# EVOGUE UNIT

# INSTALLATION INSTRUCTIONS

Belmont

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## SWING MOUNTED DELIVERY

## OVER THE PATIENT DELIVERY

## CABINET MOUNTED DELIVER SYSTEM

## CART DELIVER SYSTEM



## Installation for Power Supply Box / Floor Template

## Intended Use of the Product

This product is an active therapeutic device intended to administer or exchange energy of electric, air and water for the exclusive use for diagnoses, treatments and relative procedures of dentistry, and its characteristic is not in a potentially hazardous way between such energy and human body, taking account of the nature, the density and site of application of the energy.
The product must be operated or handled by the qualified dentists or by dental staffs under the supervision of the dentist.
Such dentists or dental staffs should instruct and/or assist the patients to approach to and leave from the product.
Patients should not be allowed to operate or handle the product unless he/she is so instructed.
The product is supplied together with the handpieces like electric micromotor, air turbine and/or motor, scaler and so on.

## Environmental Requirements

Environment for use :

| | |
|---|---|
| Temperature | 32-104ºF (0-40ºC) |
| Humidity | 10-95% (No condensation) |
| Atmospheric pressure | 10.2-15.4psi (700-1,060 hPa) |

Environment for transport and storage :

| | |
|---|---|
| Temperature | -4-158ºF (-20-70ºC) |
| Humidity | 10-95% (No condensation) |
| Atmospheric pressure | 10.2-15.4psi (700-1,060 hPa) |

Equipment is not suitable for use in environments with, flammable anesthetic gases, oxygen or nitrous oxide.

## Classification of Equipment

a. Type of shock protection : Class I Equipment
b. Degree of shock protection : Type B Applied part
c. Degree of protection against water ingress : Ordinary Equipment (All Products)
d. Mode of operation : Continuous Operation
e. Flammable Gases : Not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.
f. Earth : Protective earth (ground)
g. Hospital Grade Plug : Grounding reliability can be achieved only when the equipment is connected to an equivalent receptacle marked hospital only or hospital grade.

**CAUTION**

**Ground reliability can only be achieved when the equipment is connected to an equivalent receptacle marked HOSPITAL only or HOSPITAL GRADE.**

## Standards for rising

**Water supply :**

| | |
|---|---|
| Pressure | 29-58 psi (0.2-0.4 MPa) |
| Minimum water flow | 1.6gpm (6 L/min) |
| Hardness | Less than 2.14mmol/L (< 12°dH) |
| pH | 6.5-8.5 |
| THREADED PIPE | |
| Water quality | Must satisfy the national requirements pertaining to drinking water. |

Comply with the national requirements concerning the connection of the Evogue unit to the public drinking water supply.

**Air supply :**

| | |
|---|---|
| Pressure | 72.5-101.5 psi (0.5-0.7 MPa) |
| Minimum flow rate | 26.5gpm (100 L/min) |
| Oil contamination | Max 0.5mg/$m^3$ |
| Particle contamination | Particle size (1μm - 5μm), less than 100/$m^3$ |
| THREADED PIPE | |

**Vacuum :**

| | |
|---|---|
| Minimum flow rate | 142.5gpm (500 NL/min) (Cannula connector 66gpm (250 NL/min)) |
| Vacuum pipe diameter | 5/8 O.D.TUBE |
| Inclination | 1/200-1/400 |

**Drainage :**

| | |
|---|---|
| Maximum drainage | 0.79gpm (3 L/min) |
| Inclination of the drain pipe | ≥ 1/50 |
| Drain pipe diameter | 1-1/2 NORMALPIPE |

**Power supply :**

| | |
|---|---|
| Electrical wire | more than 11-7/8” (300mm) above the floor, w/ grounded plug |

- Be sure to perform adequate drainage and air bleeding before connecting the Evogue unit, so that no dust, etc. will be let into the unit.
- If the configuration set does not meet the above standards, it may cause a problem of handpiece rotation, flow rate of air/water, or malfunction.
  Confirm that the configuration meets the required standards before installation.

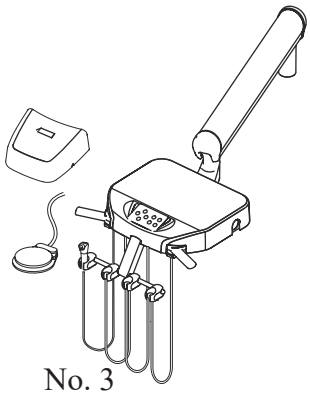
# 1. Introduction

## 1-1. Precautions for Installation

- Do not connect to power supply other than 120V/60Hz.
- Ground the unit properly.
- Attach the junction box firmly to the floor.
- When electric micromotor (option) or electric scaler (option) is installed, please refer to the manual for the each device.
- Do not drop or hit the chair.
- When the installation process has been completed, verify that all the mechanical and electrical functions are working properly and that there is no evidence of oil, water or air leakage.
- Attach the dental chair to the floor before mounting the unit.
- Refer to the installation manual of Quolis 5000 dental chair to know how to install the dental chair.
- Refer to Floor Template for connection of water, air, power, drain hose and vacuum hose.

## 1-2. Necessary Tools

- Phillips screw drivers set #1, #2.
- Slotted screw driver
- Hex key wrenches set (metric, 2.5mm – 8mm)
- Adjustable wrench (over 24mm)
- Long nose pliers
- Wire cutter
- Socket set 17mm, 7mm, 1/4”
- Level

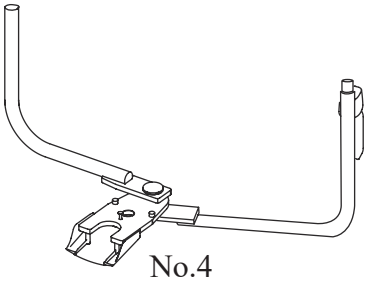

No. 3

## 1-3. Unpacking of Units

Each carton number corresponds to a component

| Box No. | Module |
|---|---|
| 3 | Doctor's control |
| 4 | Swing arm (s) |
| 5 | Vac pac |
| 6 | PMU |
| 7 | Side Delivery |
| 8 | Rear Delivery |
| 9 | Continental Type Delivery |
| 10 | Cart Delivery |

Check all the components and parts damage after unpacking.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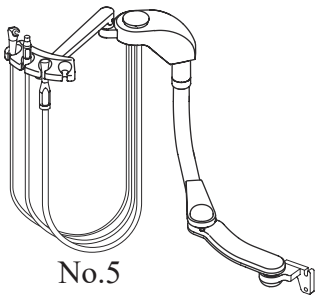
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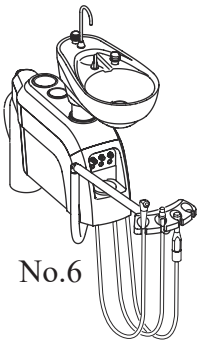
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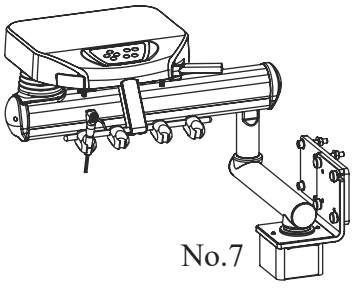
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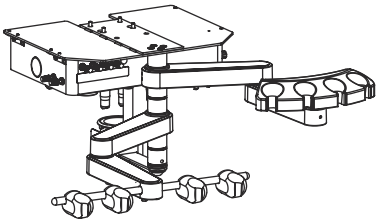
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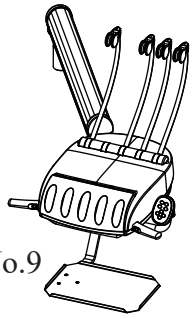
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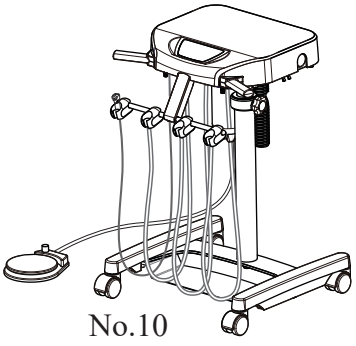

No.10

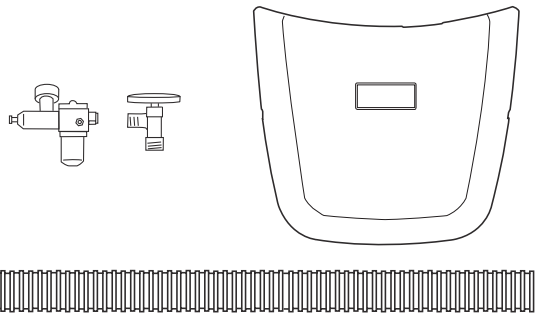
**CAUTION**

**Opening cartons with a sharp object may cause damage to parts**

## Box No.3 (Doctor's control)

(1) Doctor's control assembly 1 set
(2) Junction box assembly 1 set
- Junction box with cover 1 set
- Duct hose 800mm 1 pc.
- Utility package (air) 1 set

(3) Balance arm end cap 1pc.
(4) Stainless tray and non-slip pad 1 set
(5) Foot control 1 set
(6) Syringe parts 1 set
(7) Operating manual, installation manual 1 set
(8) Miscellaneous parts for installation as follow
- Sleeve for 1/4" OD tubing 14 pcs.
- Sleeve for 1/8" OD tubing 12 pcs.
- Barb fitting for 1/4" OD tubing 3 pcs.
- Barb fitting for 1/8" OD tubing 3 pc.
- Hex plug 2 pcs.
- Tubing 1/8" OD brown 500mm 1 pc.
- Tubing 1/4 Green 500mm 1 pc.
- Pan head Philips screw M4 x 10mm 2 pcs
- Round head Philips wood screw M5 x 25mm 3 pcs.



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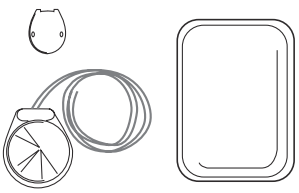
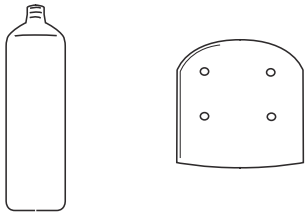


(3), (4), (5)

(6)

## Box No.4 (Swing arms)

(9) Swing arm Assembly 1 set
(10) Water bottle 1 pc
(11) Lower tubing cover 1 pc.
(12) Quick disconnect adaptor for water bottle 1pc.
(13) Swing arm locking pin for dental light 1 pc. (For the swing mounted light only)
(14) Miscellaneous Parts for installation as follow.
- Socket screw M10 x 40mm (for mounting) 4 pcs.
- Socket screw M10 x 20mm (for level) 4 pcs.
- Pan head Phillips screw M5 x 16mm 4 pcs.
- Flat head screw M10×35mm 1 pc.
- 1/4 sleeve 2 pcs.
- 1/8 sleeve 1 pc.



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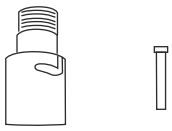
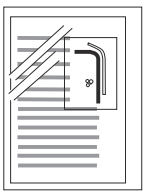


(12) , (13)

## Box No.5 (Vac Pac)

(15) Vac Pac Assembly 1 set
(16) Syringe parts 1 set
(17) Miscellaneous Parts for installation as follow.
- Socket screw M10 x 40mm (for mounting) 4 pcs.
- 1/4 sleeve 2 pcs.
- Barb fitting for 1/4 OD tubing 2 pcs.

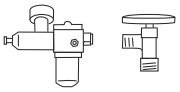


(16)

## Box No.6 (PMU)

(18) PMU Assembly 1 set
(19) Junction Box Assembly 1 set
(20) Syringe parts 1 set
(21) Cuspidor Bowl Section
- Cup filler nozzle 1pc.
- Bowl Rinse nozzle 1pc.
- Basket Strainer & Cap 1pc.

(22) Miscellaneous Parts for installation as follow.
- Socket screw M10 x 40mm (for mounting) 4 pcs.
- 1/4 sleeve 8 pcs.
- Barb fitting for 1/4 OD tubing 5 pcs.



(19)

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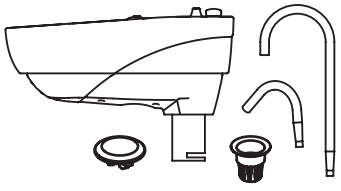
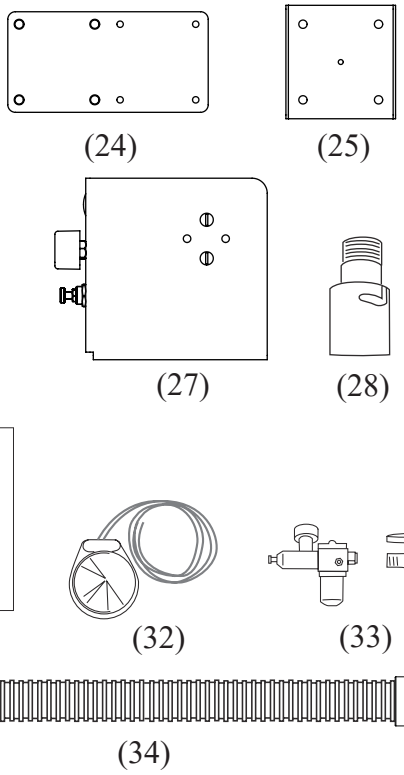


(21)

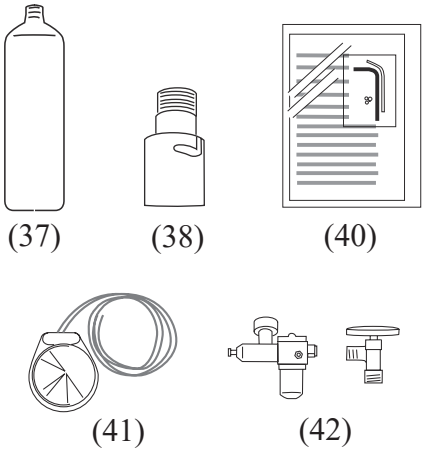
## Box No.7 (Side Delivery)

(23) Side Delivery Assembly 1 set
(24) Mounting plate 1 pc.
(25) Reinforce plate 1 pc.
(26) Water bottle 1 pc.
(27) Water bottle Bracket Assembly 1 set
(28) Quick disconnect adaptor for water bottle 1 pc.
(29) Operating manual, installation manual 1 set
(30) Handpiece tubing 3 set
(31) Syringe parts 1 set
(32) Foot control 1 set
(33) Utility package (air) 1 set
(34) Duct hose with two clanp 1 pc.
(35) Miscellaneous parts for installation as follow
- Tapping screws (M5 x 16) 3 pcs.
- Flat washer (M10 x 22 x 1.6 SUS) 12 pcs.
- Hexagon head nut (M10 SUS) 4 pcs.
- Hex socket head cap bolt (M10 x 60) 4 pcs.
- Hexagon head bolts (M10 x 25) 4 pcs.
- Bolt cap M16 4 pcs.
- 1/8 Sleeve 5 pcs.
- 1/4 Sleeve 5 pcs.
- Tubing Assembly 1/4 Yellow 300mm
  (For connect Foot control and Utility package) 1 pc.



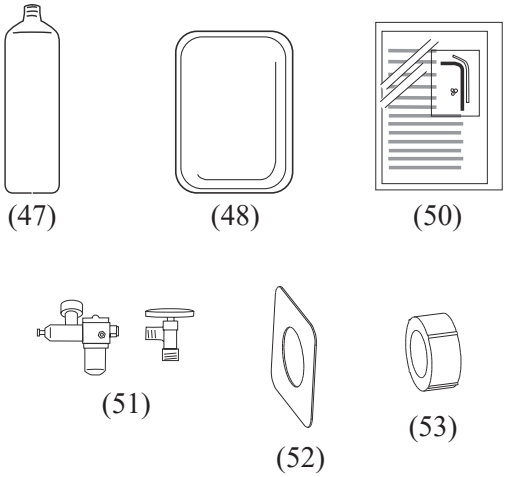

## Box No.8 (Rear Delivery)

(36) Rear Delivery Assembly 1 set
(37) Water bottle 1 pc.
(38) Quick disconnect adaptor for water bottle 1pc.
(39) Operating manual, installation manual 1 set
(40) Syringe parts 1 set
(41) Foot control 1 set
(42) Utility package (air) 1 set
(43) Miscellaneous parts for installation as follow
- Hex wrench M6 1 pc.
- Cap screw No. 10-24 unc 5/8
- 1/8 Sleeve 5 pcs.
- 1/4 Sleeve 5 pcs.
- Tp M5x20 4 pcs.




## Box No.10 (Cart Delivery)

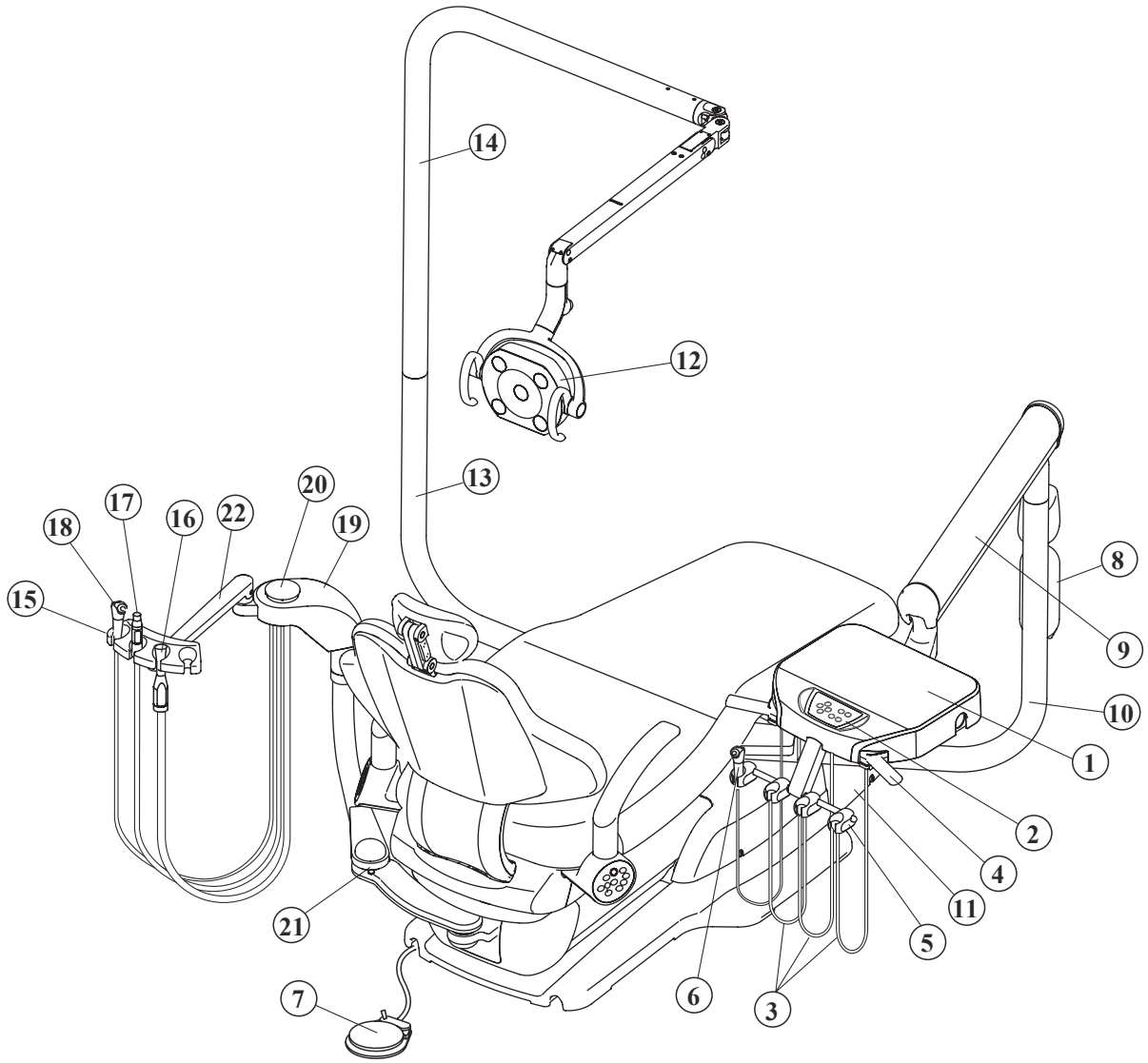
(44) Cart base assembly 1 set
(45) Base support post assembly 1 set
(46) Doctor table top assembly 1 set
(47) Water bottle 1 pc.
(48) Stainless tray and non-slip pad 1 set
(49) Operating manual, installation manual 1 set
(50) Syringe parts 1 set
(51) Utility package (air) 1 set
(52) Fixing plate 2 pcs.
(53) Hose clamp 2 pcs.
(54) Miscellaneous parts for installation as follow
- Cap bolt (M12 x 30 plated) 1 pc.
- Flat washer (M12 x 20 x 1.6 plated) 1 pc.
- Spring washer (M12 plated) 1 pc.
- Cap bolt M6 x 12 SUS 4 pcs.
- Spring washer M6 SUS 4 pcs.
- Set screw M6 x 5 SUS 4 pcs.
- 1/8 Sleeve 4 pcs.
- 1/4 Sleeve 4 pcs.



# SWING MOUNTED DELIVERY

## 2. Overview and Major Components

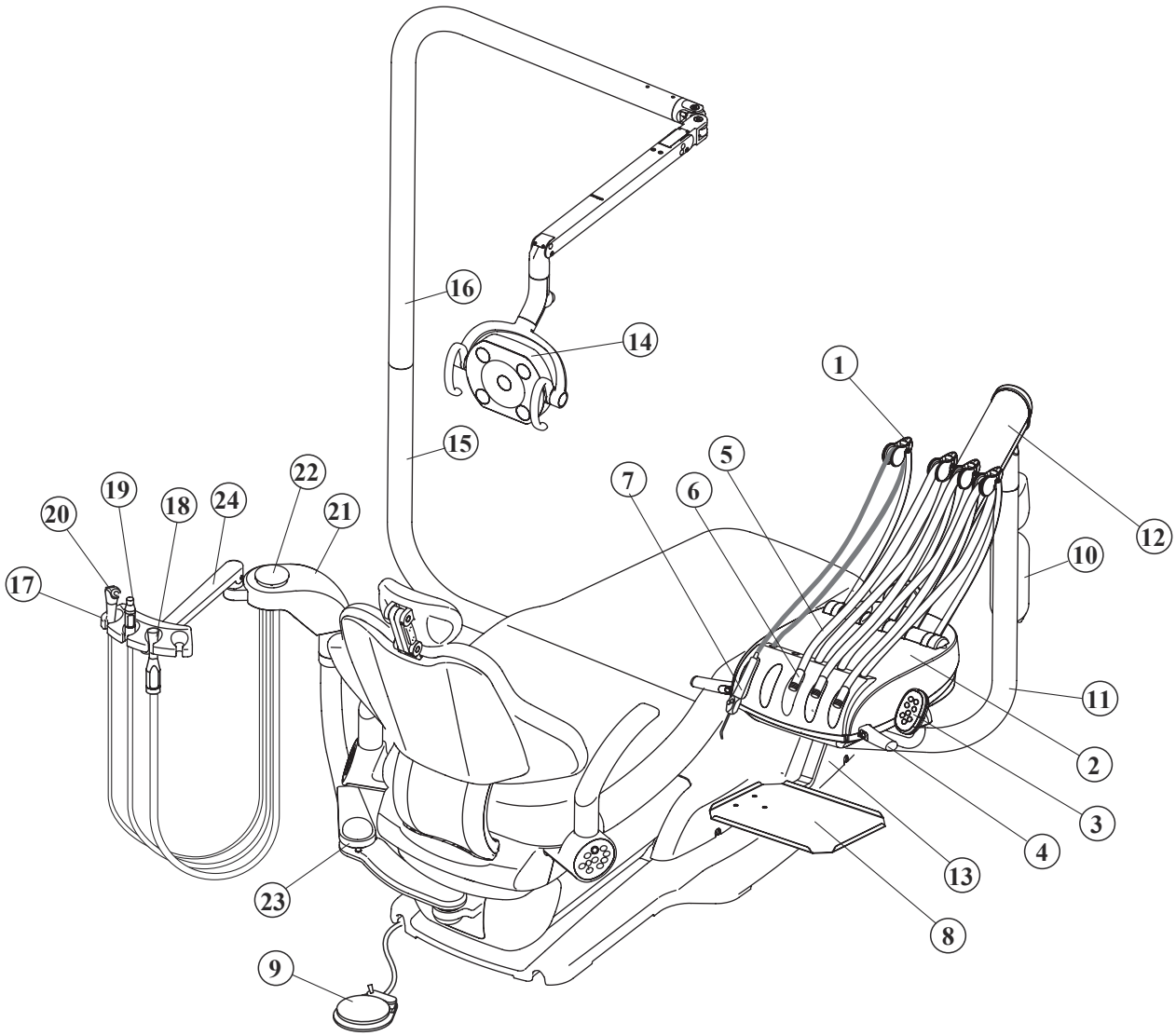
### 2-1. Swing Mounted Delivery System with Vac Pac (Quolis Chair / Clesta LED Dental Light)




(1) Control Head
(2) Chair Seat Positioning Touchpad
(3) Handpiece Hose
(4) Handle
(5) Handpiece Holders
(6) Doctor's Syringe (*)
(7) Foot Control
(8) Water Bottle
(9) BalanceArm
(10) Doctor SwingArm
(11) Junction Box
(12) Dental Light
(13) Dental Light Swing Arm
(14) Light Pole
(15) Assistant Instrument Holder
(16) HVE
(17) Saliva Ejector
(18) Assistant's Syringe (*)
(19) Vac Pac Housing
(20) Solids Collector
(21) Assistant SwingArm
(22) Assistant HolderArm

*(*Note) Evogue does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

## 2-2. Swing Mounted Delivery System with Continental Type and Vac Pac (Quolis Chair / Clesta LED Dental Light)




(1) Rod Mechanism
(2) Control Head
(3) Chair Seat Positioning Touchpad
(4) Handle
(5) Handpiece Hose
(6) Handpiece Rest
(7) Doctor's Syringe (*)
(8) Sub Tray
(9) Foot Control
(10) Water Bottle
(11) BalanceArm
(12) Doctor SwingArm
(13) Junction Box
(14) Dental Light
(15) Dental Light Swing Arm
(16) Light Pole
(17)Assistant Instrument Holder
(18) HVE
(19) Saliva Ejector
(20)Assistant's Syringe (*)
(21) Vac Pac Housing
(22) Solids Collector
(23)Assistant SwingArm
(24)Assistant HolderArm

*(*Note) Evogue does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

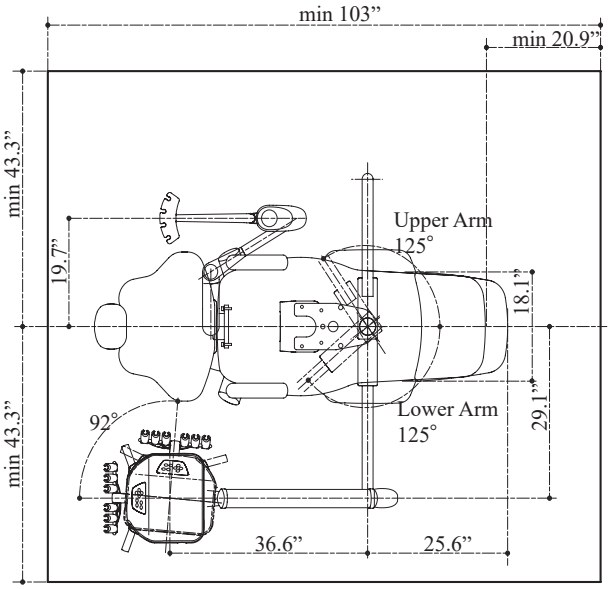
# 3. Dimensions and Specifications

## 3-1. Swing Mounted Delivery System with Vac Pac (Quolis Chair / Clesta LED Dental Light)

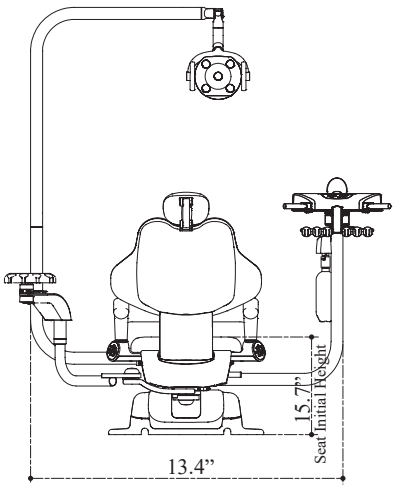
**Dimensions**

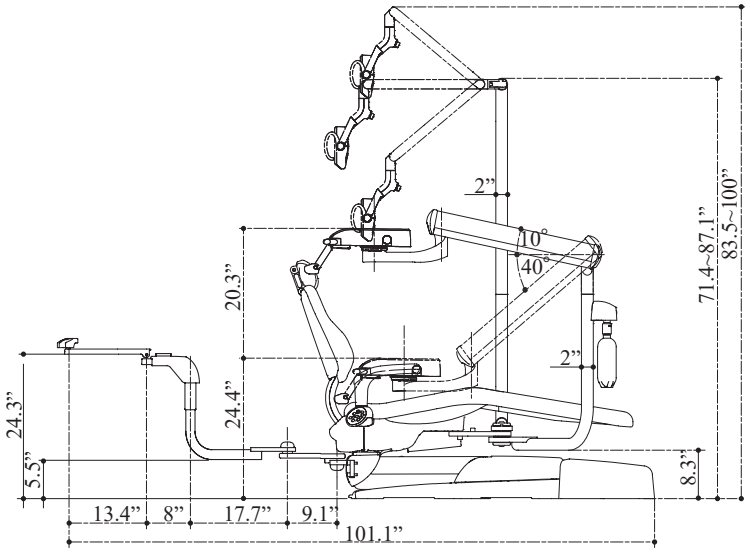
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.




**Specifications**

Power Consumption ---------- AC120V 1.6A
Frequency ---------- 60 Hz
Fuse value ---------- M6AL, 250V (Fuse Size : φ6.3 x 30 mm)
Doctor’s control Net Weight ---------- 44 lbs. (20 kg)
Swing Arm Net Weight ---------- 55 lbs. (25 kg) (Without Dental Light)
Vacuum Pack Net Weight ---------- 44 lbs. (20 kg)
Junction Net Weight ---------- 9 lbs. (4 kg)
Doctor Table Maximum Load ---------- 4.40 lbs. (2 kg)
Operating Pressure ---------- Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa)
Vacuum ---------- Minimum 52.8gpm (200L/min)
Dental Light ---------- Clesta LED Dental Light (Maximum height : 100”)
Bel-Halo Dental Light (Maximum height : 98”)
Bel-Nova (Maximum height : 97”)
Classification of foot control ---------- IPX1 (applicable standard IEC60529)
Protection class against electric shock ---------- Class I equipment
Service Life ---------- 10 years

**Refer to the rating plate for the capacity of power supply.**

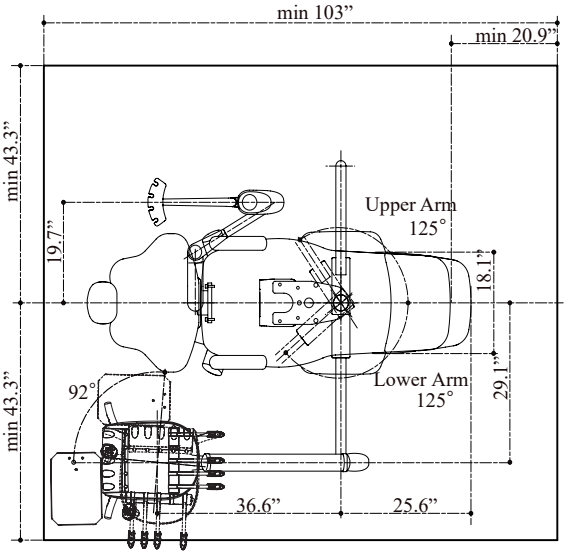
**The specification is subject to change without notice.**

## 3-2. Swing Mounted Delivery System with Continental Type and Vac Pac (Quolis Chair / Clesta LED Dental Light)

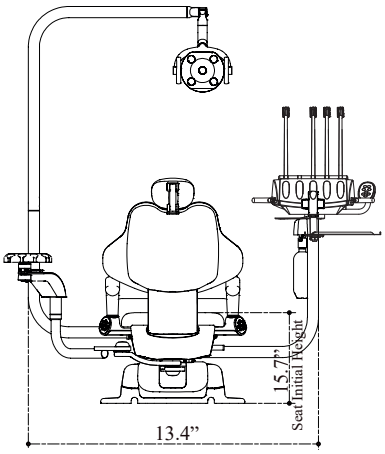
**Dimensions**

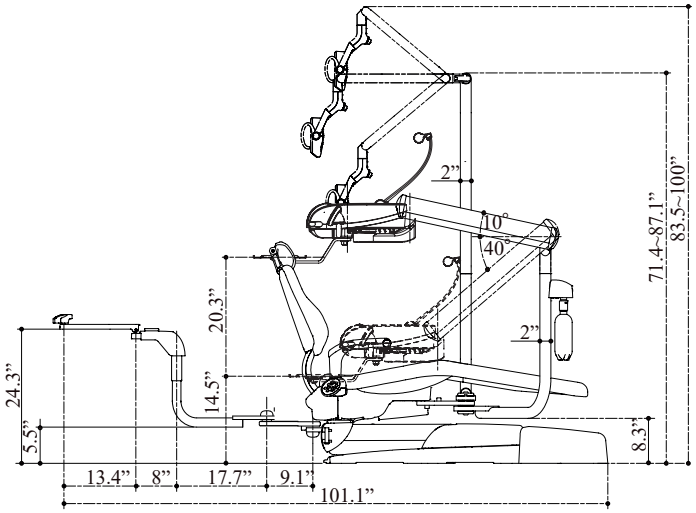
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 57 lbs (26 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Vacuum Pack Net Weight | 44 lbs. (20 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 200L/min. |
| Dental Light | Clesta LED Dental Light (Maximum height : 100”)<br>Bel-Halo Dental Light (Maximum height : 98”)<br>Bel-Nova (Maximum height : 97”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Applied parts | Type B applied parts : Handpiece for unit<br>(List of compatible handpieces) |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

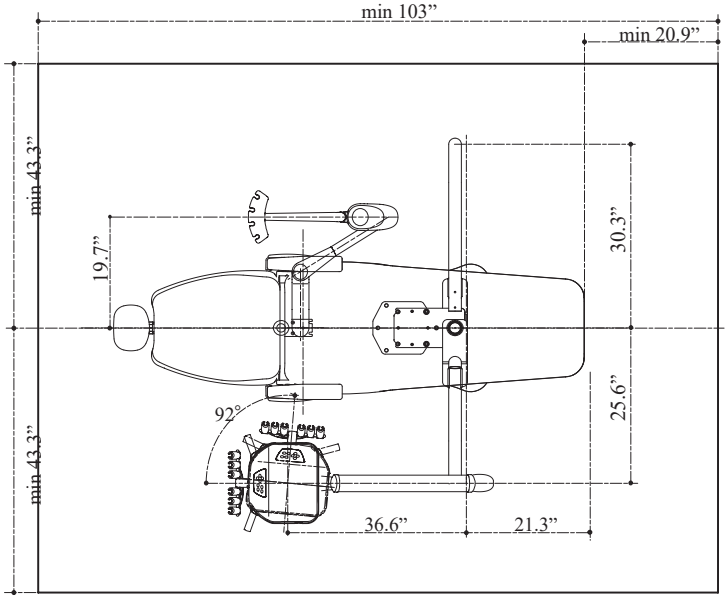
**The specification is subject to change without notice.**

## 3-3. Swing Mounted Delivery System with Vac Pac (Bel-50 Chair / Clesta LED Dental Light)

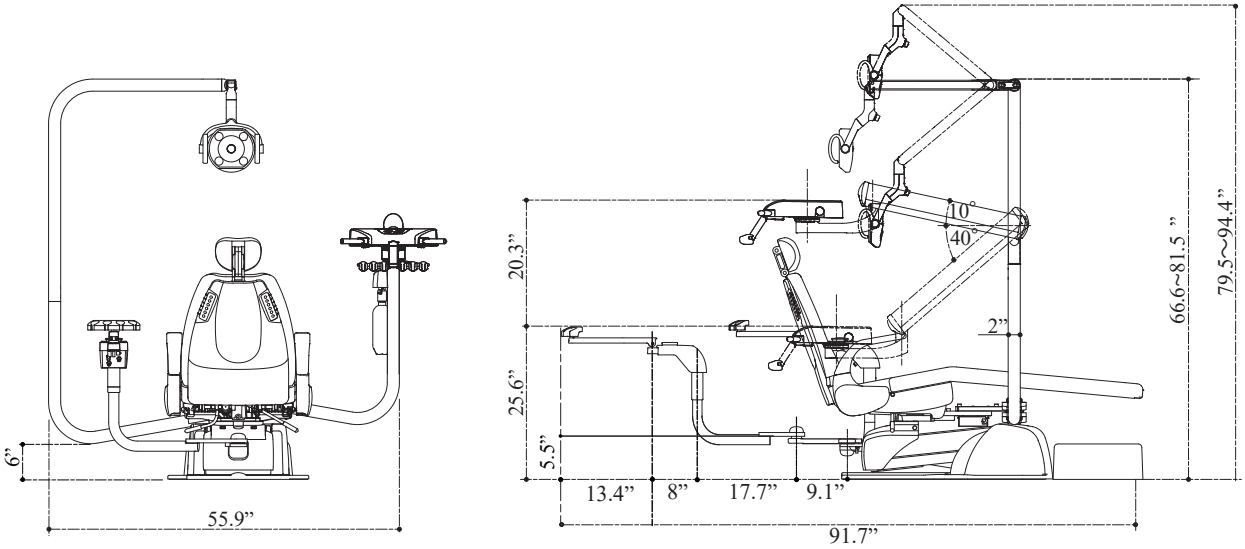
**Dimensions**

Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 44 lbs. (20 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Vacuum Pack Net Weight | 44 lbs. (20 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 200L/min. |
| Dental Light | Clesta LED Dental Light (Maximum height : 106.4”)<br>Bel-Halo Dental Light (Maximum height : 104.4”)<br>Bel-Nova (Maximum height : 103.4”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

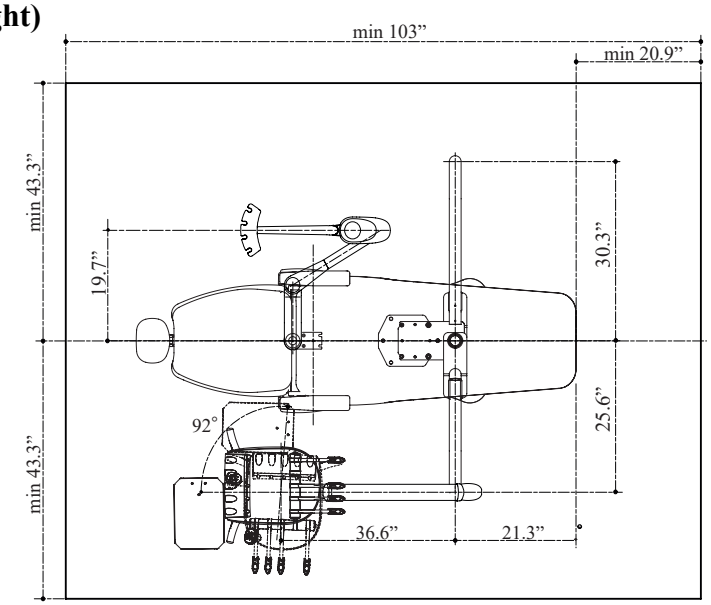
**The specification is subject to change without notice.**

## 3-4. Swing Mounted Delivery System with Continental Type and Vac Pac (Bel-50 Chair / Clesta LED Dental Light)

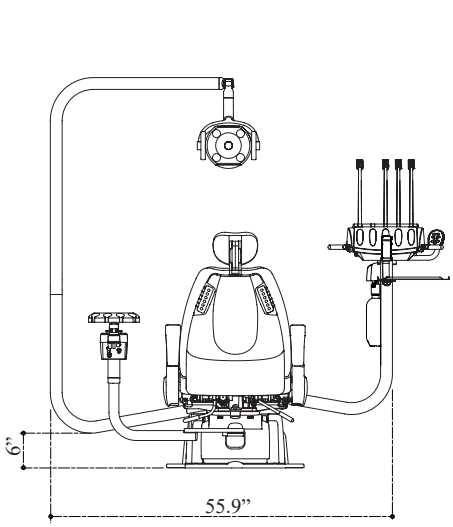
**Dimensions**

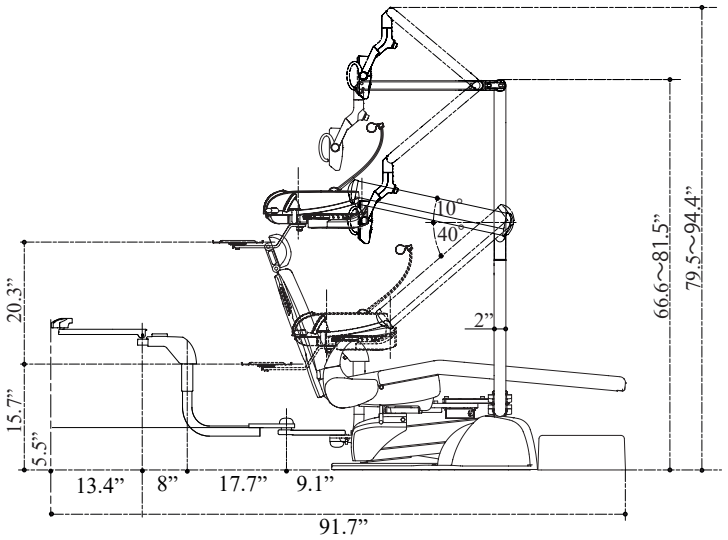
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 57 lbs (26 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Vacuum Pack Net Weight | 44 lbs. (20 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 200L/min. |
| Dental Light | Clesta LED Dental Light (Maximum height : 106.4”)<br>Bel-Halo Dental Light (Maximum height : 104.4”)<br>Bel-Nova (Maximum height : 103.4”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

**The specification is subject to change without notice.**

# 4. Installation for Swing Mounted Delivery System with Vac Pac for Quolis Chair

## 4-1. How to Install the Doctor Swing Arm

The swing arm assembly shall be mounted at the front of the chair under the seat.

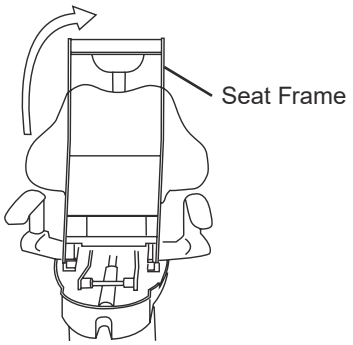
**CAUTION**

**Be sure to remove the carriage bolt from the chair before lift the chair by upper structure. This could cause damage to the chair if operate the chair without removing the carriage bolt. Refer to the chair installation manual for preparation and installation of the chair.**

1. Raise the seat frame of the chair as shown.

**CAUTION**

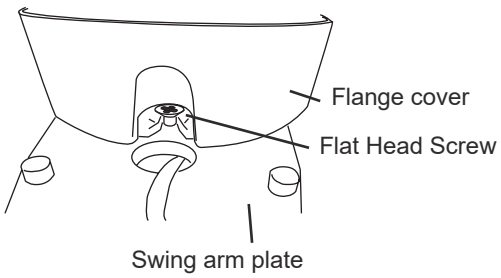
**Failure to lift seat frame as shown can result in damage to paint finish of swing arm in subsequent steps.**




2. Insert M10 x 35mm flat head screw in the threaded hole on the top side of the swing arm plate center and leave 1" from the top of screw to plate surface.

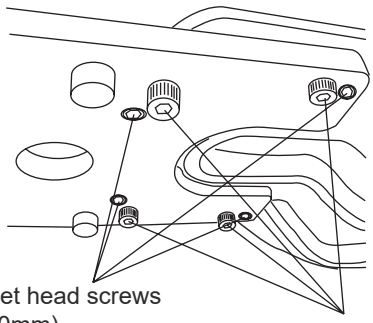
3. Raise the seat.

4. Attach swing arm assembly to chair by aligning M10 x 35mm screw with recess in front of the seat and slide screw into slot.




5. Locate 4 - M10 x 20mm leveling set screws and insert into bottom side of swing arm plate.

6. Adjust the level of the swing arm plate with the four socket set screws.

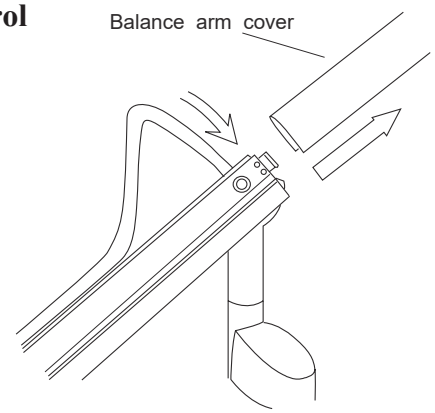



7. Tighten the 4 - M10 x 40 mm socket head screws. Lift the swing arm if needed.

## 4-2. How to Install the Balance Arm for the Doctor's Control

**CAUTION**

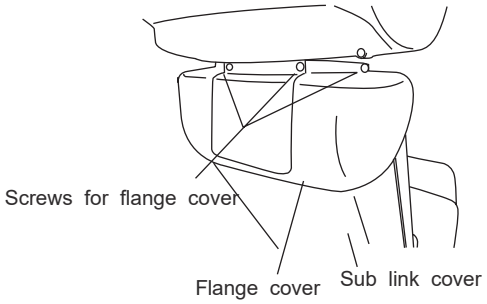
**If Vac Pac is installed with Doctor table, run tubings for Vac Pac at the same time.**




1. Lower the chair.

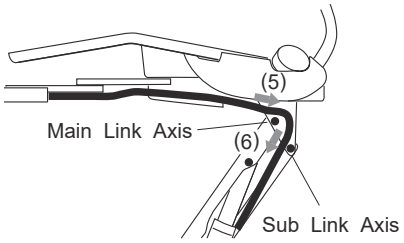
2. Insert the balance arm into the top of the swing arm.

3. Slide the balance arm cover off balance arm and route tubing and cables down into the swing arm. Make sure that the hoses are not twisted.

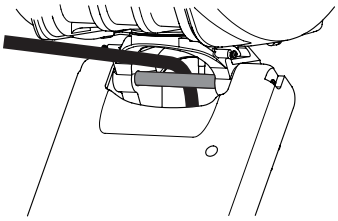



4. Remove the seat flange cover from chair by removing four M5 x 15mm screws and sub-link cover by removing two M5 x 15mm screws on the back of the chair cantilever lift arm.

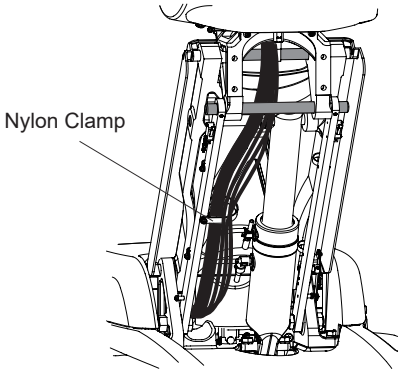
5. Route umbilical tubing & wires from swing arm into chair. Tubing & wires should be routed over the top of the Main Link Axis in front of the cantilever arm.



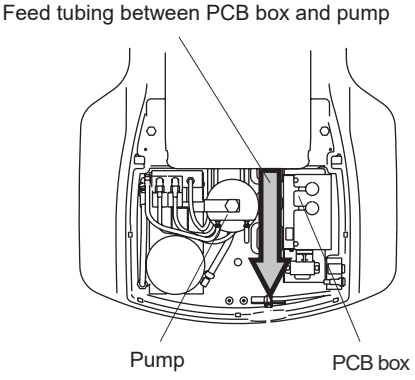

6. Feed umbilical down between Main Link Axis and Sub Link Axis.
   Tie the tubing and wires with white Nylon Clamp.



Route tubing and wires over the top of the Main Link Axis in front of the chair

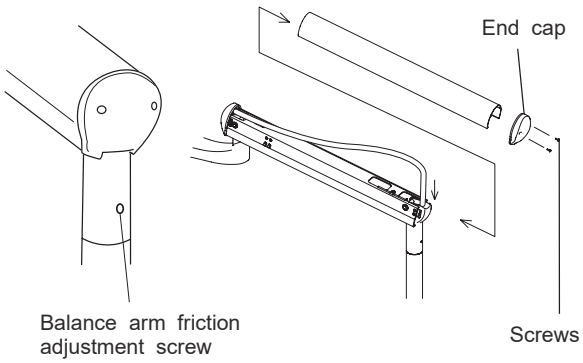



7. Feed tubing between PCB box and pump and out to the front of the chair.



8. Slide in the balance arm cover and into the channels along the balance arm and the balance arm end cap with two M4 x 10mm screws.

9. Adjust M6 x 5mm balance arm friction adjustment screw (M6 x 5mm).

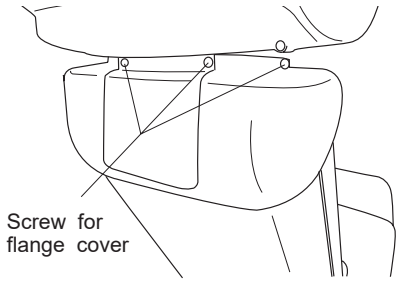



## 4-3. How to Install the Vac Pac Section

**CAUTION**

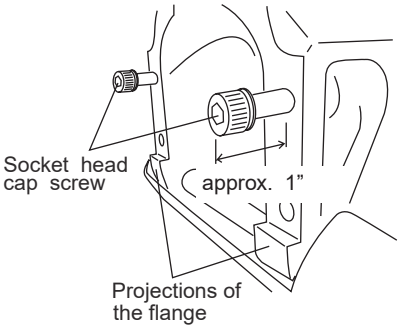
**If swing arm Doctor table is installed with Vac Pac, run tubings for Doctor table or at the same time.**

1. Remove four screws M5 x 15mm and the flange cover of the chair.



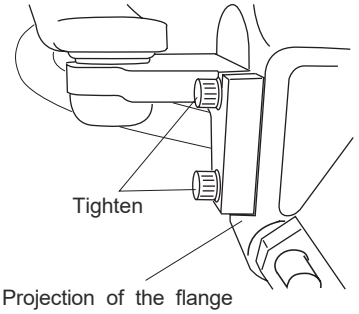

2. Insert two M10 x 40mm socket head cap screws into the top threaded hole on the rear side of the chair. Screws should extend approximately 1" from chair.

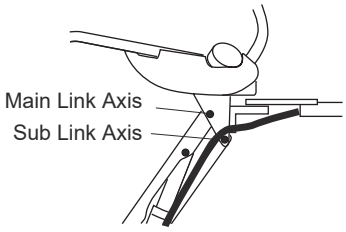
3. Hook the assistant arm mounting bracket underneath the two socket head cap screws. Tilt the bracket slightly and lift it. Place the lower edge of the mounting bracket on the projections of the flange.

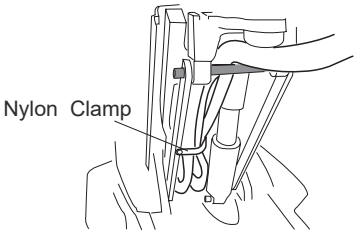



4. Tighten lower M10 x 40mm socket head cap screws through swing arm mounting bracket. Tighten all four screws.

5. Route the umbilical tubing with unit umbilical down through chair, between the main link and sub link Axis, and bring the end to the junction box. Tie the tubing with the white Nylon Clamp. Make sure that hoses are not kinked



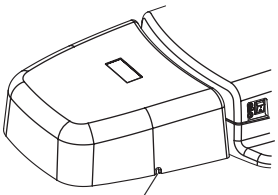
## 4-4. How to Install the Junction Box

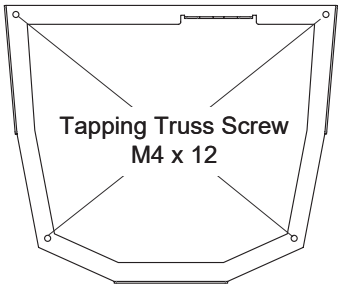
Refer to floor template for connection of water, air, power, drain hose and vacuum hose.

1. Open the junction box cover by removing two slotted M5 x 10mm screws from each side of the Junction box cover.

2. Place the junction box frame in front of the chair. (The plan of the plumbing position needs to be done in advance. See the flow diagram)

3. Attach the junction box frame to the floor with four M4 x 12mm tapping truss screws.



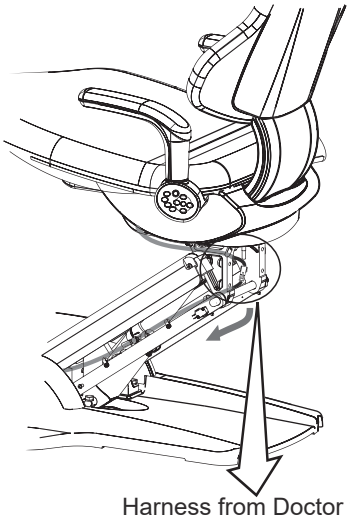

## 4-5. How to Connect Chair Operation Cable of the Doctor table

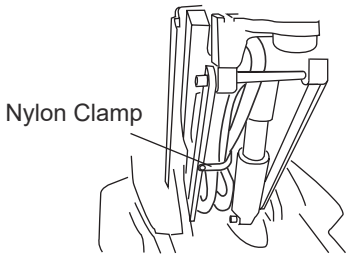
1. Connect the trunk line of the chair operation to the harness from Doctor table. (Note : Trunk line of the chair operation is supplied from unit package)

2. Route the trunk line of the chair operation into the chair and bring to the front of the chair base.

3. Tie the trunk line for chair operation and other tubings with the wire nylon clamp.
   Make sure that hoses are not kinked.

