm (IEC 60336)
	Anode heat content	Max. 2.7kJ
	Maximum anode heat release	200W
	Target material	Tungsten
	Target angle	12.5°
	Intrinsic filtration	Min. 1.5mm Al
	X-ray range	70 mm at SID 200 mm
	Tube voltage	Max. 65kV
	Tube current	Max. 3.0mA

4.4 Electrical Specification

Item	Description
Power supply voltage	100-240V
Frequency	50 / 60Hz (single phase)
Rated power	4-2 A
Tube voltage	65kV Fixed ($\pm 3\%$)
Tube current	3.0 mA
Accuracy error	$<kVp + 10\%$, $<mA + 20\%$, $<s + 5\%$, or 20ms

- The input line voltage varies depending on the local distribution system.
- Allowable Input Voltage Variation Requirements: $\pm 10\%$

Operating mode: Continuous operation of intermittent load (wait for 60 times of exposure time and start next exposure)



4.5 Environmental Specification

	Item	Description
In operation	Temperature	10~35°C
	Relative humidity	30~75%
	Atmospheric pressure	860~1060 hPa
Transport and storage	Temperature	-10~60°C
	Relative humidity	10~75% Non-conditioning
	Atmospheric pressure	860~1060 hPa

Appendix

A.1 Installation checklist

General information

Information on equipment buyer (customer)	
Hospital name	
Address	
Telephone	
e-mail	

Information on equipment dealer (distributor)	
Distributor name	
Telephone	
e-mail	
Website	

Installation information

Installation information	
Installer name	
Expected installation date	
Installation date	
Model	
Serial Number	

Upon installation

Checklist	Yes	No
Did the installer handle the sensitive parts carefully while transporting the equipment?	<input type="checkbox"/>	<input type="checkbox"/>
Did the installer install according to the instruction?	<input type="checkbox"/>	<input type="checkbox"/>
Has the installer checked that the harness and equipment are correctly connected and undamaged?	<input type="checkbox"/>	<input type="checkbox"/>
Has the equipment been appropriately balanced?	<input type="checkbox"/>	<input type="checkbox"/>

After installing

Checklist	Yes	No
Were there any problems with the appearance when the equipment was visually inspected?	<input type="checkbox"/>	<input type="checkbox"/>
Is each arm moving smoothly?	<input type="checkbox"/>	<input type="checkbox"/>
Does the arm (horizontal and scissors) fall by itself?	<input type="checkbox"/>	<input type="checkbox"/>
Is the LED on the front of the equipment displayed usually?	<input type="checkbox"/>	<input type="checkbox"/>
Does the equipment supply power usually?	<input type="checkbox"/>	<input type="checkbox"/>
Are test videos satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>

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We reserve the right to make any changes that may be required due to technical improvements.
For the latest information, please contact VATECH dealer or distributor.

Manufacturer: VATECH Co., Ltd.

TEL: (+82) 1588 9510

e-mail: gcs@vatech.co.kr

Website: www.vatech.com

Headquarter address: 18449, Samsung 1ro 2gil 13, Hwaseong City, Gyeonggi-do, Korea

Factory Address: 18449, Samsung 1ro 2gil 13, Hwaseong City, Gyeonggi-do, Korea



The CE symbol acknowledges that this device follows the European Directive for Medical Devices Directive 93/42 / EEC (including any amendments made to Class IIb equipment by 2007/47 / EC).



Authorized EU Representative: Vatech Global France (SARL)
51 Quai de Dion Bouton 92800 Puteaux France

Tel: +33 1 64 11 43 30
Fax: +33 1 64 11 43 39

EzRayTM Chair