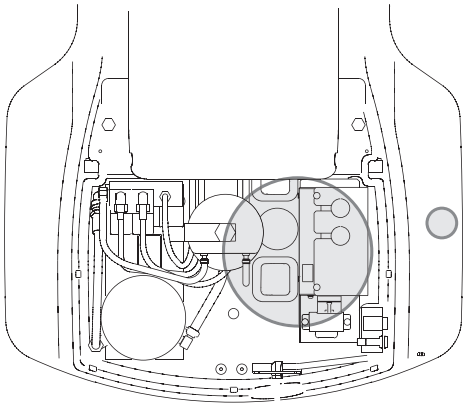
4. Connect the trunk line of the chair operation to the harness from chair control pcb in the base.





Trunk line for Chair Operation




Doctor Table operating line


From Doctor table
Chair Seat Positioning
Touchpad

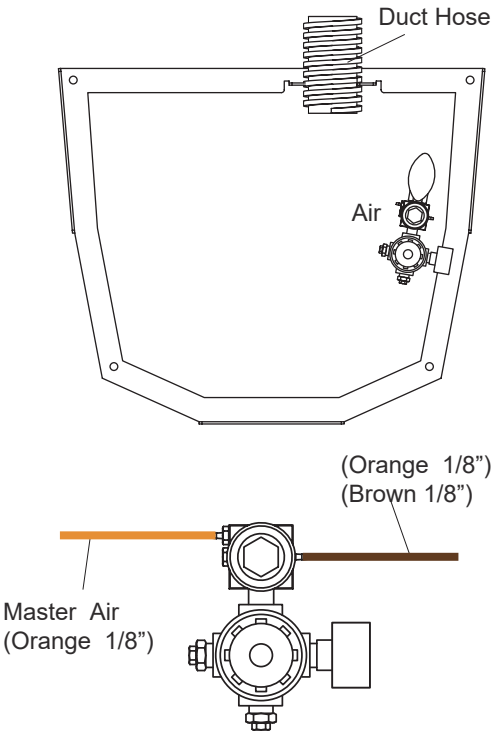
From Chair Control PCB.

## 4-6. How to Plumb the Junction Box

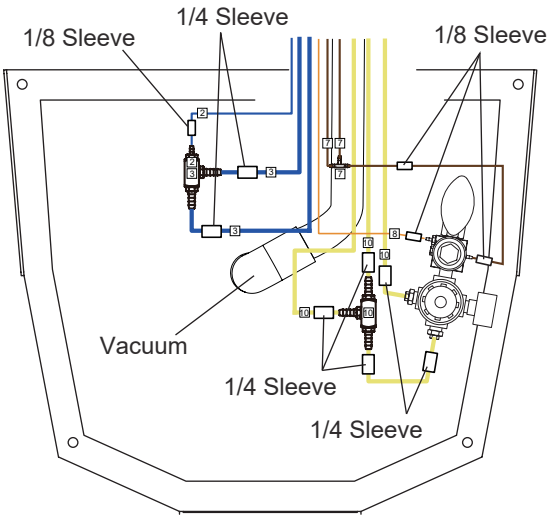
1. Cut the duct hose to desired length and insert it between retainers inside of the pump cover and the junction box.

2. Attach the manual on/off valve to the air supply pipe.
   Purge air through valve to clean debris.
   Attach automatic valve assembly for air to manual valve.

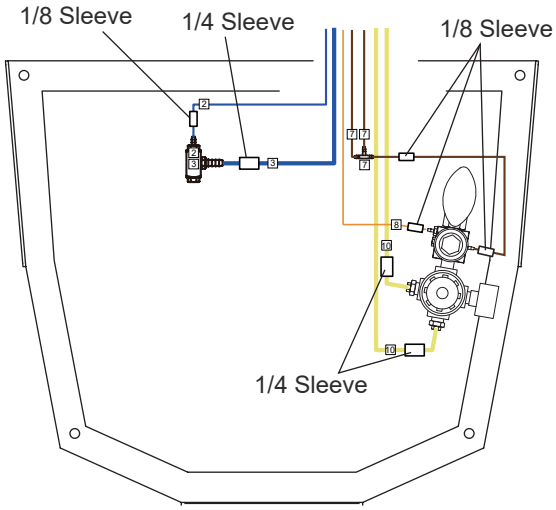
3. Connect tubings and 5/8 vacuum hose as below drawing shows.



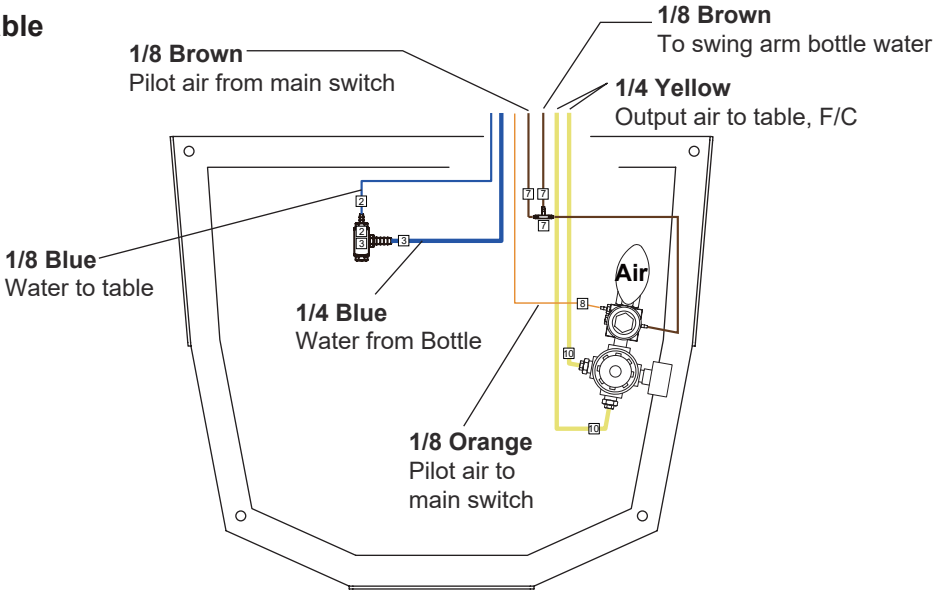

**Swing Arm Doctor table + Vac Pac**



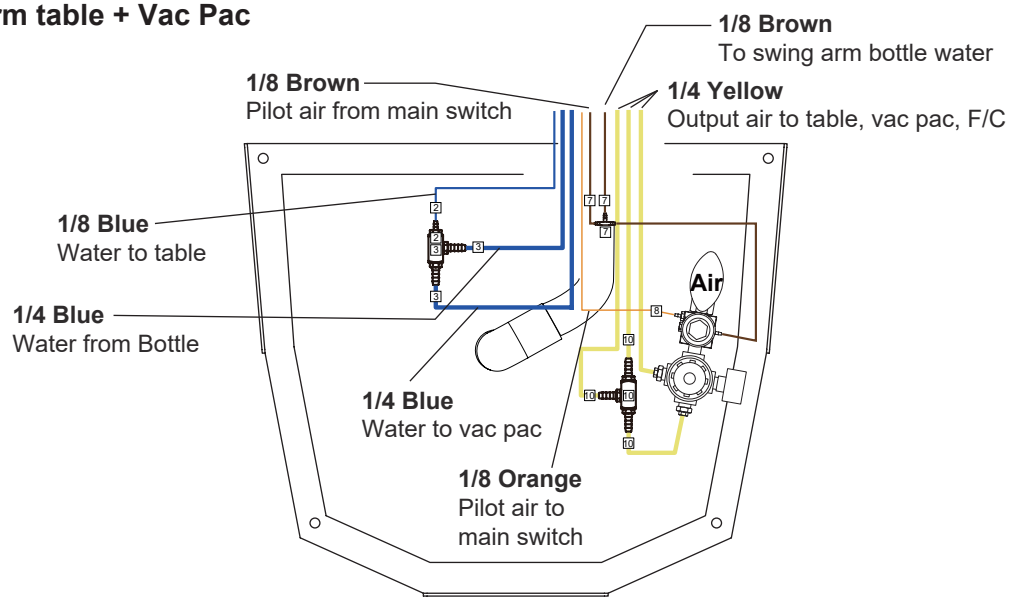

**Swing Arm Doctor table**



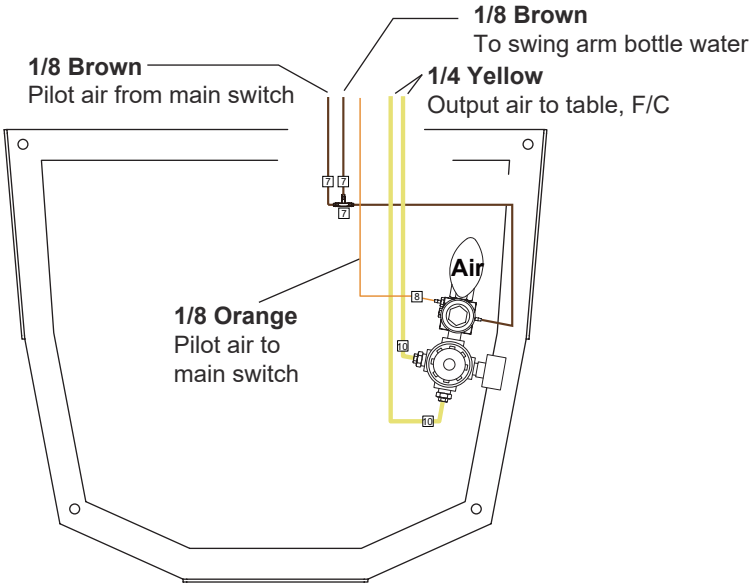
## Swing Arm Table




## Swing Arm table + Vac Pac



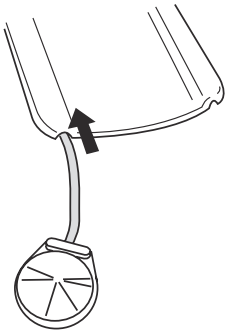

## PMU Type (Table)



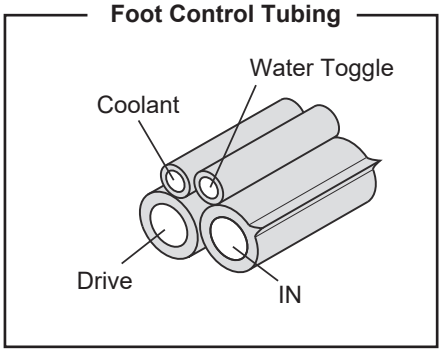
## 4-7. How to install the Foot Control

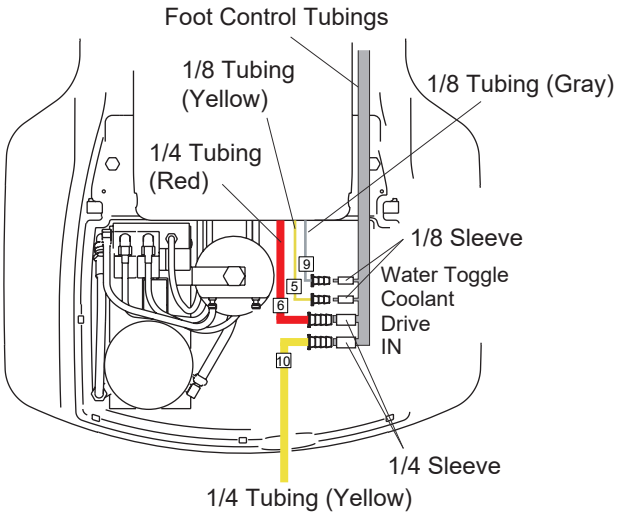
| Number | Color (Size) | Function |
|---|---|---|
| 6 | Red (1/4” OD) | Drive |
| 10 | Yellow (1/4” OD) | In |
| 5 | Yellow (1/8” OD) | Chip (Air for spray) |
| 9 | Gray (1/8” OD) | Water (Pilot air for water for spray) |

1. Insert the foot control tubing into the channel of the chair base, and pass it to the junction box.

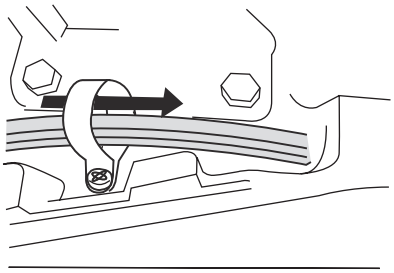


2. Connect the foot control tubing to the tubing labeled “5, 6, 9 and 10” from the doctor table.




3. Pass the foot control tubing through the nylon clamp attached to the base plate (see the figure).



### 4-8 Attach the light assembly to the light pole

*Refer to the installation manual attached to the dental light for installation of the light pole.

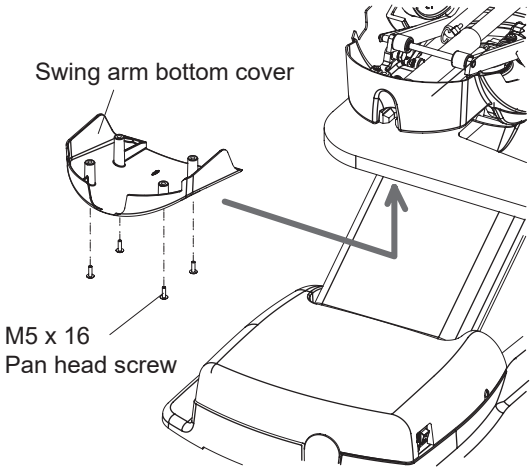
### 4-9. How to install the flat panel monitor mount

1. Install the flat panel monitor mount and monitor to the monitor arm.
2. Feed the cable for monitor thought the swing arm and the chair, and bring the end into the junction box.
3. Connect the cable for monitor at Junction box.

*(Note) LCD monitors are not supplied from Belmont. The mounting holes on back of monitor should be designed for attachment of 75 or 100 mm VESA mgt pattern.*

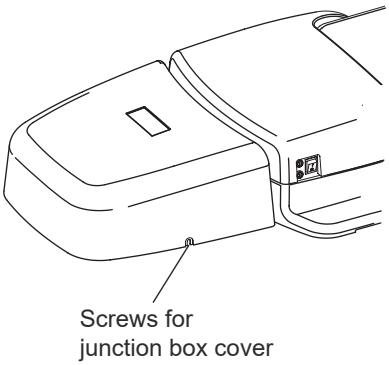
### 4-10. Installation of Swing Arm Bottom Cover

Attach the swing arm bottom cover to the bottom of the swing arm mounting bracket with four M5 x 16mm.




### 4-11. Junction Box Cover

Attach the junction box cover and fasten with M5 x 10mm screw and tighten firmly with a slotted screw driver.



# 5. Installation for Swing Mounted Delivery System with Vac Pac for Bel-50 Chair

## 5-1. How to Install the Doctor Swing Arm

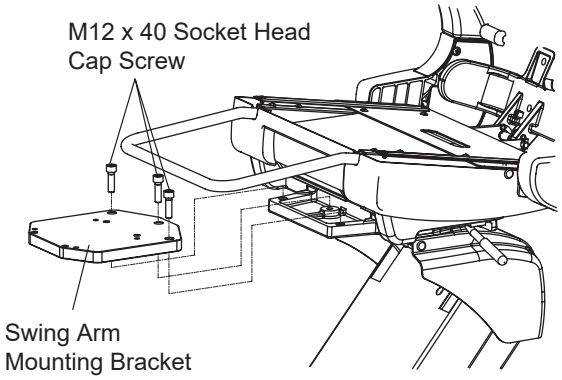
The swing arm assembly shall be mounted at the front of the chair under the seat.

**CAUTION**

**Be sure to remove the carriage bolt from the chair before lifting the chair.**
**Failure to remove the carriage bolt could cause damage to the chair.**
**Refer to the chair installation manual for preparation and installation of the chair.**

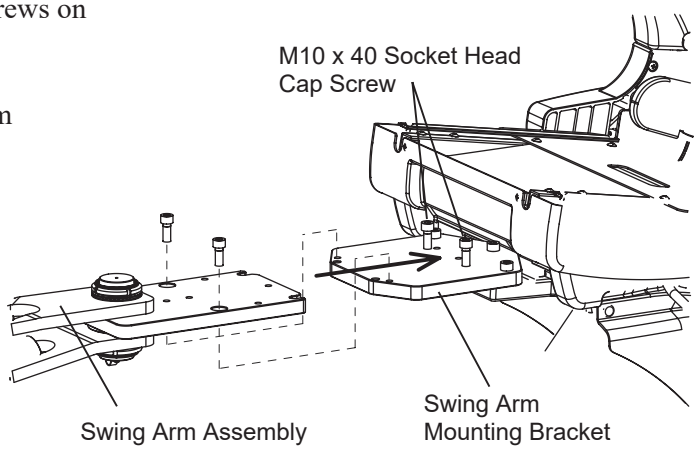
1. Raise the seat to the highest position.

2. Attach swing arm mounting bracket to chair by using 3 - M12 x 40 socket head cap screws.




3. Premount the 2 - M10 x 40 socket head cap screws on the swing arm mounting bracket.

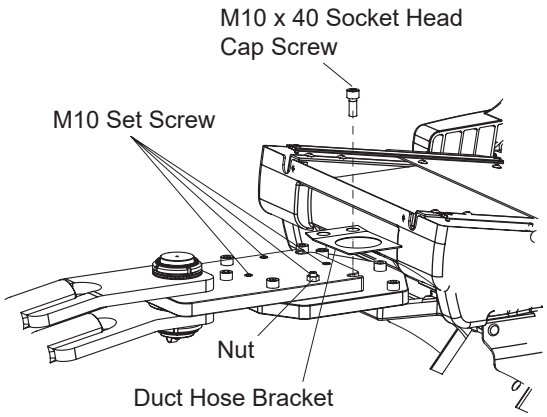
4. Insert the swing arm assembly to the swing arm mounting bracket and tighten it with 2 screws temporarily.




5. Remove 1 - socket head cap screw that is fixing the swing arm assembly and attach the duct hose bracket on the plate of the swing arm assembly by using same screw.
   Insert the leveling set screw with locking nut through hole in duct hose bracket. Nut should be tightened after final leveling of swing arm assembly.

6. Adjust the level of the swing arm assembly with 4 - M10 set screws.

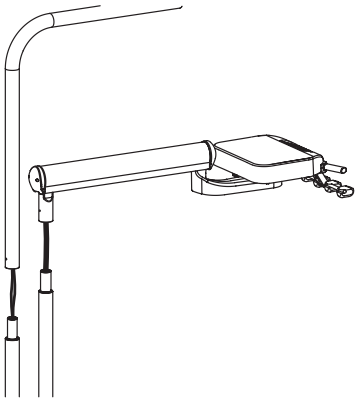
7. Tighten the 4 - M10 x 40 socket head cap screws to secure swing arm assembly to the swing arm mounting bracket.



## 5-2. How to Install the Balance Arm for the Doctor's Control

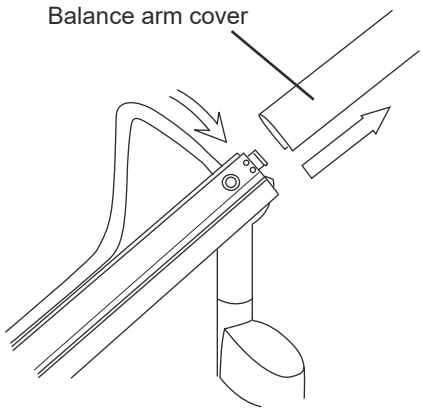
**CAUTION**

**If Vac Pac is installed with Doctor table, run tubings for Vac Pac at the same time.**



1. Insert the balance arm into the top of the swing arm.

2. Slide the balance arm cover of the balance arm and route tubing and cables down into the swing arm. Make sure that the hoses are not twisted.



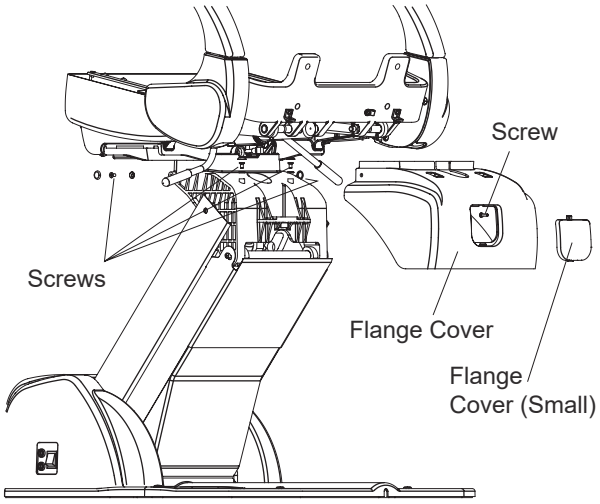

## 5-3. How to Install the Vac Pac Section

**CAUTION**

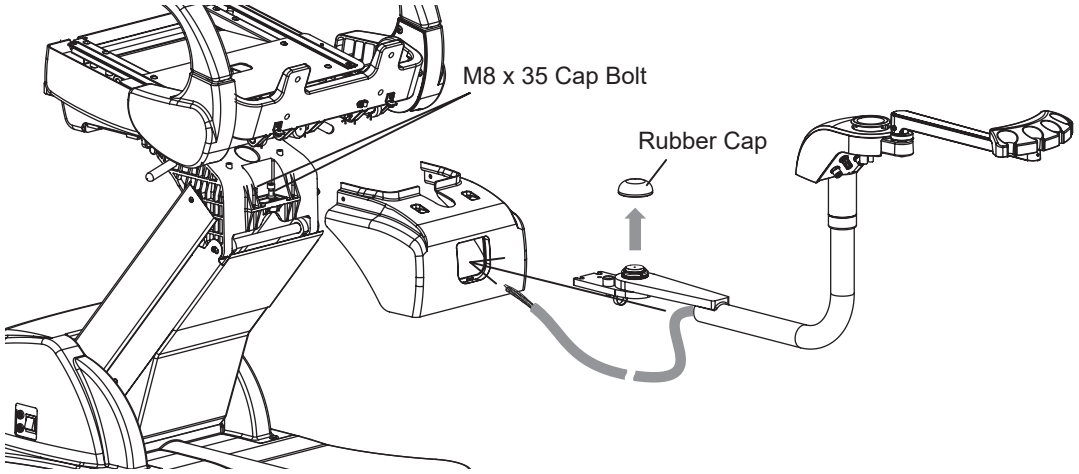
**If the Doctor swing arm is installed with Vac Pac, run tubings for Doctor table or at the same time.**

1. Remove the flange cover by loosening (4) screws.

2. Remove a flange cover (small) by loosening (1) screw from the inside of the flange cover.



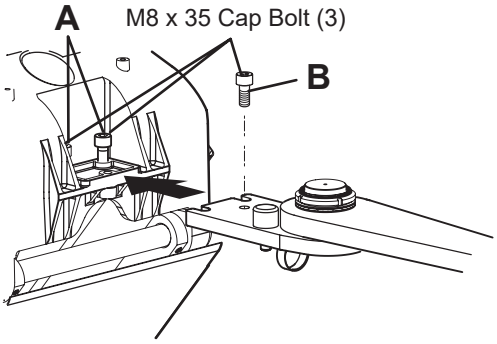
3. Attaching the Vac Pac to the chair
Temporarily insert two M8 x 35 cap bolt to the top threaded hole on the rear side of the chair flange. Remove the rubber cap from the mounting bracket. (After installing the flange cover, attach the rubber cap to the mounting bracket.) Slide the flange cover over the end of the mounting bracket with tubings.




4. Fix the mounting bracket to the chair flange by using (3) M8 x 35 cap bolt.

○ When assembling the mounting bracket temporarily, insert the screw A into the flange at the depth of approx. 15 mm. Next, Screw B is temporarily fixed.

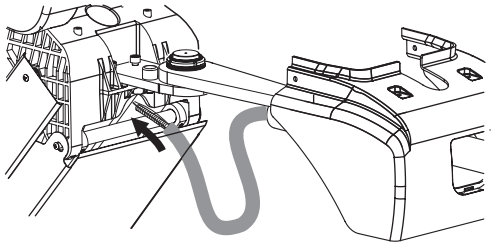
○ When fixing the mounting bracket finally, tighten the 2 screws A first, then tighten the screw B.

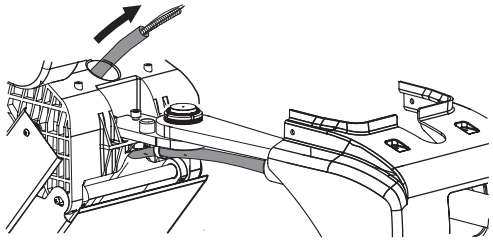



**CAUTION**

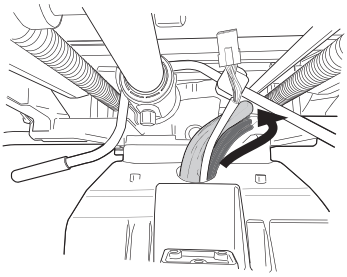
**Confirm that all cap bolts M8 ×35 (3 pieces) are tightened completely. If not , Flange breaks and Vac Pac may fall.**

5. Pass the Vac Pac tubings from the under seat flange through the hole in the seat flange.

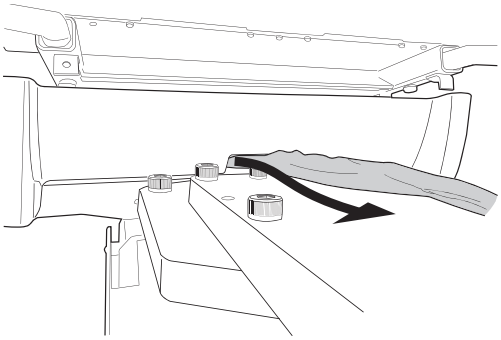




6. Root the tubing upward and underneath seat area.
(View from rear of chair, looking toward legrest)



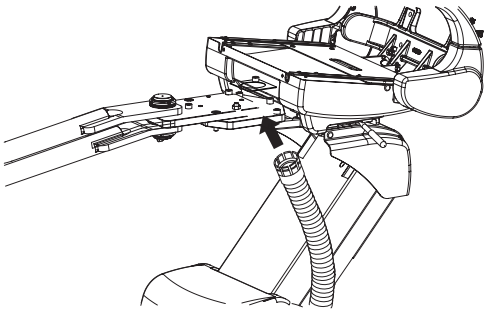
7. Pull the tubing out through the notched cut out in front of the seat flange cover as shown in the right figure.
   Feed Vac pac tubing through opening on the side of the umbilical retaining bracket.



Vac pac tubing exits through notched cut-out in front of the seat

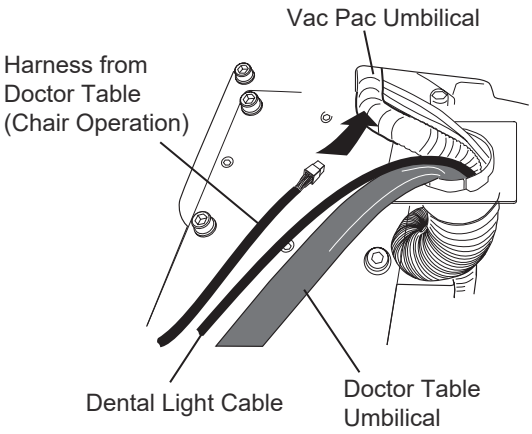
## 5-4. Route the Doctor Table Umbilical and Vac Pac Umbilical to the Umbilical Duct Hose

1. Attach the duct hose to the duct hose bracket.



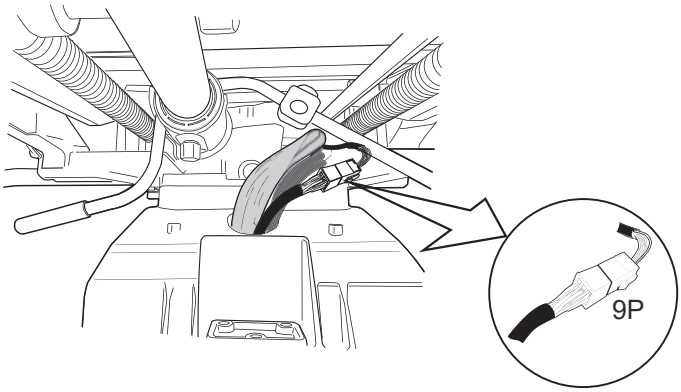
2. Route the harness for chair operation from Doctor table to the notched cut-out in front of the seat flange cover as shown in the right figure.

3. Doctor table umbilical and Vac Pac umbilical are both feed together into the outer umbilical duct hose and bring it them to the Junction Box.




*(Note) Installation of dental light, switch box and power supply box, refer to dental light installation instructions. Pass the dental light cable to the duct hose at the same time.*

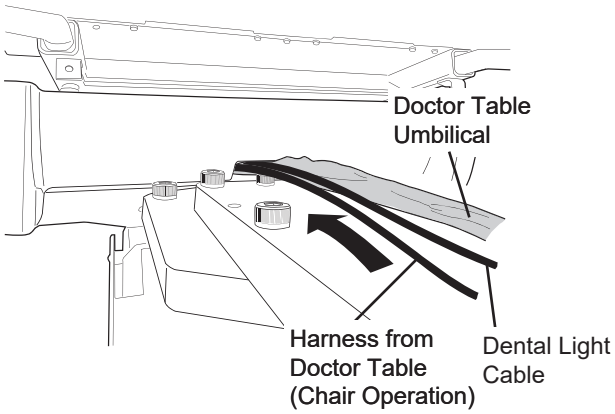
4. Connect the connector of the chair operation from Doctor table to the connector from chair control pcb in the flange section.



## 5-5. If the Umbilical Duct Hose is not Used, Follow the Instructions Below

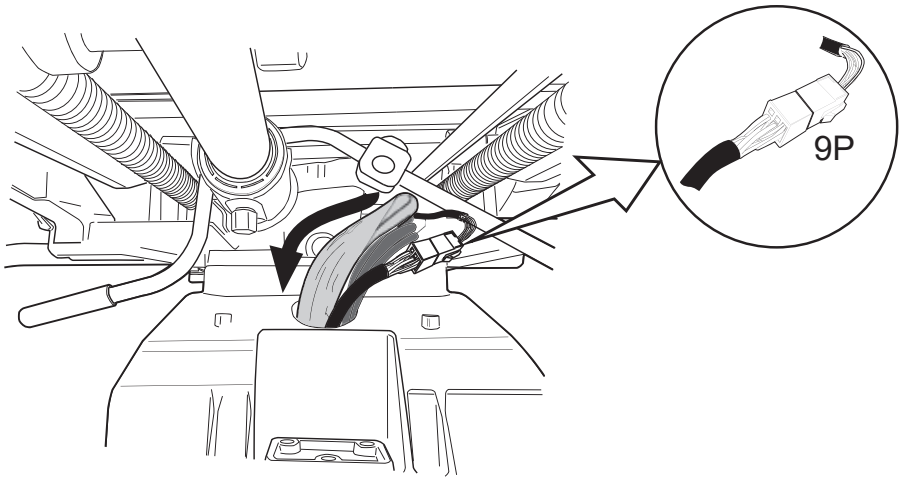
*(Note) Installing the Swing Mounted Delivery System and Vac Pac System, Please refer to 5-1, 5-2 and 5-3 sections.*

1. Feed the Doctor table umbilical, dental light cable and harness for the chair operation from the Doctor table through to the notched cut-out in front of the seat flange cover as shown in the right figure. Feed the umbilical and cables through along the seat potentiometer and bring it to behind the chair.




2. Connect the connector (9P) from the Doctor table and connector (9P) from the chair control pcb in the flange section.

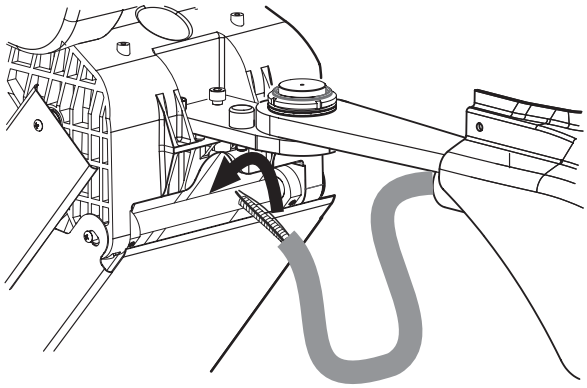
3. Pass the umbilical and cable through the hole of the seat flange.



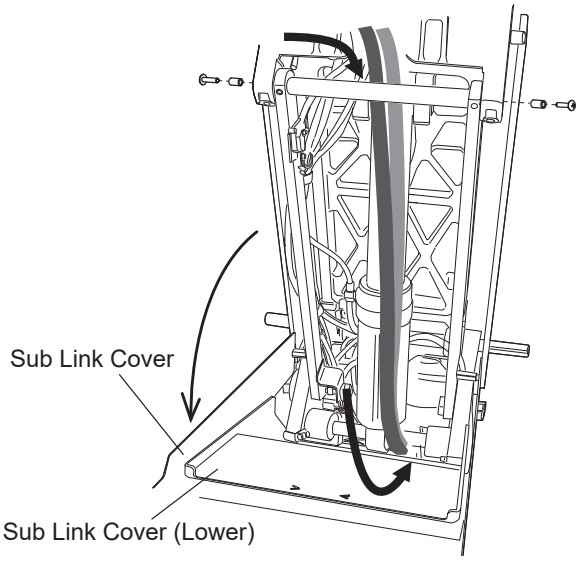

View from rear of the chair

4. Root the Vac Pac umbilical between the hole of the chair flange and the link bar.

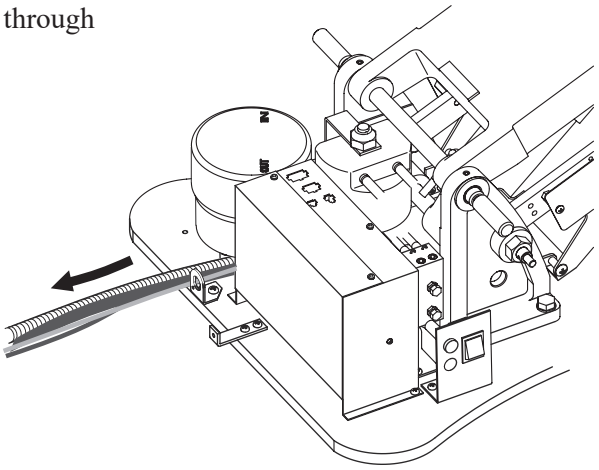
*(Note) Installing the Vac Pac Section, refer to section "5-3. How to Install the Vac Pac Section (3 & 4)"*



5. Open the sub link cover by removing two screws. Route Docrtor umbilical and Vac Pac umbilical down through the chair between the main link axis and sub link axis.




6. Pass the Doctor umbilical and Vac Pac umbilical through between the PCB box and the motor pump.



*(Note) Please confirm that the Doctor umbilical and Vac Pac umbilical are not excessively pulled by operating the chair up & down, backrest reclining & raising and seat rotation.*

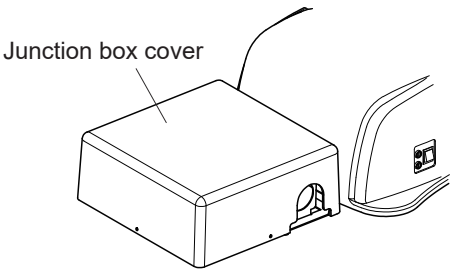
## 5-6. How to Install the Junction Box

Refer to floor template for connection of water, air, power, drain hose and vacuum hose.

1. Open the junction box cover by removing four slotted M5 x 32mm screws from each of the Junction box cover.

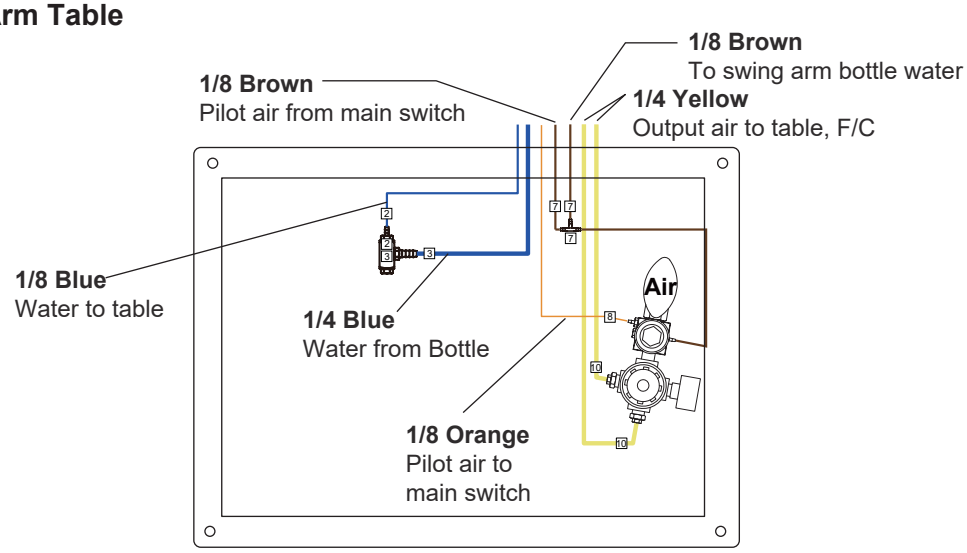
2. Place the junction box frame in front of the chair. (The plan of the plumbing position needs to be done in advance. See the flow diagram)

3. Attach the junction box frame to the floor.

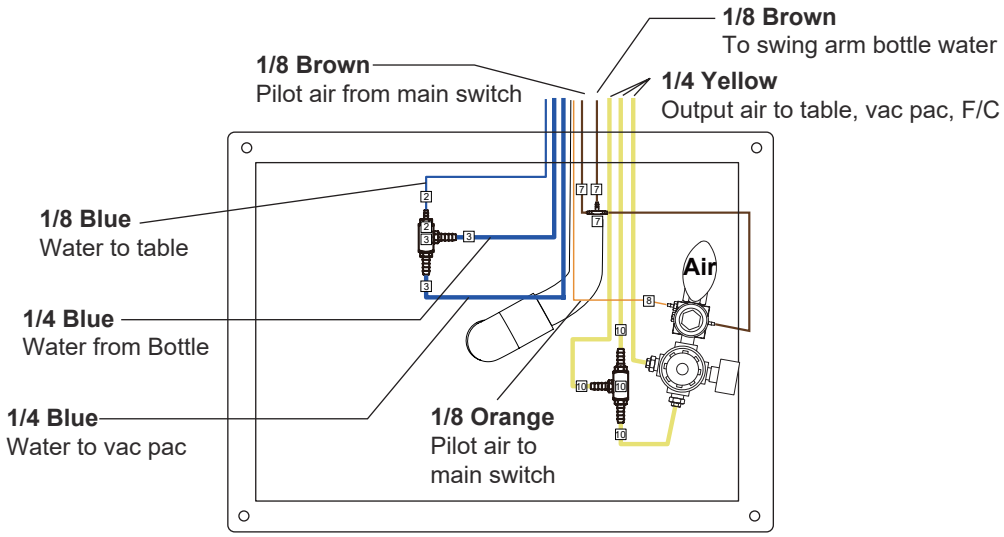


## 5-7. How to Plumb the Junction Box

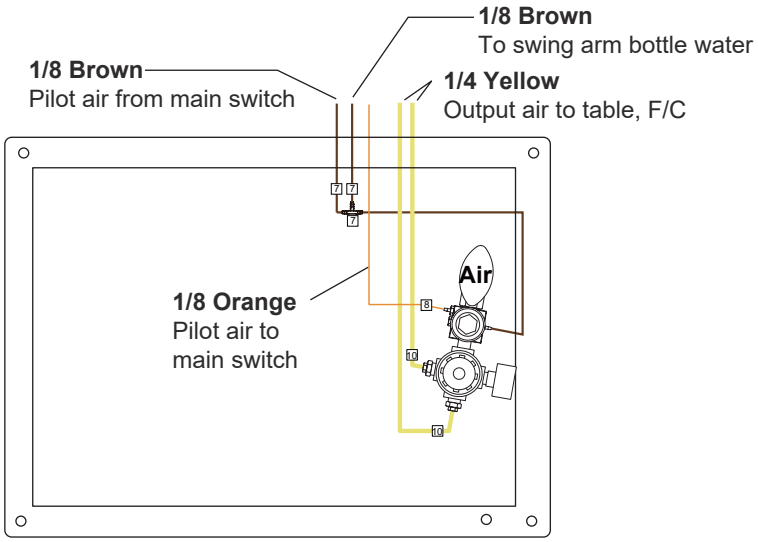
### Swing Arm Table




### Swing Arm table + Vac Pac




### PMU Type (Table)



## 5-8. Attach the light assembly to the light pole

*Refer to the installation manual attached to the dental light for installation of the light pole.

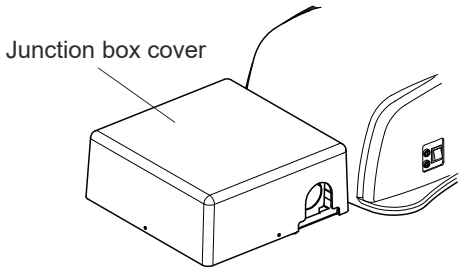
## 5-9. How to install the flat panel monitor mount

1. Install the flat panel monitor mount and monitor to the monitor arm.
2. Feed the cable for monitor thought the swing arm and the chair, and bring the end into the junction box.
3. Connect the cable for monitor at Junction box.

*(Note) LCD monitors are not supplied from Belmont. The mounting holes on back of monitor should be designed for attachment of 75 or 100 mm VESA mgt pattern.*

## 5-10. Junction Box Cover

Attach the junction box cover and fasten with M5 x 32mm screw and tighten firmly with a slotted screw driver.



# 6. Adjustment

## CAUTION

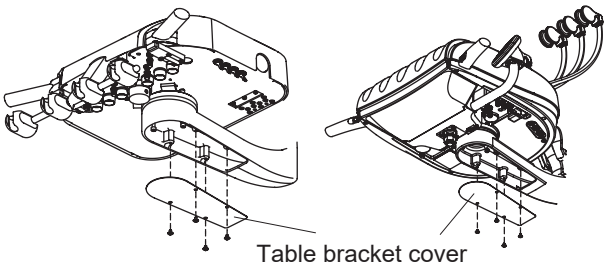
**When removing doctor table covers with integrated touchpad control for service, be careful to remove the cover slowly to prevent damage to the wire harness or integrated touchpad.**
**Harness from chair seat positioning touchpad of the table top cover is connected to the Doctor table section.**
**Do not pull the Doctor table top cover excessively. This could cause damage to the harness of the chair seat positioning touchpad.**

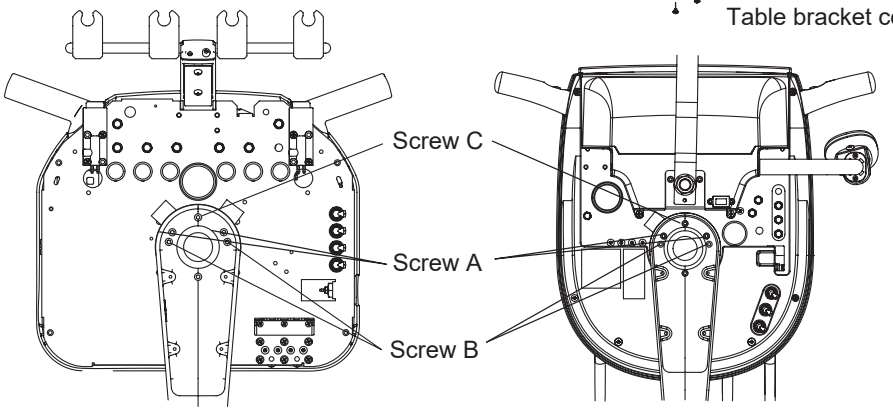
## 6-1. Leveling the Doctor Table

The horizontal level of the Doctor table can be adjusted. Adjust horizontal level of the Doctor table by below procedures during installation if the Doctor table is not horizontally leveled.
Before adjusting horizontal level of the Doctor table, adjust the level of the swing arm Bracket (Side).

1. Open the table bracket cover by removing 4 screws.

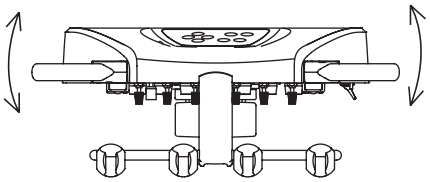
2. Loose screw A (2 screws) before adjusting horizontal level.



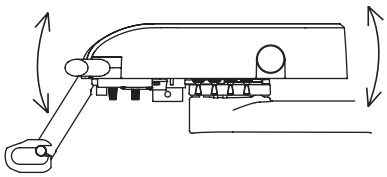




**Doctor Table Bottom View**

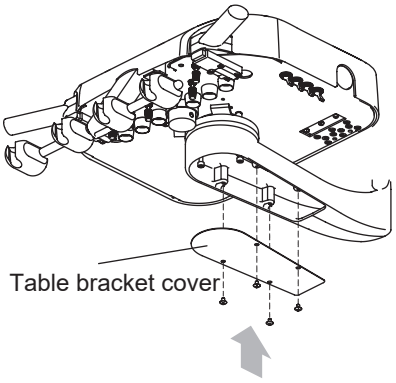
3. Left or right horizontal level of the Doctor table can be adjusted by loosening or tightening screw B (2 screws).



4. Front or rear horizontal level of the Doctor table can be adjusted by loosening or tightening screw C.

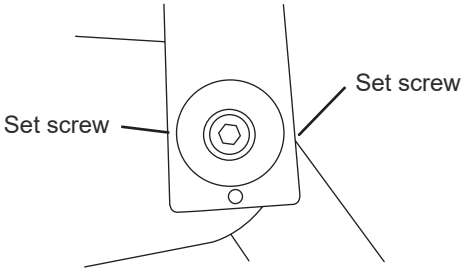


5. After adjustments, tighten screw A (2 screws) and reattach the table bracket cover with 4 screws.



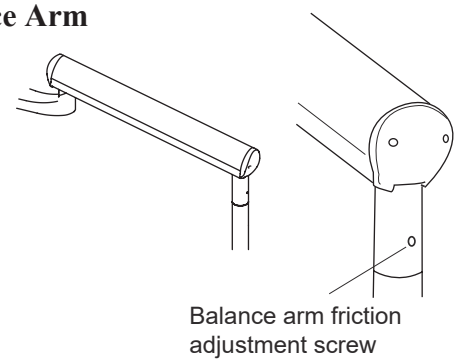
## 6-2. How to Adjust the Swing Arm Friction

The friction of the swing arm for Doctor's control, dental light and monitor must be adjusted independently. Adjust the M6 x 5mm socket set screw beneath the swing arm.



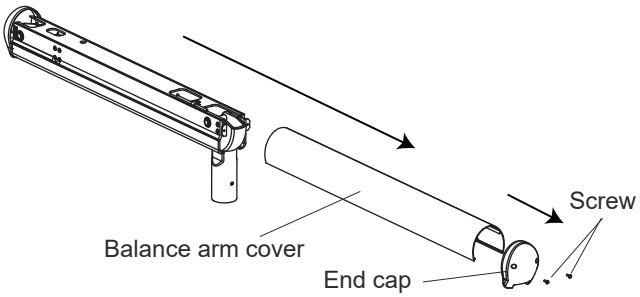

## 6-3. How to Adjust the Rotation Friction of Table Balance Arm

Adjust rotation friction of the balance arm with M6 x 5mm adjustment screw.

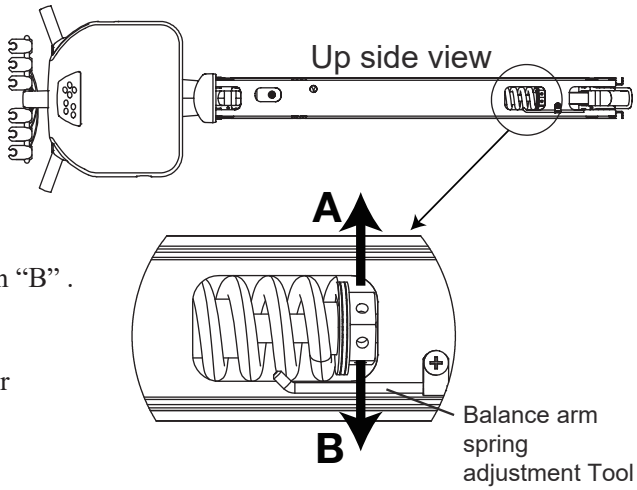



## 6-4. How toAdjust the Spring of Table Balance Arm

Remove the Screw, End cap and Balance arm cover.



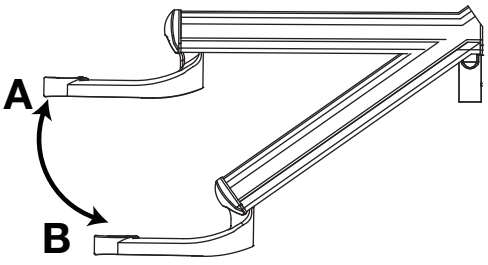

Insert the Balance arm spring adjustment Tool (Adjustment Tool) to the groove at the rotation part and while pushing Adjustment Tool in the direction of arrow “A”or ”B”.




Spring is stronger in direction “A” and weaker in direction “B” . Before attaching the cover,

Check that it is balanced by placing the Balance arm cover on the balance arm.

Put the Balance arm cover , End cap back in place.



## 6-5. How to Install the “Sub Tray” to the Delivery Head for Continental Type

1. Install the tray arm to the delivery head with M16 nut. Insert the washer and bearing as shown in figure 1.

2. Insert the sub tray to the tray arm.

3. Adjust the friction of arm and tray with the sub tray friction adjustment screw and tightening nut power.

4. Cover the M16 nut with CAP nut M16.

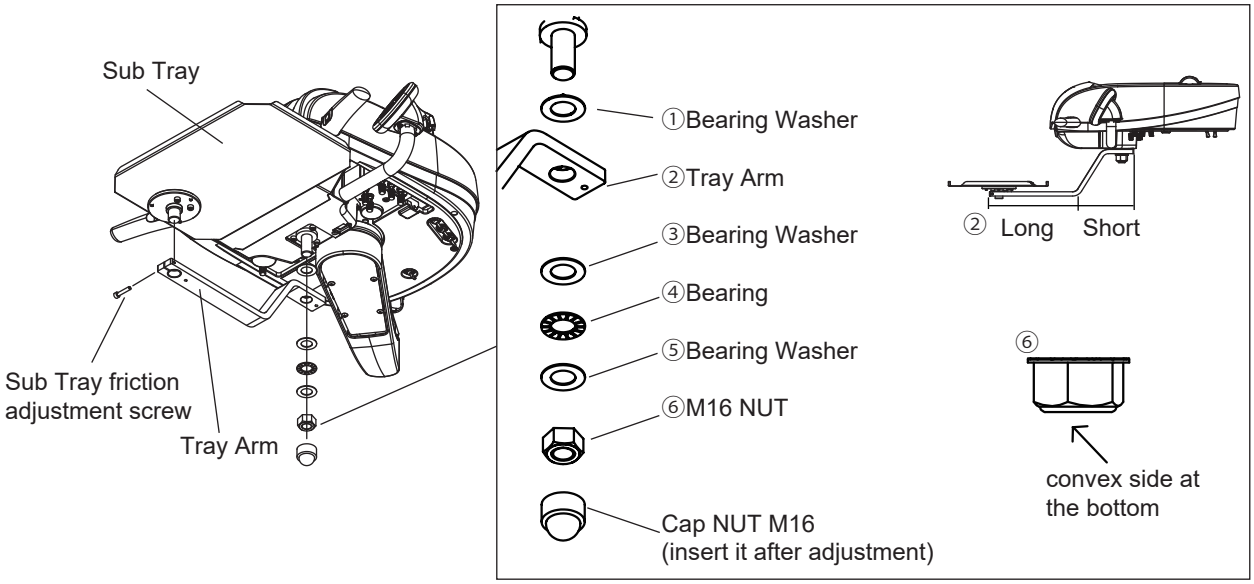



**Fig.1 Order of Attachment**

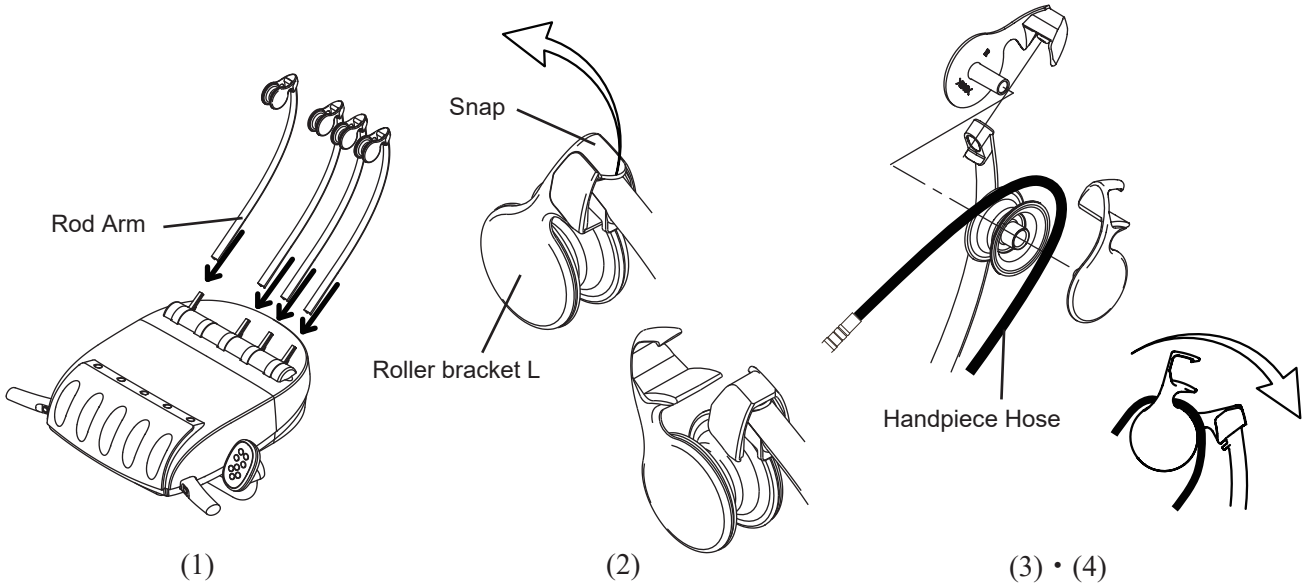
## 6-6. How to Set up Handpiece Hose

1. Install the rod arm to the delivery head.

2. Remove the fixed roller bracket by Snap.

3. Insert the Handpiece hose between roller.

4. Fix the Handpiece hose to the roller.




(1) (2) (3)・(4)

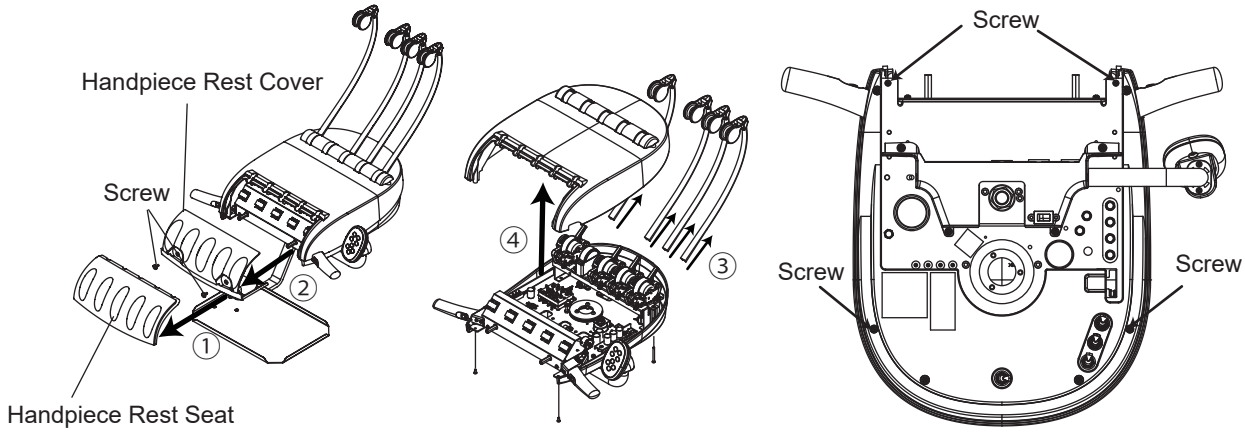
## 6-7. How to Adjust the Rod Mechanism for Tension of the Handpiece (Continental Type)

① Remove the Handpiece rest seat.

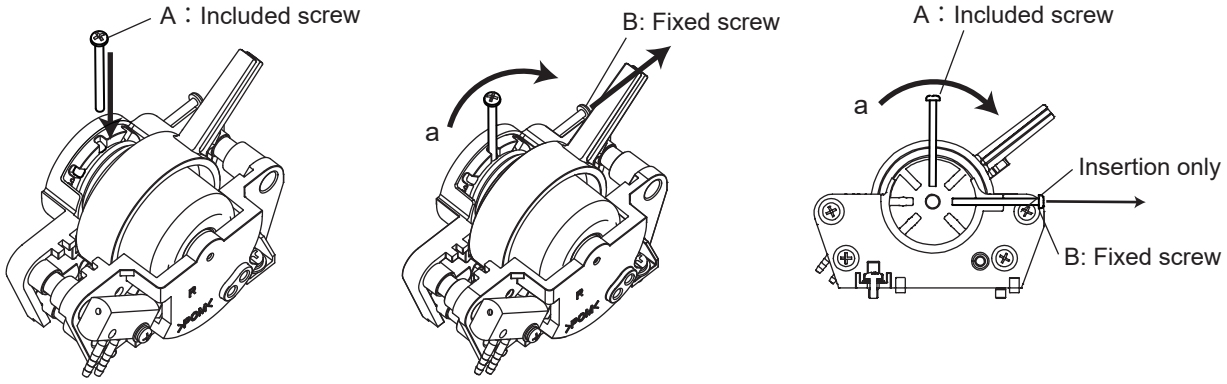
② Remove the Handpiece rest cover by removing 2 screws with hands.

③ Remove the rod arm.

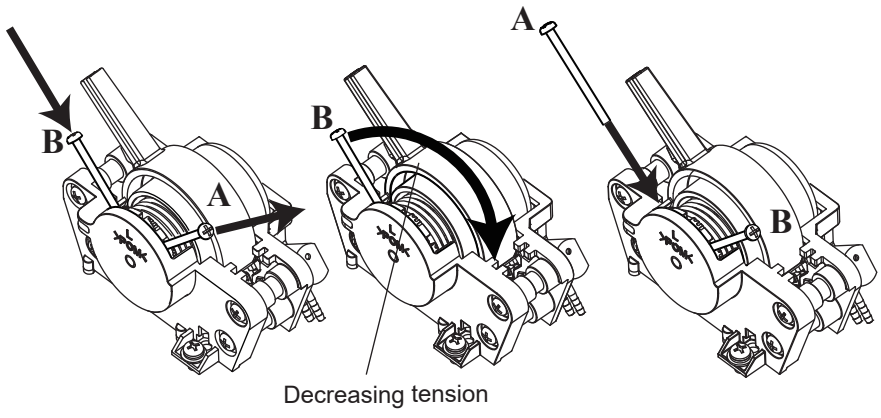
④ Remove the table cover by removing 4 screws at the bottom.



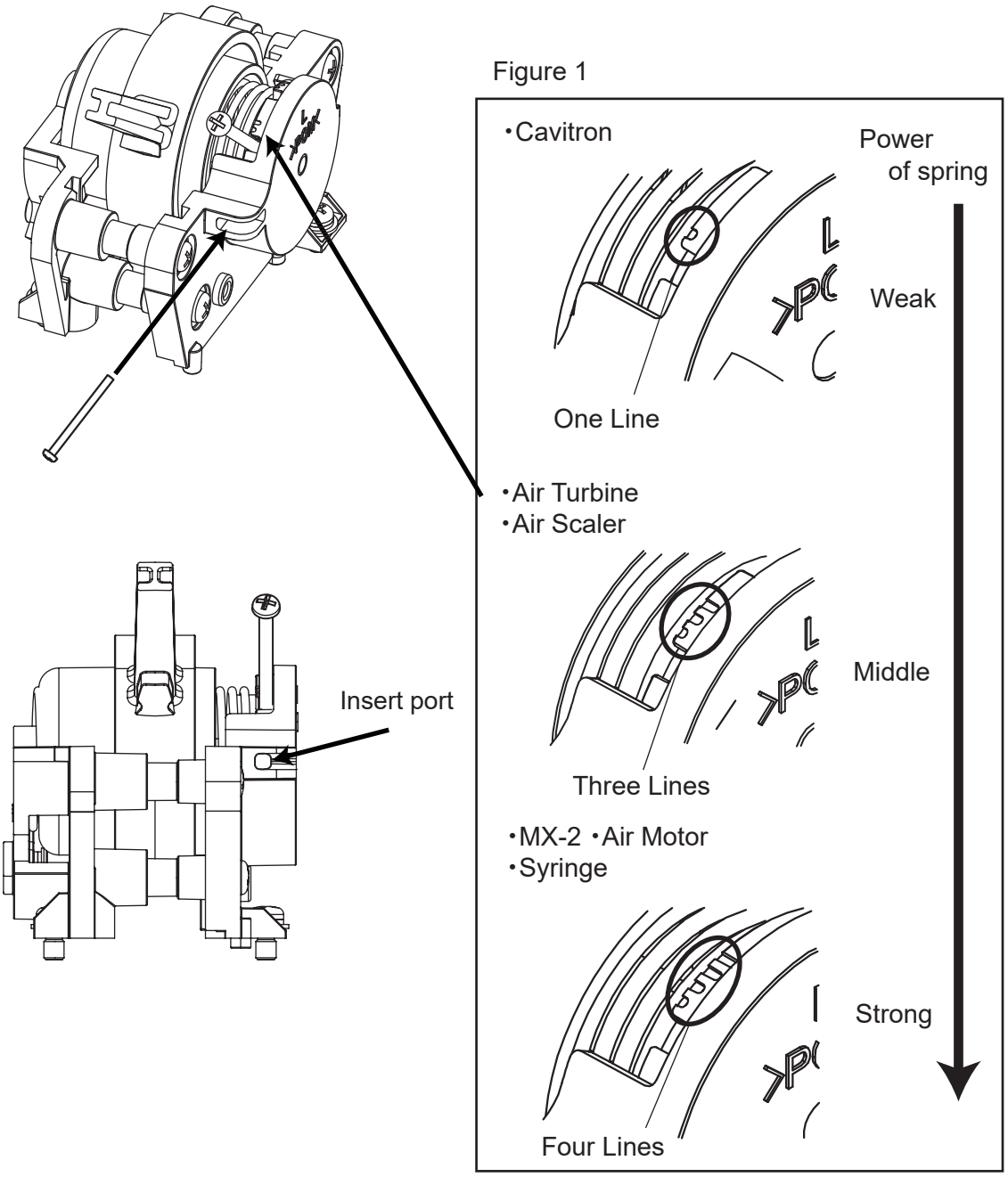

⑤ Insert the A (Included screw) to the groove at the rotation part
and while pushing the screw A in the direction of arrow "a" then pull off the B (Fixed screw) .




⑥ It is possible to adjust the tension using the A (Included screw) and B (Fixed screw).

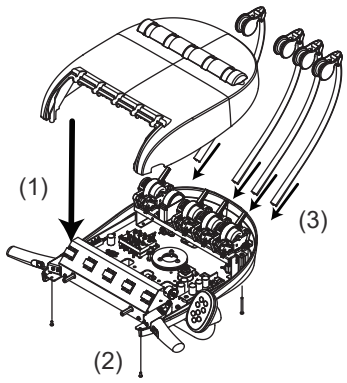


⑦ Set the spring tension according to the Handpiece (see figure 1) , insert the screw and fix it.

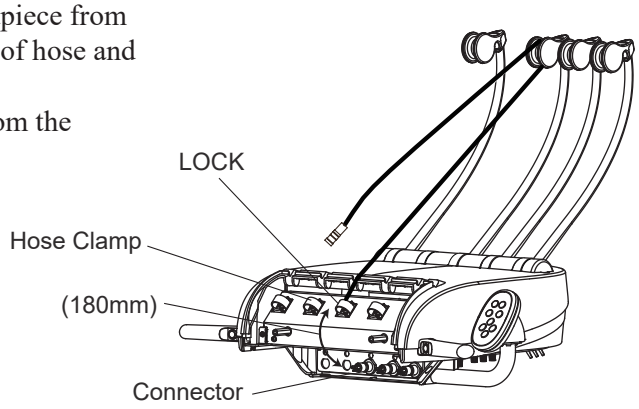



*(Note) Turn the rotation part to increase tension until one-line slit appears.*
*Do not turn the rotation part beyond three-line slit.*

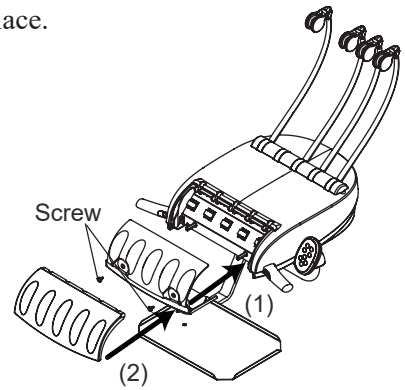
⑧ Put the table cover back in place and install the rod arm.



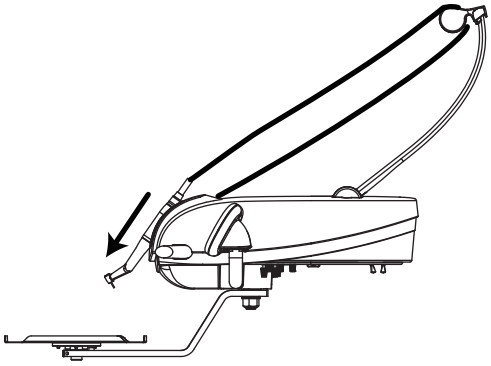

⑨ To set the position for picking the head of handpiece from the handpiece rest seat easily, adjust the length of hose and fix the handpiece hose by hose clamp.
(Our designated Handpiece is fixed 180 mm from the connector.)



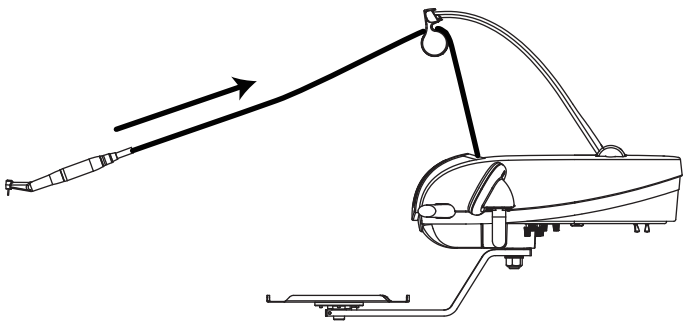

⑩ Put the Handpiece rest cover and Handpiece rest seat back in place.




⑪ Confirm the adjustment of rod rotation friction.



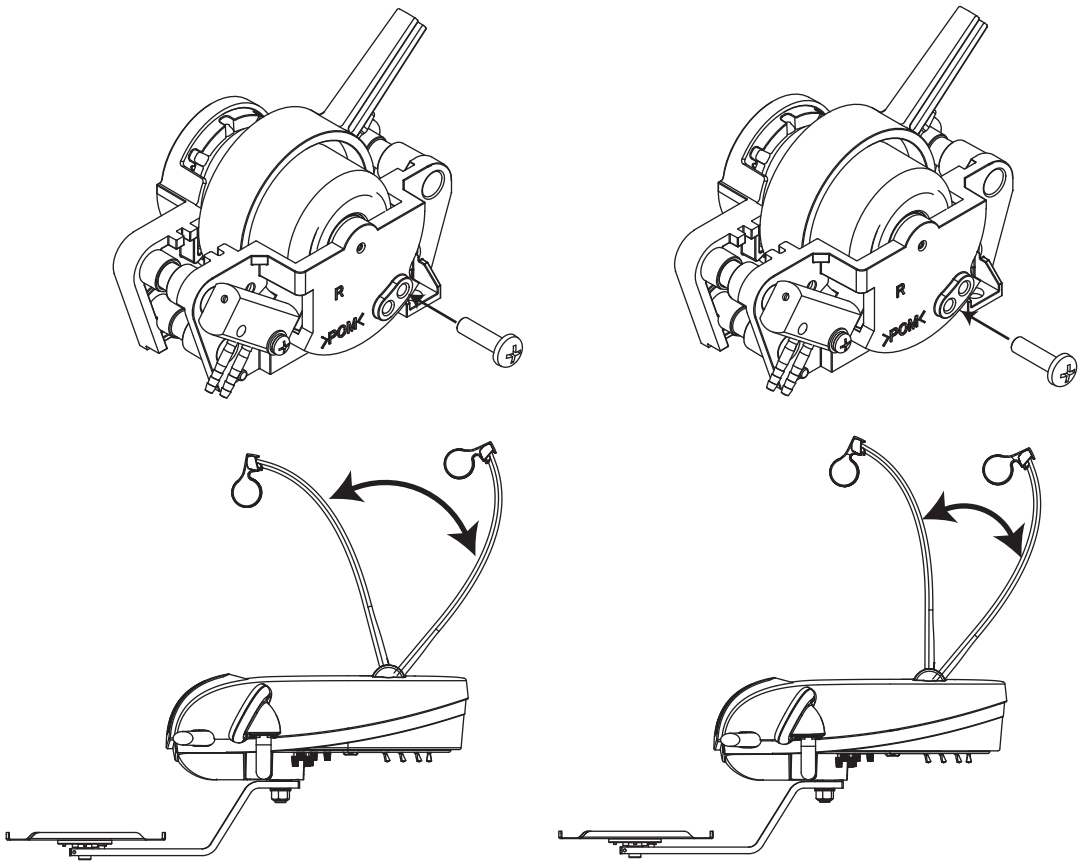
The position of Handpiece does not go down by its weight when putting Handpiece on the Handpiece rest.
→If it goes down, increase the tension.
(refer to ⑤,⑥,⑦)



The tension of Handpiece is not too strong when picking it.
→If it's too strong, decrease the tension.
(refer to ⑤,⑥,⑦)

## 6-8. Adjusting the Swing Angle of the Rod Arm

Inserting the screw (M4×16) contained in the package reduces the angle of the rod movement.
This adjustment can prevent the Handpiece, when at the most forward position, from accidental drop.
Note that the reach will be shortened.

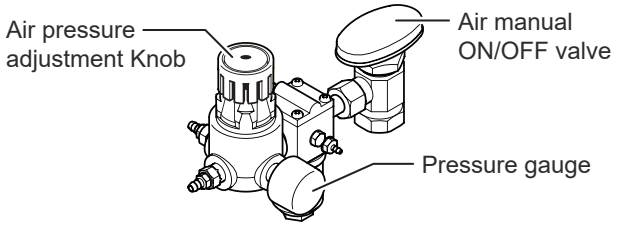


## 6-9. Water and Air Manual ON/OFF Valves in Junction Box

Open the water and air manual ON/OFF valve counterclockwise in the floor utility.
Turn on the master switch and check that water and air are not leaking.

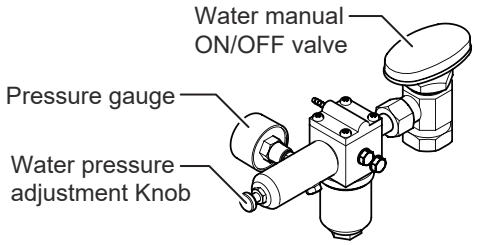
## 6-10. Main Air Pressure

The air utility regulator is factory pre-set at 75 psi (0.5 MPa). Air pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.




## 6-11. Main Water Pressure

The water utility regulator is factory pre-set at 29 psi (0.2 MPa). Water pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.

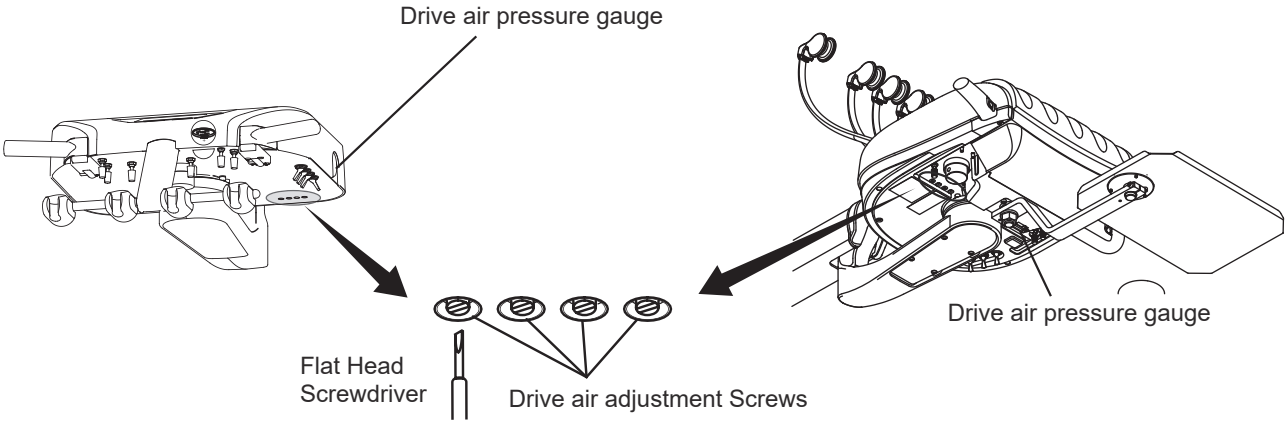


## 6-12. Drive Air

### CAUTION

**To avoid potential damage to handpieces**
**- Never operate a handpiece without a bur in the chuck.**
**- Do not exceed manufacturers recommended pressure setting at the handpiece.**

Each handpiece drive air can be adjusted by turning the drive air adjustment screw with handpiece running. Use a flat head screwdriver with a small tip to make drive air adjustments. Drive air pressure is decreased by turning the adjustment screw clockwise and increased by turning the adjustment screw counterclockwise. Drive air pressure is indicated on the handpiece pressure gauge located on the lateral side of the doctor table. Set the drive air pressure according to the instruction manual provided by the manufacturer of the handpiece.




*(Note) The reading at the pressure gauge will be approximately 5 psi (0.034MPa) higher than the actual pressure at the handpiece, due to line loss. To attain the desired handpiece pressure setting, adjust the drive air adjustment screw until the gauge pressure is 5 psi (0.034MPa) above target pressure. If the adjustment is made using a special in-line gauge attached at the handpiece connector, then set the pressure at this gauge directly, as specified by the handpiece manufacturer.*

## 6-13. Coolant Water

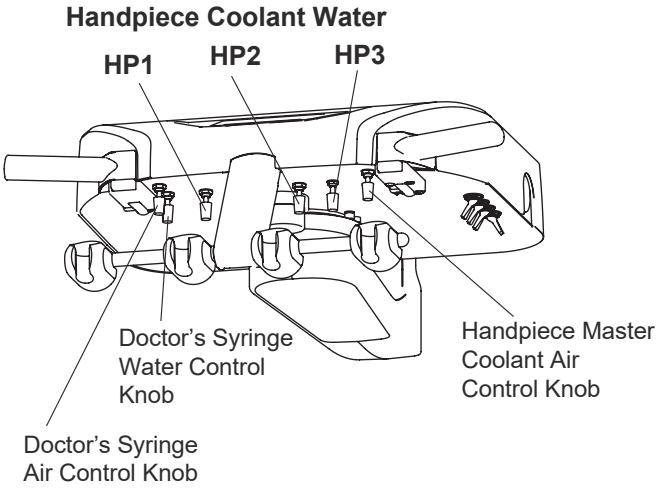
The handpiece coolant water control knobs are located underneath the doctor table.
Each handpiece coolant water control knob is identified as number 1 to 3 from the left side HP1, HP2 and HP3.
Each handpiece coolant water volume can be controlled independently.
Flip the toggle on foot control to switch to the "wet" position. (Toggle toward inside of the foot control)
Install a bur in the handpiece to be adjusted. Step on the foot control and run the handpiece, then adjust the water coolant flow knob until a fine mist is achieved.

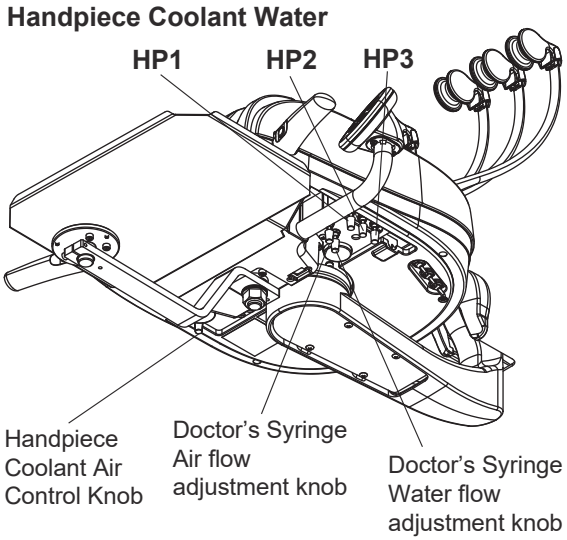
## 6-14. Coolant Air

The handpiece master control knob is located underneath the doctor table and sets coolant air for all handpieces. (Except syringe)
Adjust coolant air volume with the handpiece running until the desired flow is achieved.

## 6-15. Doctor's Syringe

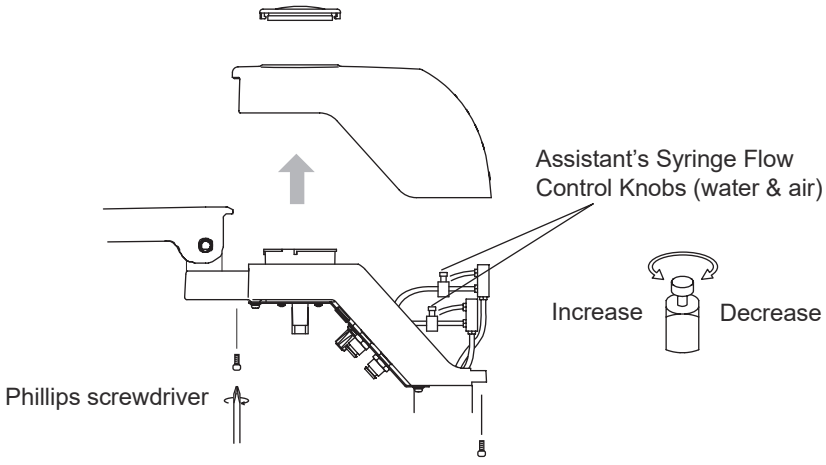
Doctor's syringe flow control knobs are located underneath the doctor table.
The yellow capped knob is the air flow adjustment knob, the blue capped knob is the water flow adjustment knob.



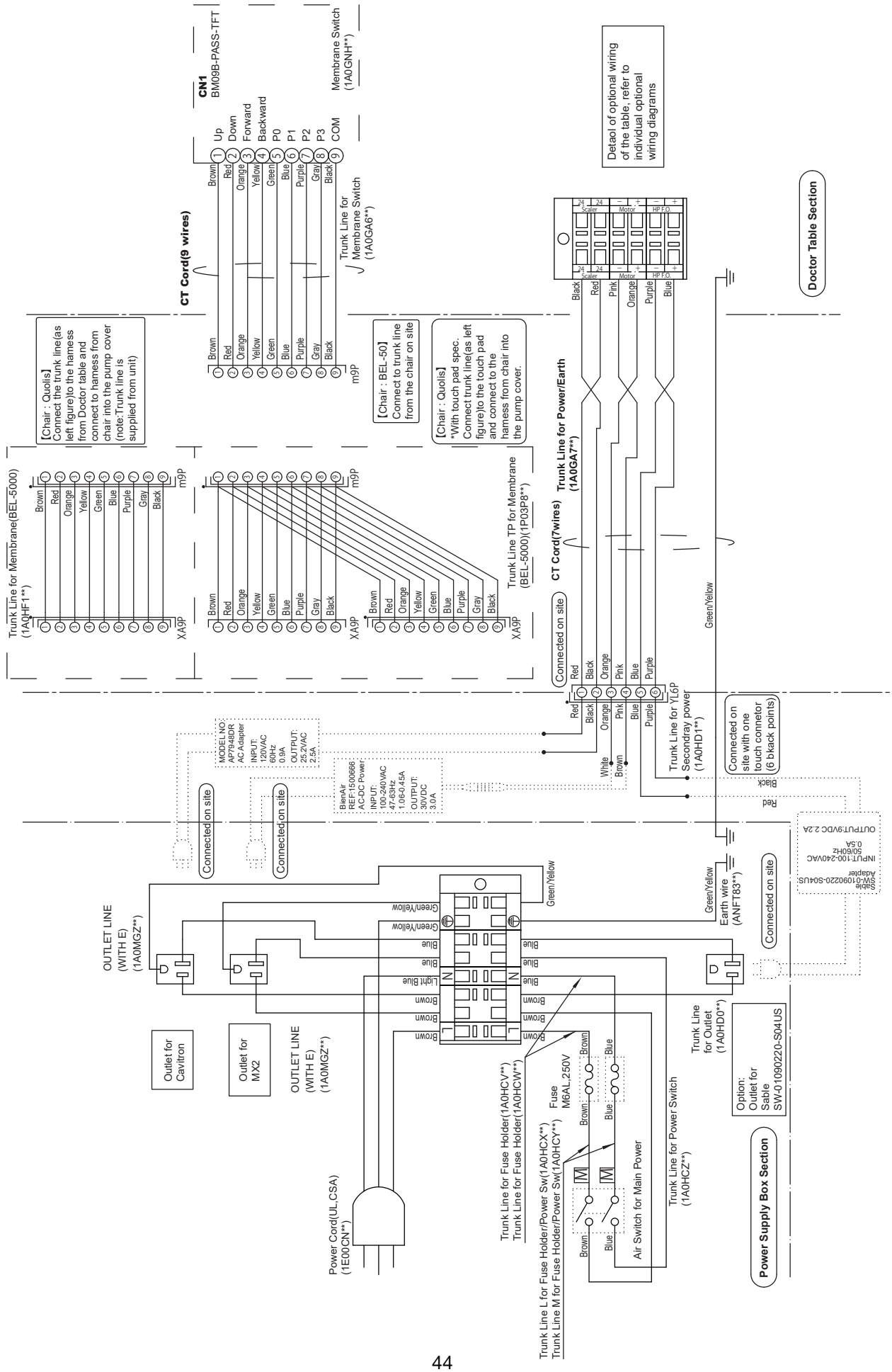

## 6-16. Assistant's Syringe (Vac Pac)

Assistant's syringe flow control pinch valves are located inside the Vac Pac utility center.
Open the upper cover by loosen the screws. Adjust the water and air flow by pinch valves.

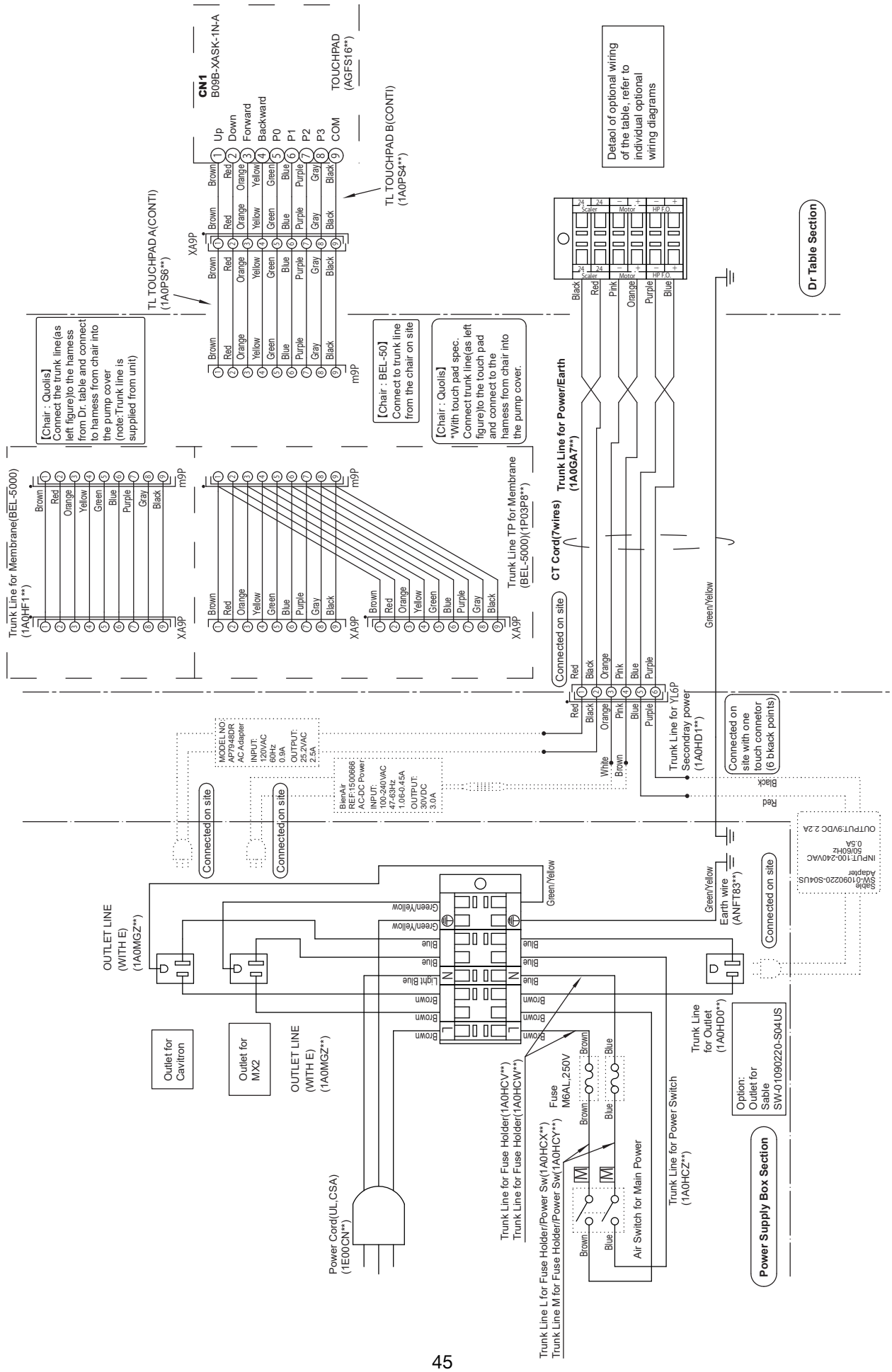


# 7. Electrical Diagram

## 7-1. AU-HV3808 Swing Mounted Delivery System with Bel-50 Chair / Quolis Chair

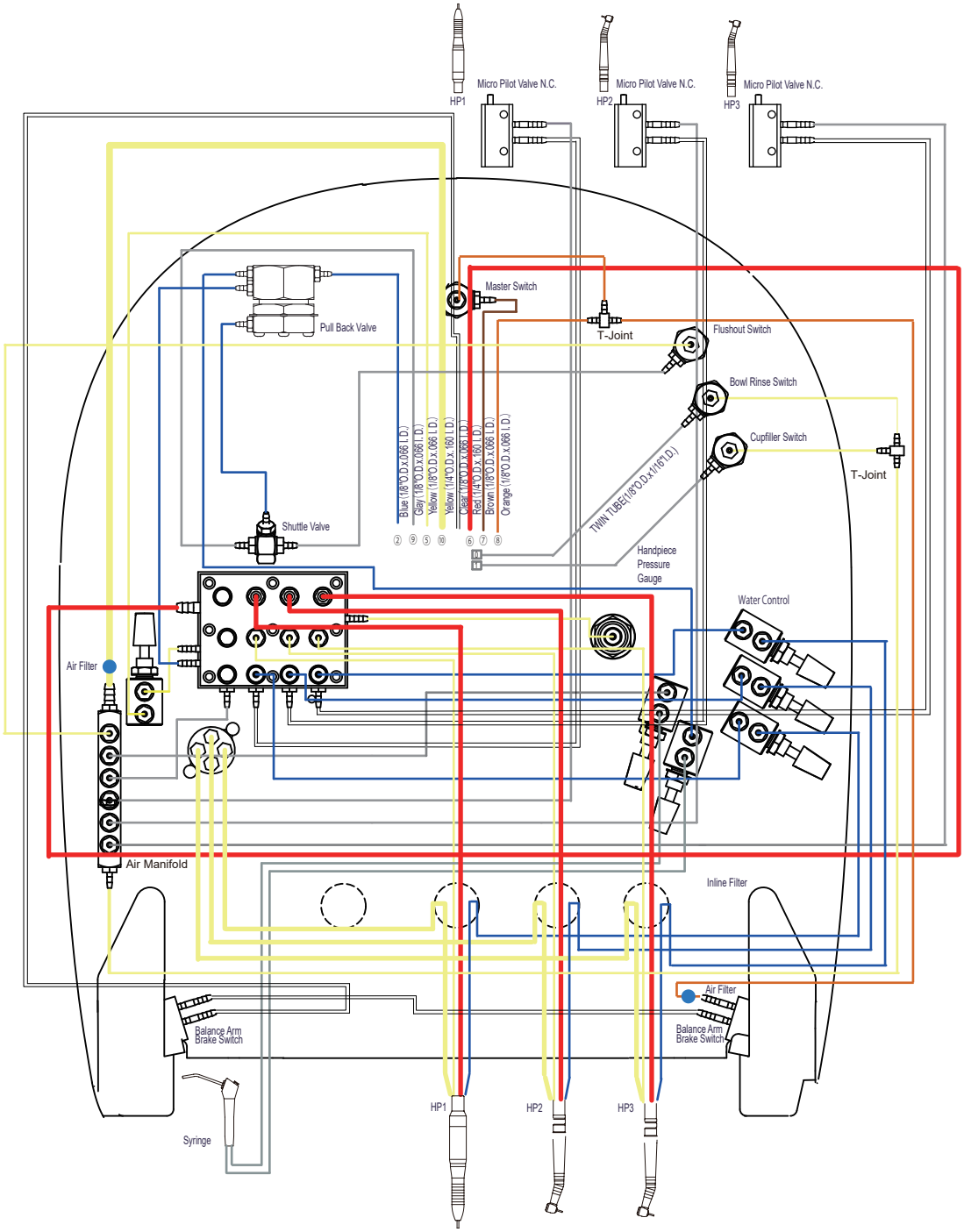


## 7-2. AU-HV3808 Swing Mounted Delivery System with Continental Type Bel-50 Chair / Quolis Chair

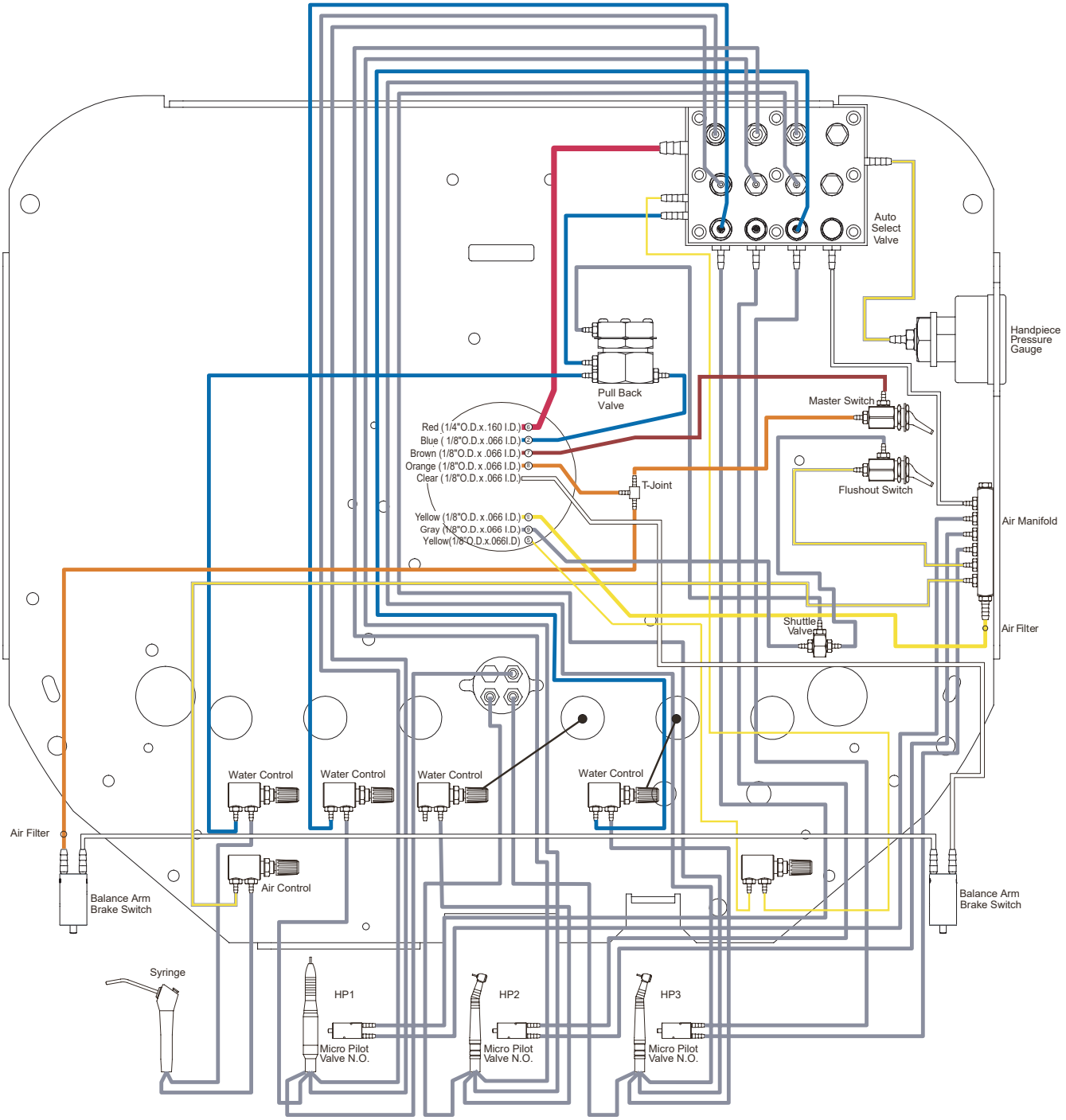


# 8. Flow Diagram

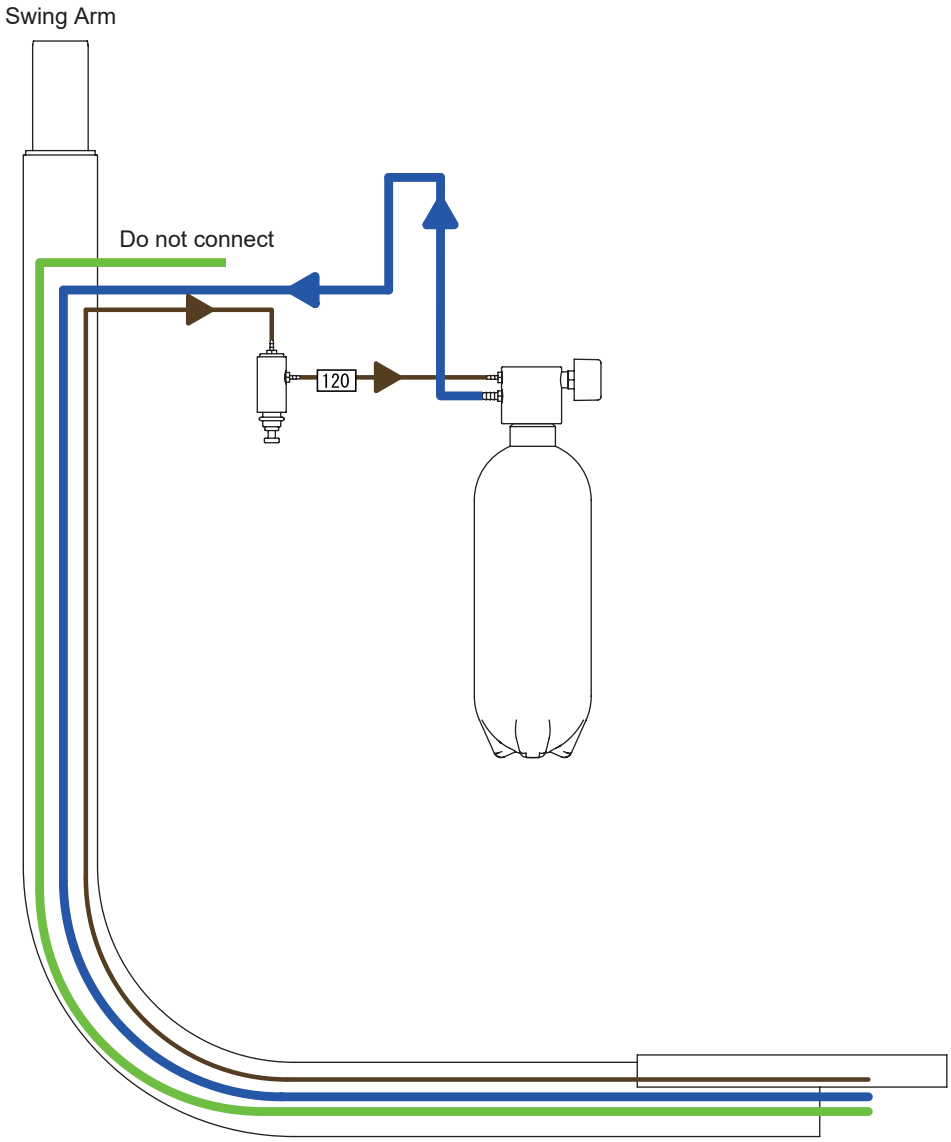
## 8-1. Doctor's Control Section Continental Type (with spittoon)



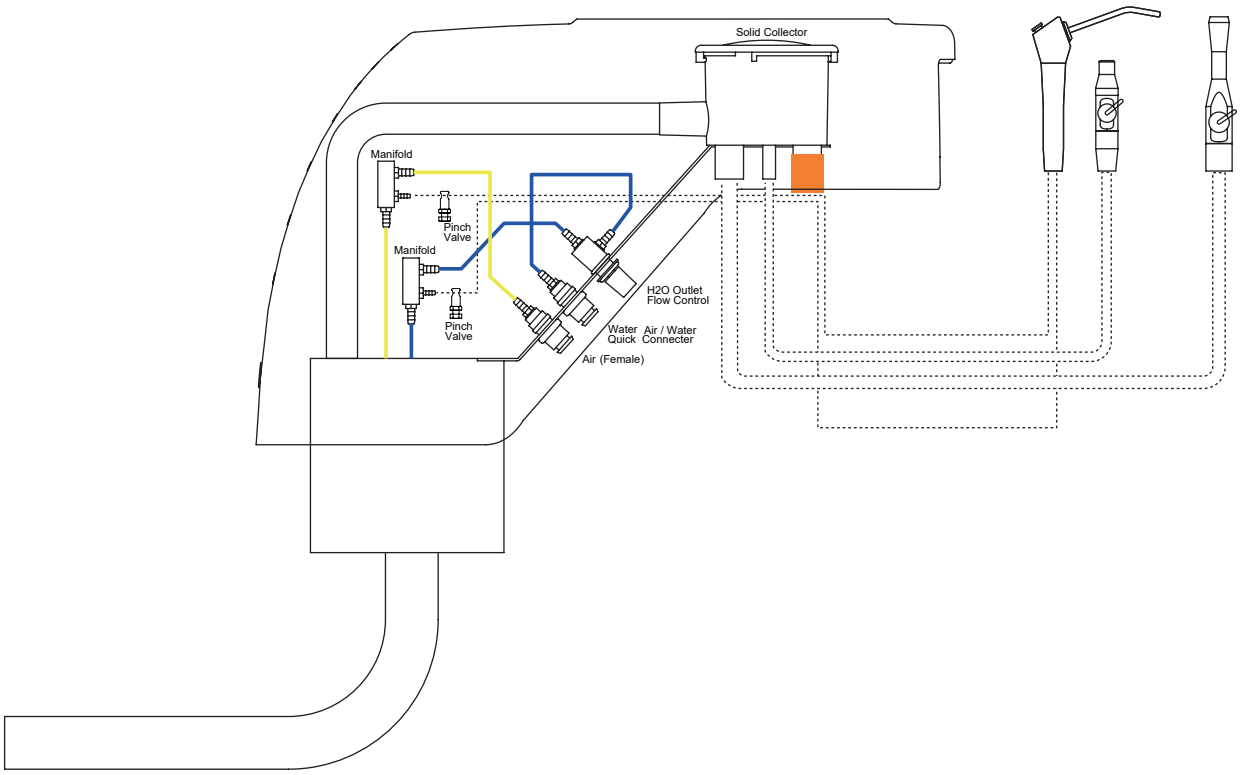
## 8-2. Doctor's Control Section (without Spittoon)



## 8-3. Swing Arm Section



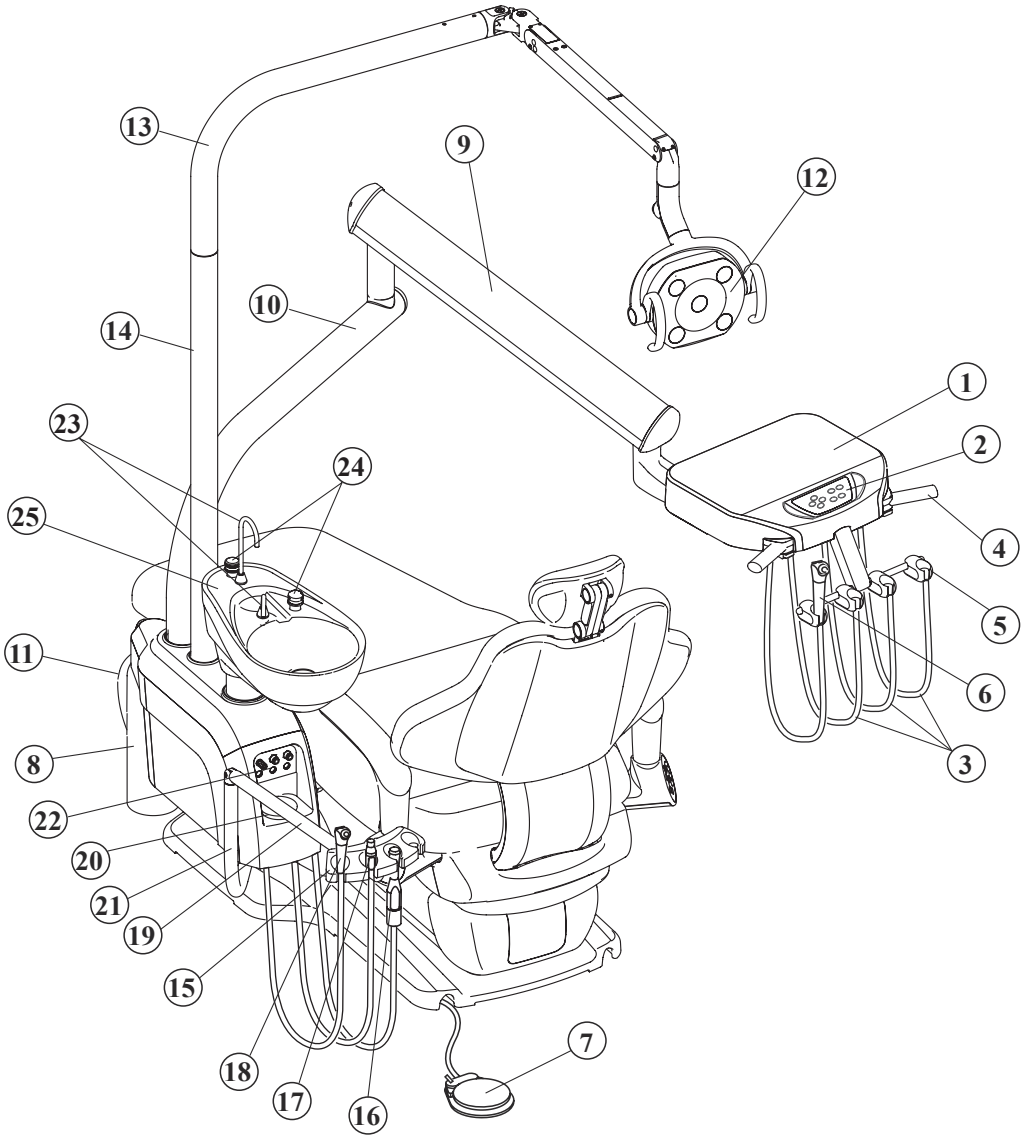
## 8-4. Vac Pac Section



# OVER THE PATIENT DELIVERY

# 9. Overview and Major Components

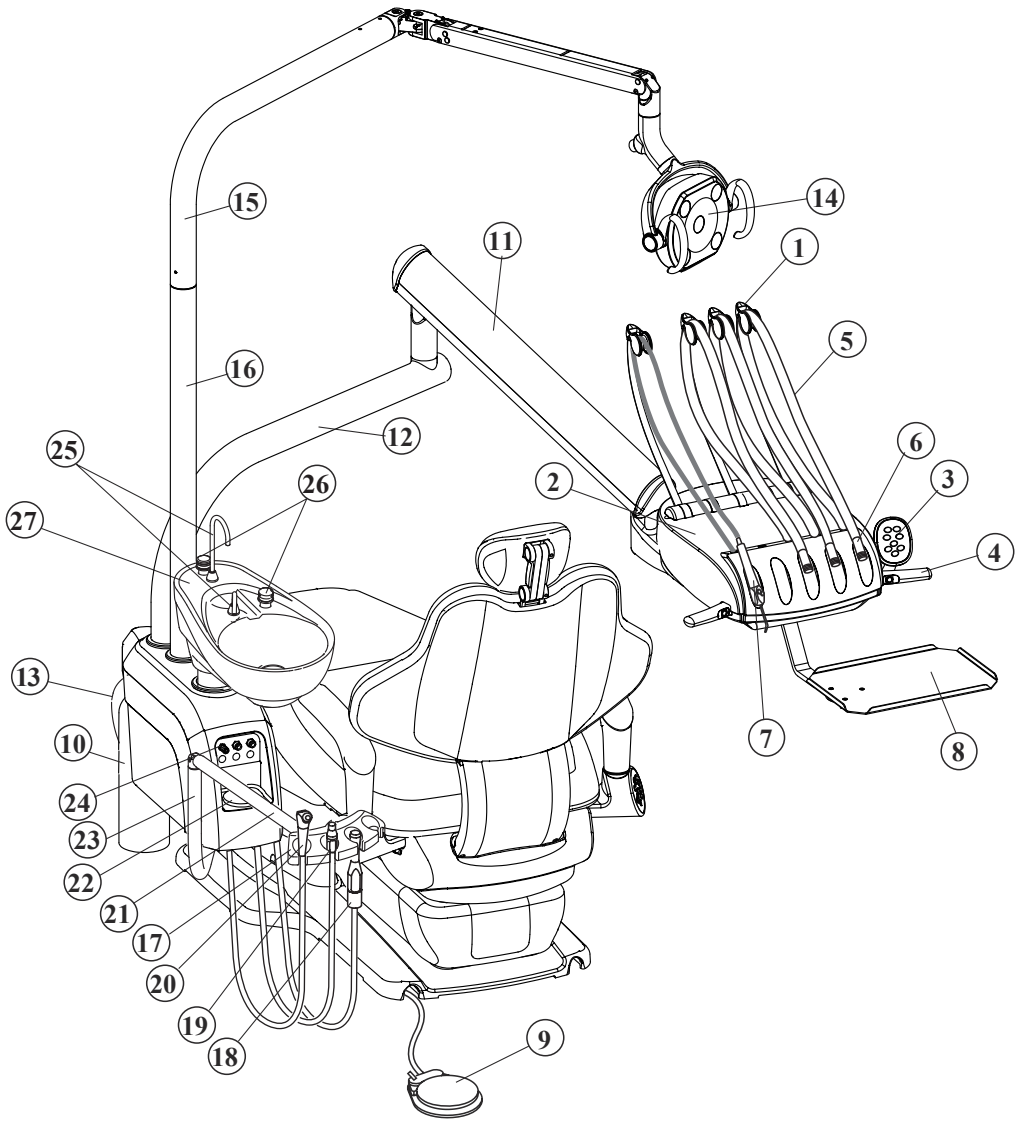
## 9-1. PMU Mounted System with Cuspidor (Quolis Chair / Clesta LED Dental Light)




(1) Control Head
(2) Chair Seat Positioning Touchpad
(3) Handpiece Hose
(4) Handle
(5) Handpiece Holders
(6) Doctor's Syringe (*)
(7) Foot Control
(8) Water Bottle
(9) BalanceArm
(10) Doctor SwingArm
(11) Junction Box
(12) Dental Light
(13) Dental Light Swing Arm
(14) Light Pole
(15) Assistant Instrument Holder
(16) HVE
(17) Saliva Ejector
(18) Assistant's Syringe (*)
(19) Assistant Holder Arm
(20) Solids Collector
(21) Assistant Swing Arm
(22) PMU front panel
(23) Cupfiller nozzle and bowl flush nozzle
(24) Cupfiller switch and bowl flush switch
(25) Cuspidor bowl

*(*Note) Evogue does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

## 9-2. PMU Mounted System with Continental Type Table and Vac Pac (Quolis Chair / Clesta LED Dental Light)




(1) Rod Mechanism
(2) Control Head
(3) Chair Seat Positioning Touchpad
(4) Handle
(5) Handpiece Hose
(6) Handpiece Rest
(7) Doctor's Syringe (*)
(8) Sub Tray
(9) Foot Control
(10) Water Bottle
(11) BalanceArm
(12) Doctor SwingArm
(13) Junction Box
(14) Dental Light
(15) Dental Light Swing Arm
(16) Light Pole
(17) Assistant Instrument Holder
(18) HVE
(19) Saliva Ejector
(20) Assistant's Syringe (*)
(21) Assistant Holder Arm
(22) Solids Collector
(23) Assistant Swing Arm
(24) PMU front panel
(25) Cupfiller nozzle and bowl flush nozzle
(26) Cupfiller switch and bowl flush switch
(27) Cuspidor bowl

*(*Note) Evogue does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

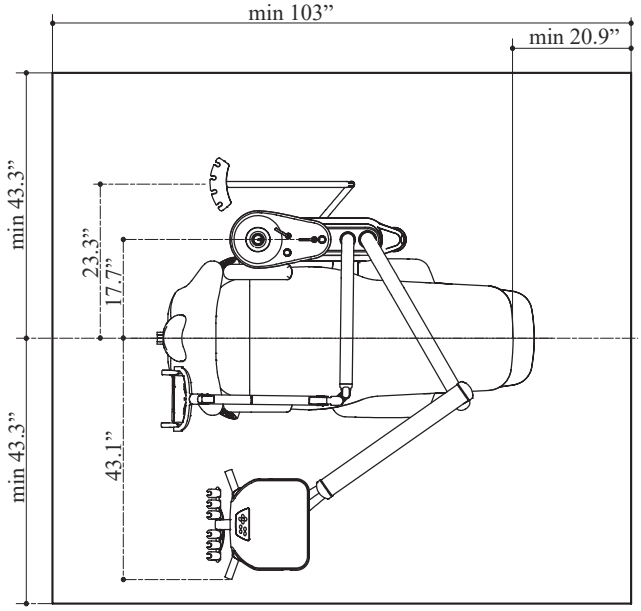
# 10. Dimensions and Specifications

## 10-1. PMU Mounted System with Cuspidor (Quolis Chair / Clesta LED Dental Light)

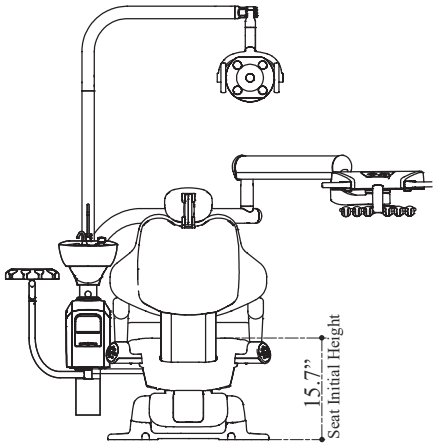
**Dimensions**

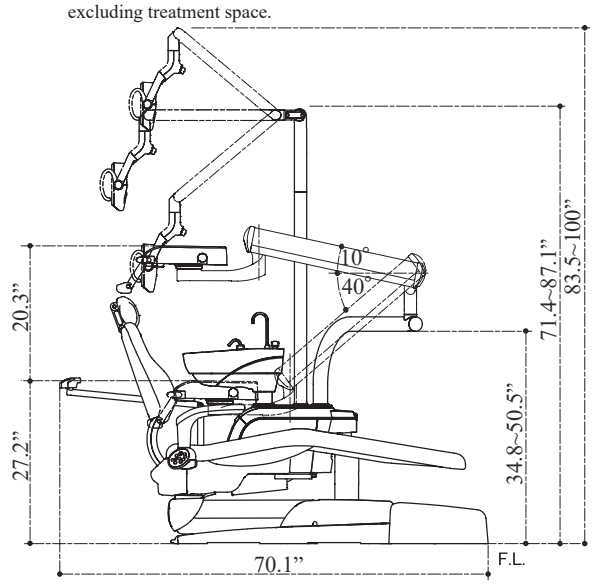
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 44 lbs. (20 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Cuspidor Section Net Weight | 66 lbs. (30 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 200L/min. |
| Dental Light | Clesta LED Dental Light (Maximum height : 100”)<br>Bel-Halo Dental Light (Maximum height : 98”)<br>Bel-Nova (Maximum height : 97”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

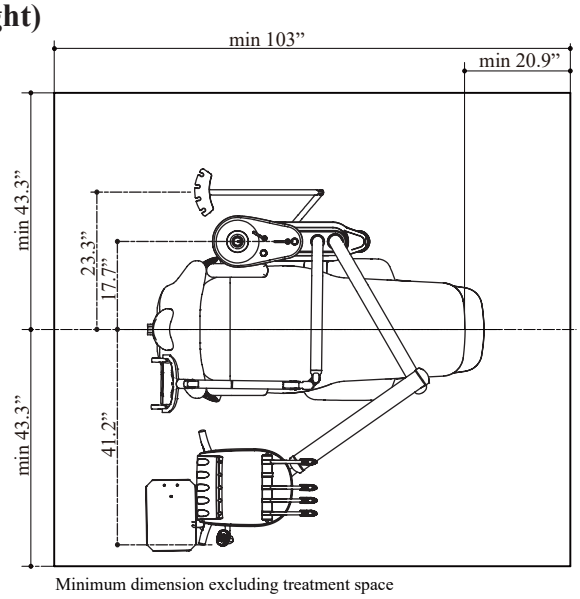
**The specification is subject to change without notice.**

## 10-2. PMU Mounted System with Continental Type and Cuspidor (Quolis Chair / Clesta LED Dental Light)

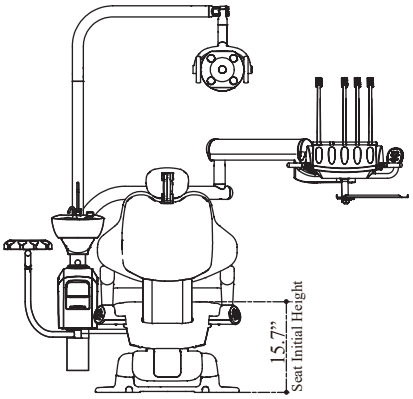
**Dimensions**

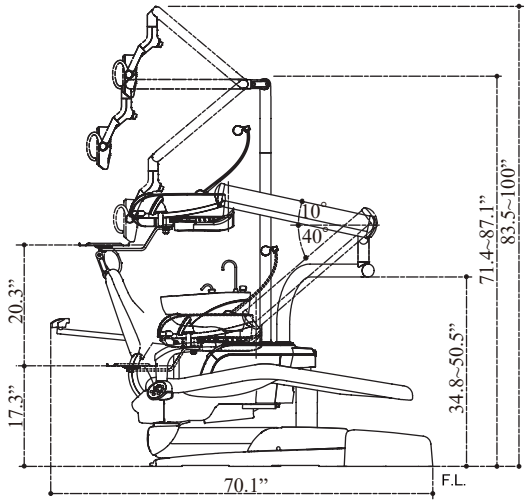
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension excluding treatment space




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 57 lbs (26 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Cuspidor Section Net Weight | 66 lbs. (30 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 52.8gpm (200L/min) |
| Dental Light | Clesta LED Dental Light (Maximum height : 100”)<br>Bel-Halo Dental Light (Maximum height : 98”)<br>Bel-Nova (Maximum height : 97”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Applied parts | Type B applied parts : Handpiece for unit<br>(List of compatible handpieces) |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

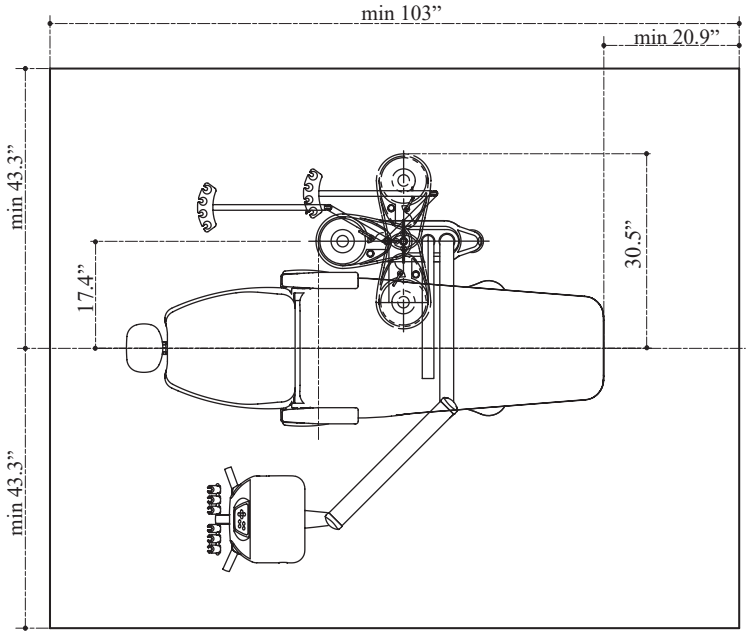
**The specification is subject to change without notice.**

## 10-3. PMU Mounted System with Cuspidor (Bel-50 Chair / Clesta LED Dental Light)

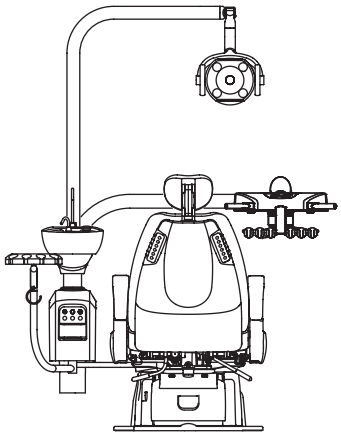
**Dimensions**

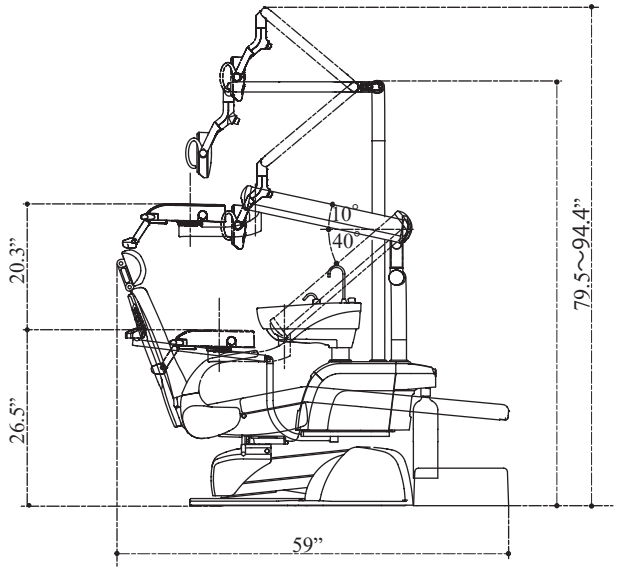
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.






**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 44 lbs. (20 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Cuspidor Section Net Weight | 66 lbs. (30 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 52.8gpm (200L/min) |
| Dental Light | Clesta LED Dental Light (Maximum height : 106.4”)<br>Bel-Halo Dental Light (Maximum height : 104.4”)<br>Bel-Nova (Maximum height : 103.4”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

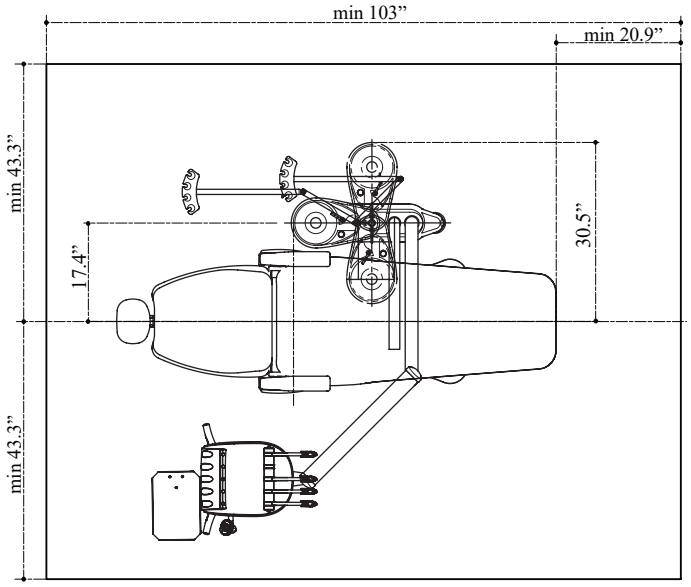
**The specification is subject to change without notice.**

## 10-4. PMU Mounted System with Continental Type and with Cuspidor (Bel-50 Chair / Clesta LED Dental Light)

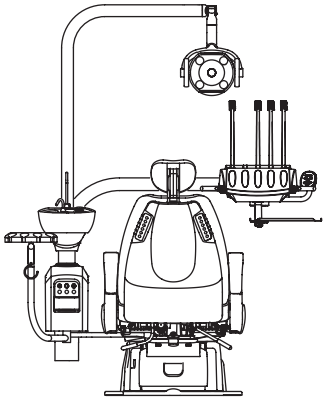
**Dimensions**

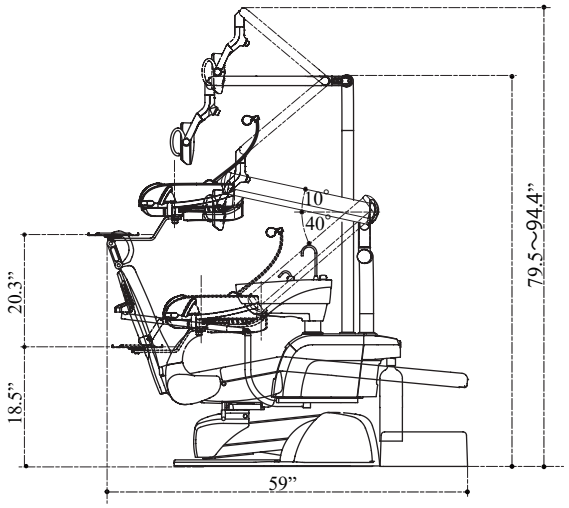
Unit：inch

Tolerance in dimensions: ±10%




Minimum dimension for change to right and left position excluding treatment space.






**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Doctor’s control Net Weight | 57 lbs. (26 kg) |
| Swing Arm Net Weight | 55 lbs. (25 kg) (Without Dental Light) |
| Cuspidor Section Net Weight | 66 lbs. (30 kg) |
| Junction Net Weight | 9 lbs. (4 kg) |
| Doctor Table Maximum Load | 4.40 lbs. (2 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 52.8gpm (200L/min) |
| Dental Light | Clesta LED Dental Light (Maximum height : 106.4”)<br>Bel-Halo Dental Light (Maximum height : 104.4”)<br>Bel-Nova (Maximum height : 103.4”) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

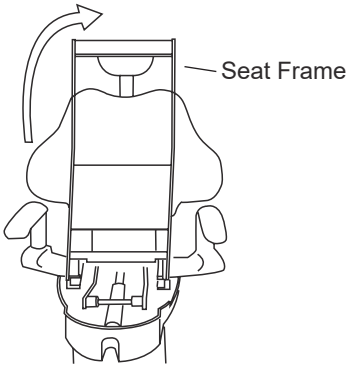
**The specification is subject to change without notice.**

# 11. Installation for Over the Patient Delivery System with Cuspidor (PMU) for Quolis Chair

## 11-1. How to Install the PMU

The PMU shall be mounted at the front of the chair under the seat.

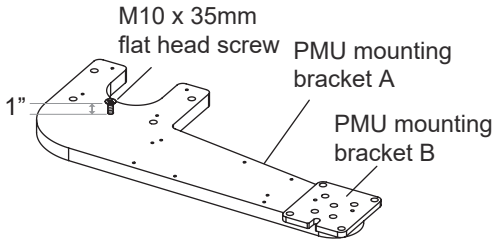
1. Raise the seat frame of the chair as shown.




**CAUTION**

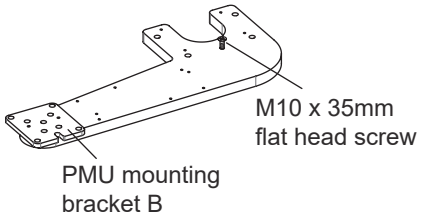
**Failure to lift seat frame as shown can result in damage to paint finish of swing arm in subsequent steps.**

2. Insert M10 x 35mm flat head screw in the threaded hole on the top side of the PMU mounting bracket A and leave 1" from the top of screw to plate surface.



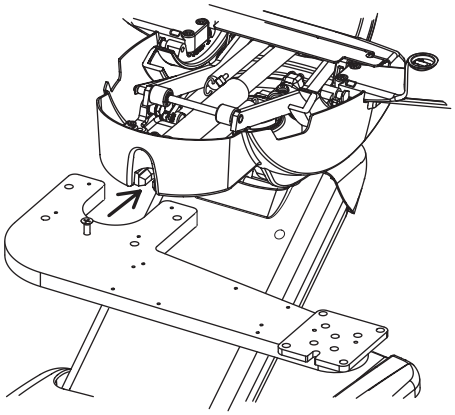

*(Note) In case of mount PMU onto right side of the chair.*
*Remove the bracket B from bracket A.*
*Turn the bracket A over and reattach the bracket B opposite side.*

**In case of mount PMU onto the chair right**




3. Raise the seat.

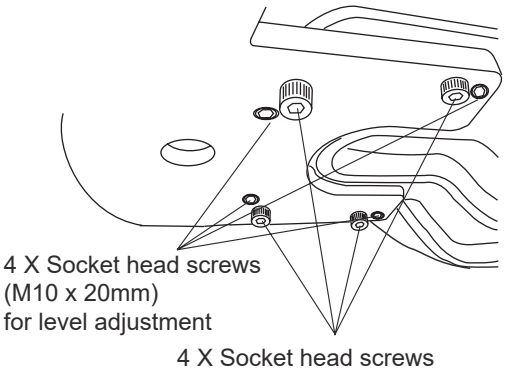
4. Attach PMU mounting bracket to chair by aligning M10 x 35mm screw with recess in front of the seat and slide screw into slot.



5. Locate 4 - M10 x 20mm leveling set screws and insert into bottom side of PMU mounting bracket.

6. Adjust the level of the swing arm plate with the four socket set screws.

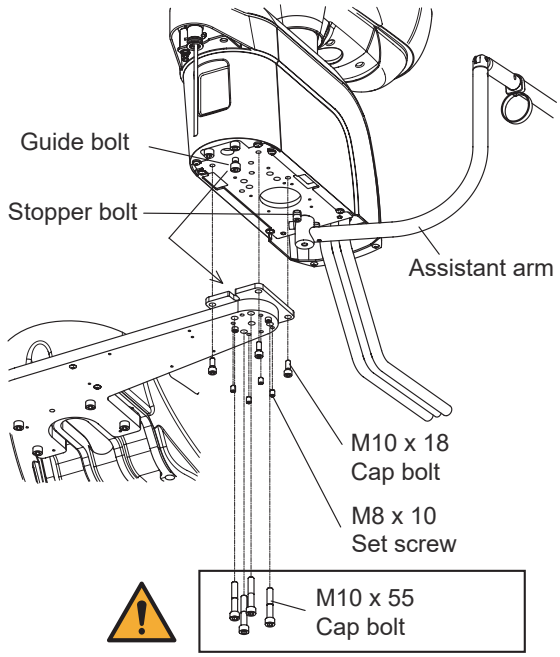
7. Tighten the 4 - M10 x 40 mm socket head screws. Lift the PMU mounting bracket if needed.



8. Attach PMU onto the PMU mounting bracket by aligning guide bolt with recess in front of the PMU mounting bracket and slide guide bolt into slot. Temporarily fix with three M8 x 18 cap bolts.

9. Adjust the level of the PMU with four M8 x 10 set screws.

10. Tighten the four M10 x 55 cap bolts and three M10 x 18 cap bolts.

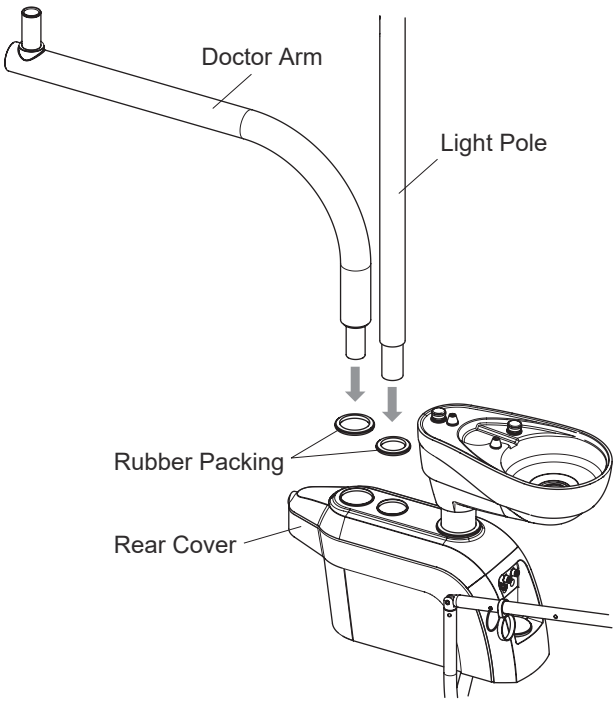


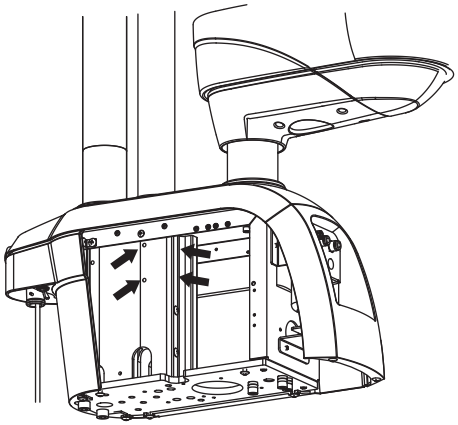

**WARNING**

**Be sure to fix the PMU to the mounting bracket together with four M10 x 55 cap bolts. If not, the PMU may fall over.**

*(Note) In the case of that the PMU mount to other side. Remove the stopper bolt from the cuspidor bottom. Change the position of the assistant arm to other side and re-attach the stopper bolt to same position. Make sure attach the stopper bolt after changing the assistant arm position. If not, the assistant arm and hoses hit each other and it could cause damage to the handpiece hoses.*

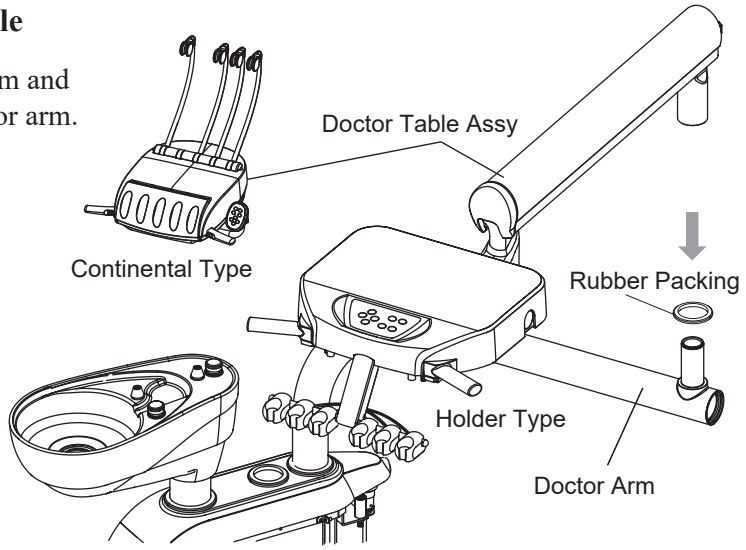
11. Insert the light pole and doctor arm with rubber packing. Fix the light pole to cuspidor chassis with 4 screws before install power box of light in it. To brake the rotation of the doctor arm, remove the rear cover of cuspidor and tighten the adjustment screw.



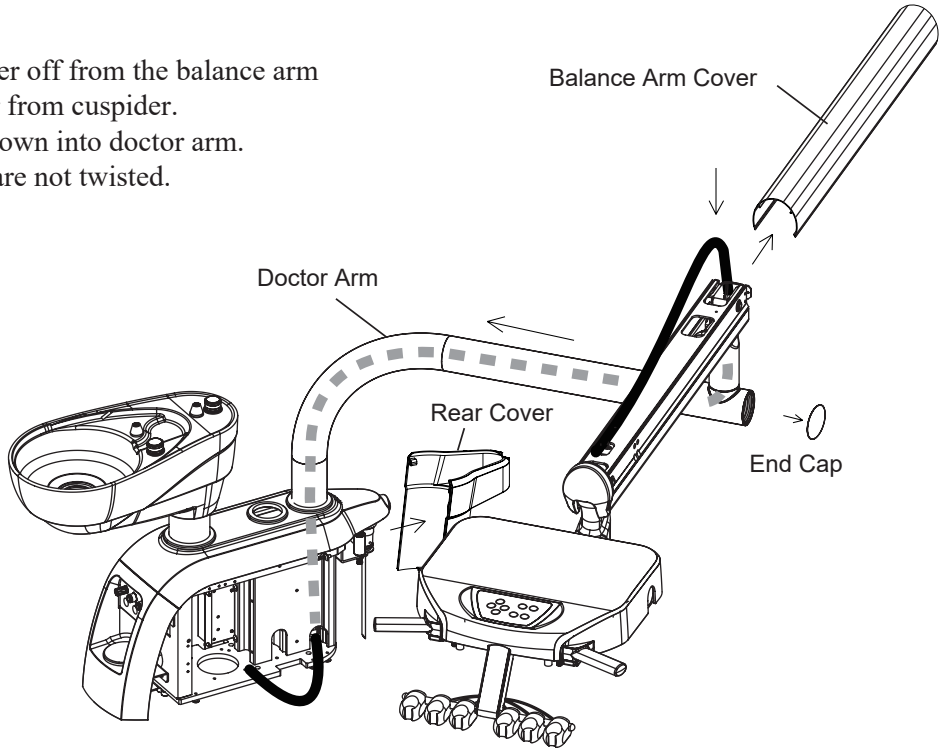



## 11-2. How to Install the Doctor Table

1. Put the rubber packing to the doctor arm and attach the doctor table assy to the doctor arm.

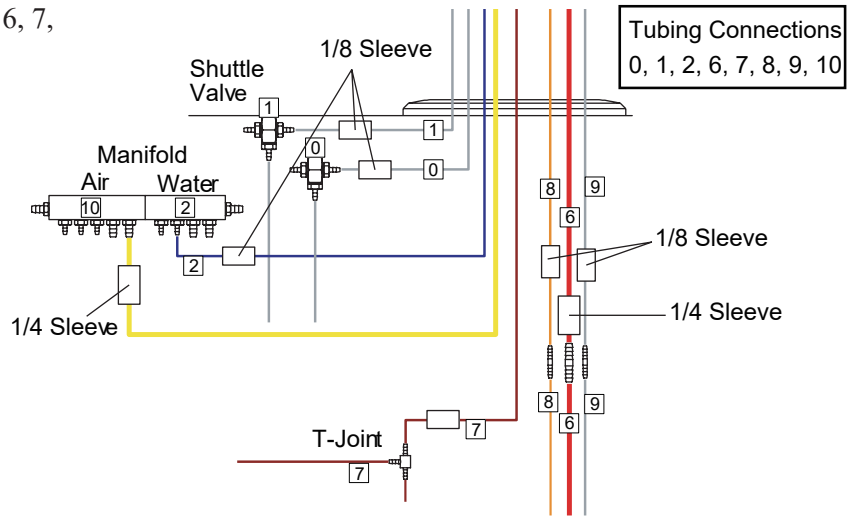



2. Slide the balance arm cover off from the balance arm and remove the rear cover from cuspider.
Route tubing and cables down into doctor arm.
Make sure that the hoses are not twisted.

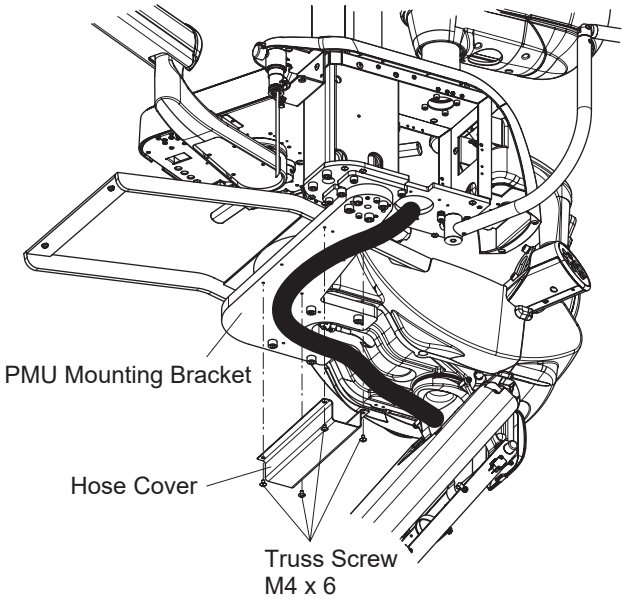



3. Connect the tubing labeled 0, 1, 2, 6, 7, 8, 9, 10 into the PMU.

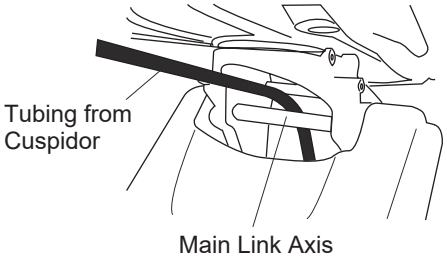
0 : Pilot air for bowl flush
1 : Pilot air for cupfiller
2 : Bottle water to table
6 : Drive air to foot control
7 : Pilot air for main switch out / water bottle pressure air
8 : Pilot air for main switch in
9 : Coolant air
10 : Input air to doctor table

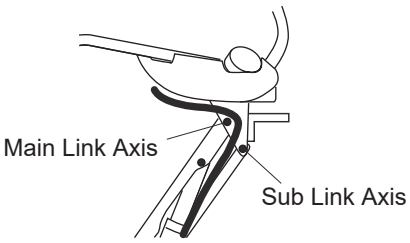


4. Route the tubing from cuspidor through under the PMU mounting bracket.
   Attach the hose cover to bottom of PMU mounting bracket and fit it with truss four screws M4 x 16.

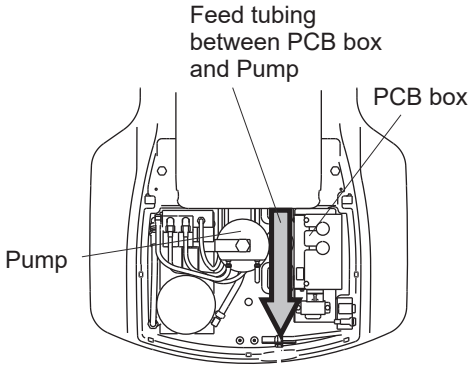



5. Route tubing down through the chair between the main link axis and sub link axis.

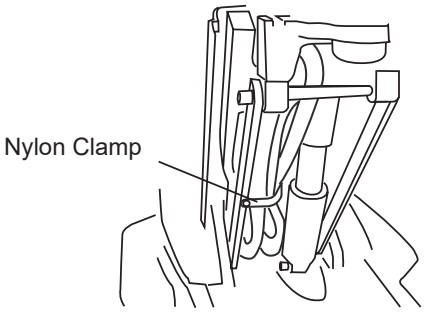



6. Feed tubing between PCB box and pump and out to the front of the chair.



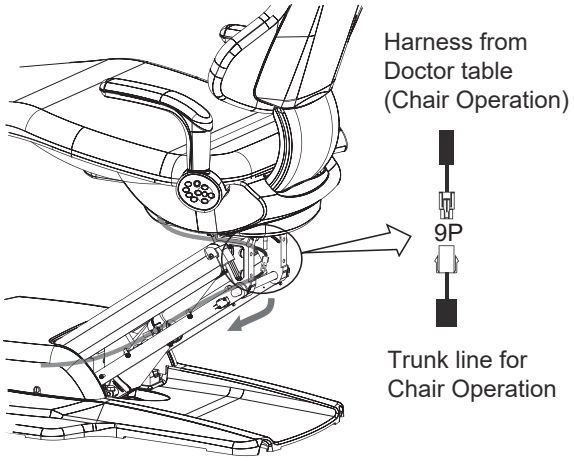

7. Tie the tubing with the wire nylon clamp.
   Make sure that hoses are not kinked.



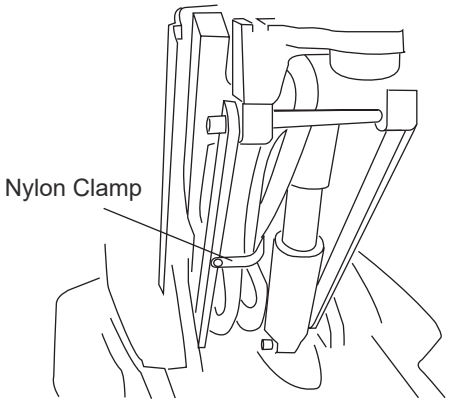
## 11-3. How to Connect Chair Operation Cable of the Doctor Table

1. Connect the trunk line of the chair operation to the harness from Doctor table. (Note : Trunk line of the chair operation is supplied from unit package)

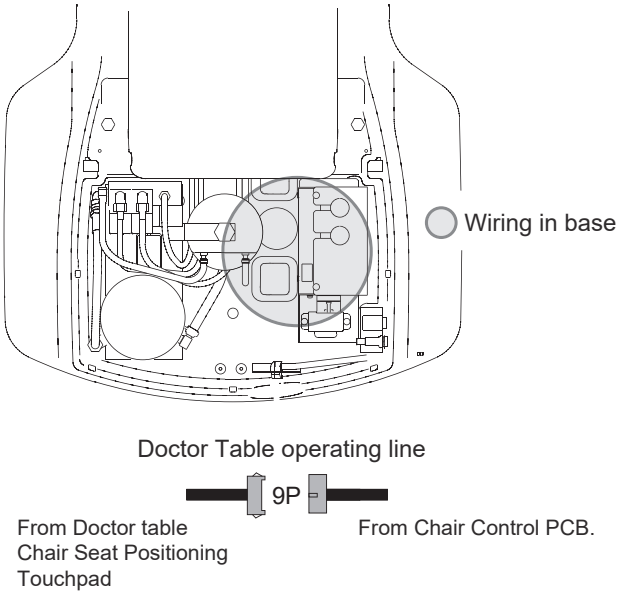
2. Route the trunk line of the chair operation into the chair and bring to the front of the chair base.




3. Tie the trunk line for chair operation and other tubings with the wire nylon clamp.
Make sure that hoses are not kinked.




4. Connect the trunk line of the chair operation to the harness from chair control pcb in the base.



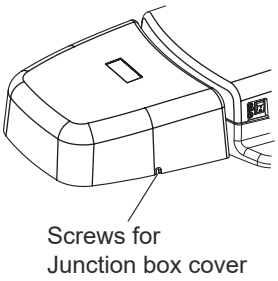
## 11-4. How to Install the Junction Box

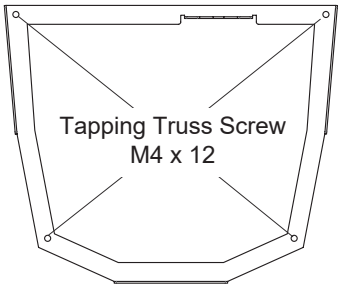
Refer to floor template for connection of water, air, power, drain hose and vacuum hose.

1. Open the junction box cover by removing two slotted M5 x 10mm screws from each side of the Junction box cover.

2. Place the junction box frame in front of the chair. (The plan of the plumbing position needs to be done in advance. See the flow diagram)

3. Attach the junction box frame to the floor with four M4 x 12mm tapping truss screws.



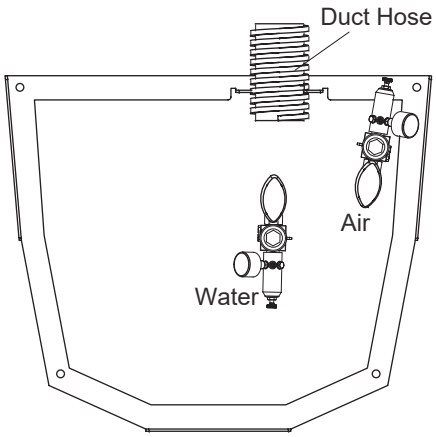



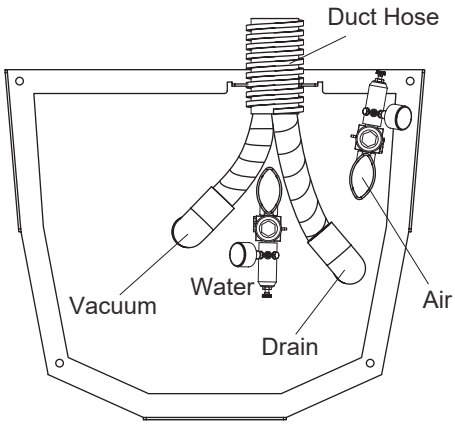

## 11-5. How to Plumb the Junction Box

1. Cut the duct hose to desired length and insert it between retainers inside of the pump cover and the junction box.

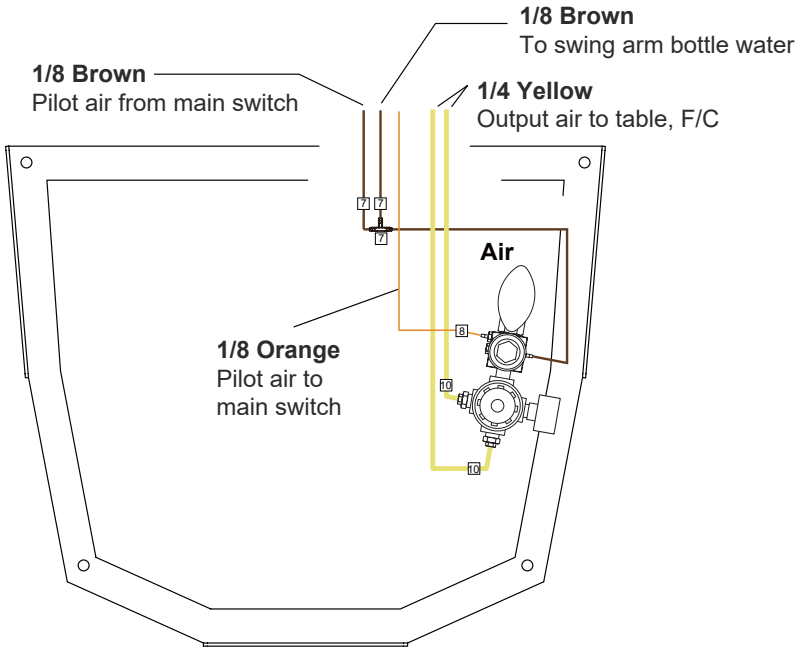
2. Attach the manual on/off valve to the air supply pipe.
   Purge air through valve to clean debris.
   Attach automatic valve assembly for air to manual valve.
   Do the same thing for the water assembly ordered with unit models.

3. Connect vacuum hose (5/8) and Drain Hose (3/4) to the floor.
   Vacuum hose has uneven surface.
   We supply long hose as needed and cut them accordingly.

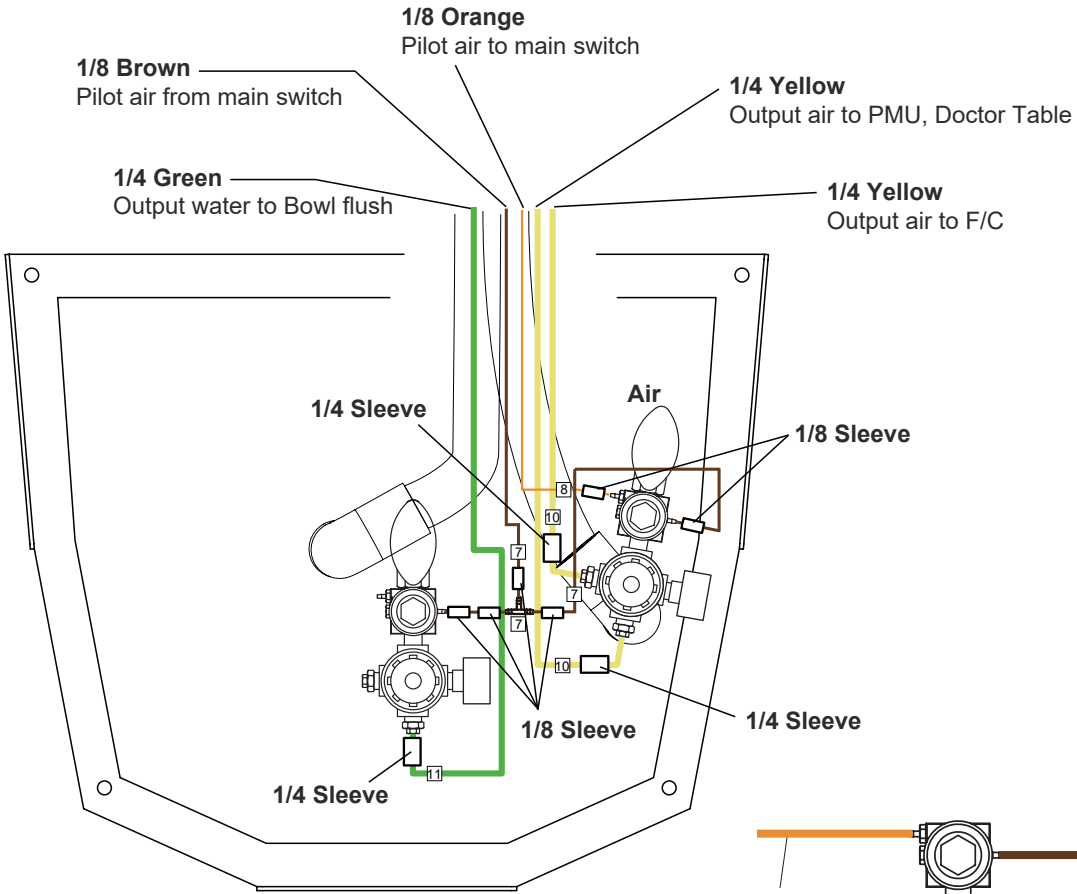


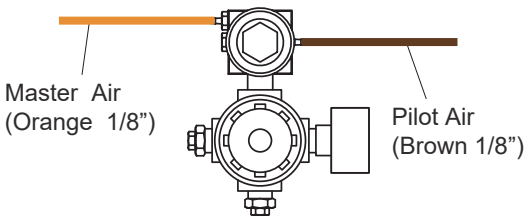



## PMU Type (Table)

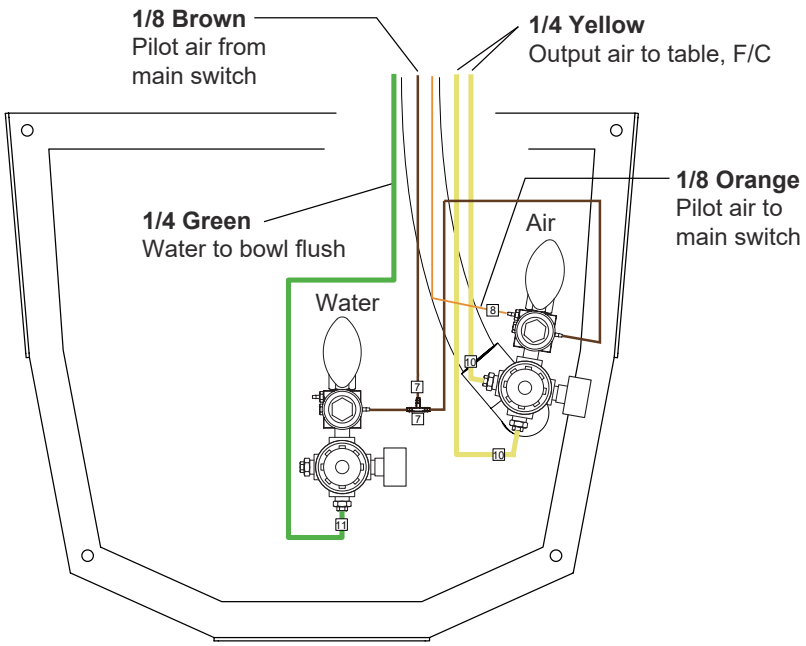



## PMU Type (Table + Spittoon + Vacuum)

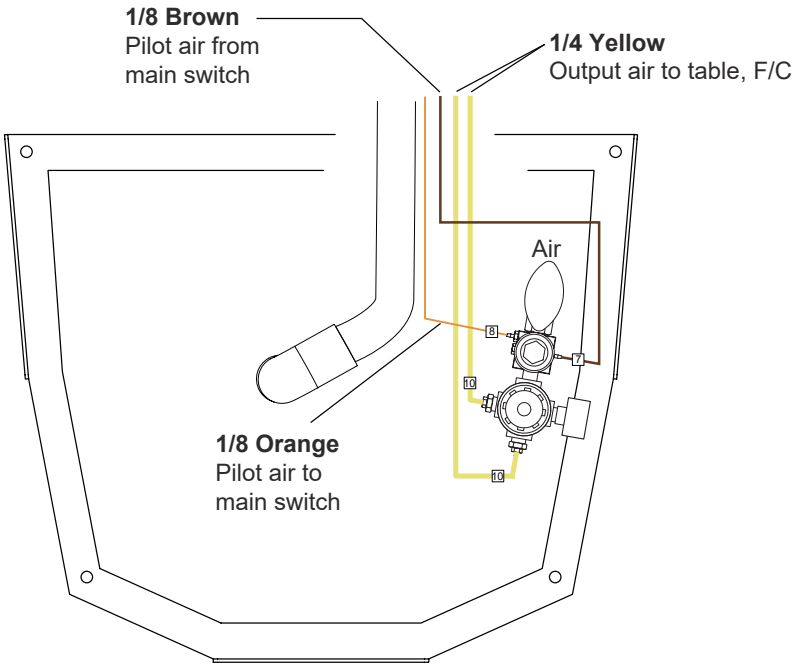


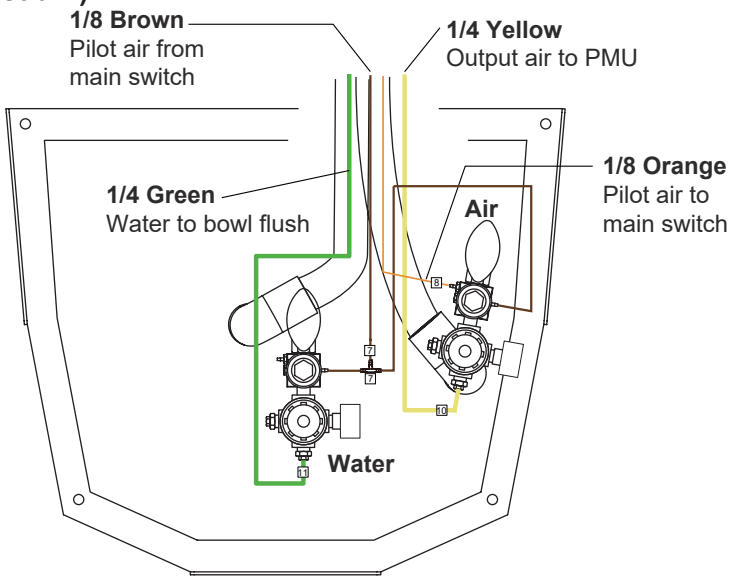
## PMU Type (Table)



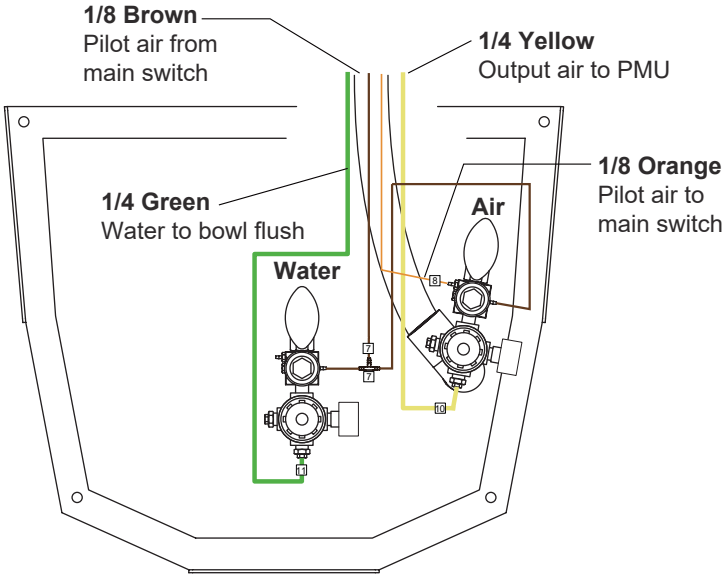

## PMU Type (Table + Spittoon + Vacuum)



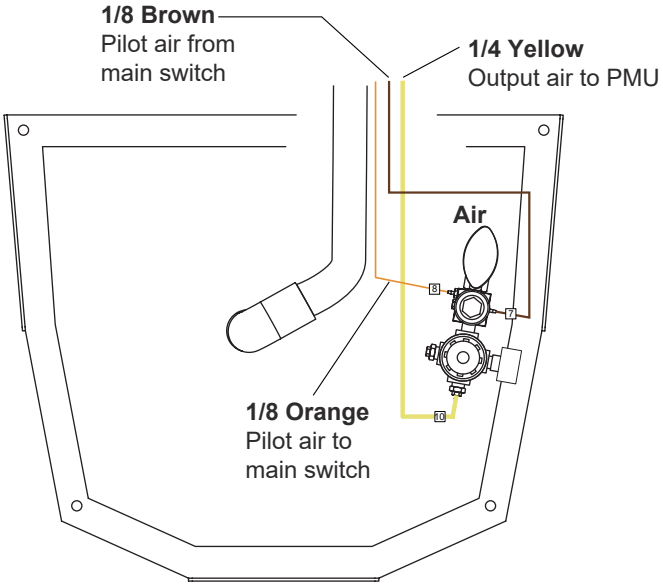
## PMU Type (Spittoon + Vacuum)




## PMU Type (Spittoon)




## PMU Type (Vacuum)



### 11-6. Attach the Light Assembly to the Light Pole

*Refer to the installation manual attached to the dental light for installation of the light pole.

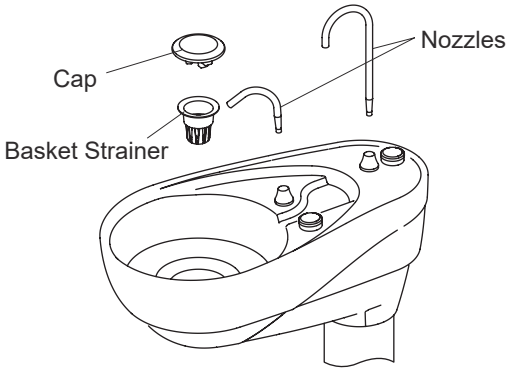
### 11-7. How to Install the Flat Panel Monitor Mount

1. Install the flat panel monitor mount and monitor to the monitor arm.
2. Feed the cable for monitor thought the swing arm and the chair, and bring the end into the junction box.
3. Connect the cable for monitor at Junction box.

*(Note) LCD monitors are not supplied from Belmont. The mounting holes on back of monitor should be designed for attachment of 75 or 1000 mm VESA mgt pattern.*

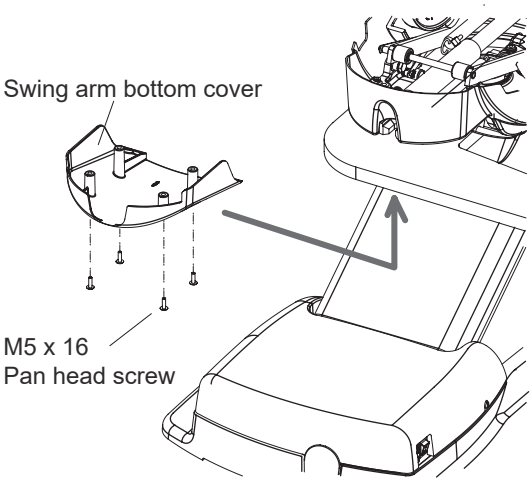
### 11-8. Installation of Accessories

Install the cupfiller nozzle, bowl flush nozzle, cap and basket strainer to spittoon.



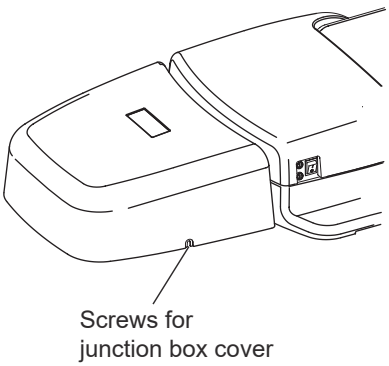

### 11-9. Installation of Swing Arm Bottom Cover

Attach the lower tubing cover to the bottom of the swing arm mounting bracket with four M5 x 16mm.




### 11-10. Installation of Junction Box Cover

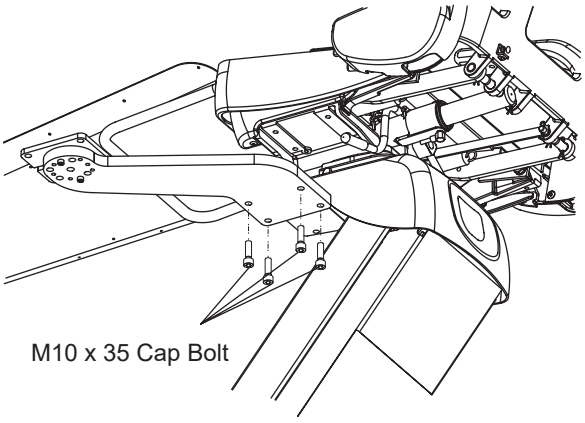
Attach the junction box cover and fasten with M5 x 10mm screw and tighten firmly with a slotted screw driver.



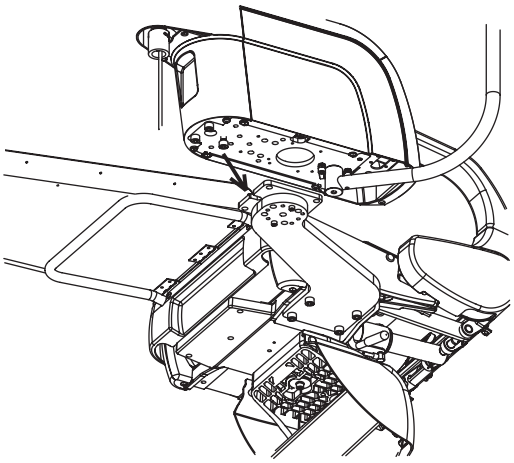
# 12. Installation for Over the Patient Delivery System with Cuspidor (PMU) for Bel-50 Chair

## 12-1. How to Install the PMU

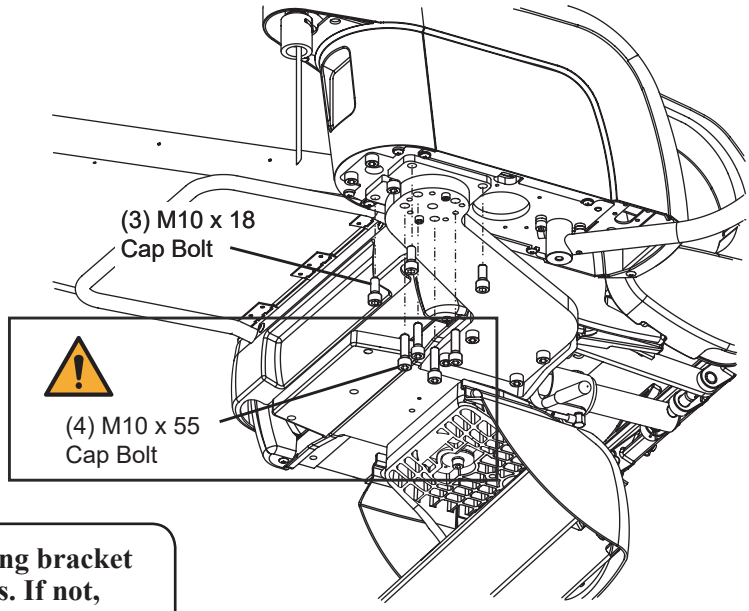
1. Attach PMU mounting bracket to chair by using M10 x 35 Cap bolts.




2. Attach PMU onto the PMU mounting bracket by aligning guide bolt with recess in front of the PMU mounting bracket and slide guide bolt into slot.



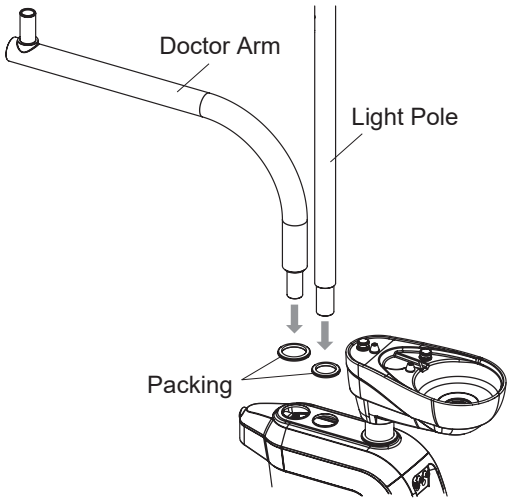
3. Secure PMU to the mounting bracket by using (3) M10 x 18 Cap bolt and (4) M10 x 55 Cap bolt.

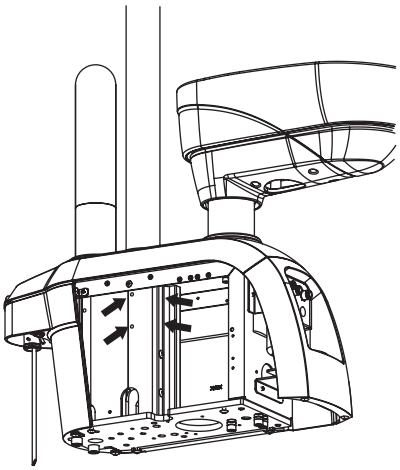



**WARNING**

**Be sure to fix the PMU to the mounting bracket together with four M10 x 55 cap bolts. If not, the PMU may fall over.**

4. Insert the light pole and doctor arm with rubber packing.
   Fix the light pole to cuspidor chassis with 4 screws.

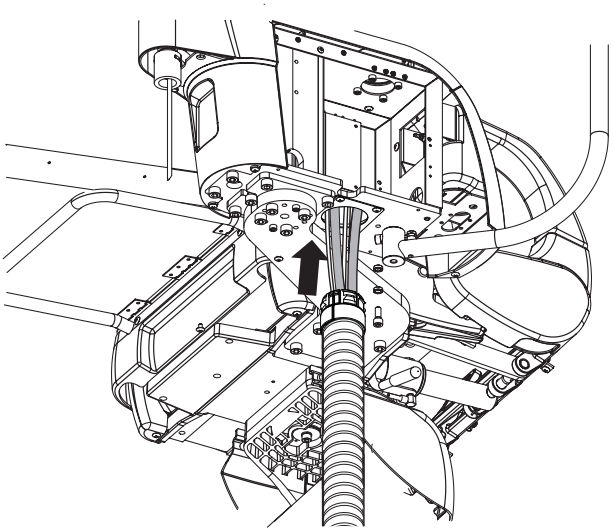


5. Installing the Doctor table section. Please refer to
   11-1. How to Install the Doctor Table (1~3) sections.(51)

6. Installing the Dental Light. Please refer to installation
   instruction of the dental light.

7. Snap the upper umbilical duct hose into the circular
   hole in the bottom of the PMU.



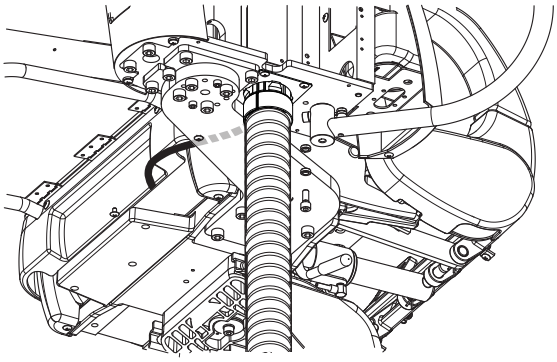
8. Connect tubing from the upper umbilical inside of the PMU with tubing from the Doctor table.
   Connect tubing by matching numbered tags on tubing or simply match by tubing color.

9. Connect drain hose to drain hose joint from the cuspidor bowl by using the hose clamp.

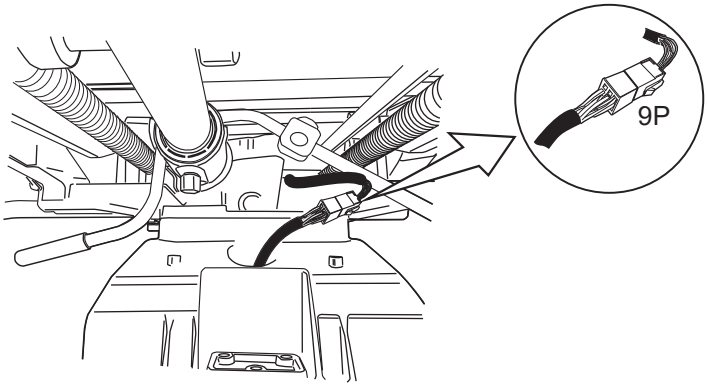
10. Connect vacuum hose to vacuum hose joint from the solid corrector by using the hose clamp.

11. Attach electric lines (6P for 24V, Optic and 1P for earth) from umbilical inside of the PMU.

12. Pass the harness of the chair operation from the Doctor table through the notched cut-out in front of the seat flange cover.



13. Connect the connector from Doctor table to the connector from chair control pcb in the flange section.



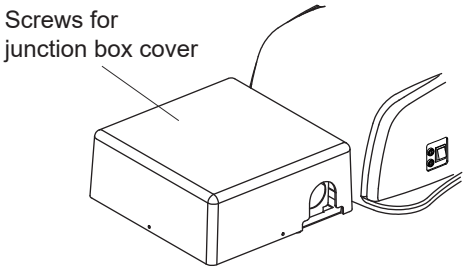
## 12-2. How to Install the Junction Box

Refer to floor template for connection of water, air, power, drain hose and vacuum hose.

1. Open the junction box cover by removing four slotted M5 x 32mm screws from each of the Junction box cover.

2. Place the junction box frame in front of the chair. (The plan of the plumbing position needs to be done in advance. See the flow diagram)

3. Attach the junction box frame to the floor.

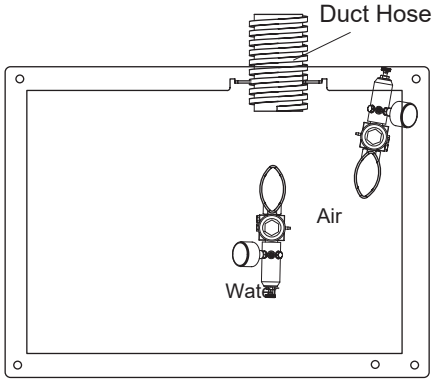


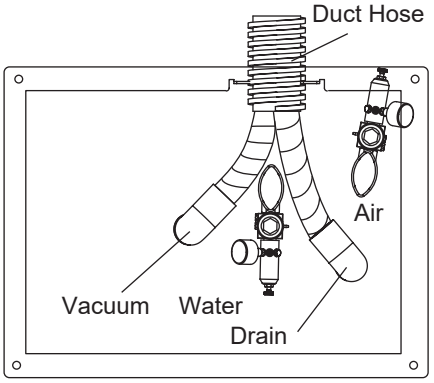

## 12-3. How to Plumb the Junction Box

1. Cut the duct hose to desired length and insert it between retainers inside of the pump cover and the junction box.

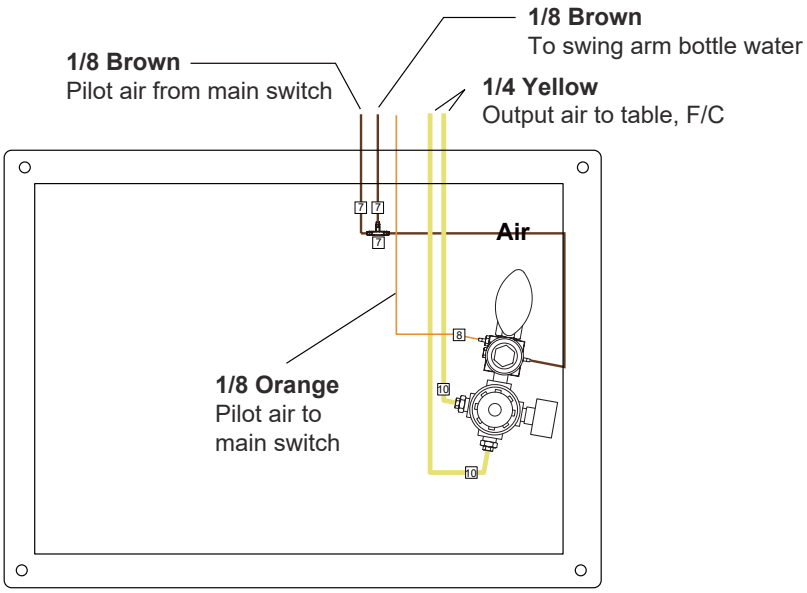
2. Attach the manual on/off valve to the air supply pipe.
   Purge air through valve to clean debris.
   Attach automatic valve assembly for air to manual valve.
   Do the same thing for the water assembly ordered with unit models.

3. Connect vacuum hose (5/8) and Drain Hose (3/4) to the floor. Vacuum hose has uneven surface.
   We supply long hose as needed and cut them accordingly.

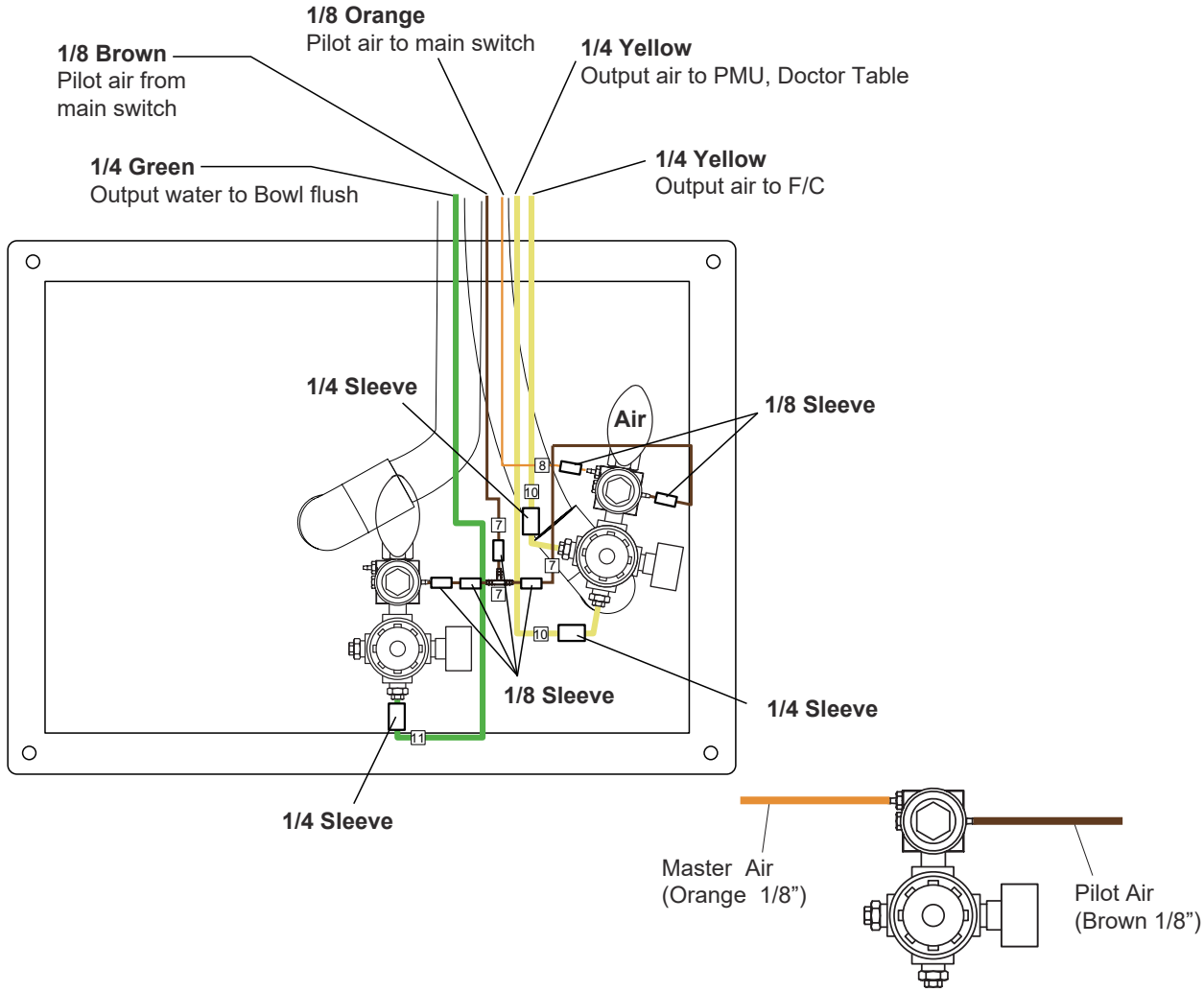


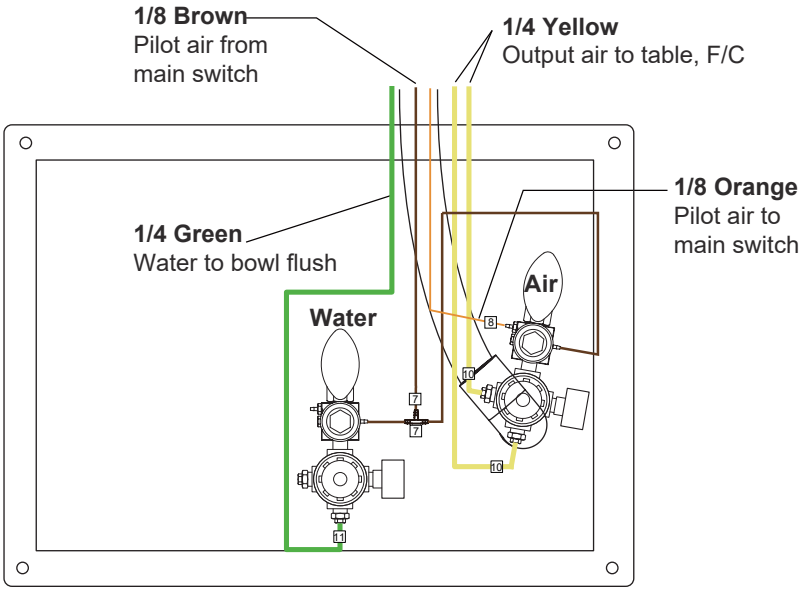
## PMU Type (Table)



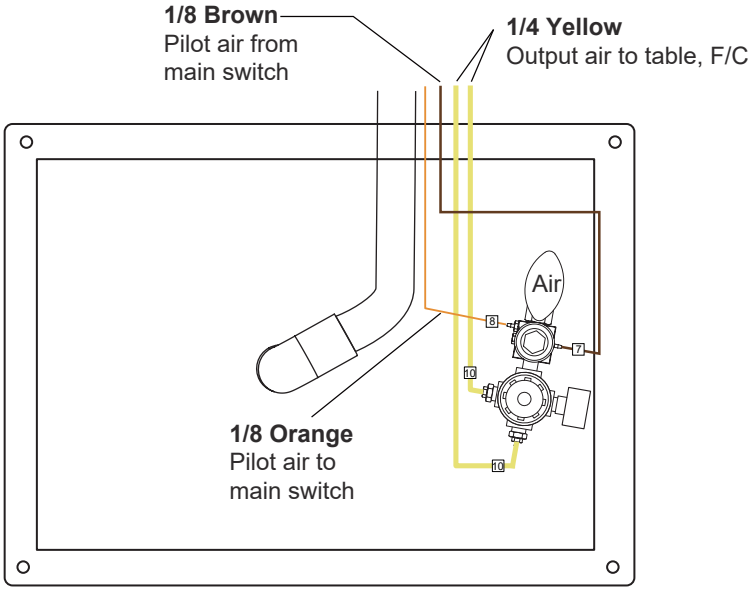

## PMU Type (Table + Spittoon + Vacuum)



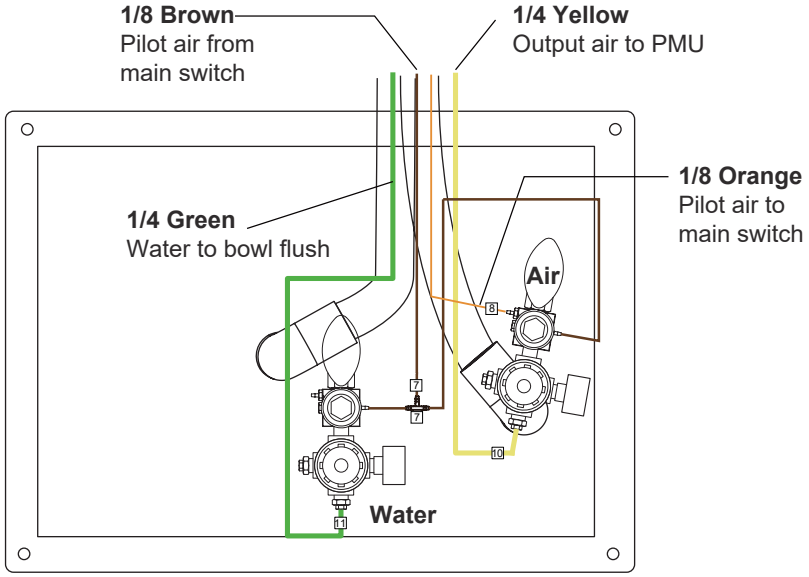
## PMU Type (Table + Spittoon)



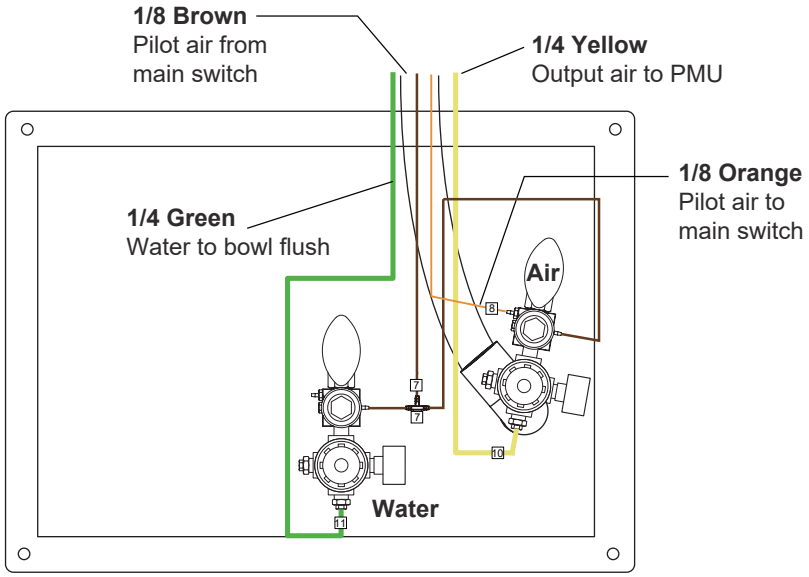

## PMU Type (Table + Vacuum)



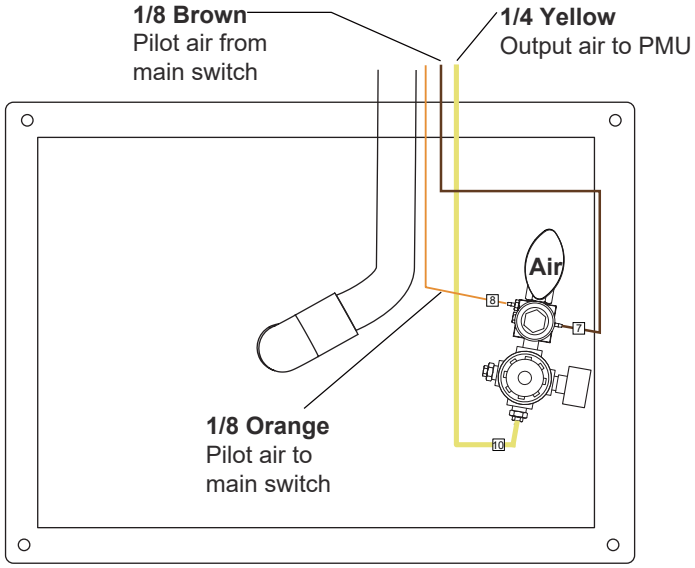
## PMU Type (Spittoon + Vacuum)




## PMU Type (Spittoon)




## PMU Type (Vacuum)



## 12-4. Attach the Light Assembly to the Light Pole

*Refer to the installation manual attached to the dental light for installation of the light pole.

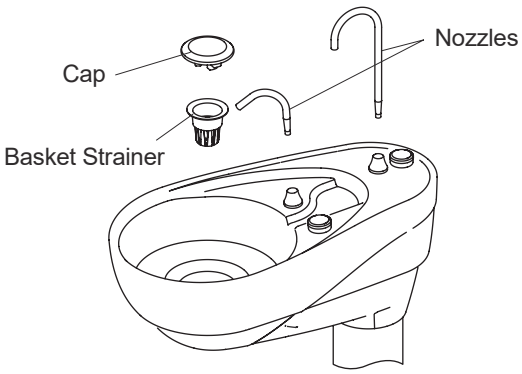
## 12-5. How to install the flat panel monitor mount

1. Install the flat panel monitor mount and monitor to the monitor arm.
2. Feed the cable for monitor thought the swing arm and the chair, and bring the end into the junction box.
3. Connect the cable for monitor at Junction box.

*(Note) LCD monitors are not supplied from Belmont. The mounting holes on back of monitor should be designed for attachment of 75 or 1000 mm VESA mgt pattern.*

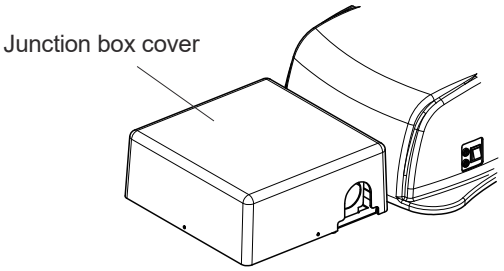
## 12-6. Installation of Accessories

Install the cupfiller nozzle, bowl flush nozzle, cap and basket strainer to spittoon.




## 12-7. Junction Box Cover

Attach the junction box cover and fasten with M5 x 32mm screw and tighten firmly with a slotted screw driver.



# 13. Adjustment

## CAUTION

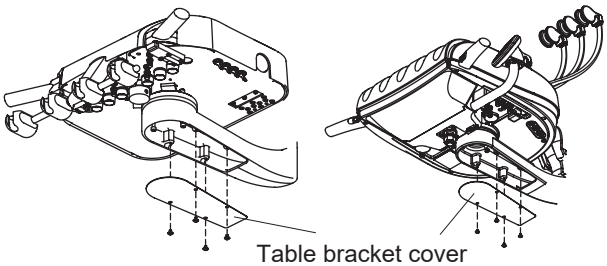
**When removing doctor table covers with integrated touchpad control for service, be careful to remove the cover slowly to prevent damage to the wire harness or integrated touchpad.**
**Harness from chair seat positioning touchpad of the table top cover is connected to the Doctor table section.**
**Do not pull the Doctor table top cover excessively. This could cause damage to the harness of the chair seat positioning touchpad.**

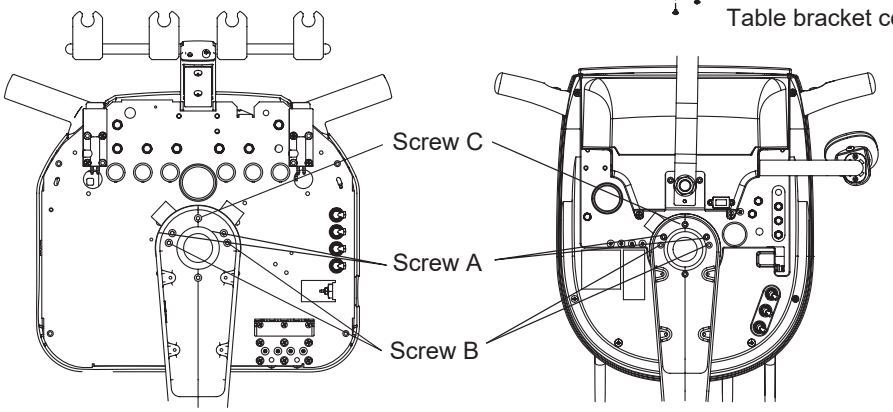
## 13-1. Leveling the Doctor Table

The horizontal level of the Doctor table can be adjusted. Adjust horizontal level of the Doctor table by below procedures during installation if the Doctor table is not horizontally leveled.
Before adjusting horizontal level of the Doctor table, adjust the level of the swing arm or PMU section.

1. Open the table bracket cover by removing 4 screws.

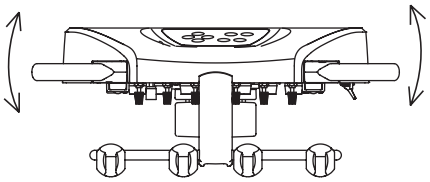
2. Loose screw A (2 screws) before adjusting horizontal level.



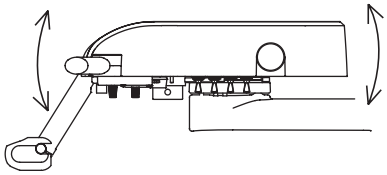




**Doctor Table Bottom View**

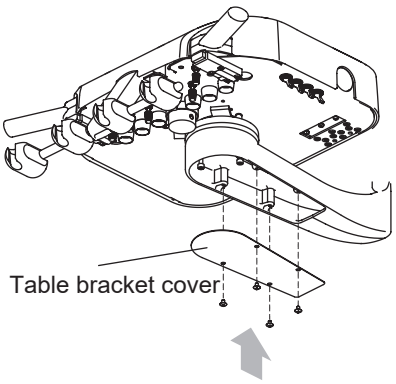
3. Left or right horizontal level of the Doctor table can be adjusted by loosening or tightening screw B (2 screws).



4. Front or rear horizontal level of the Doctor table can be adjusted by loosening or tightening screw C.

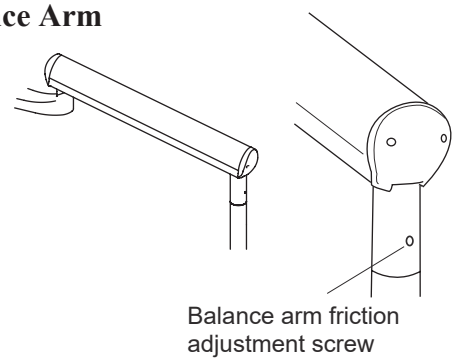


5. After adjustments, tighten screw A (2 screws) and reattach the table bracket cover with 4 screws.



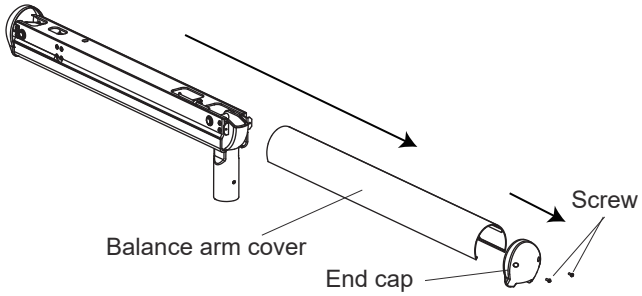
## 13-2. How to Adjust the Rotation Friction of Table Balance Arm

Adjust rotation friction of the balance arm with M6 x 5mm adjustment screw.

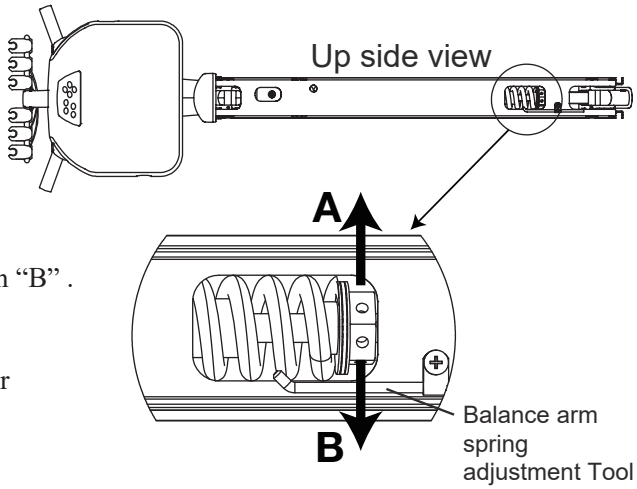



## 13-3. How toAdjust the Spring of Table Balance Arm

Remove the Screw, End cap and Balance arm cover.



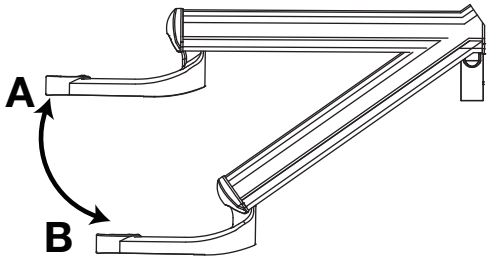

Insert the Balance arm spring adjustment Tool (Adjustment Tool) to the groove at the rotation part and while pushing Adjustment Tool in the direction of arrow “A”or ”B”.




Spring is stronger in direction “A” and weaker in direction “B” . Before attaching the cover,

Check that it is balanced by placing the Balance arm cover on the balance arm.

Put the Balance arm cover , End cap back in place.



## 13-4. How to Install the “Sub Tray” to the Delivery Head for Continental Type

1. Install the tray arm to the delivery head with M16 nut. Insert the washer and bearing as shown in figure 1.

2. Insert the sub tray to the tray arm.

3. Adjust the friction of arm and tray with the sub tray friction adjustment screw and tightening nut power.

4. Cover the M16 nut with CAP nut M16.

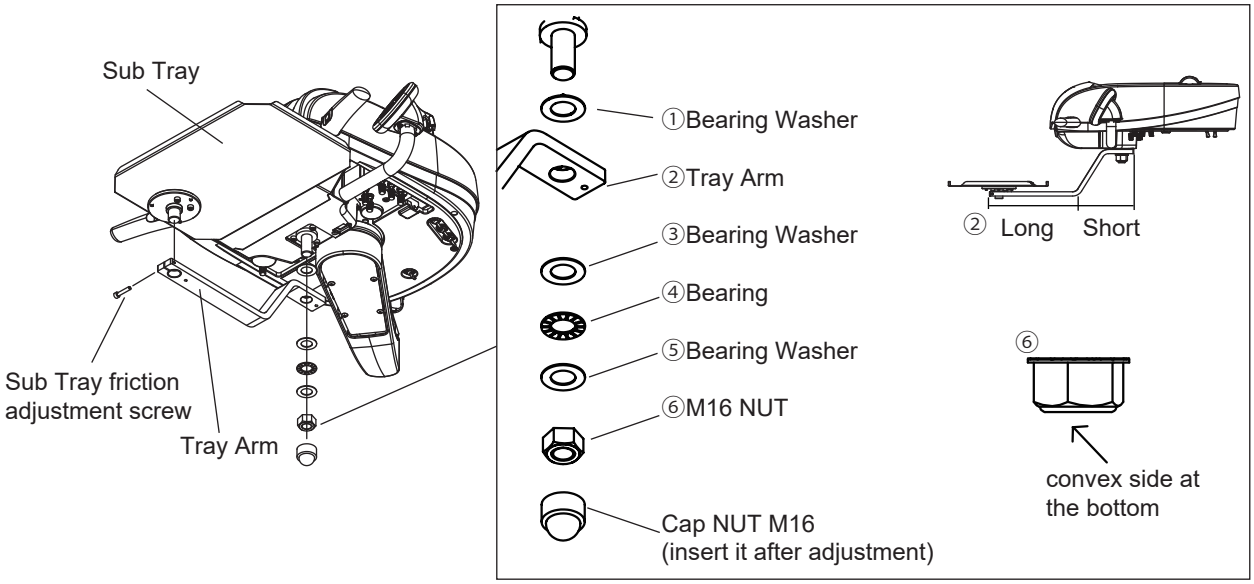



**Fig.1 Order of Attachment**

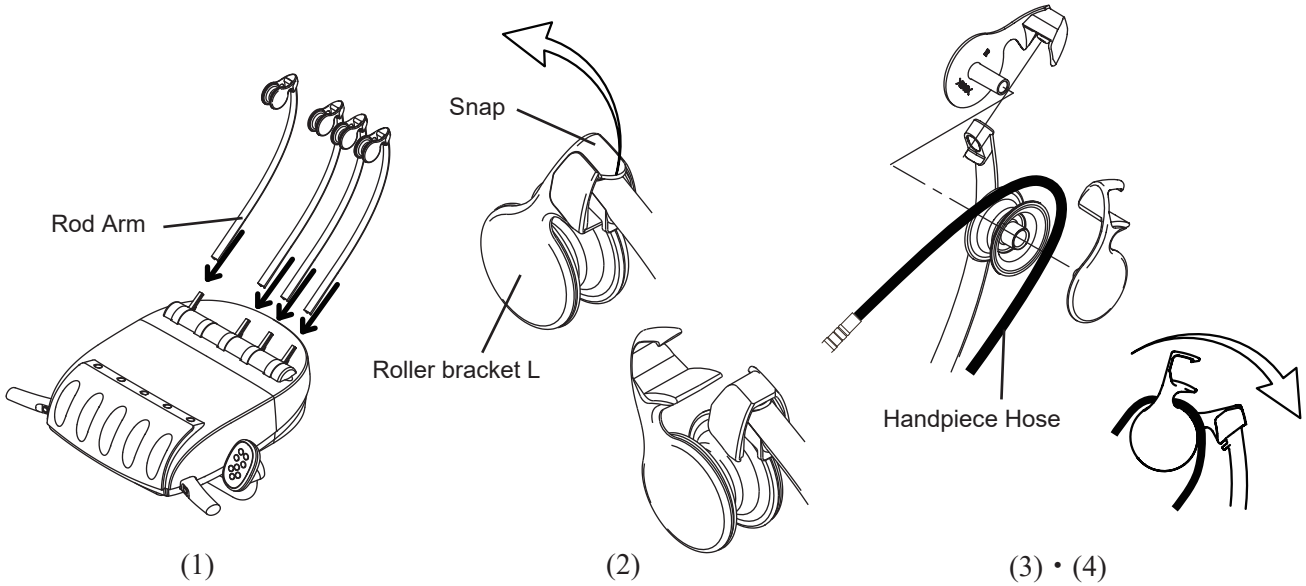
## 13-5. How to Set up Handpiece Hose

1. Install the rod arm to the delivery head.

2. Remove the fixed roller bracket by Snap.

3. Insert the Handpiece hose between roller.

4. Fix the Handpiece hose to the roller.




(1) (2) (3)・(4)

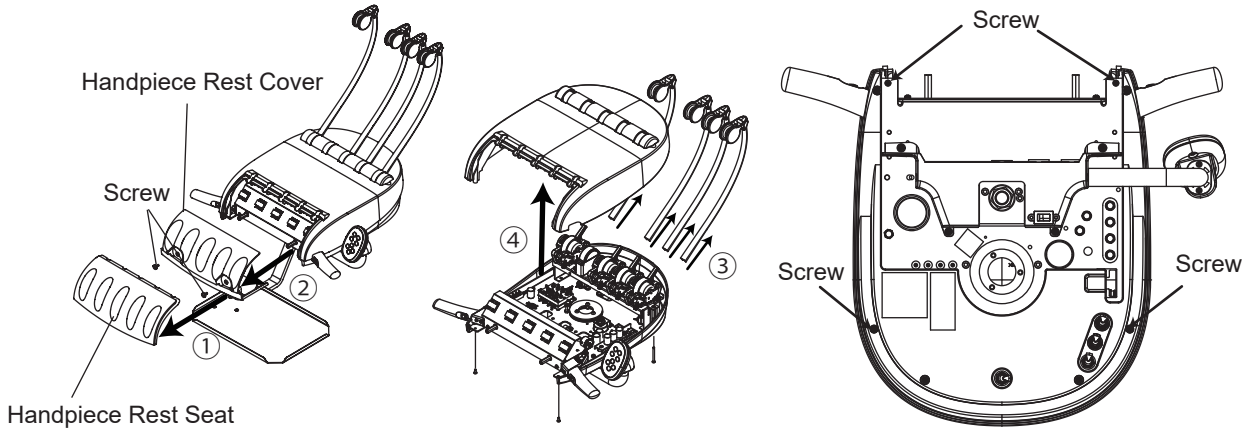
## 13-6. How to Adjust the Rod Mechanism for Tension of the Handpiece (Continental Type)

① Remove the Handpiece rest seat.

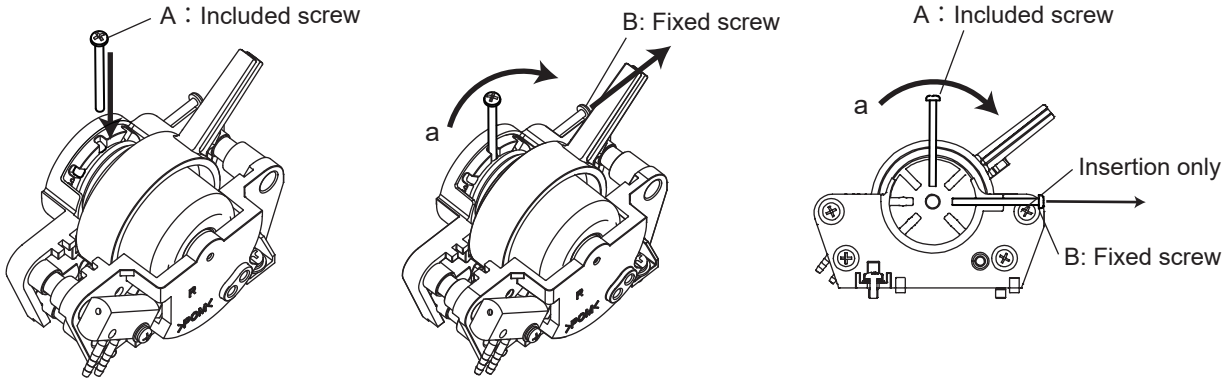
② Remove the Handpiece rest cover by removing 2 screws with hands.

③ Remove the rod arm.

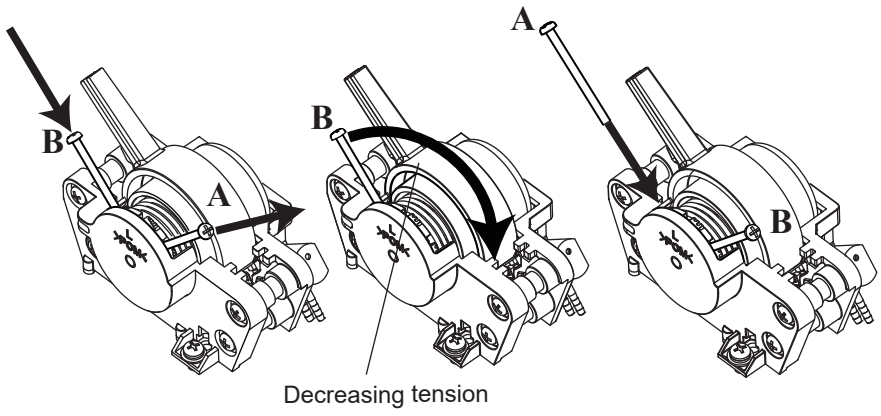
④ Remove the table cover by removing 4 screws at the bottom.



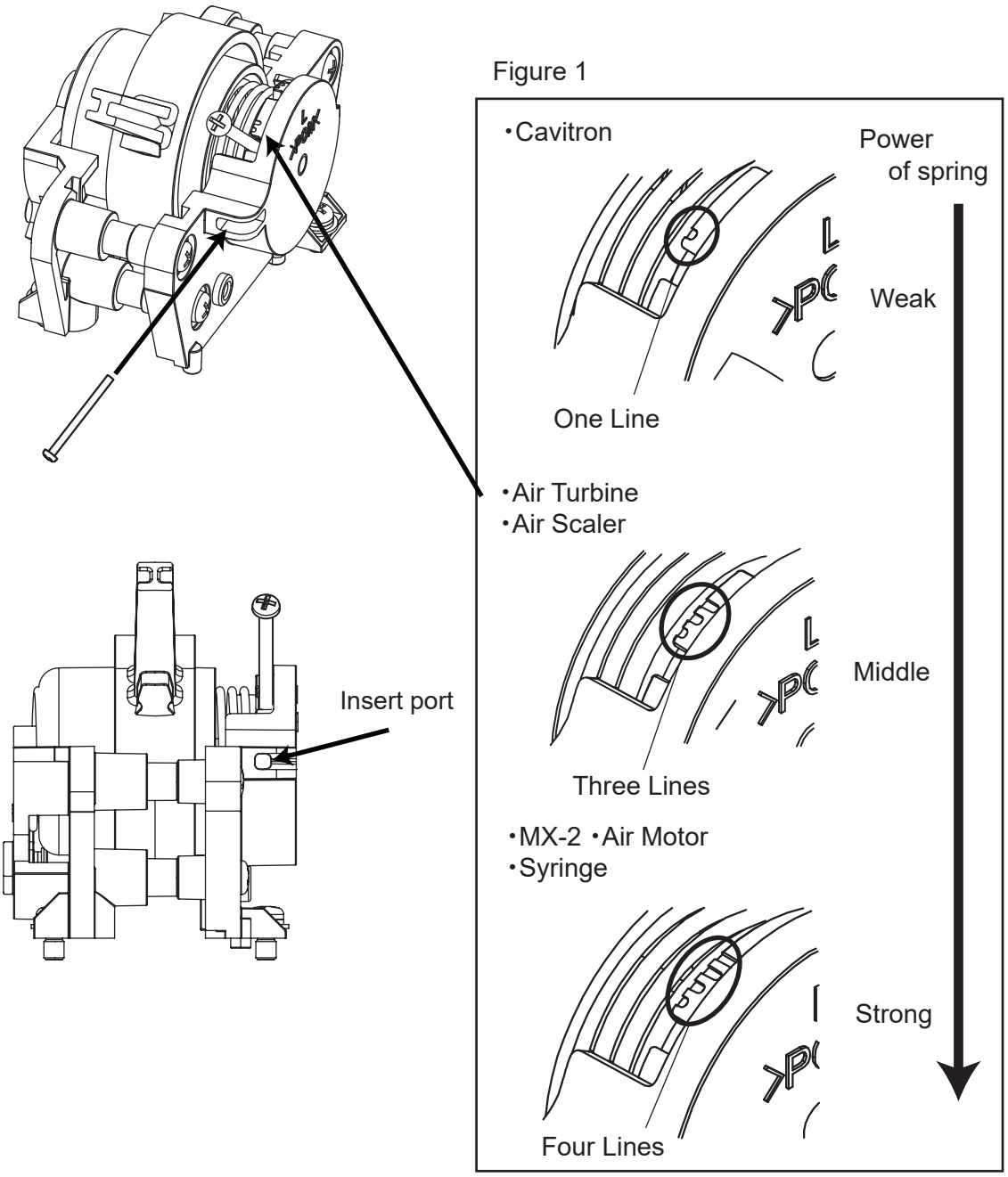

⑤ Insert the A (Included screw) to the groove at the rotation part
and while pushing the screw A in the direction of arrow "a" then pull off the B (Fixed screw) .




⑥ It is possible to adjust the tension using the A (Included screw) and B (Fixed screw).

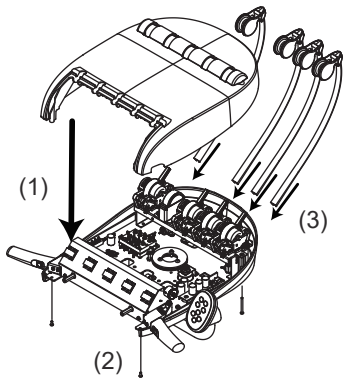


⑦ Set the spring tension according to the Handpiece (see figure 1) , insert the screw and fix it.

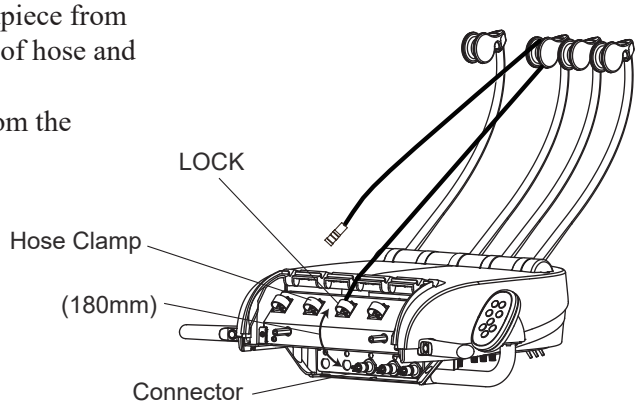



*(Note) Turn the rotation part to increase tension until one-line slit appears.*
*Do not turn the rotation part beyond three-line slit.*

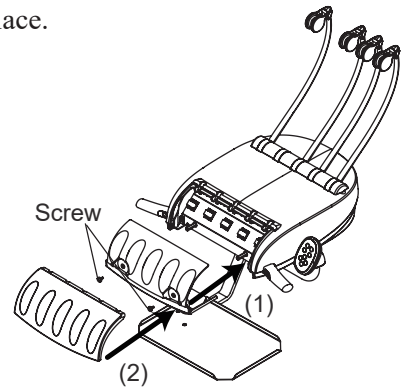
⑧ Put the table cover back in place and install the rod arm.



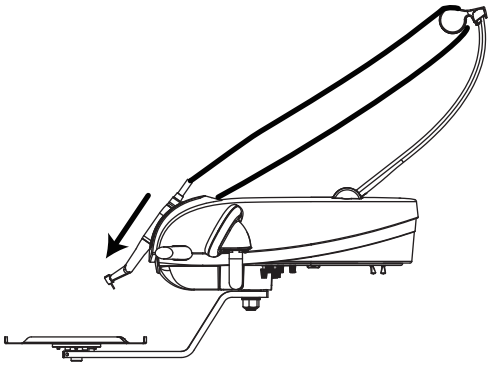

⑨ To set the position for picking the head of handpiece from the handpiece rest seat easily, adjust the length of hose and fix the handpiece hose by hose clamp.
(Our designated Handpiece is fixed 180 mm from the connector.)



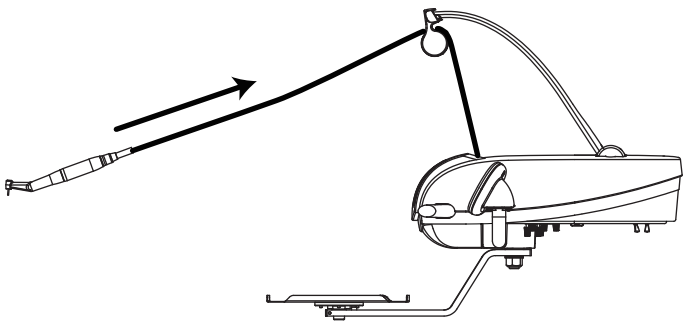

⑩ Put the Handpiece rest cover and Handpiece rest seat back in place.




⑪ Confirm the adjustment of rod rotation friction.



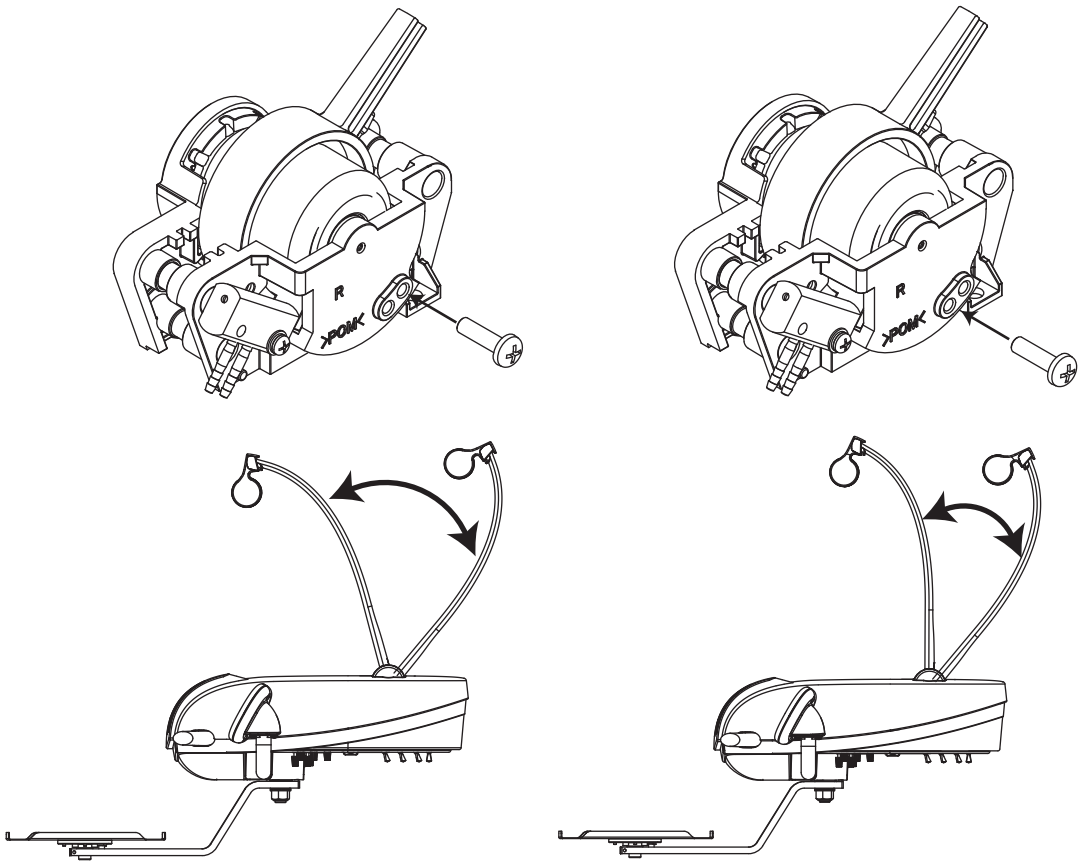
The position of Handpiece does not go down by its weight when putting Handpiece on the Handpiece rest.
→If it goes down, increase the tension.
(refer to ⑤,⑥,⑦)



The tension of Handpiece is not too strong when picking it.
→If it's too strong, decrease the tension.
(refer to ⑤,⑥,⑦)

## 13-7. Adjusting the Swing Angle of the Rod Arm

Inserting the screw (M4×16) contained in the package reduces the angle of the rod movement.
This adjustment can prevent the Handpiece, when at the most forward position, from accidental drop.
Note that the reach will be shortened.

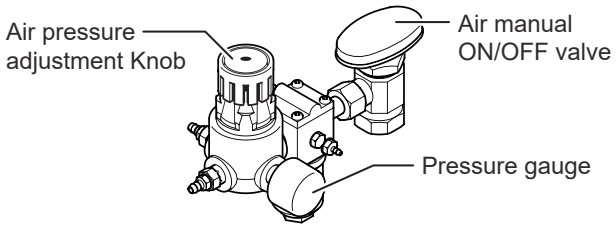


## 13-8. Water and Air Manual ON/OFF Valves in Junction Box

Open the water and air manual ON/OFF valve counterclockwise in the floor utility.
Turn on the master switch and check that water and air are not leaking.

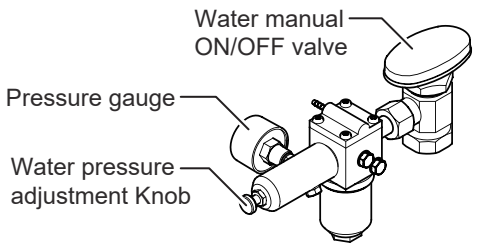
## 13-9. Main Air Pressure

The air utility regulator is factory pre-set at 75 psi (0.5 MPa). Air pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.




## 13-10. Main Water Pressure

The water utility regulator is factory pre-set at 29 psi (0.2 MPa). Water pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.

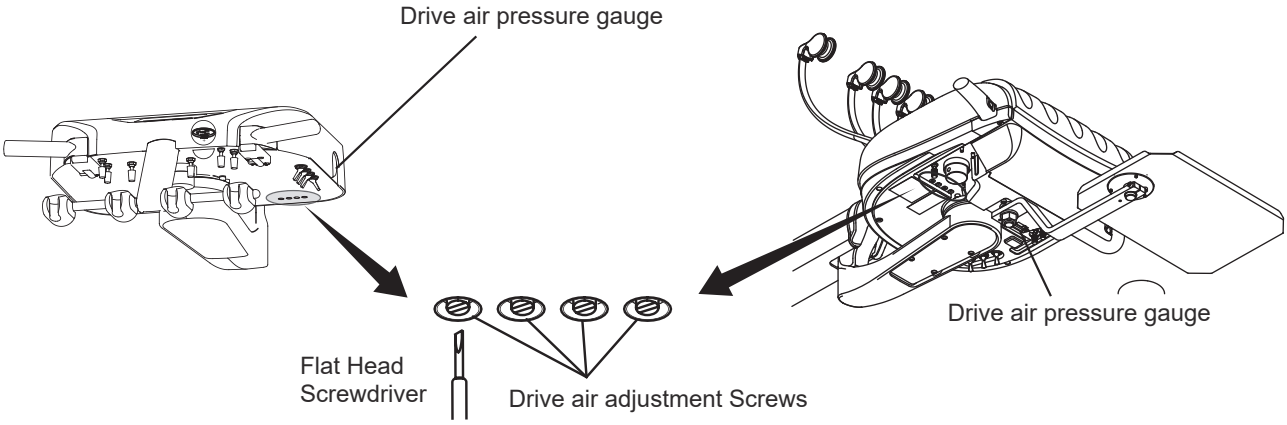


## 13-11. Drive Air

**CAUTION**

**To avoid potential damage to handpieces**
**- Never operate a handpiece without a bur in the chuck.**
**- Do not exceed manufacturers recommended pressure setting at the handpiece.**

Each handpiece drive air can be adjusted by turning the drive air adjustment screw with handpiece running. Use a flat head screwdriver with a small tip to make drive air adjustments. Drive air pressure is decreased by turning the adjustment screw clockwise and increased by turning the adjustment screw counterclockwise. Drive air pressure is indicated on the handpiece pressure gauge located on the lateral side of the doctor table. Set the drive air pressure according to the instruction manual provided by the manufacturer of the handpiece.




*(Note) The reading at the pressure gauge will be approximately 5 psi (0.034MPa) higher than the actual pressure at the handpiece, due to line loss. To attain the desired handpiece pressure setting, adjust the drive air adjustment screw until the gauge pressure is 5 psi (0.034MPa) above target pressure. If the adjustment is made using a special in-line gauge attached at the handpiece connector, then set the pressure at this gauge directly, as specified by the handpiece manufacturer.*

## 13-12. Coolant Water

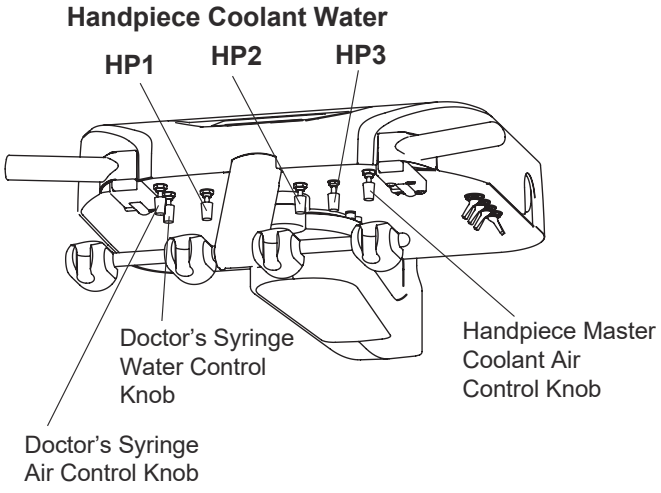
The handpiece coolant water control knobs are located underneath the doctor table.
Each handpiece coolant water control knob is identified as number 1 to 3 from the left side HP1, HP2 and HP3.
Each handpiece coolant water volume can be controlled independently.
Flip the toggle on foot control to switch to the "wet" position. (Toggle toward inside of the foot control)
Install a bur in the handpiece to be adjusted. Step on the foot control and run the handpiece, then adjust the water coolant flow knob until a fine mist is achieved.

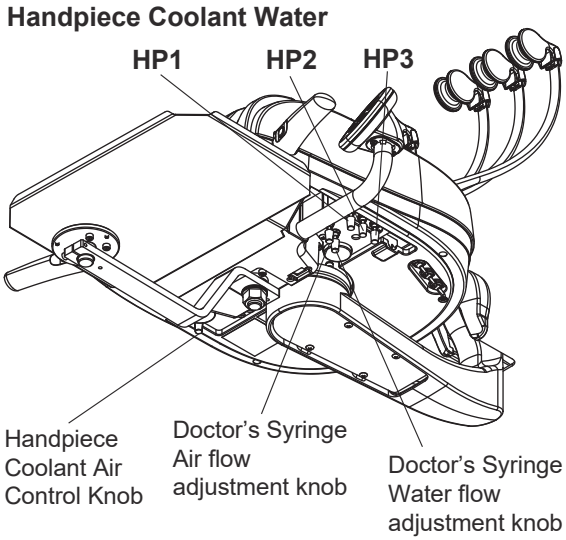
## 13-13. Coolant Air

The handpiece master control knob is located underneath the doctor table and sets coolant air for all handpieces. (Except syringe)
Adjust coolant air volume with the handpiece running until the desired flow is achieved.

## 13-14. Doctor's Syringe

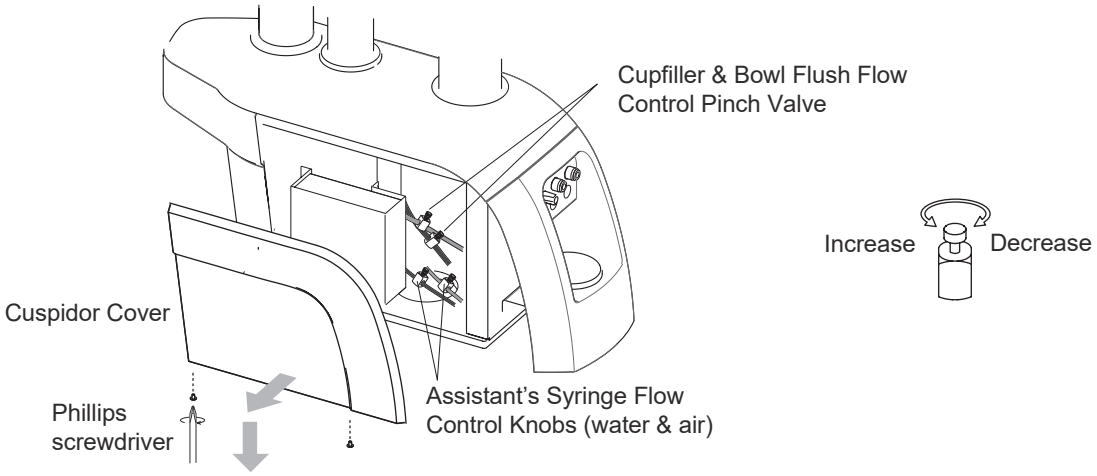
Doctor's syringe flow control knobs are located underneath the doctor table.
The yellow capped knob is the air flow adjustment knob, the blue capped knob is the water flow adjustment knob.



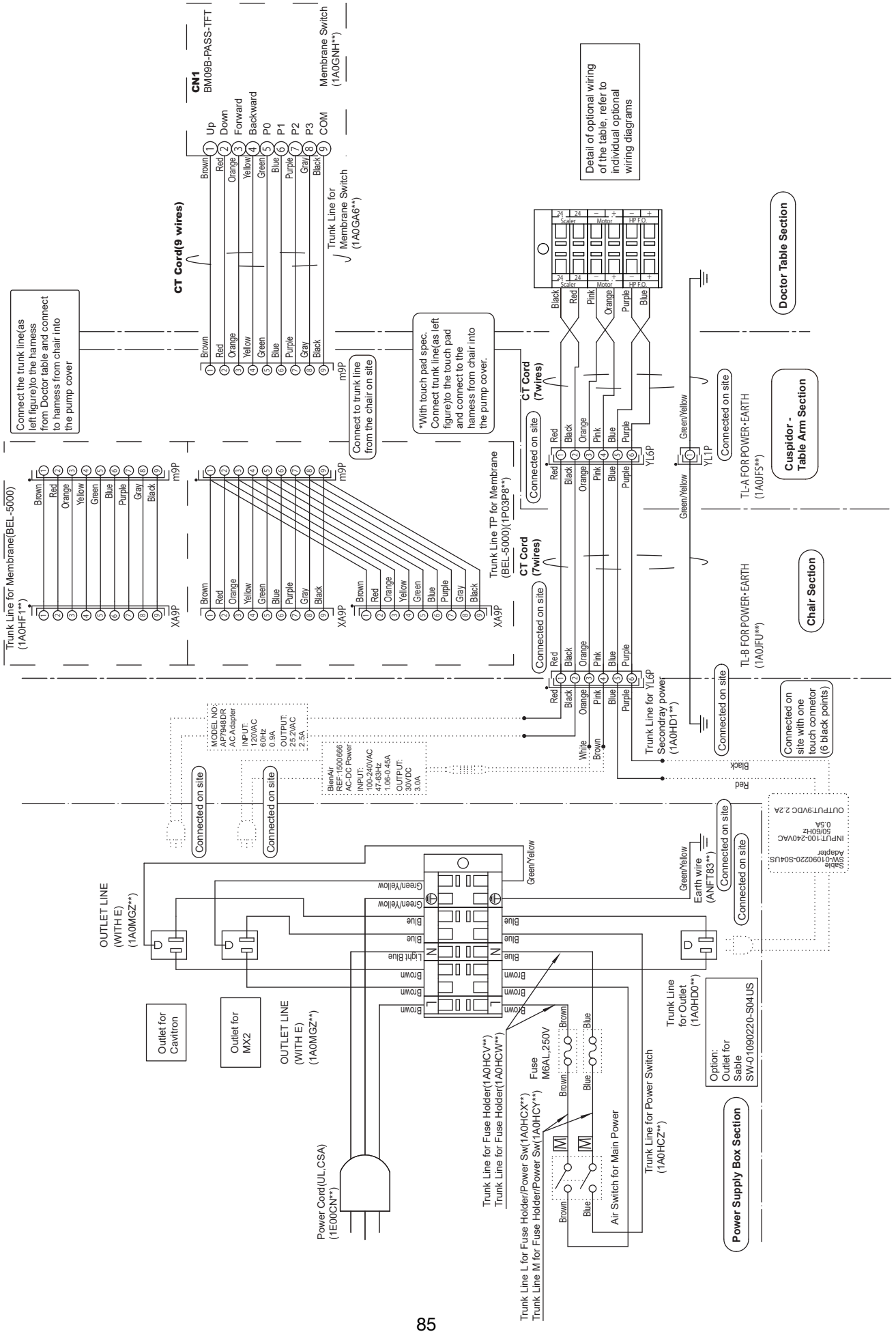

## 13-15. Cupfiller, Bowl Flush and Assistant's Syringe (Cuspidor Unit)

Cupfiller, bowl flush and assistant's syringe flow control pinch valves are located inside the cuspidor.
Open the cuspidor side cover by loosening the screws. Adjust the water and air flow by pinch valves.

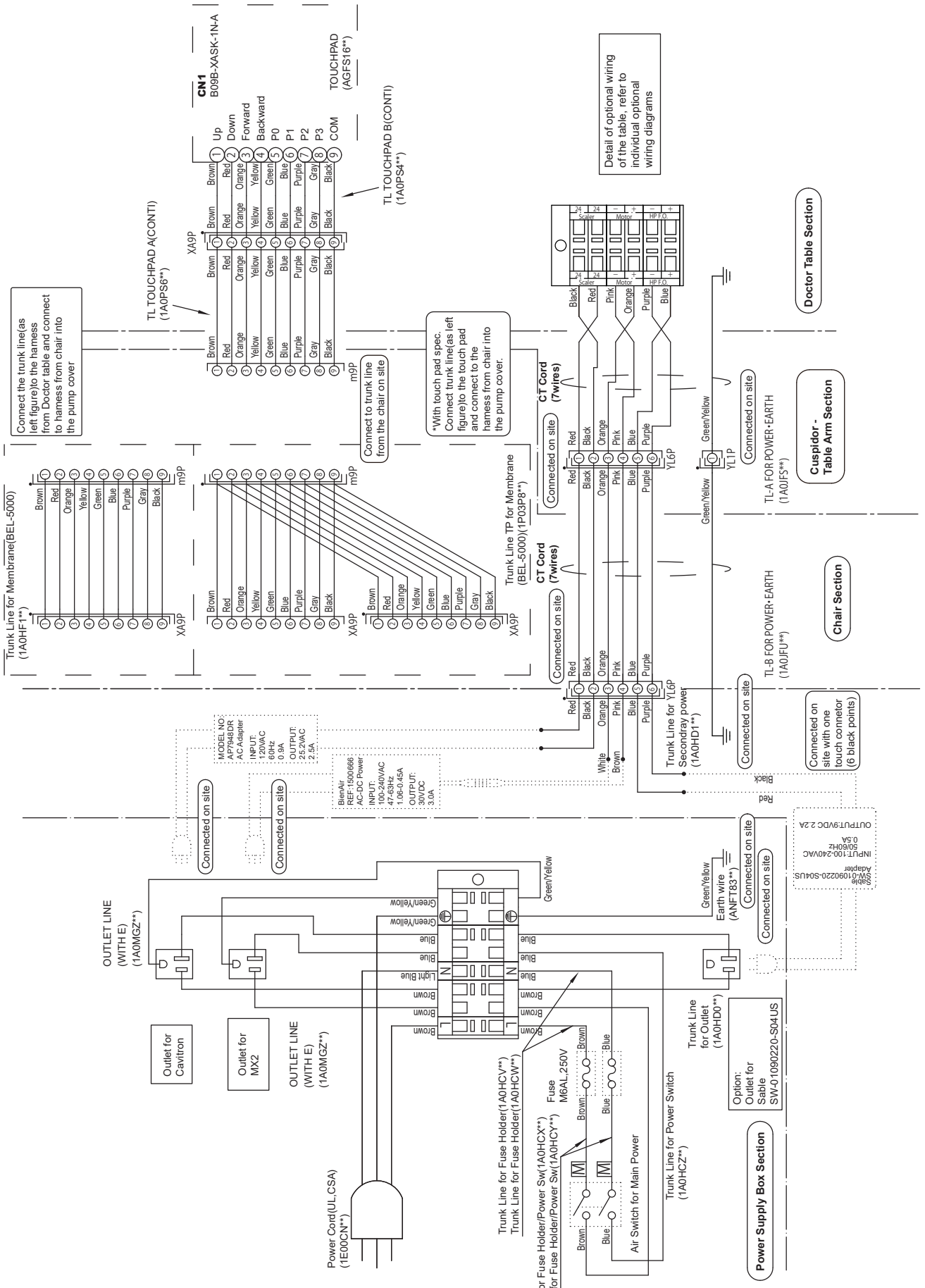


# 14. Electrical Diagram

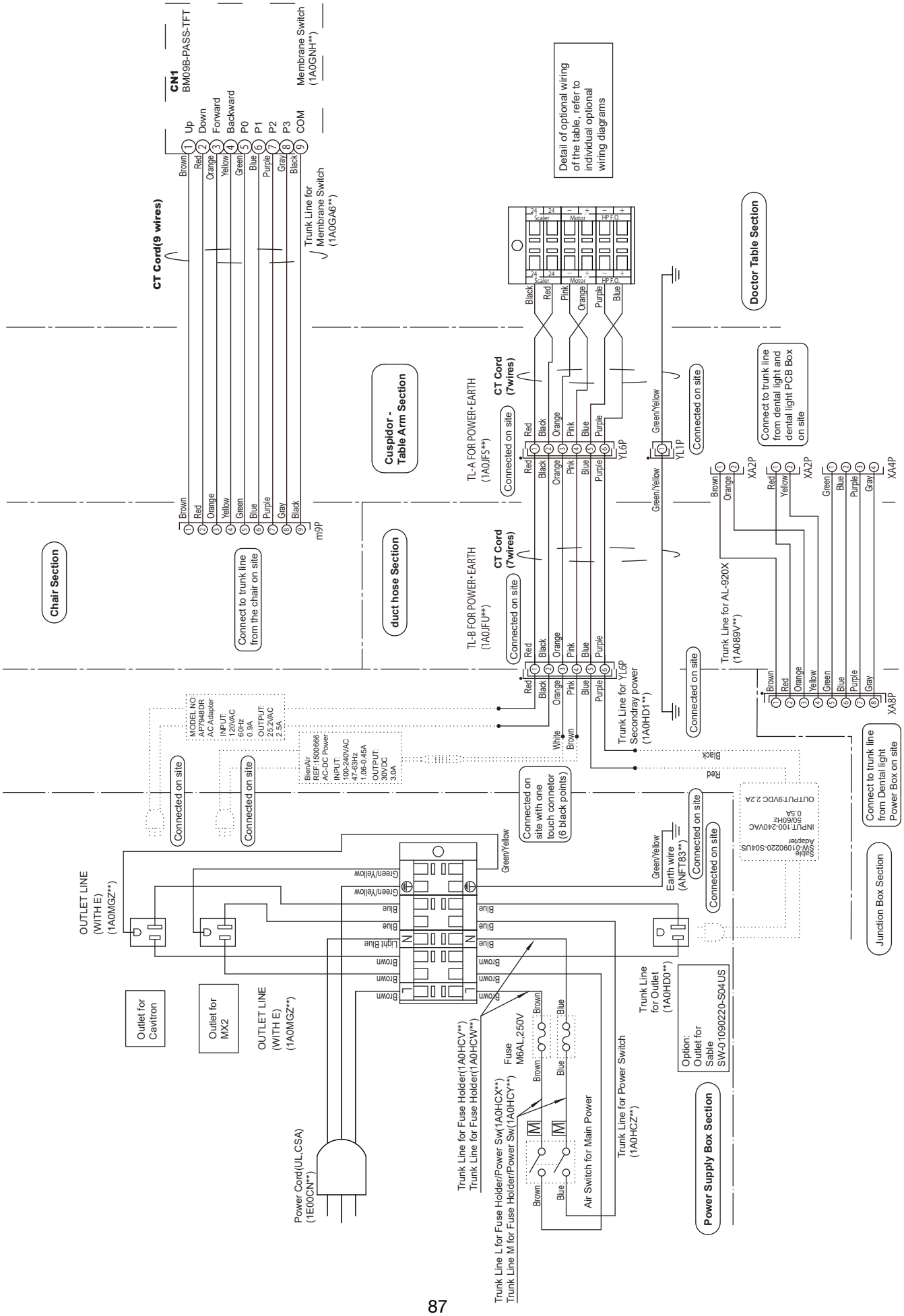
## 14-1. AU-HV3808 PMU Mounted Delivery System with Quolis Chair



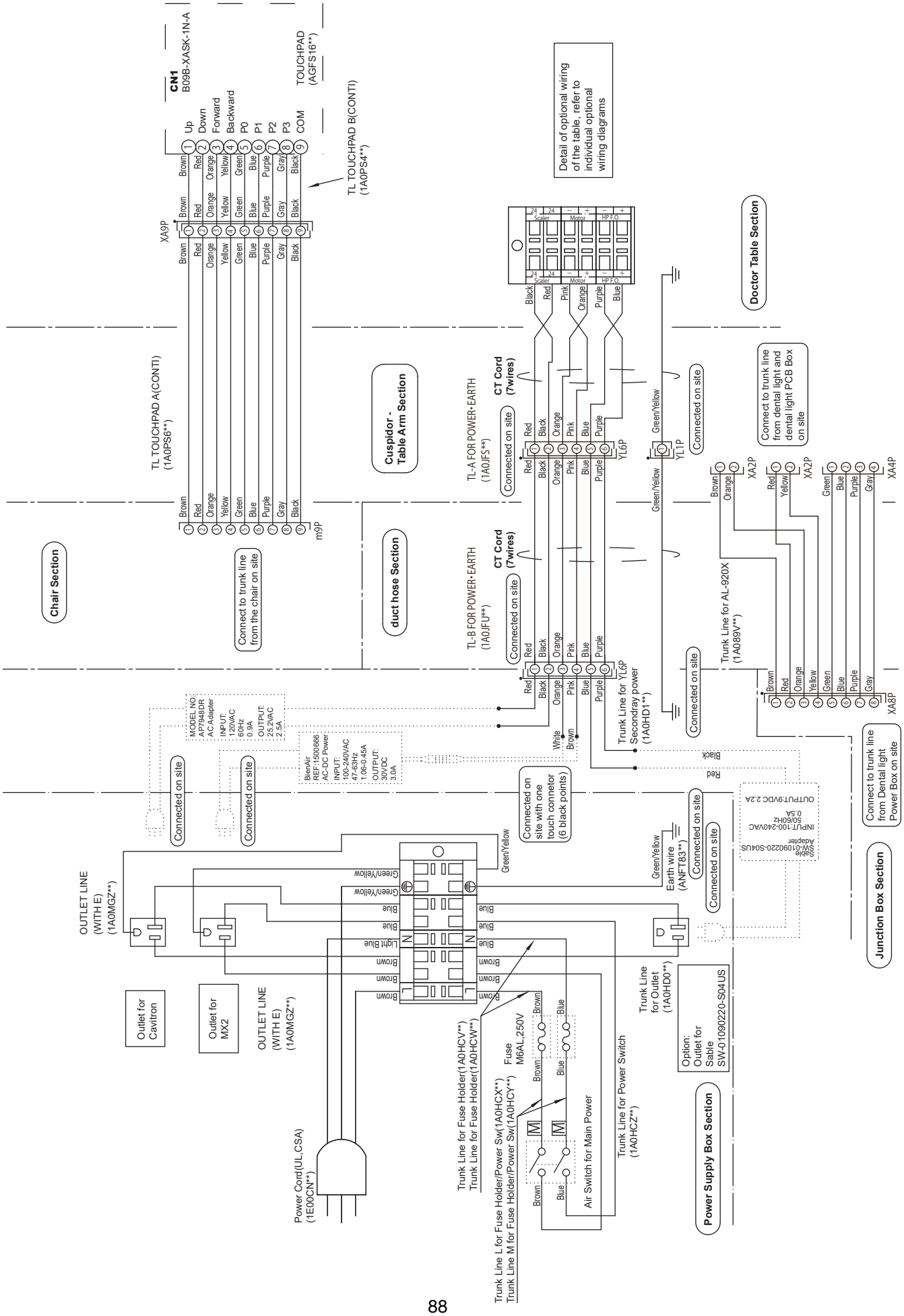
## 14-2. AU-HV3808 PMU Mounted Delivery System with Continental Type Quolis Chair



## 14-3. AU-HV3808 PMU Mounted Delivery System with Bel-50 Chair

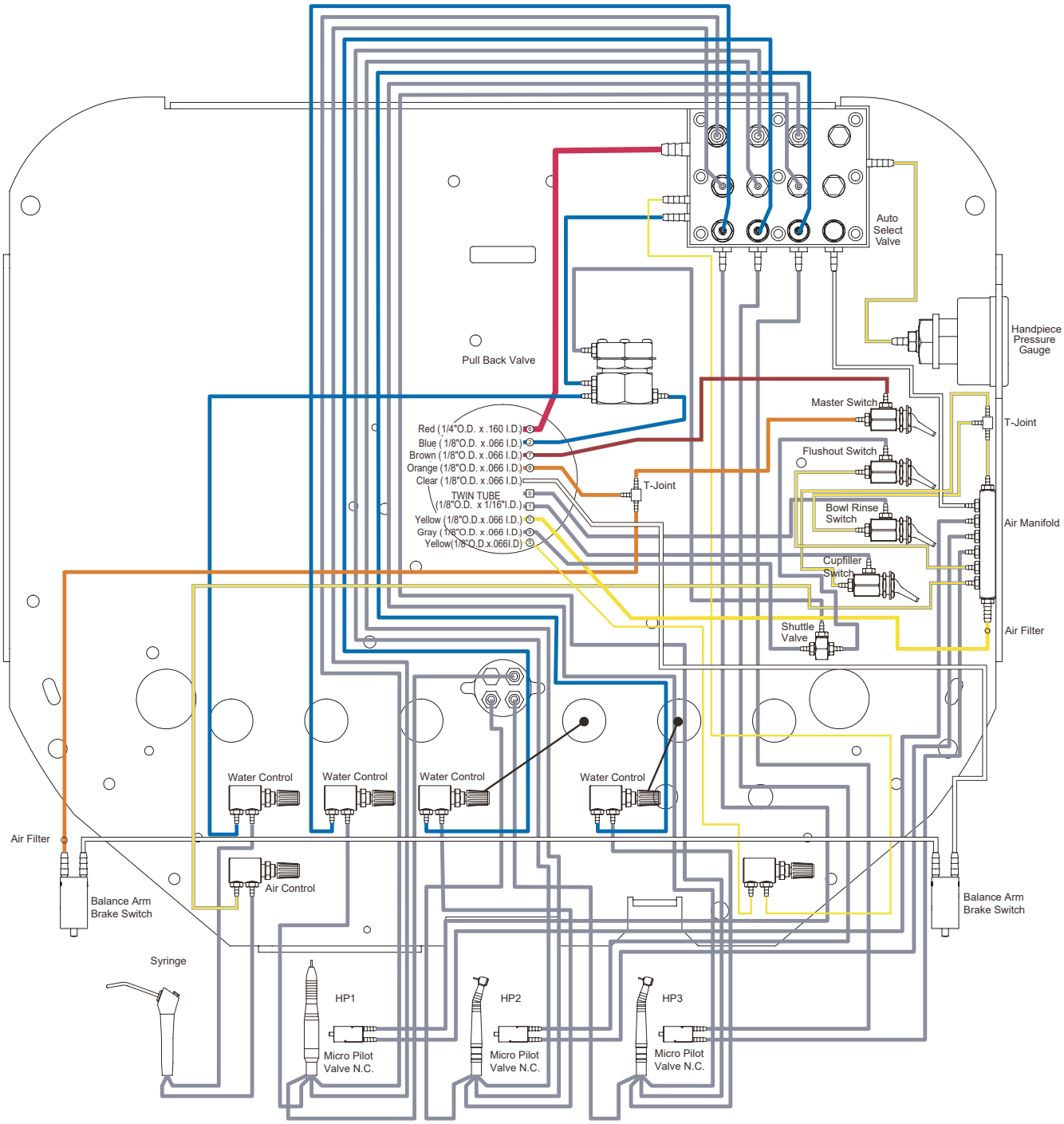


## 14-4. AU-HV3808 PMU Mounted Delivery System with Continental Type Bel-50 Chair

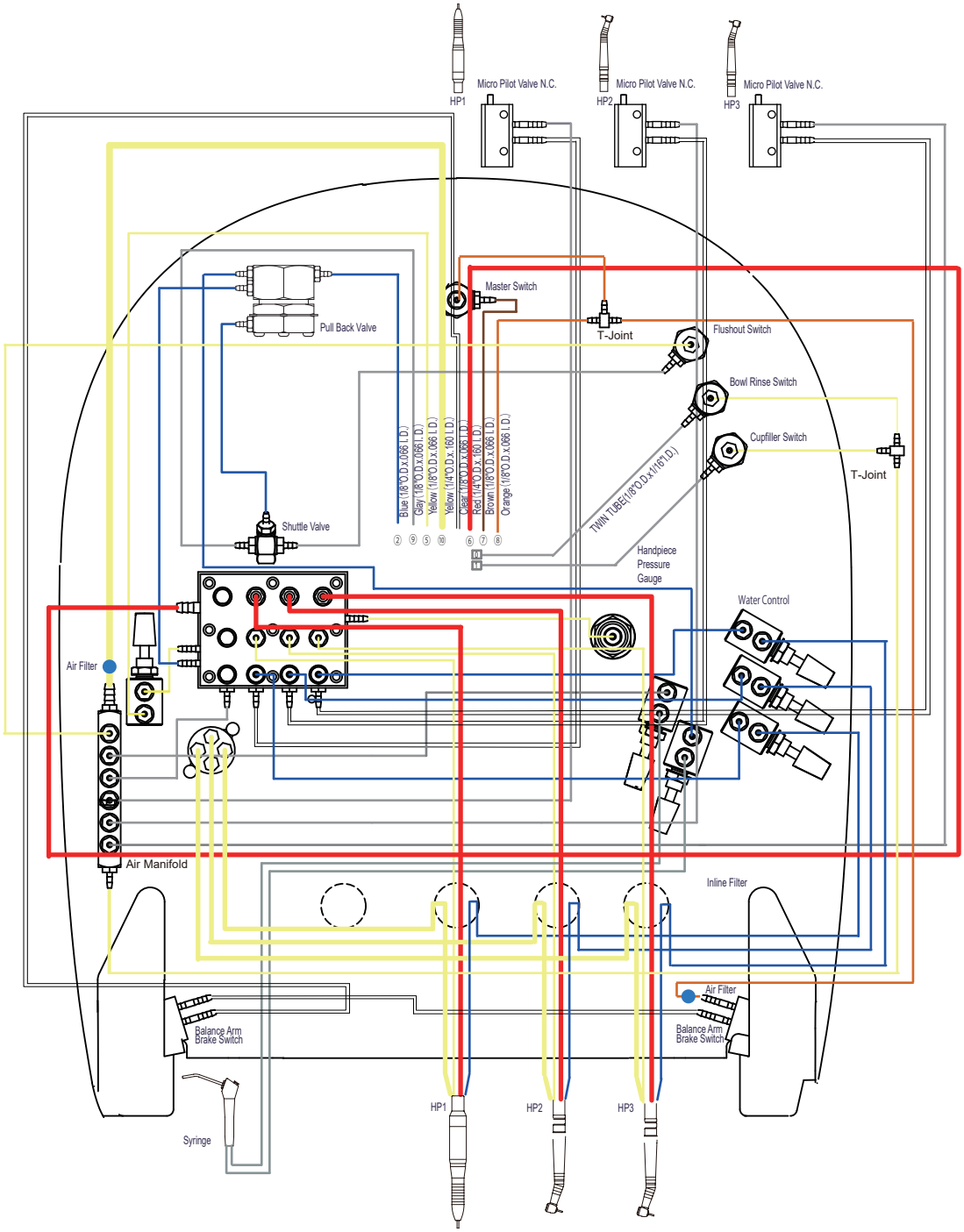


# 15. Flow Diagram

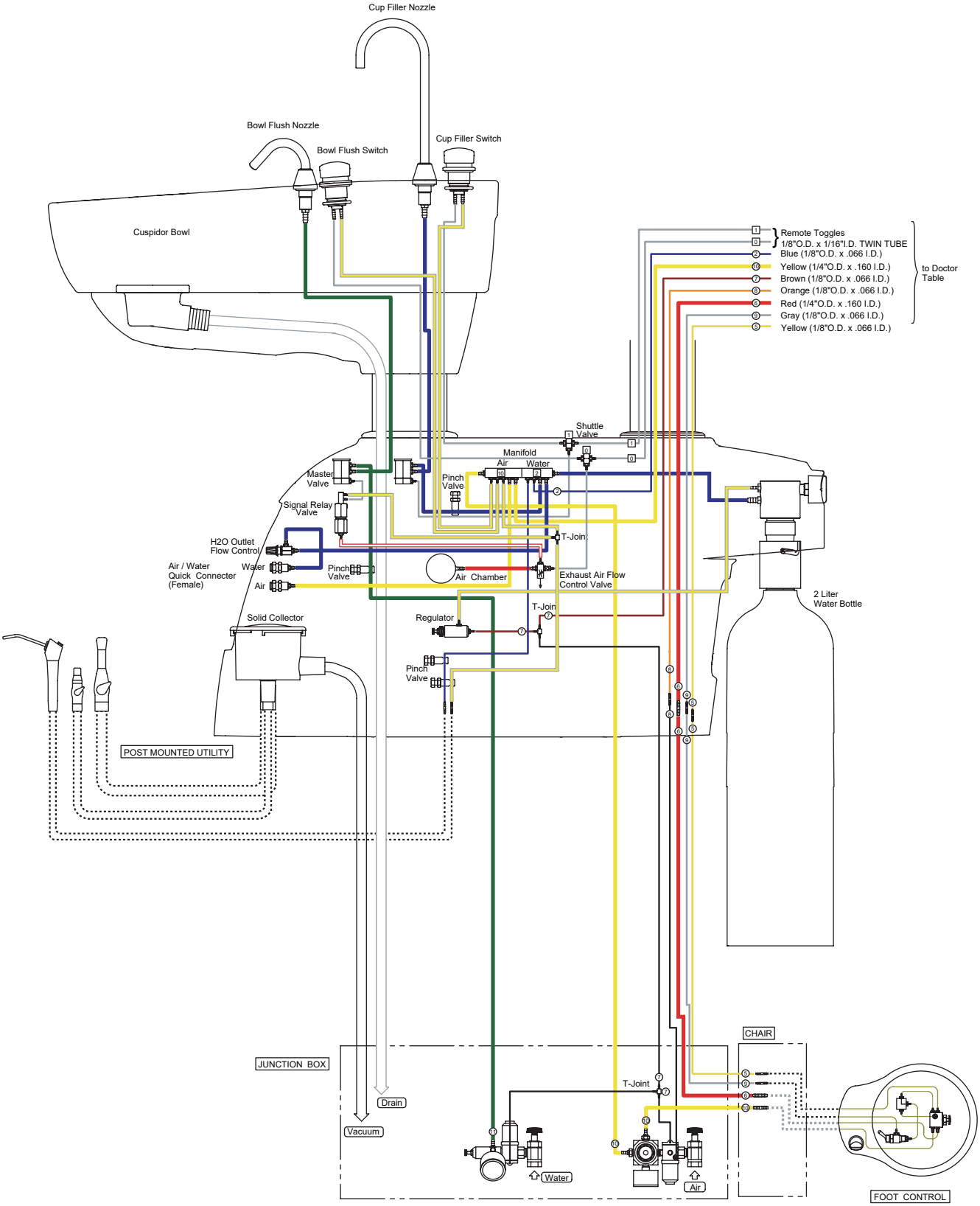
## 15-1. Doctor's Control Section (with spittoon)



## 15-2. Doctor's Control Section Continental Type (with spittoon)



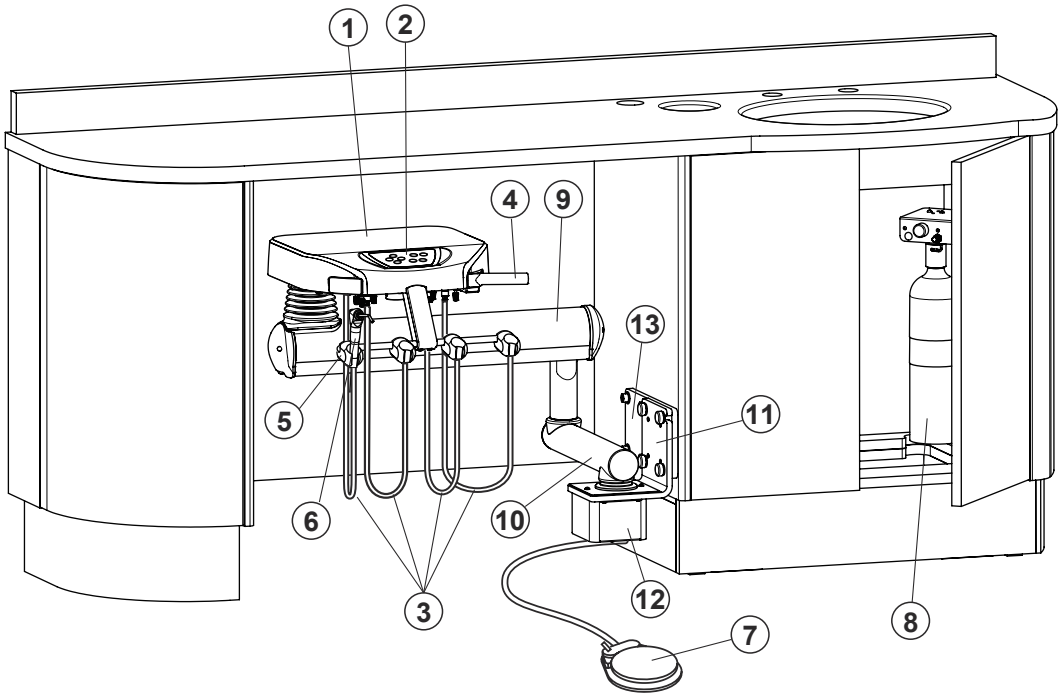
## 15-3. PMU Section



# CABINET MOUNTED DELIVER SYSTEM

# 16. Overview and Major Components

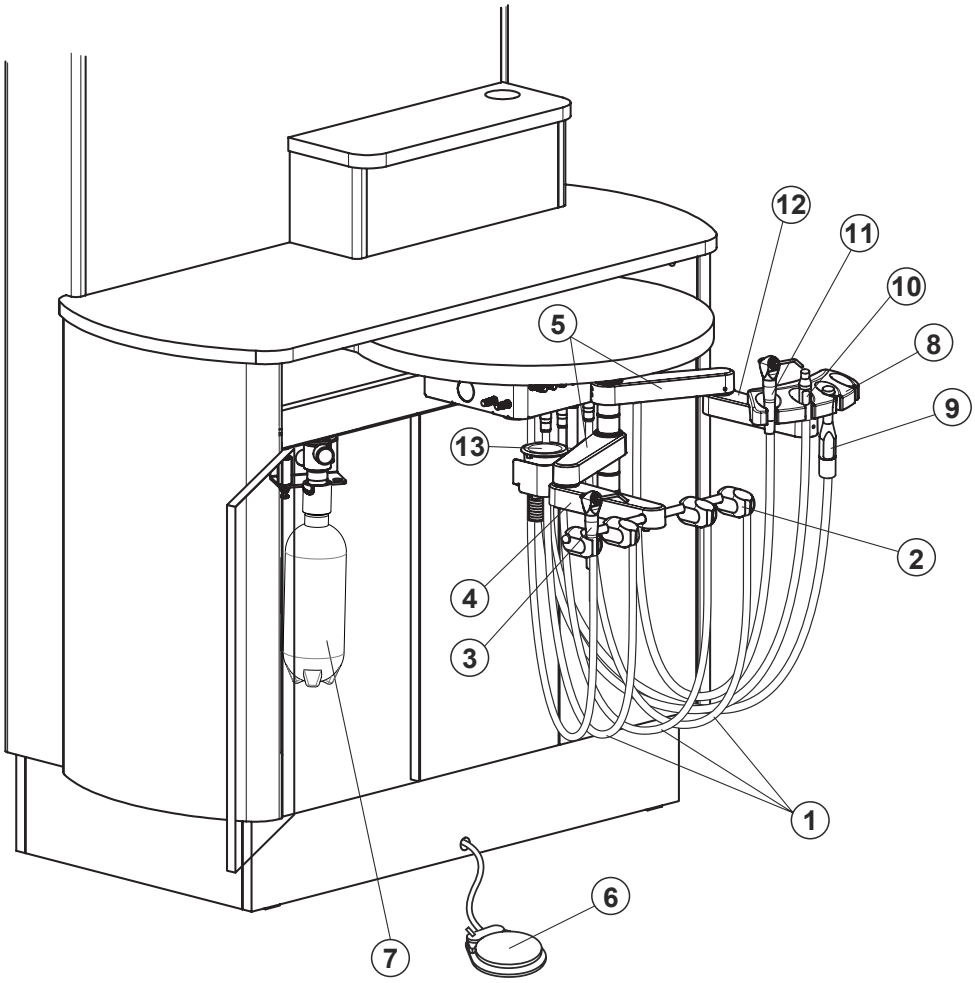
## 16-1. Side Delivery System




(1) Control Head
(2) Chair Seat Positioning Touchpad
(3) Handpiece Hose
(4) Handle
(5) Handpiece Holders
(6) Doctor's Syringe (*)
(7) Foot Control
(8) Water Bottle
(9) Balance Arm
(10) First Arm
(11) Mounting Bracket
(12) Mounting Bracket Cover
(13) Mounting Plate

*(*Note) Evogue Unit does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

## 16-2. Rear Delivery System




(1) Handpiece Hose
(2) Handpiece Holders
(3) Doctor's Syringe (*)
(4) Doctor Arm
(5) First Arm
(6) Foot Control
(7) Water Bottle
(8) Assistant Instrument Holder
(9) HVE
(10) Saliva Ejector
(11) Assistant's Syringe (*)
(12) Assistant Arm
(13) Solids Collector

*(*Note) Evogue Unit does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

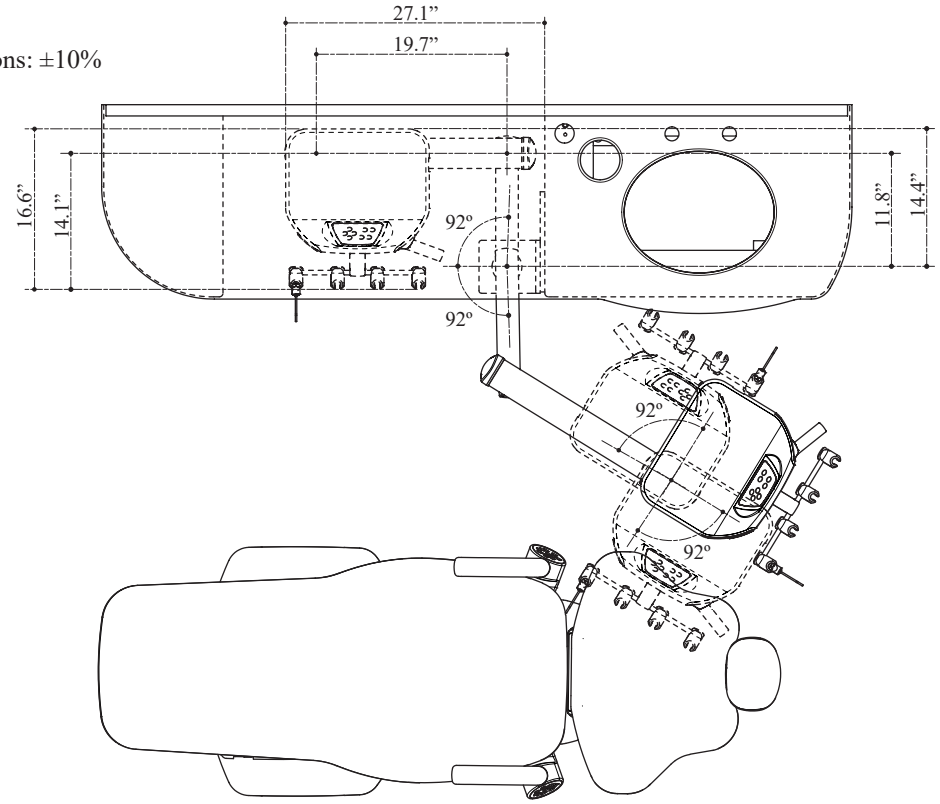
# 17. Dimensions and Specifications

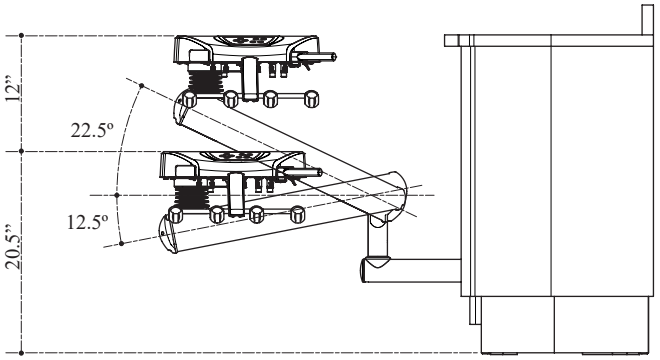
## 17-1. Side Delivery System

**Dimensions**

Unit：inch

Tolerance in dimensions: ±10%




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Side Delivery Net Weight | 54.0 lbs (24.5 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Applied parts | Type B applied parts : Handpiece for unit |
| Service Life | 10 years |

**Refer to the rating plate for the capacity of power supply.**

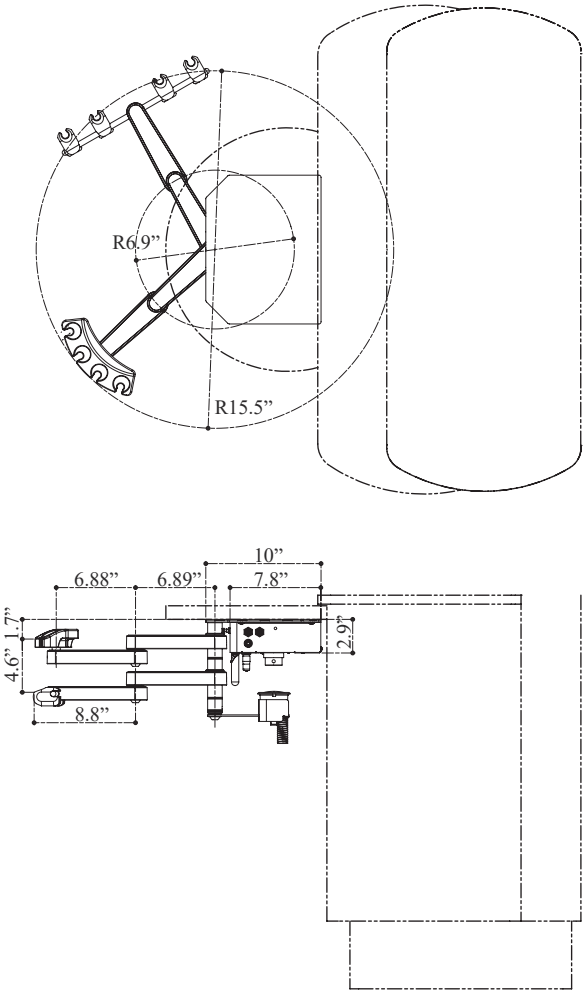
**The specification is subject to change without notice.**

## 17-2. Rear Delivery System

**Dimensions**

Unit：inch

Tolerance in dimensions: ±10%




**Specifications**

| | |
|---|---|
| Power Consumption | AC120V 1.6A |
| Frequency | 60 Hz |
| Fuse value | M6AL, 250V (Fuse Size : φ6.3 x 30 mm) |
| Rear Delivery Net Weight | 27.6 lbs (12.5 kg) |
| Operating Pressure | Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa) |
| Vacuum | Minimum 52.8gpm (200L/min) |
| Classification of foot control | IPX1 (applicable standard IEC60529) |
| Protection class against electric shock | Class I equipment |
| Applied parts | Type B applied parts : Handpiece for unit |
| Service Life | 10 years |

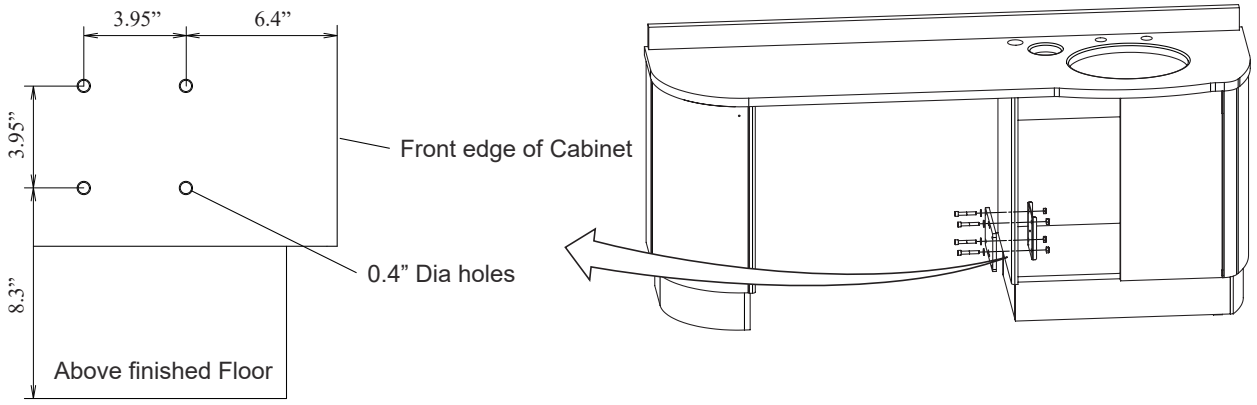
**Refer to the rating plate for the capacity of power supply.**

**The specification is subject to change without notice.**

# 18. How to Install the Side Delivery

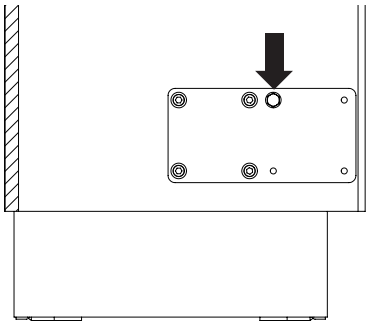
## 18-1. Installation of mount plate

To install the side delivery, fix the mounting plate and reinforcing plate to the cabinet by using four hex socket head cap bolts (M10 x 60) , four flat washers (M10 x 22 x 1.6 SUS) and four hexagon head nuts (M10 SUS). At this time, make the mounting plate level.
But the location of fixing holes may differ depending on the cabinet type. Check the figure below for recommended position of the fixing holes.
If necessary, use tapping screw M5 x 16 for fixing the reinforcing plate. When the reinforcing plate can not be used, use four install flat washers (M10 x 22 x 1.6 SUS) with nut to install the mounting plate.

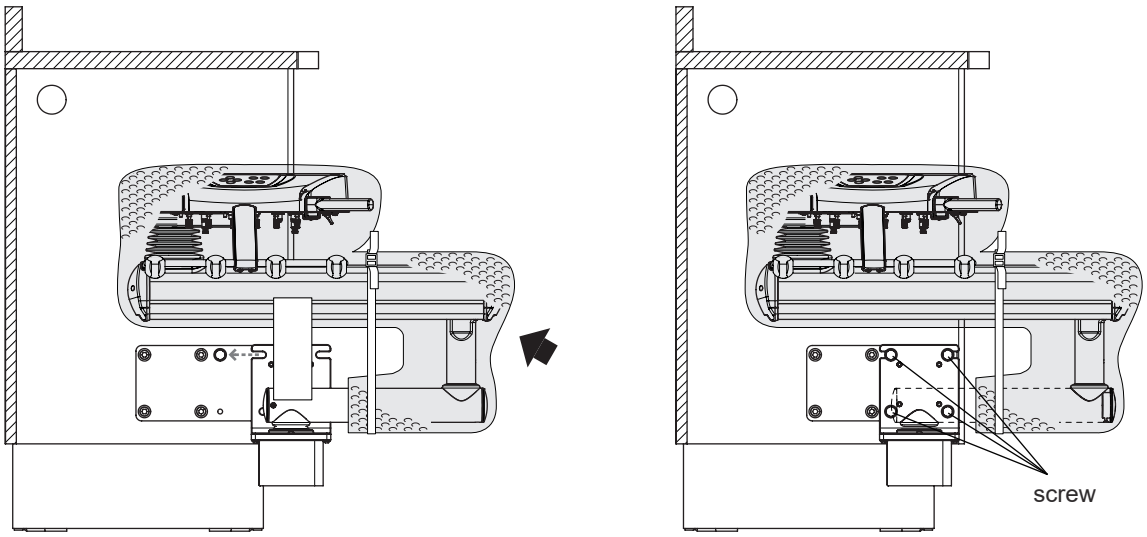


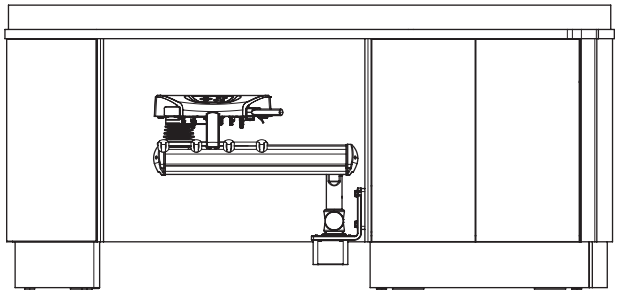

## 18-2. Installation of Side Delivery

(1) Fix a hexagon head bolt (M10 x 25) with a flat washer (M10 x 22 x 1.6 SUS) temporarily as shown in right figure.

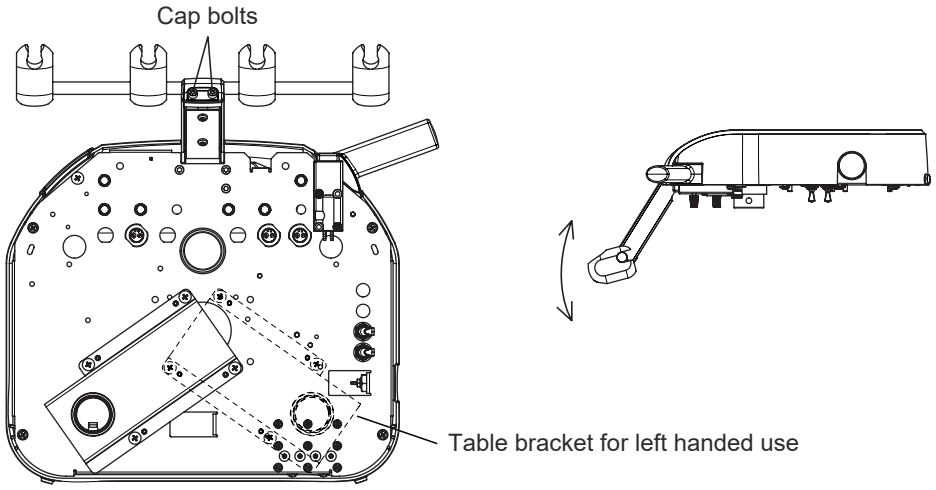


Do not remove the packing of the unit until fixing the mounting bracket.
To support the unit, hook the cutout of the mounting bracket onto the hexagon bolt M10 x 25 attached by procedure 2 (1) , then tighten it. Fix the rest of three hexagon bolts(M10 x 25).

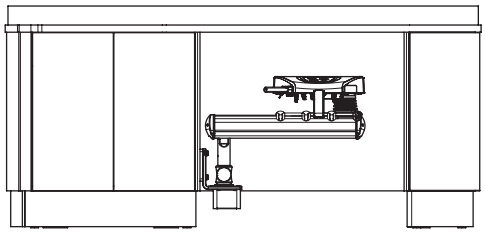




Loosen the two cap bolts at the bottom of the Handpiece holder bracket and turn holder bar to adjust the angle of Handpiece holder.
Tighten two cap bolts after adjusting angle of Handpiece holder.

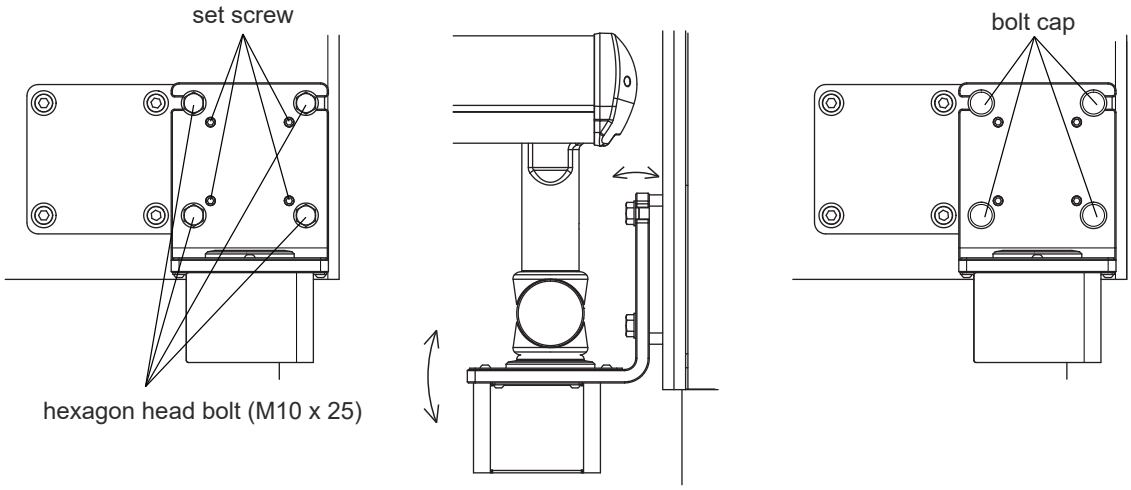



Convert the table bracket to the opposite direction for left handed setting.



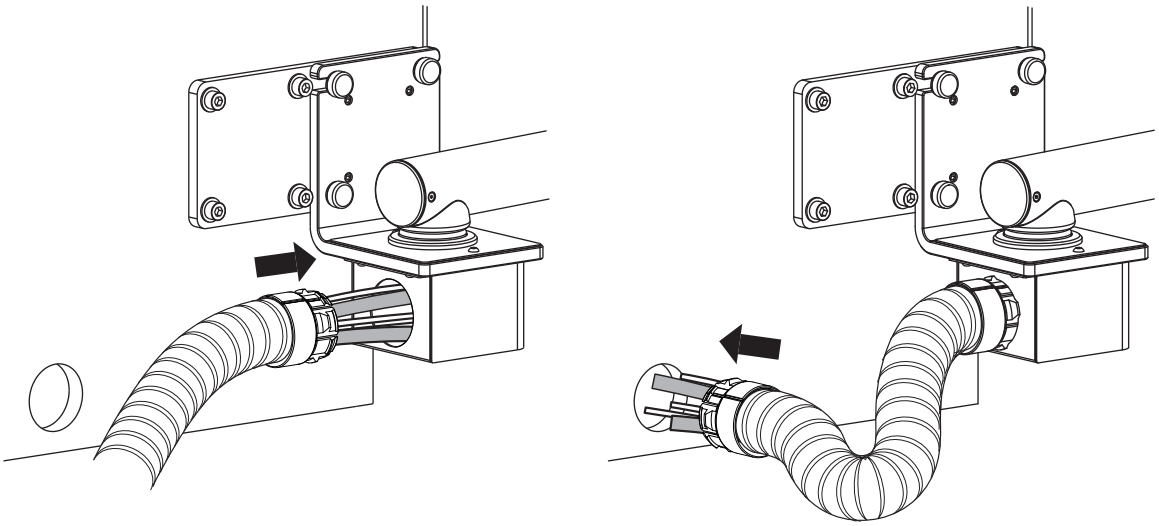
## 18-3. Horizontal adjustment of mounting bracket

Adjust the mounting bracket horizontally to make it level by loosening or tightening the four hexagon head bolts (M10 x 25) and the four set screws.
Attach the bolt cap to the four hexagon head bolts (M10 x 25) .



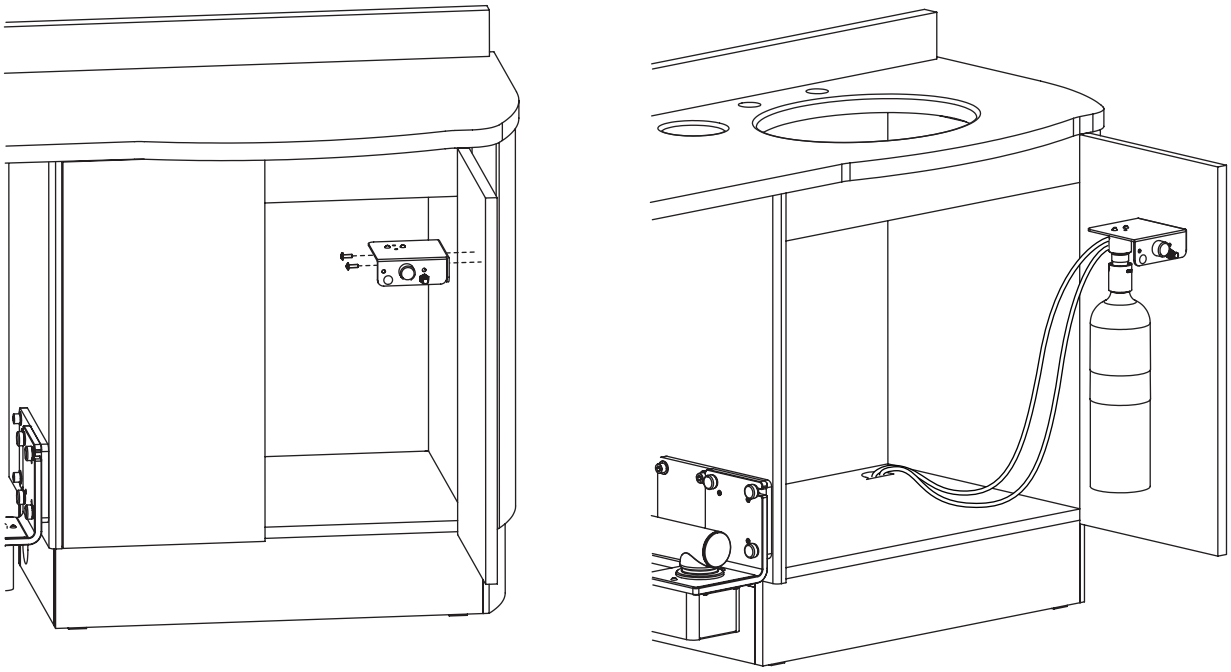
## 18-4. Installation of duct hose

Pass the tubes and wires from the bracket cover through the duct hose and attach the duct clamp to the bracket cover. Pass the tubes and the wires coming out of the other side of the hose through the hole of the cabinet.



## 18-5. IInstallation of water bottle

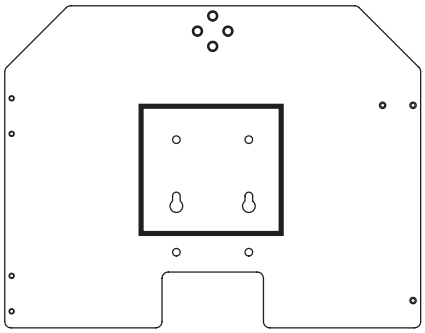
Install the water bottle bracket using two tapping screws(M 5 x 16). For the recommended position of the water bottle, refer to figure below. Attach the quick connectors and water bottle. Pass two tubes(1: blue, 1: brown) through the hole of the bottom panel.



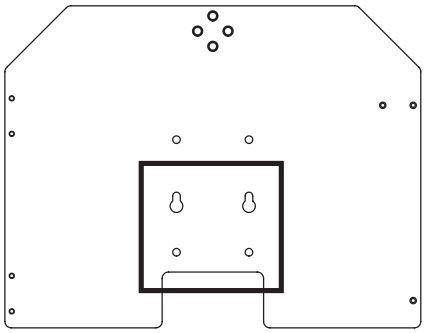
## 19. How to Install the Rear Delivery

1. Before installing the Rear Delivery, please check the followings.
   To install the Rear Delivery, fix the mounting plate to the cabinet by using (4) 5/8 cap screws (No. 10-24 UNC). But fixing holes may differ depending on the cabinet type.

・E-6
・K-66



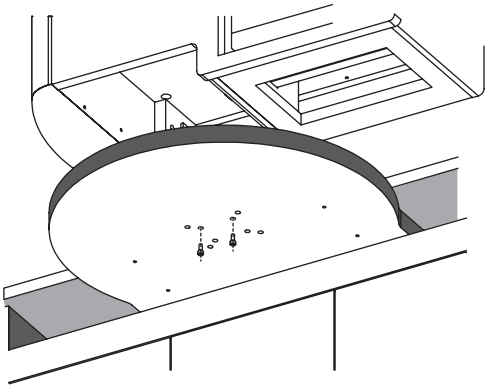
・D-66COM
・ECO-6



**CAUTION**

**If the mounting plate is incorrectly positioned, the table chassis may not be able to move properly. Be sure to fix the mounting plate to the connect position.**

2. Installation of Rear Delivery (Example : D-66COM)
   Premount (2) cap screws to the cabinet underneath.
   (Be sure premount the screws tp prevent fall down the mounting plate after hanging it.)
   * Fixing positions may differ depend on the type of cabinet.



3. Attach the mounting plate to the cabinet.
   Insert the large holes of the mounting plate to the 5/8 cap screws (NO. 10-24 UNC).

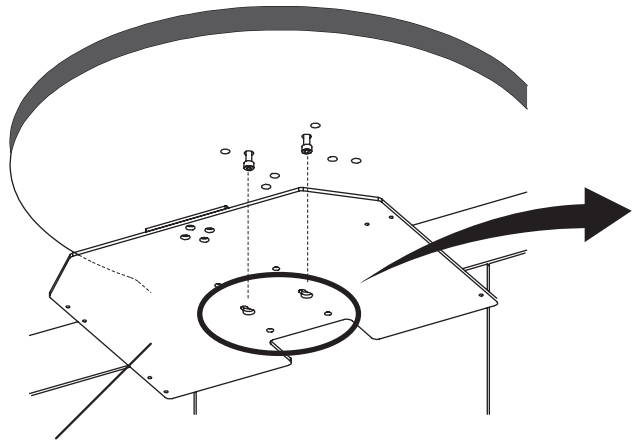
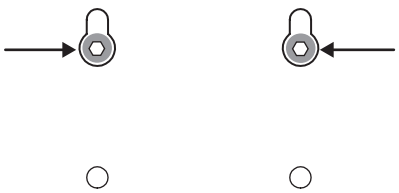
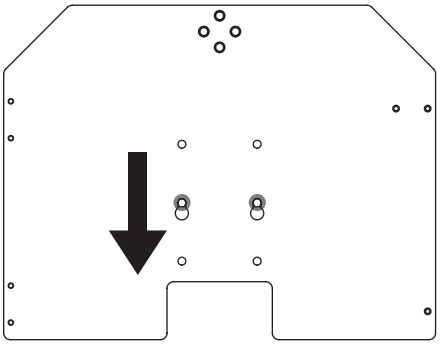


Table Chassis Upper Plate

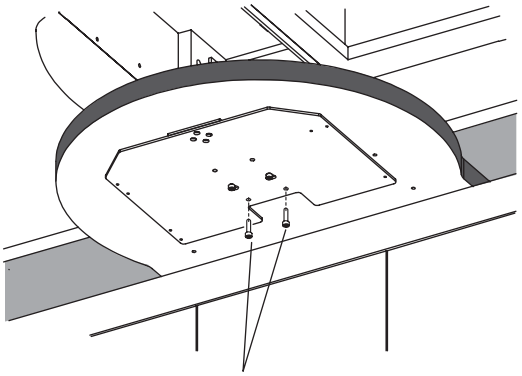


Insert from this position

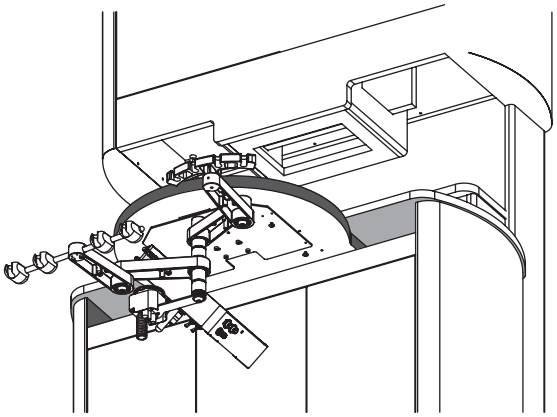
4. Slide the mounting plate in the direction of an arrow to hold the mounting plate to the cabinet.



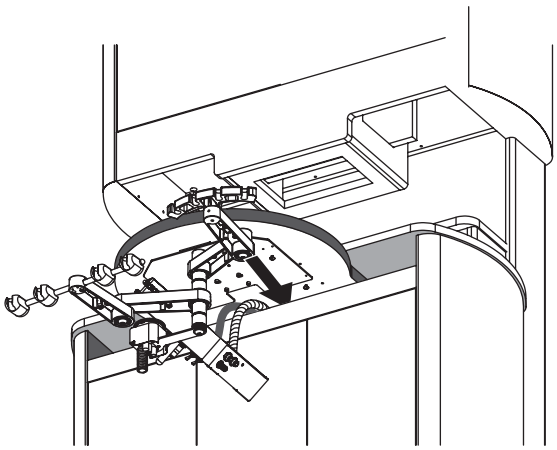
Fix the mounting plate to the cabinet with remaining two holes by using two 5/8 cap screws (NO.10-24 UNC).

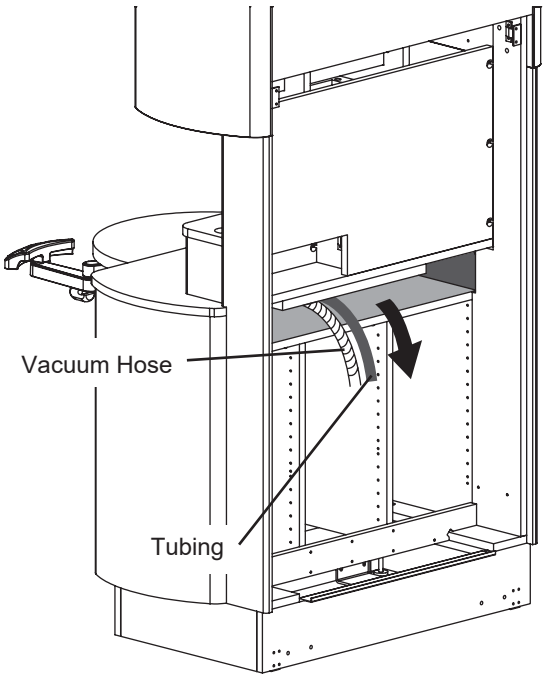


Cap Screw
NO.10-24 UNC 5/8

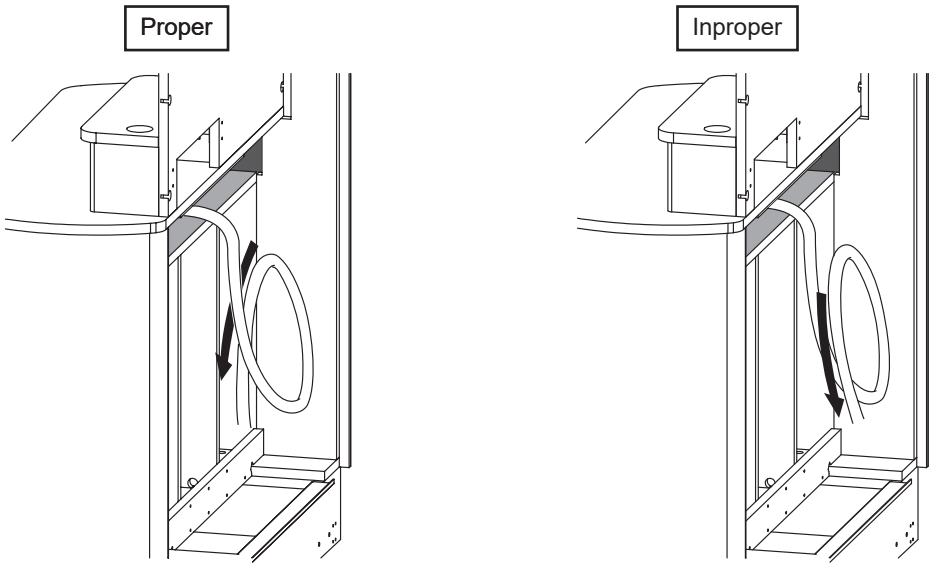


5. Pass the two tubings and vacuum hose through the opening space from the cabinet front as show in the figure below and bring it to behind the cabinet.

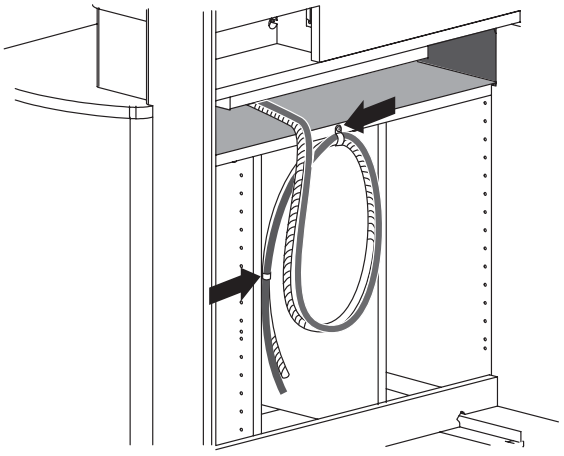




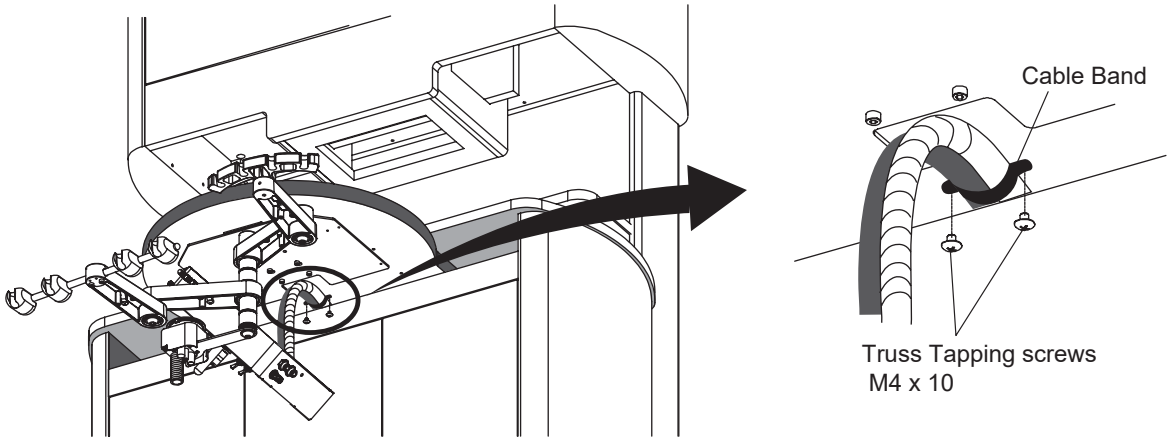
6. Be sure to reel the two tubings and vacuum hose as show in the figure below. If reeled it wrong direction, tubings may not move smoothly



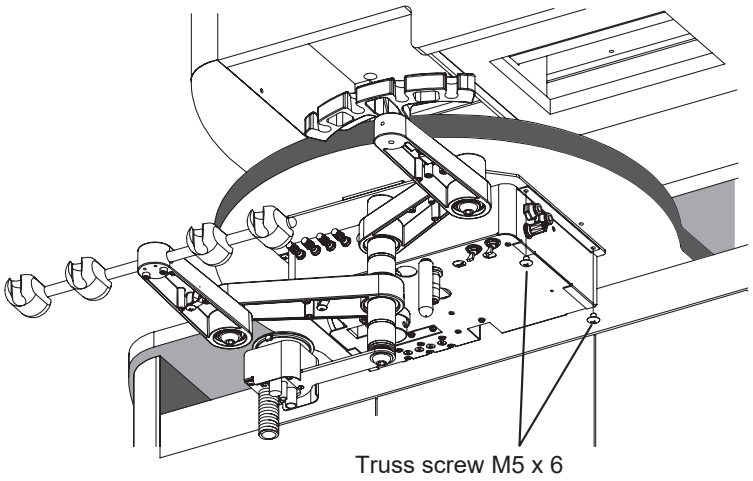

7. Fix the tubings and vacuum hose together by using two clamps.
   * To ensure that the tubings and vacuum hose moves smoothly, be sure to fix the clamps at correct position as described below.



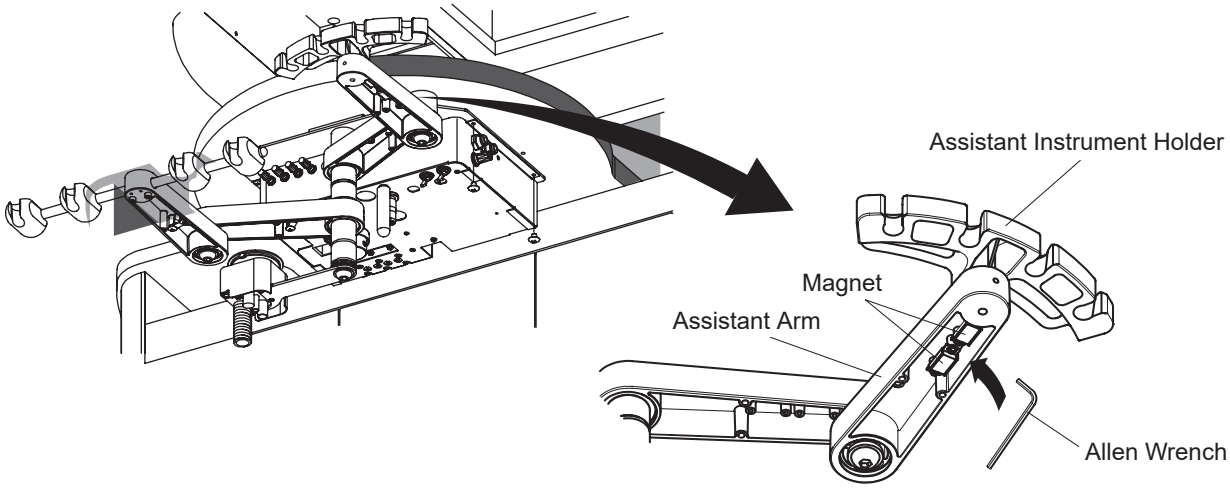
8. Fix the tubing and vacuum hose to the underneath of the cabinet by using cable band with two truss tapping screws.



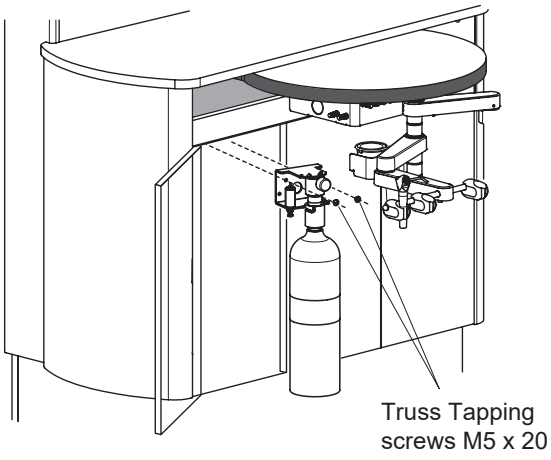
9. Finally, attach the table chassis and fix it with two M5 x 6 truss screws.




*(Note) For the future adjustment, the allen wrench (M6) must always be attached magnetically underneath of the assistant arm after doctor arm and assistant arm height adjustment. Height adjustment of doctor arm and assistant arm, refer to page 108-109.*




10. Fix the water bottle to the cabinet by using two M5 x 20 truss tapping screws.




Connection of foot control, tubings and vacuum hose, please refer to page 116 flow diagrams.
Also refer to installation manual attached to the cabinet.

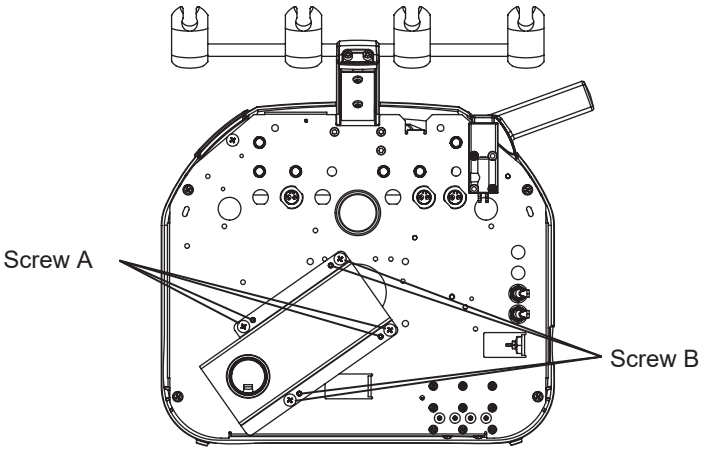
# 20. Adjustment

## CAUTION

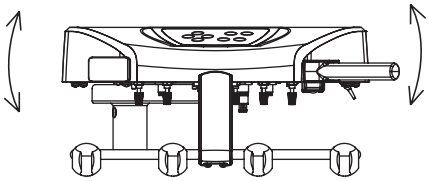
**When removing doctor table covers with integrated touchpad control for service, be careful to remove the cover slowly to prevent damage to the wire harness or integrated touchpad.**
**Harness from chair seat positioning touchpad of the table top cover is connected to the Doctor table section.**
**Do not pull the Doctor table top cover excessively. This could cause damage to the harness of the chair seat positioning touchpad.**

### 20-1. Leveling the Doctor Table (for Side Delivery Type)

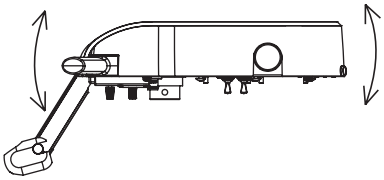
The horizontal level of the Doctor table can be adjusted. Adjust horizontal level of the Doctor table by below procedures during installation if the Doctor table is not horizontally leveled.
Before adjusting horizontal level of the Doctor table, adjust the level of the swing arm Bracket (Side).




1. Horizontal level, left and right, can be adjusted by loosening or tightening screws A (4 screws).



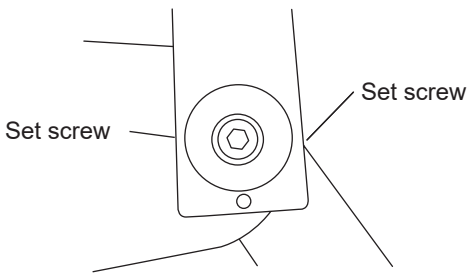
2. Horizontal level, front and rear, can be adjusted by loosening or tightening screws B (4 screws).



### 20-2. How to Adjust the Swing Arm Friction (for Side Delivery Type)

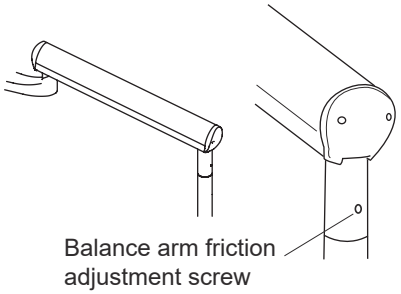
The friction of the swing arm for Doctor's control, dental light and monitor must be adjusted independently.

Adjust the M6 x 5mm socket set screw beneath the swing arm.



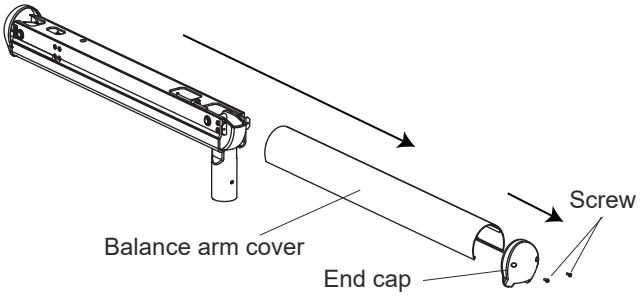
## 20-3. How to Adjust the Rotation Friction of Table Balance Arm (for Side Delivery Type)

Adjust rotation friction of the balance arm with M6 x 5mm adjustment screw.

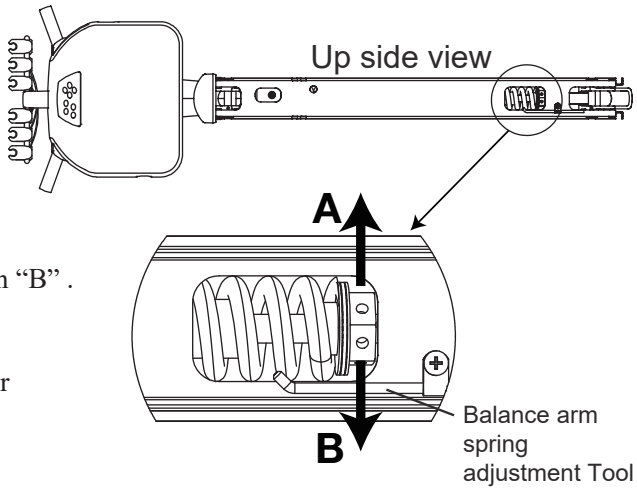



## 20-4. How toAdjust the Spring of Table Balance Arm (for Side Delivery Type)

Remove the Screw, End cap and Balance arm cover.



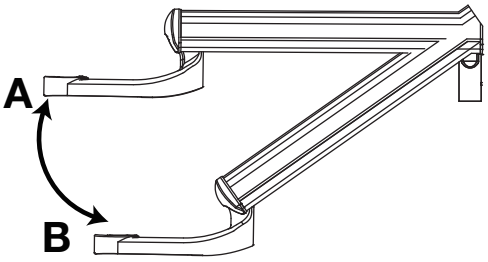

Insert the Balance arm spring adjustment Tool (Adjustment Tool) to the groove at the rotation part and while pushing Adjustment Tool in the direction of arrow “A”or ”B”.




Spring is stronger in direction “A” and weaker in direction “B” . Before attaching the cover,

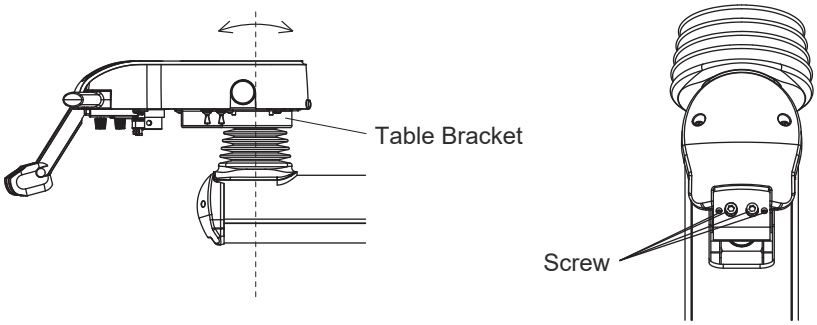
Check that it is balanced by placing the Balance arm cover on the balance arm.

Put the Balance arm cover , End cap back in place.



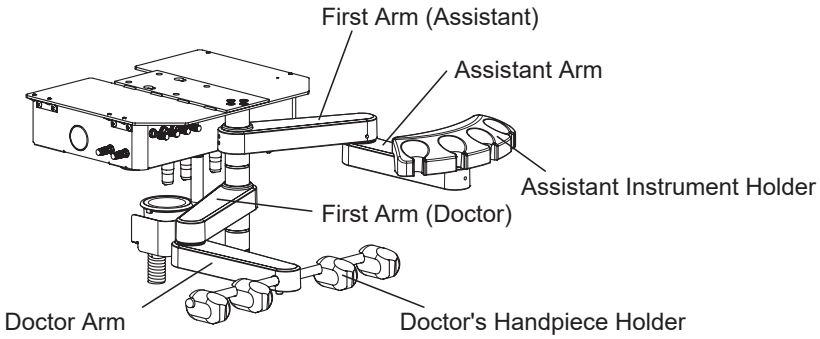

## 20-5. How to Adjust the Vertical Level of Doctor Table (for Side Delivery Type)

Vertical level of table bracket can be adjusted by loosening or tightening four screws.

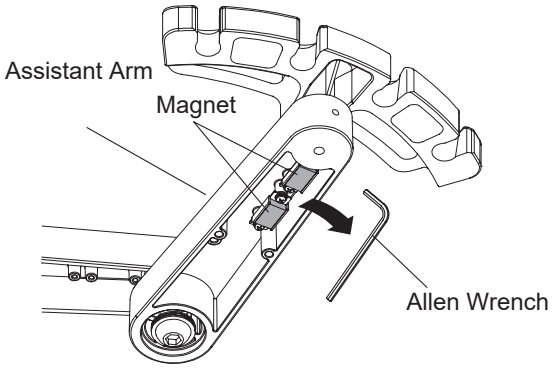


## 20-6. Doctor Arm / Assistant Arm Height Adjustment (for Rear Delivery Type)

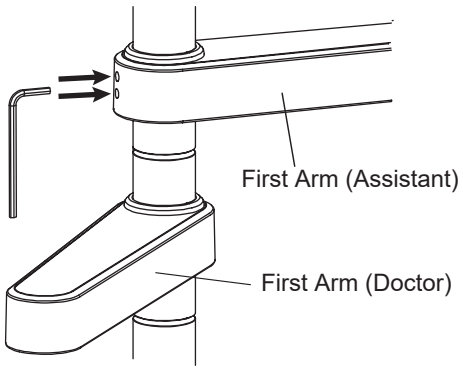
Height of doctor arm and assistant arm can be adjusted. Also this adjustment can be done by users themselves. This is why the allen wrench (M6) must always be attached magnetically underneath of the assistant arm after doctor arm and assistant arm are adjusted.



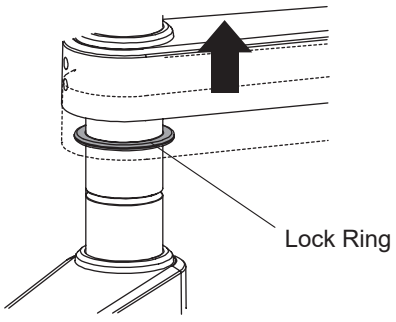

1. Take allen wrench out from underneath the assistant arm.



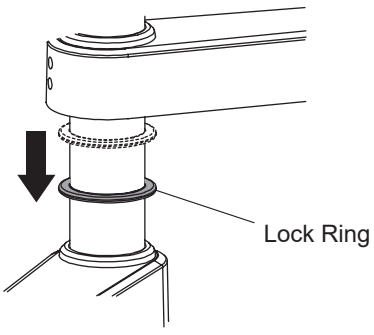

2. Loosen the (2) set screws on the first arm (Assistant) by using allen wrench.



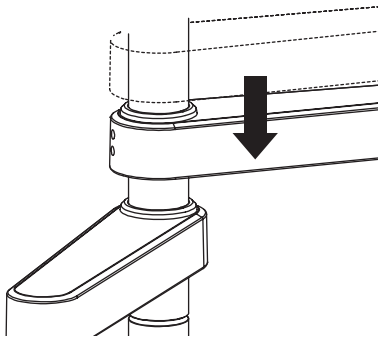

3. Lift up the first arm (Assistant).



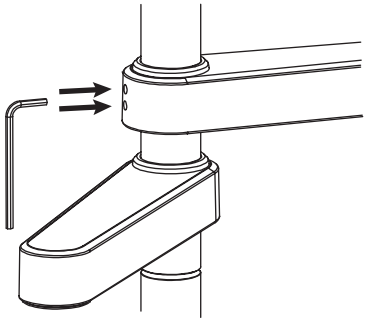

4. Slide down the lock ring.



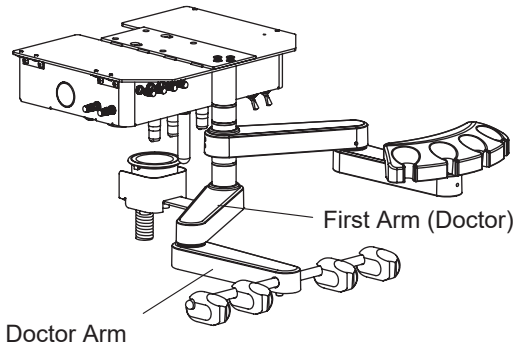

5. Lower the first arm (Assistant) until arm hits the lock ring.



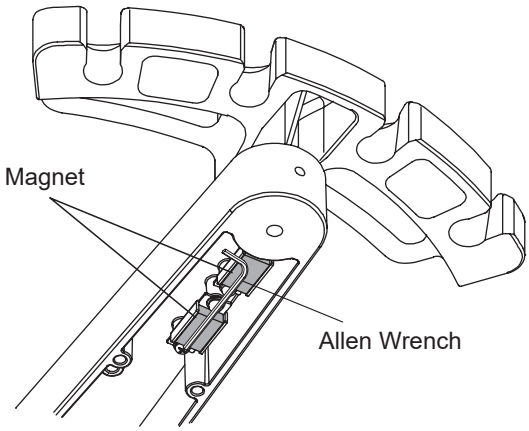
6. Tighten the (2) set screws on the first arm (Assistant) by using allen wrench.



7. Adjust height of Doctor Arm by following the same procedures shown in 2 ~ 6.




8.Re-attach the allen wrench to underneath the assistant arm.




*(Note) Arm height can be adjusted at 3 positions. If one of the arms is adjusted, you may need to adjust another arm to avoid interference of arms.*

### 20-7. Water and Air Manual ON/OFF Valves

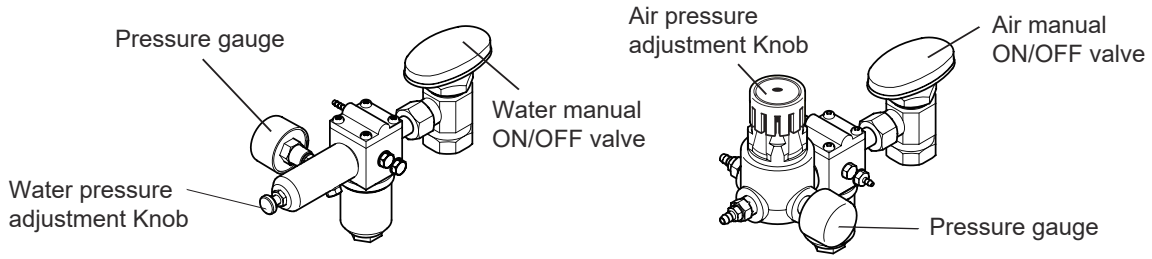
Open the water and air manual ON/OFF valve counterclockwise in the floor utility.
Turn on the master switch and check that water and air are not leaking.

### 20-8. Main Air Pressure

The air utility regulator is factory pre-set at 75 psi (0.5 MPa). Air pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.

### 20-9. Main Water Pressure

The water utility regulator is factory pre-set at 29 psi (0.2 MPa). Water pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.

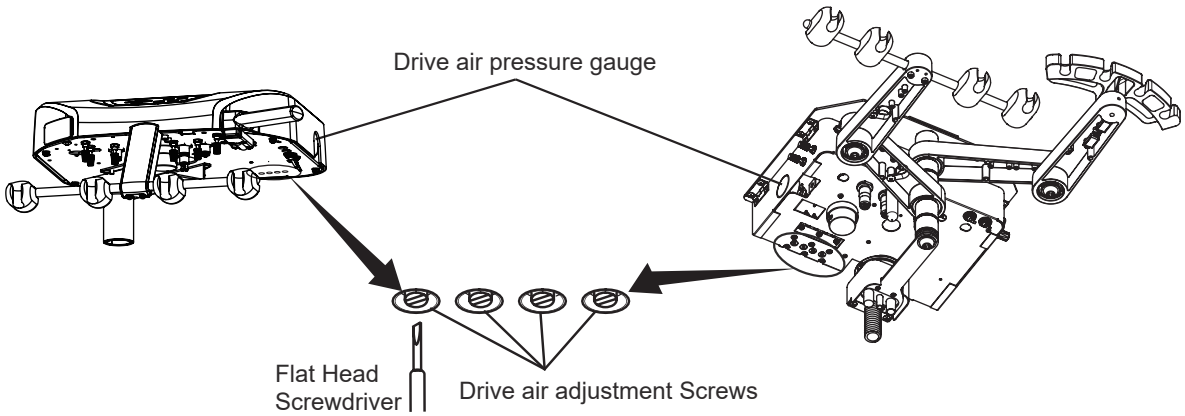



### 20-10. Drive Air

**CAUTION**

**To avoid potential damage to handpieces**
**- Never operate a handpiece without a bur in the chuck.**
**- Do not exceed manufacturers recommended pressure setting at the handpiece.**

Each handpiece drive air can be adjusted by turning the drive air adjustment screw with handpiece running. Use a flat head screwdriver with a small tip to make drive air adjustments. Drive air pressure is decreased by turning the adjustment screw clockwise and increased by turning the adjustment screw counterclockwise. Drive air pressure is indicated on the handpiece pressure gauge located on the lateral side of the doctor table. Set the drive air pressure according to the instruction manual provided by the manufacturer of the handpiece.




*(Note) The reading at the pressure gauge will be approximately 5 psi (0.034MPa) higher than the actual pressure at the handpiece, due to line loss. To attain the desired handpiece pressure setting, adjust the drive air adjustment screw until the gauge pressure is 5 psi (0.034MPa) above target pressure. If the adjustment is made using a special in-line gauge attached at the handpiece connector, then set the pressure at this gauge directly, as specified by the handpiece manufacturer.*

## 20-11. Coolant Water

The handpiece coolant water control knobs are located underneath the doctor table.
Each handpiece coolant water control knob is identified as number 1 to 3 from the left side HP1, HP2 and HP3.
Each handpiece coolant water volume can be controlled independently.
Flip the toggle on foot control to switch to the "wet" position. (Toggle toward inside of the foot control)
Install a bur in the handpiece to be adjusted. Step on the foot control and run the handpiece, then adjust the water coolant flow knob until a fine mist is achieved.

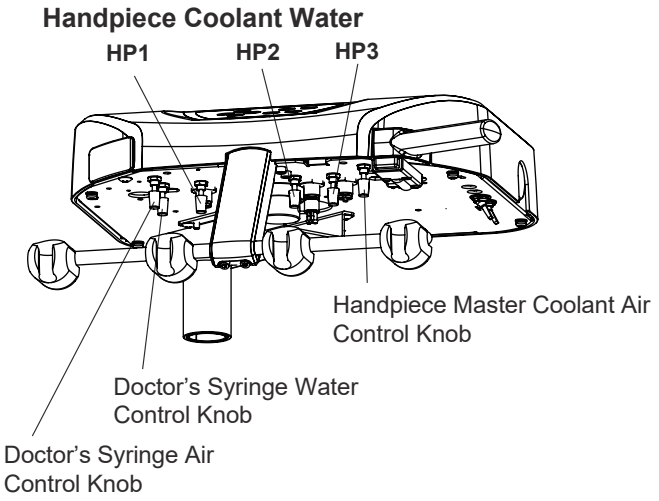
## 20-12. Coolant Air

The handpiece master control knob is located underneath the doctor table and sets coolant air for all handpieces. (Except syringe)
Adjust coolant air volume with the handpiece running until the desired flow is achieved.

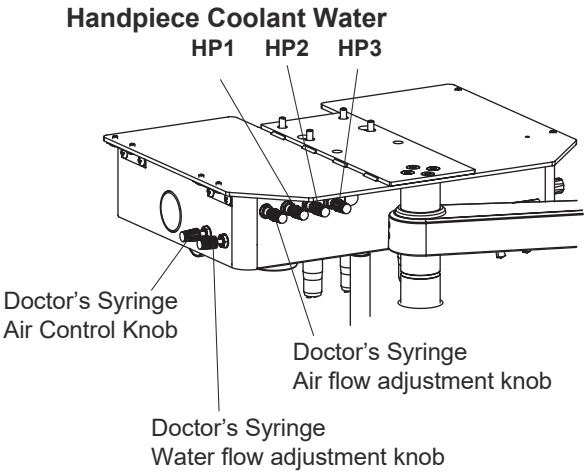
## 20-13. Doctor's Syringe

Doctor's syringe flow control knobs are located underneath the doctor table.
The yellow capped knob is the air flow adjustment knob, the blue capped knob is the water flow adjustment knob.

**Side Delivery System**

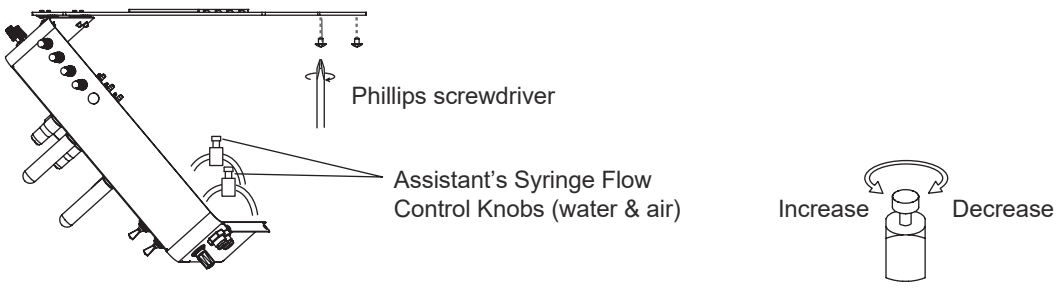



**Rear Delivery System**



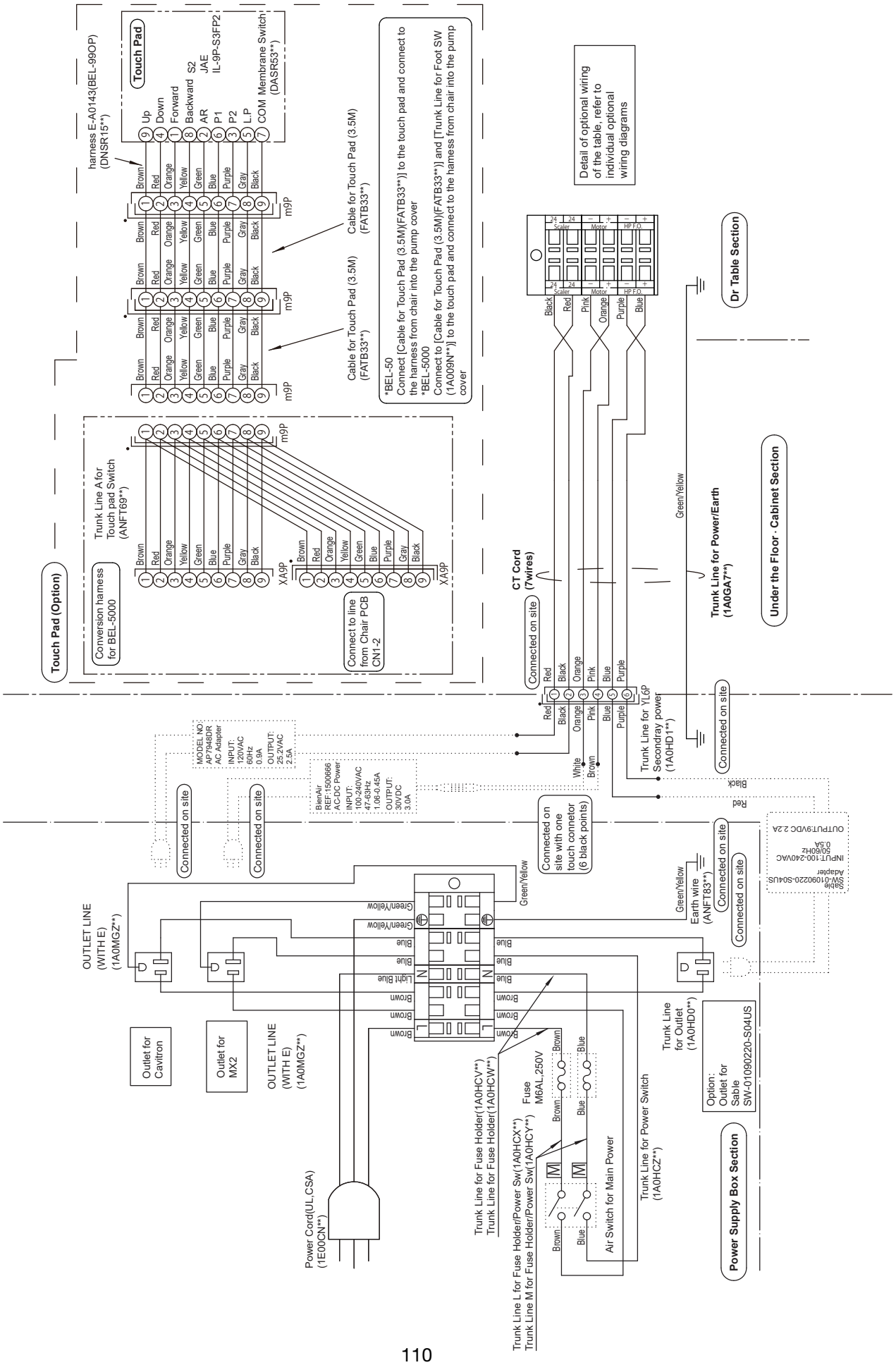

## 20-14. Assistant's Syringe (for Rear Delivery Type)

Assistant's syringe flow control pinch valves are located inside the Rear Delivery.
Open the table chassis by loosening the screws. Adjust the water and airflow by pinch valves.

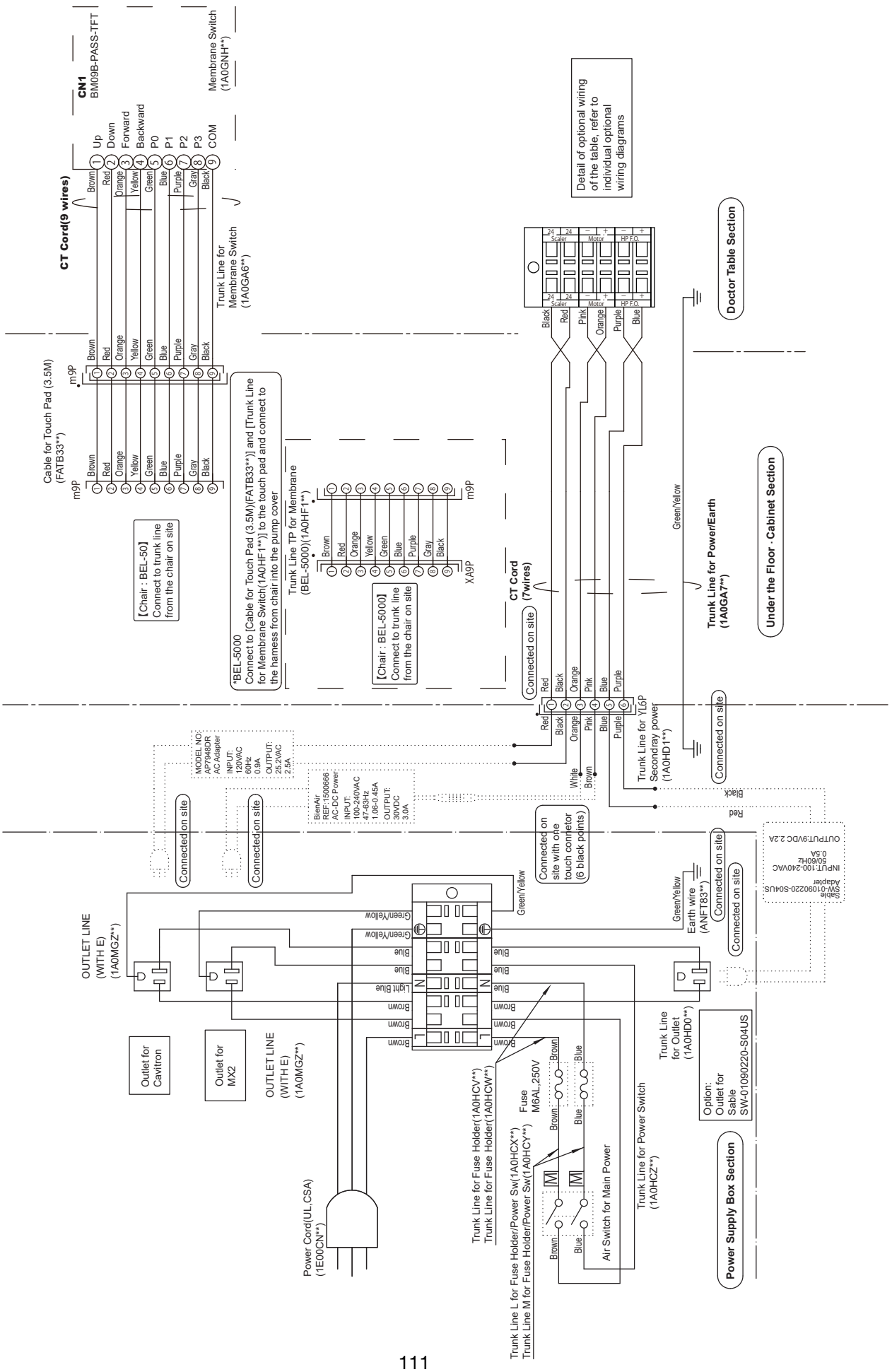


# 21. Electrical Diagram

## 21-1. AU-HV3808 Rear Delivery System with Bel-50 Chair / Quolis Chair



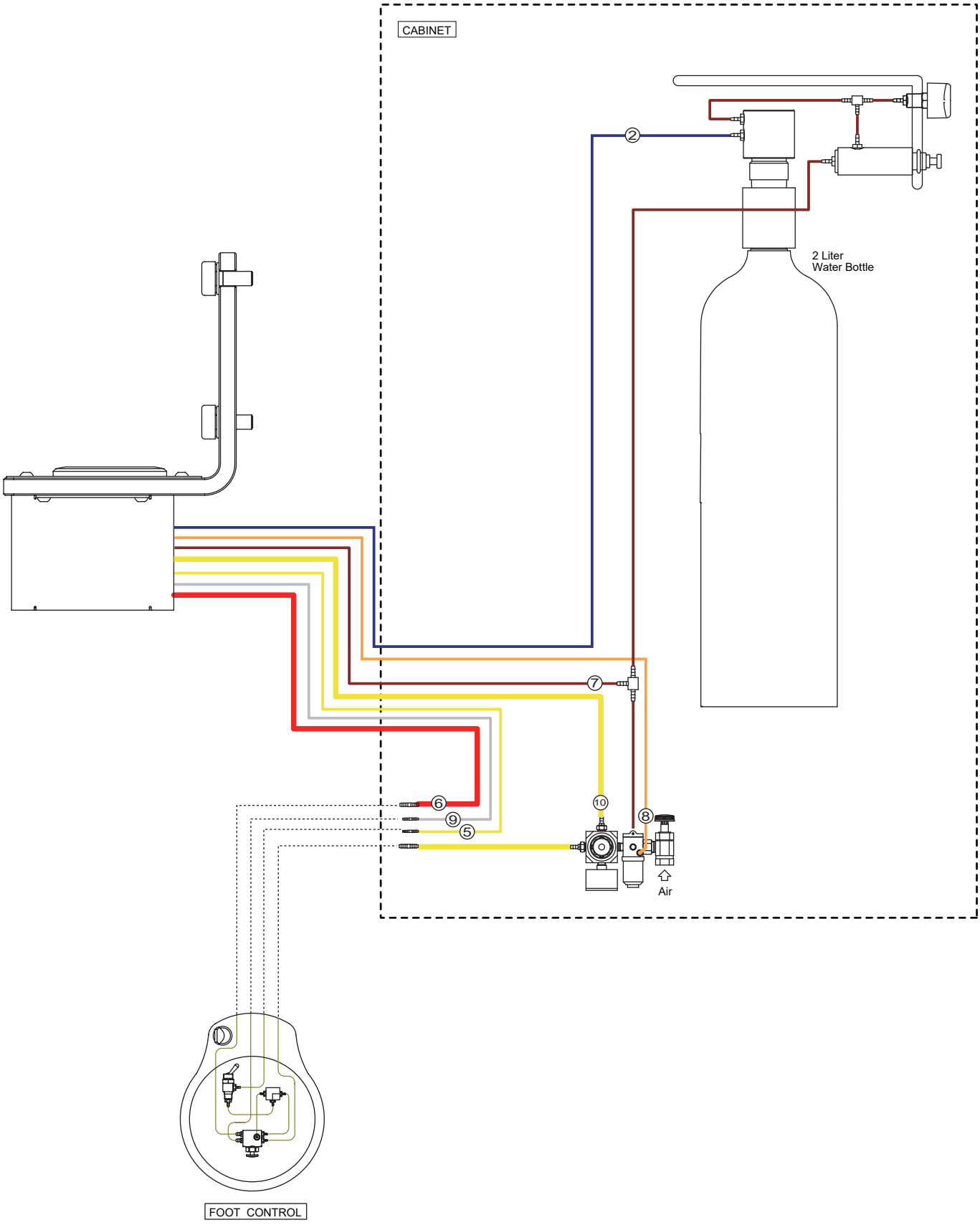
## 21-2. AU-HV3808 Side Delivery System with Bel-50 Chair / Quolis Chair



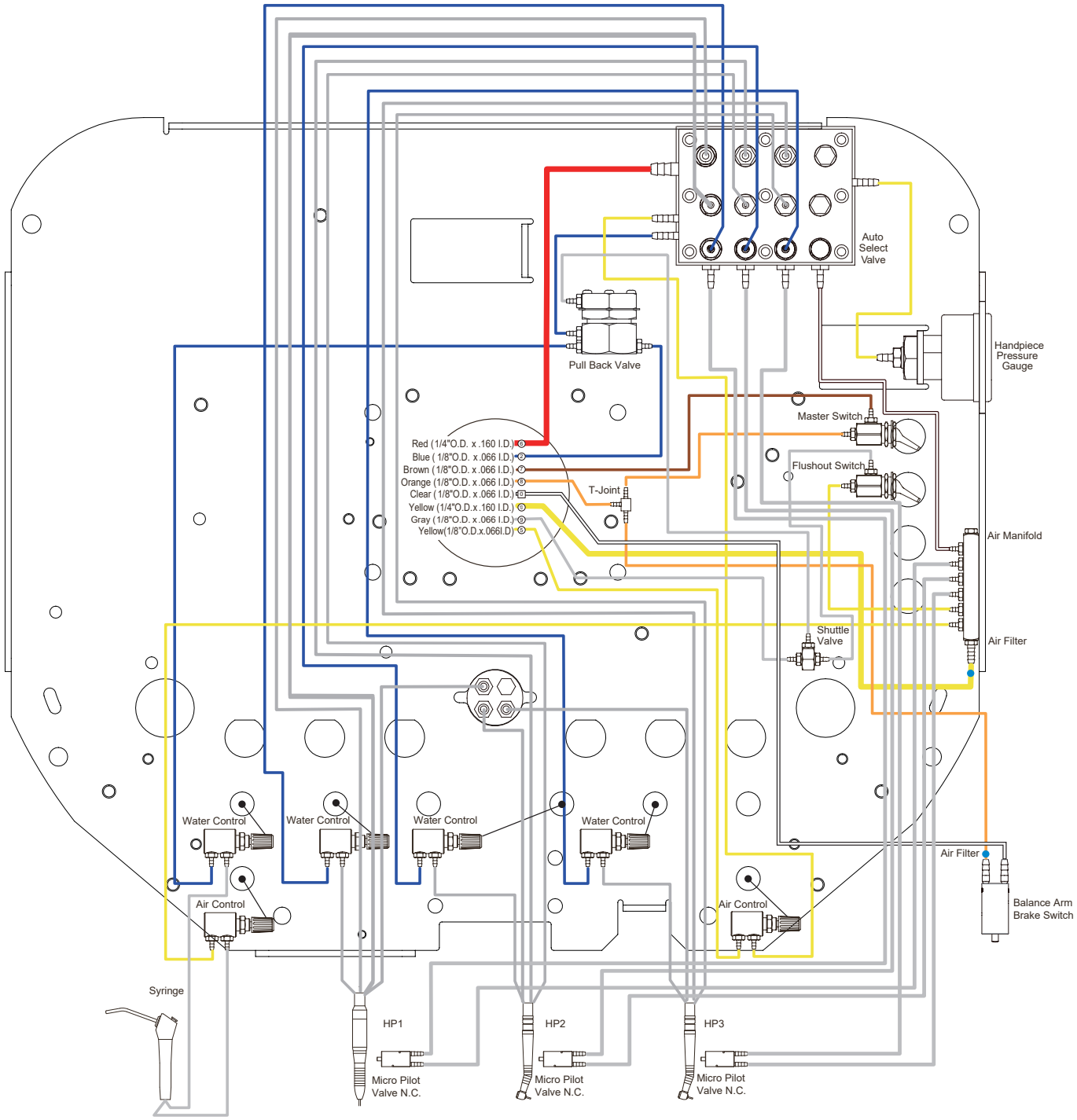
# 22. Flow Diagram

## 22-1. Side Delivery Section (Cabinet)

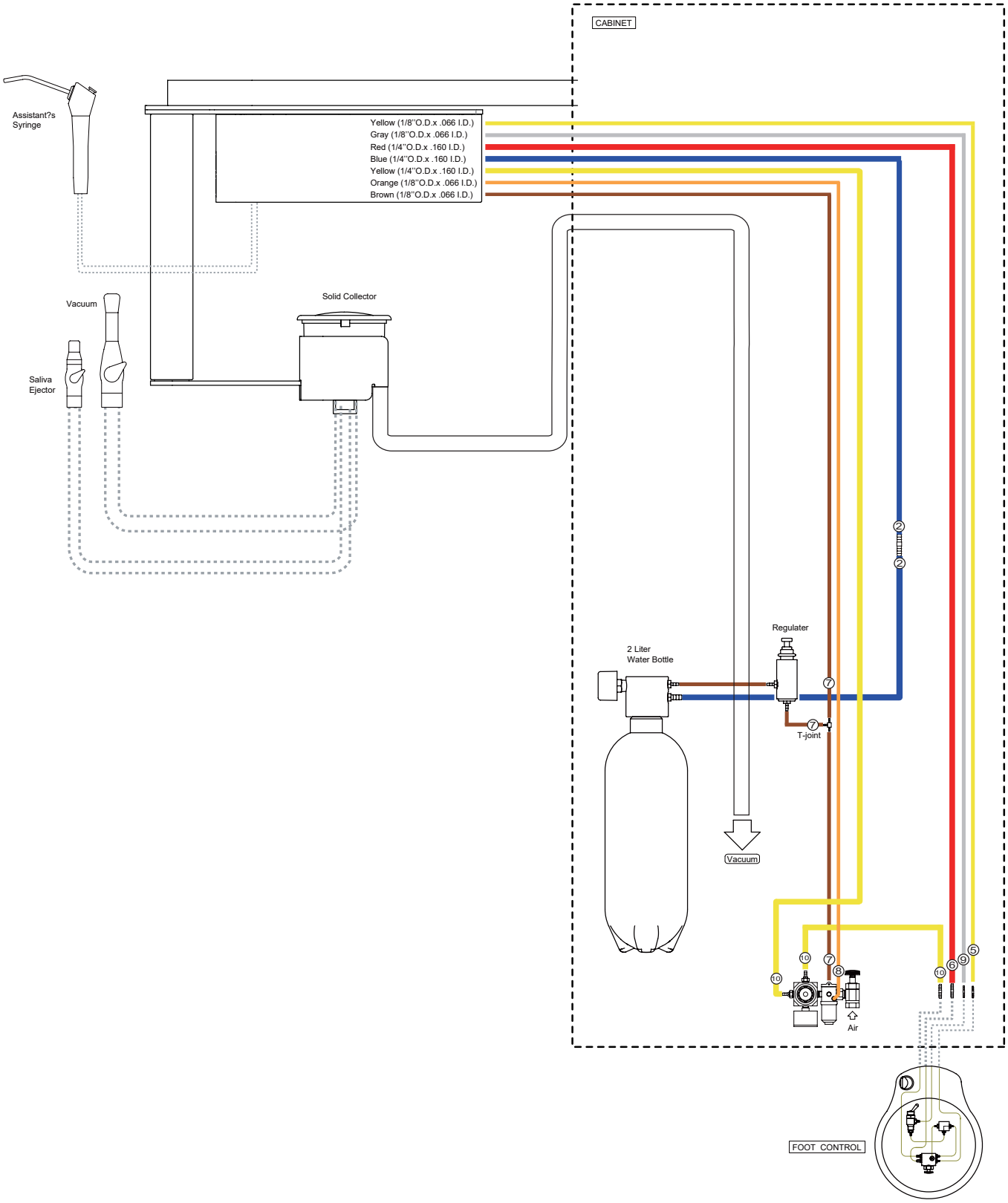
Connect tubings of foot control and tubings from the doctor table as shown in figure below.
The flow diagram is also attached in the doctor table.



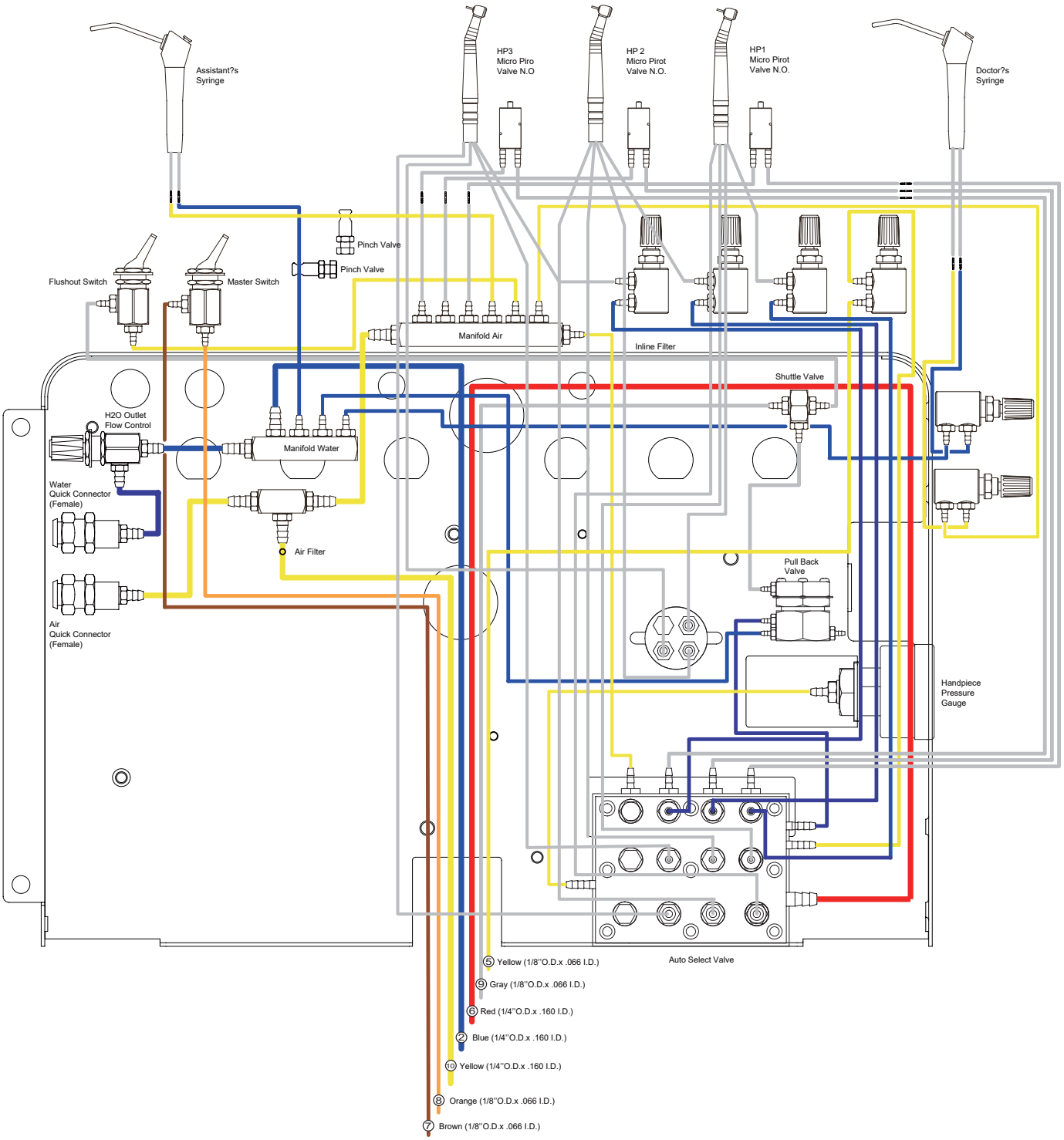
## 22-2. Side Delivery Section (Table)



## 22-3. Rear Delivery Section (Cabinet)

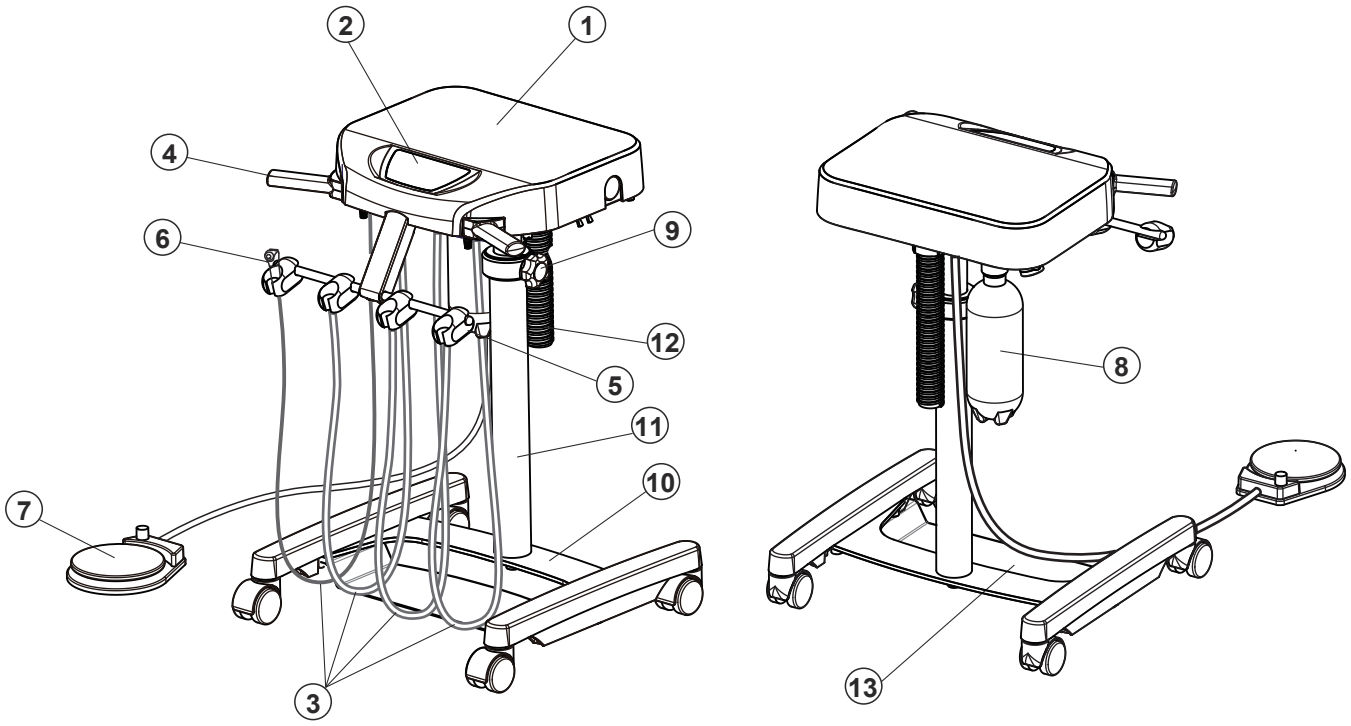


## 22-4. Rear Delivery Section (Table)



# CART DELIVER SYSTEM

## 23. Overview and Major Components




(1) Control Head
(2) Chair Seat Positioning Touchpad(*1)
(3) Handpiece Hoses & Syringe Hose
(4) Handle
(5) Syringe and Handpiece Holders
(6) Doctor's Syringe (*2)
(7) Foot Control
(8) Water Bottle
(9) Height Adjustment Lock Knob
(10) Cart Base
(11) Base Support Post
(12) Cart Umbilical Hose
(13) Foot Control Rack

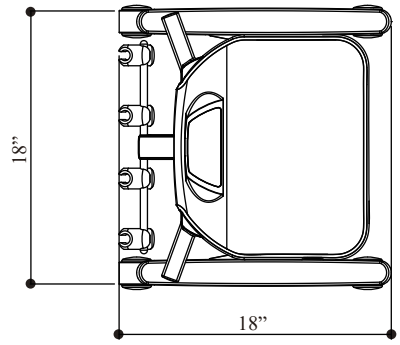
*(*1) The Seat Positioning Control Touchpad is an option. Cover Plate is standard.*
*(*2) Evogue Unit does not include syringe tips. Syringe tips manufactured by DCI are compatible with syringes used with this delivery system.*

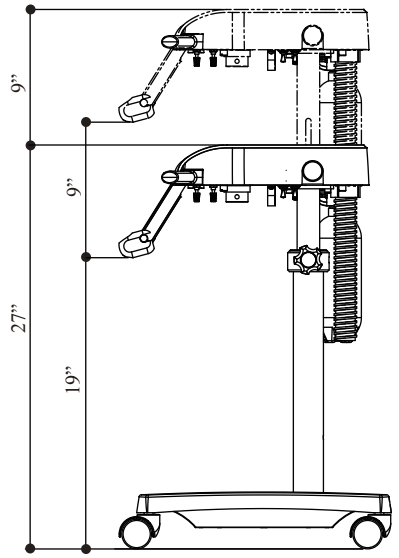
# 24. Dimensions and Specifications

**Dimensions**

Unit：inch

Tolerance in dimensions: ±10%




**Specifications**

Power Consumption---------- AC120V 1.6A
Frequency---------- 60 Hz
Fuse value---------- M6AL, 250V (Fuse Size : φ6.3 x 30 mm)
Cart Delivery Net Weight---------- 35.3 lbs (16 kg)
Operating Pressure---------- Water 29 psi (0.2 MPa), Air 75 psi (0.5 MPa)
Classification of foot control---------- IPX1 (applicable standard IEC60529)
Protection class against electric shock---------- Class I equipment
Applied parts---------- Type B applied parts : Handpiece for unit
Service Life----------10 years

**Refer to the rating plate for the capacity of power supply.**

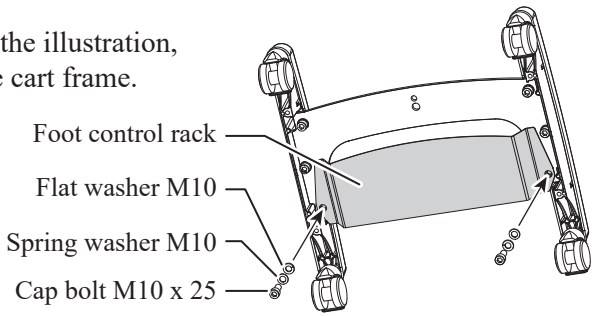
**The specification is subject to change without notice.**

# 25. Cart Installation

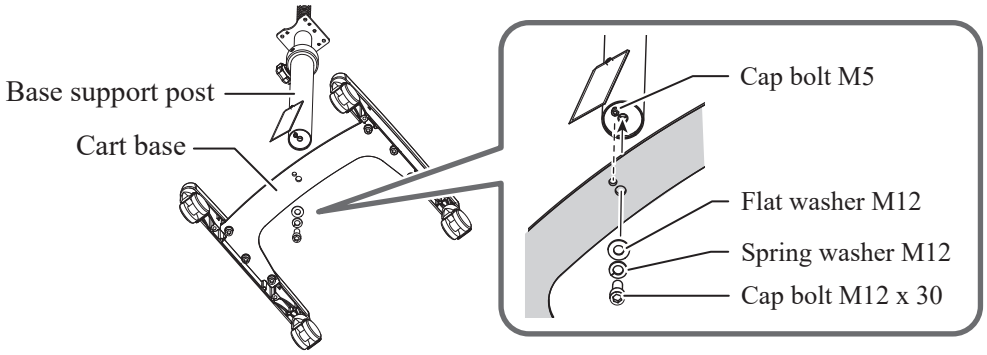
## 25-1. Assembly of Cart

1. Install the foot control rack. (Optional)
   Remove the (2) M10 screws on the cart base shown in the illustration, and assemble the foot control rack to the bottom of the cart frame.

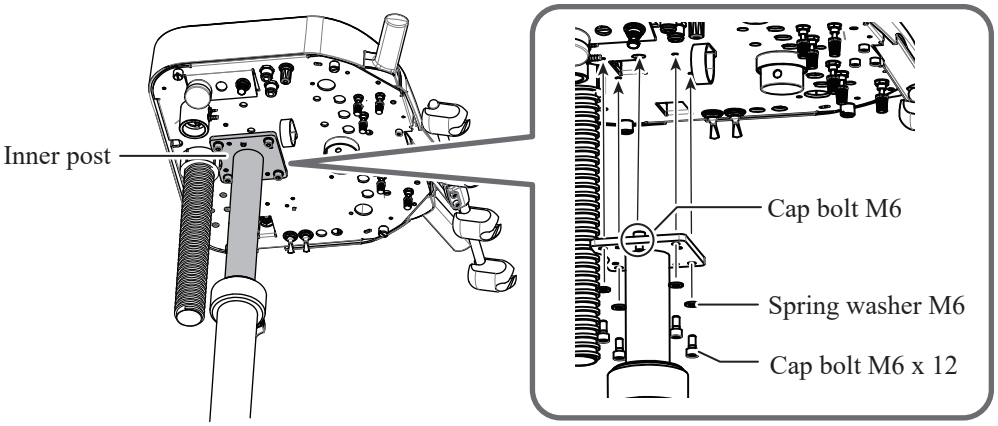
   If foot control rack is not installed, go to step 2.




2. Align the M5 cap bolt head at the bottom of the base support post with the corresponding hole in the cart base frame and join post with frame. Insert M12 cap bolt through washers and tighten the cart base frame to the base support post, as shown below.



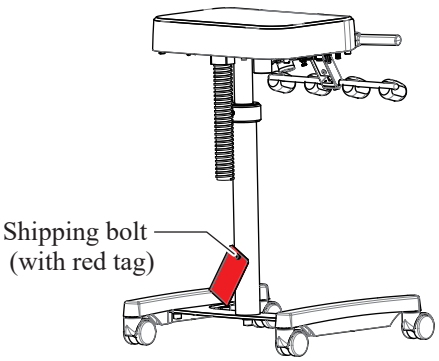

3. Align the M6 cap bolt head attached to the plate at the top of the inner post with the corresponding hole in the bottom of the doctor table chassis. Insert (4) M6 cap bolts through washers and tighten doctor table to plate, as shown below.




4. Remove the shipping bolt (with red tag).

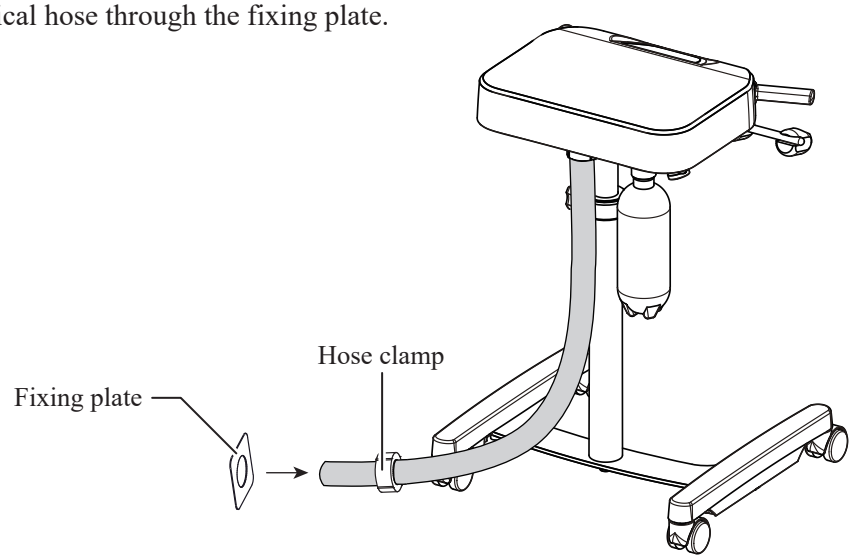
   The shipping bolt must be removed after the table is attached to avoid the inner post to pop out.

   Finally, be sure to adjust the lift brake. Refer to P121 for adjustment method.

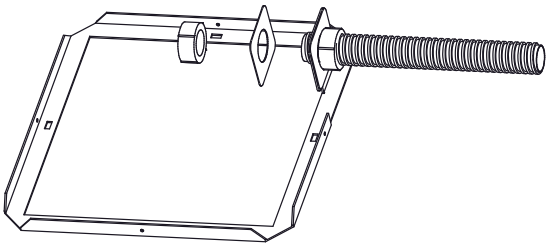


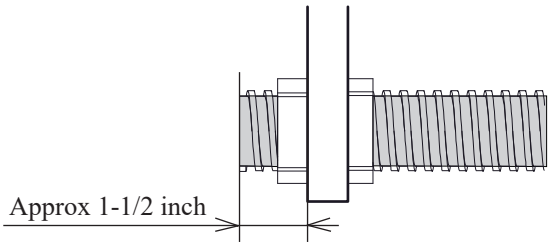
## 25-2. Attach the cart umbilical hose to cabinet or junction box

1. Pass the cart umbilical hose through the fixing plate.



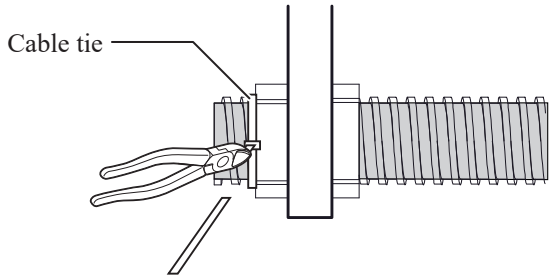

2. Insert end of cart umbilical hose approximately 1-1/2 inch into cabinet or junction box frame.
3. On the inside of the cabinet or junction box frame, slide fixing plate and hose clamp over the end of the umbilical to secure cart umbilical hose.






4. Tighten the supplied cable ties to the cart umbilical hose so that they are in contact with the hose clamps and cut off the excess.

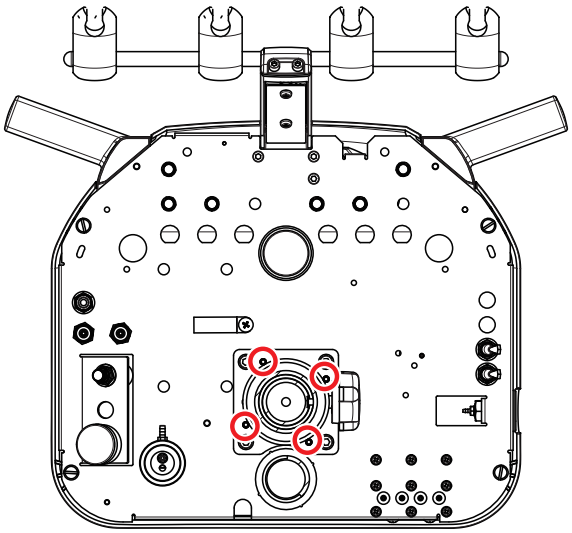
> The cable ties secure the cart umbilical hose to prevent it from disconnecting when pulled. Be sure to secure them in place.



# 26. Adjustment

## 26-1. Leveling the Doctor Table

Slightly loosen the (4) M6 cap bolts that secure the doctor table chassis to the plate at the top of the inner base support post. Place a level on top of the doctor table, then using a hex key wrench, adjust the (4) setscrews to level doctor table. When doctor table is level, re-tighten the (4) M6 cap bolts.

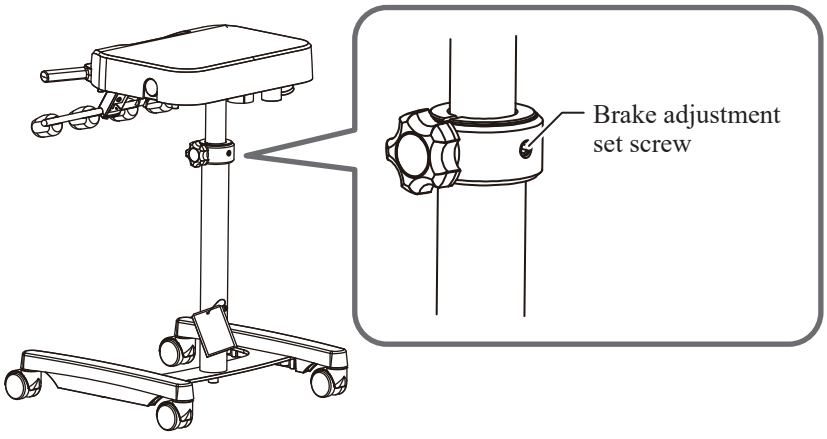


## 26-2. Adjustment of Lift Brake

As a mechanism to prevent the table from falling, tighten the inner post with the set screw shown below to adjust the brake.

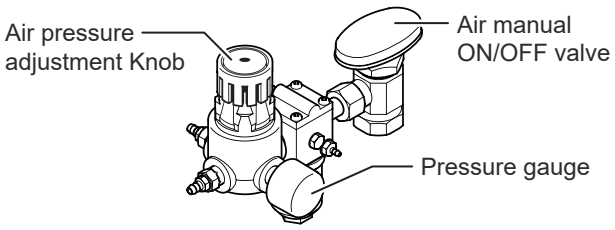
**[How to Adjust Brake]**

Using an allen wrench, tighten the set screw shown below until you feel resistance, then loosen it 1/4turn counterclockwise



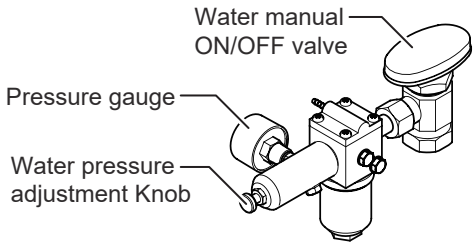
### 26-3. Main Air Pressure

The air utility regulator is factory pre-set at 75 psi (0.5 MPa). Air pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.




### 26-4. Main Water Pressure

The water utility regulator is factory pre-set at 29 psi (0.2 MPa). Water pressure can be adjusted by lifting the pressure adjustment knob, then turning knob clockwise to increase pressure or counterclockwise to reduce pressure.

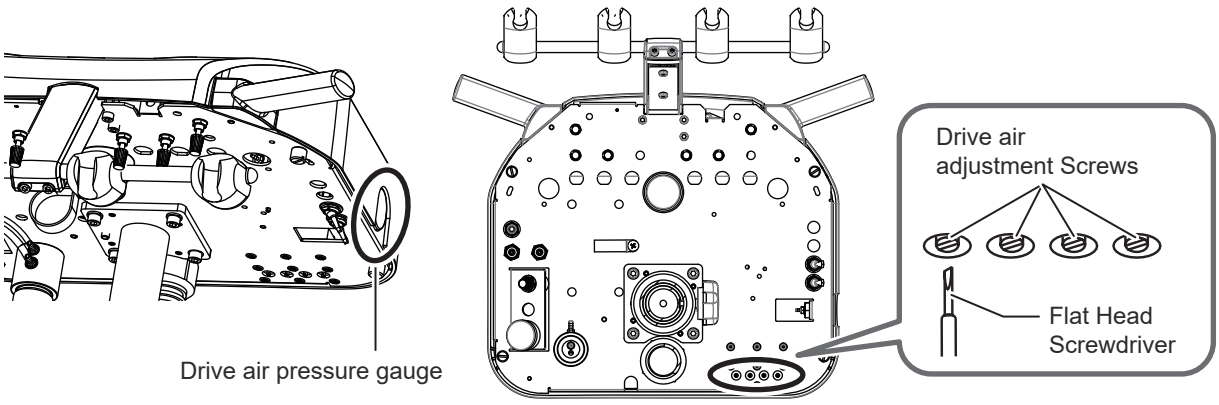



### 26-5. Drive Air

**CAUTION**

**To avoid potential damage to handpieces**
**- Never operate a handpiece without a bur in the chuck.**
**- Do not exceed manufacturers recommended pressure setting at the handpiece.**

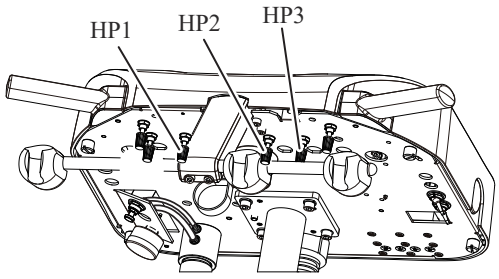
Each handpiece drive air can be adjusted by turning the drive air adjustment screw with handpiece running. Use a flat head screwdriver with a small tip to make drive air adjustments. Drive air pressure is decreased by turning the adjustment screw clockwise and increased by turning the adjustment screw counterclockwise. Drive air pressure is indicated on the handpiece pressure gauge located on the lateral side of the doctor table. Set the drive air pressure according to the instruction manual provided by the manufacturer of the handpiece.




*(Note) The reading at the pressure gauge will be approximately 5 psi (0.034MPa) higher than the actual pressure at the handpiece, due to line loss. To attain the desired handpiece pressure setting, adjust the drive air adjustment screw until the gauge pressure is 5 psi (0.034MPa) above target pressure. If the adjustment is made using a special in-line gauge attached at the handpiece connector, then set the pressure at this gauge directly, as specified by the handpiece manufacturer.*

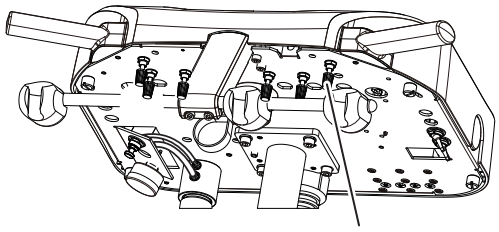
## 26-6. Coolant Water

The handpiece coolant water control knobs are located underneath the doctor table.
Each handpiece coolant water control knob is identified as number 1 to 3 from the left side HP1, HP2 and HP3.
Each handpiece coolant water volume can be controlled independently.
Flip the toggle on foot control to switch to the "wet" position. (Toggle toward inside of the foot control)
Install a bur in the handpiece to be adjusted. Step on the foot control and run the handpiece, then adjust the water coolant flow knob until a fine mist is achieved.



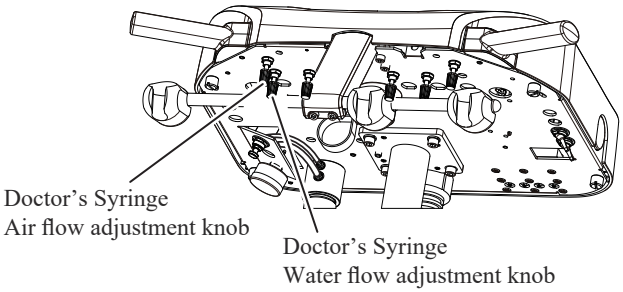

## 26-7. Coolant Air

The handpiece master control knob is located underneath the doctor table and sets coolant air for all handpieces. (Except syringe)
Adjust coolant air volume with the handpiece running until the desired flow is achieved.



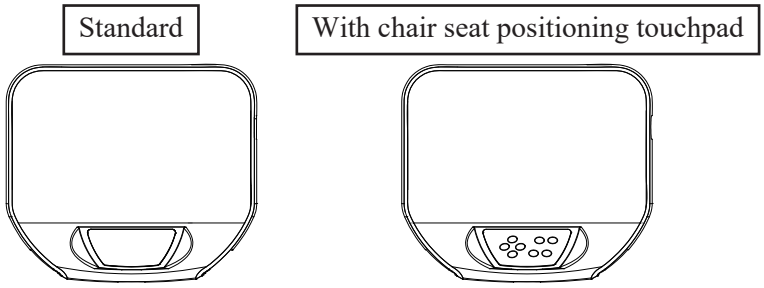

## 26-8. Doctor's Syringe

Doctor's syringe flow control knobs are located underneath the doctor table.
The yellow capped knob is the air flow adjustment knob, the blue capped knob is the water flow adjustment knob.

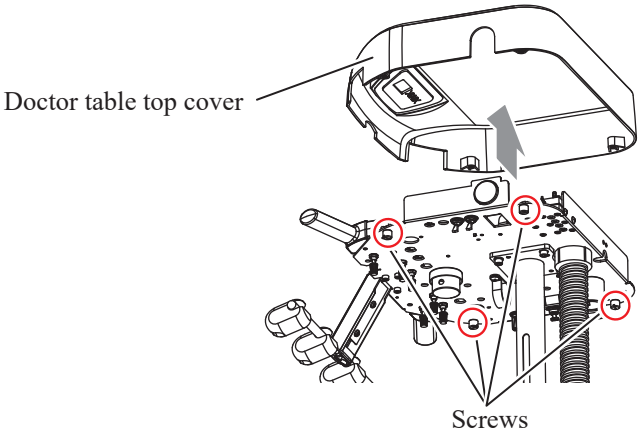


## 26-9. How to replace the standard doctor table top cover (with optional chair seat positioning touchpad)

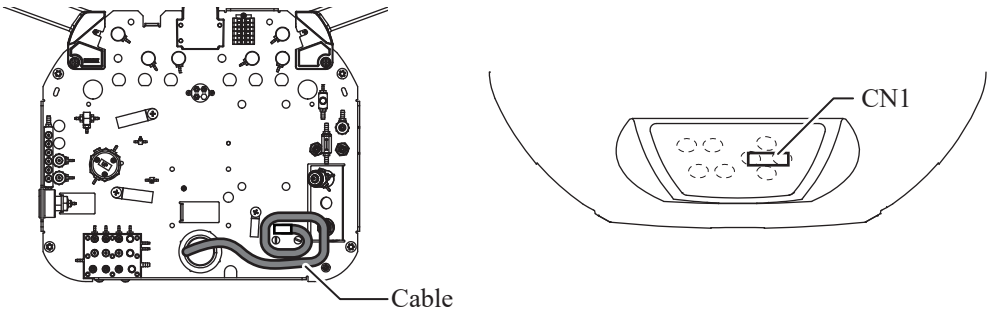
The standard Doctor Table cover can be replaced with a cover that has an integrated Belmont chair seat position touchpad.




1. Loosen the four thumb screws underneath the doctor table chassis and remove the doctor table top cover.




2. Connect the cable connector from the cart umbilical hose to the connector (CN1) on the inside of the doctor table cover that has the integrated touchpad.




3. Secure the table top cover (with chair seat positioning touchpad) by replacing the (4) thumb screws and re-tightening the cover to the chassis.

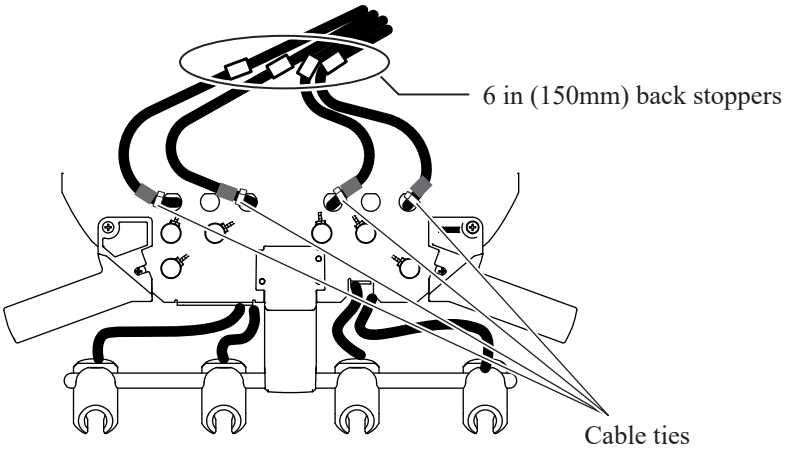
### ⚠ CAUTION

**When removing doctor table covers with integrated touchpad control for service, be careful to remove the cover slowly to prevent damage to the wire harness or integrated touchpad.**
**Harness from chair seat positioning touchpad of the table top cover is connected to the Doctor table section.**
**Do not pull the Doctor table top cover excessively. This could cause damage to the harness of the chair seat positioning touchpad.**

## 26-10. How to lengthen the handpiece hoses and syringe hose

Each hose can be lengthened 6 in (150mm).
Cut the cable ties shown below to release the stoppers,then slide them 6 inches (toward the handpiece block) then add new cable ties over the hoses on the front side of the stopper (toward handpiece holders).

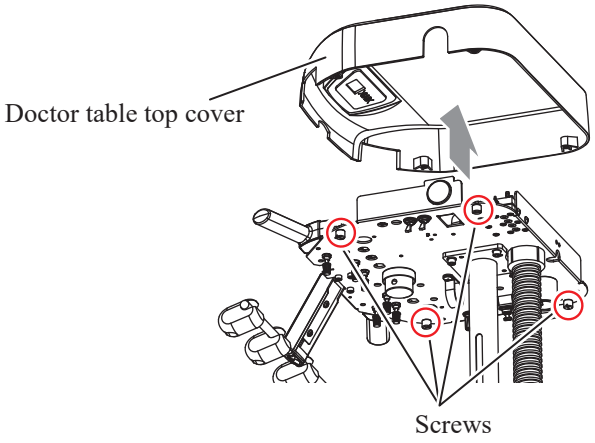
*(Note) Do not tighten cable ties too tightly or handpiece air and water can be a affected.*



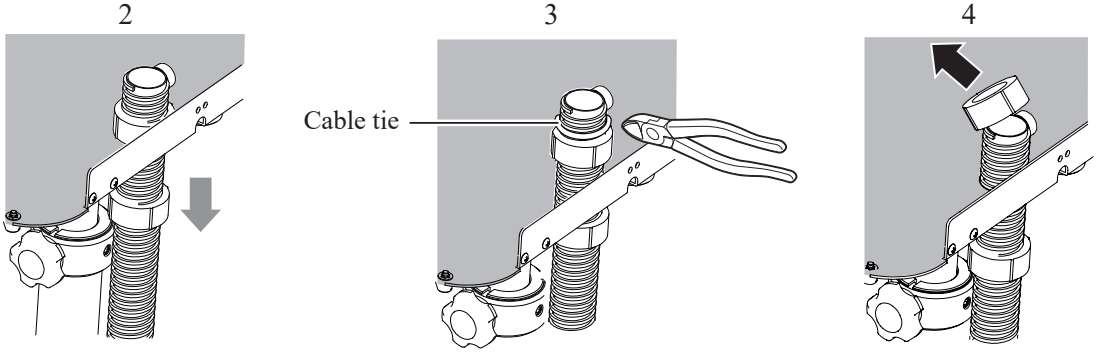

## 26-11. Replace the cart umbilical hose with an extended version

The cart umbilical hose can be replaced with an extended version (9 ft or 12 ft)

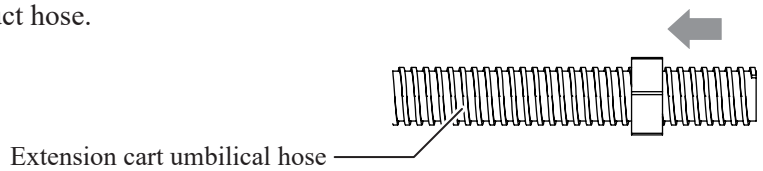
1. Loosen the four thumb screws underneath the doctor table chassis and remove the doctor table top cover.



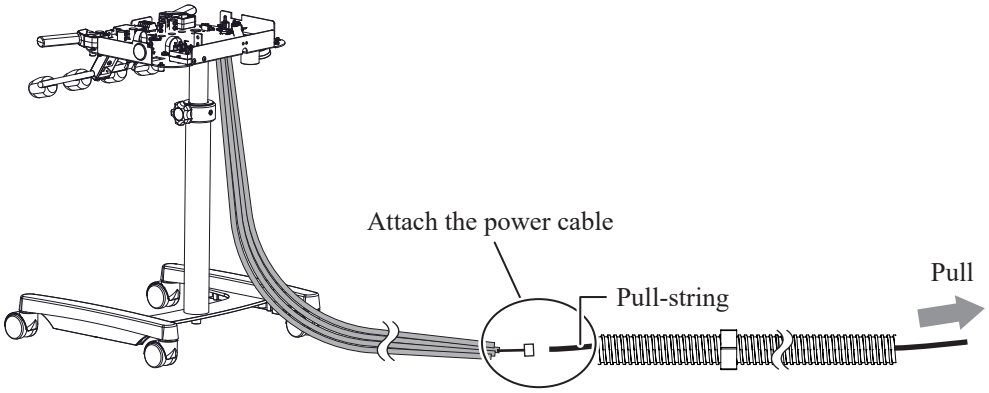

2. Shift the umbilical hose clamp underneath the doctor table chasis downward. (Dwg.2)
3. Lift the cart umbilical hose and slightly lower the hose clamp on the upper side of the table to cut the cable tie. (Dwg.3)
4. Remove the hose clamp on the upper side of the table from the cart umbilical hose. (Dwg.4)



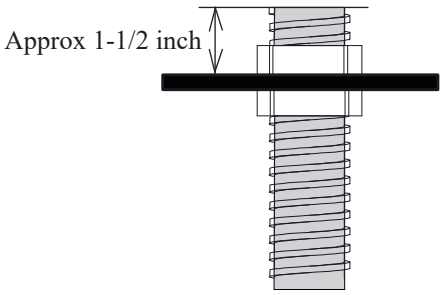
5. Carefully slide off the grey corrugated outer umbilical duct hose and leave theiinner umbilical colored tubing and wires connected.
6. Remove the hose clamp from the standard umbilical corrugated duct hose. Re-use hose clamp by placing it onto the extended umbilical duct hose.



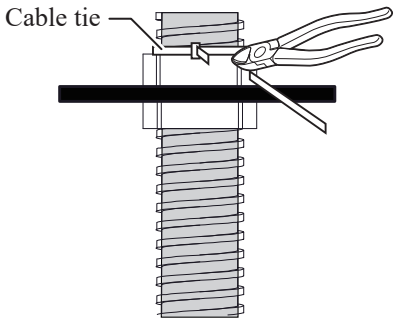

7. Attach the pull-string from the extension cart umbilical hose to the power cable, pull the string to pass the cables and tubes through the the extension cart umbilical hose, and slide it to the doctor table.




8. Insert end of extension cart umbilical hose approximately 1-1/2 inch into doctor table.
9. On the doctor table, slide hose clamp over the end of the umbilical to secure cart umbilical hose.




9. Tighten the supplied cable ties to the extension cart umbilical hose so that they are in contact with the hose clamps and cut off the excess.



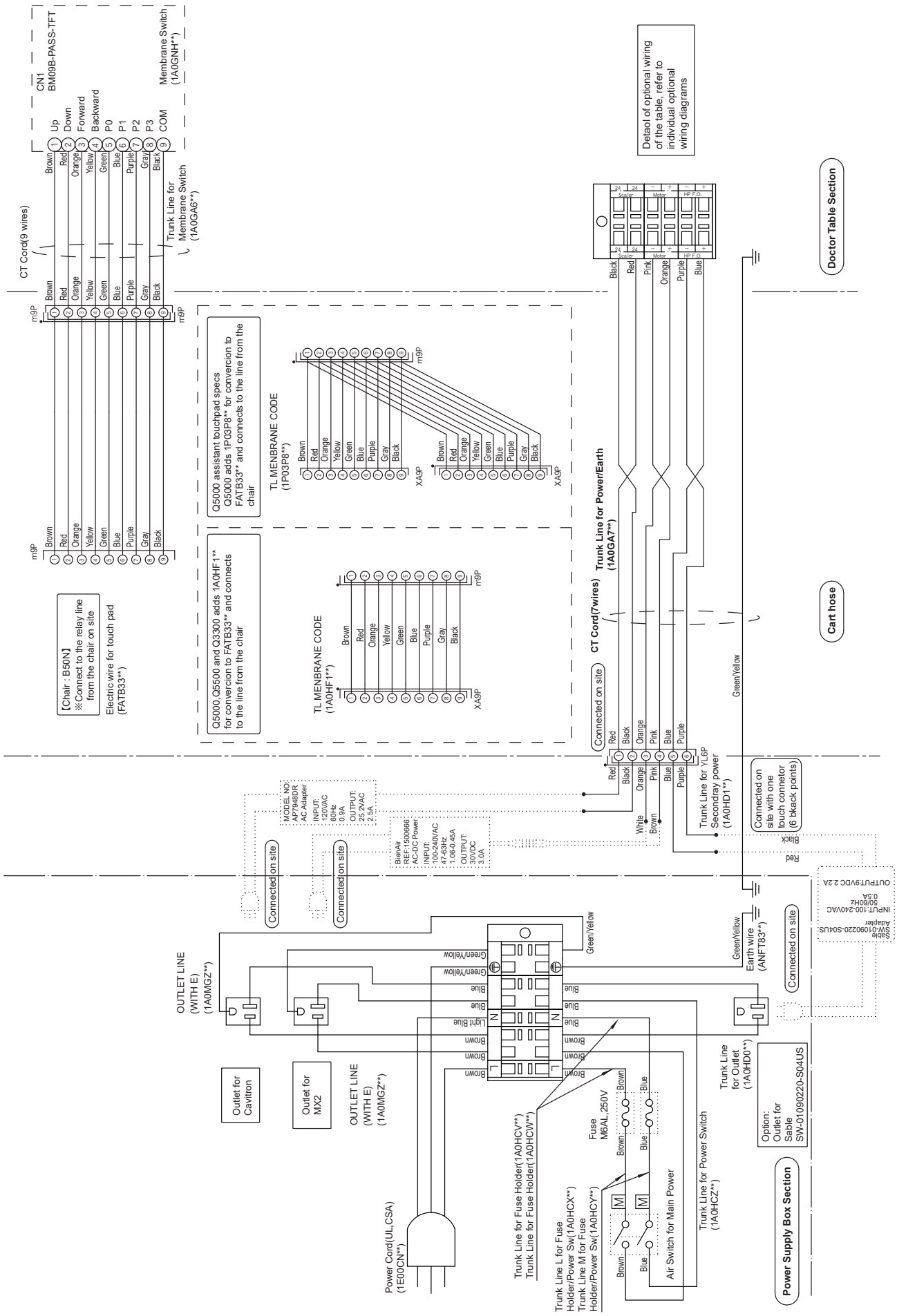

The cable ties secure the cart umbilical hose and prevent it from sliding out of the doctor table. It it important to secure the upper and lower hose clamps with cable ties.

10. Re-install the doctor table top cover and re-tighten with the (4) thumbscrews.

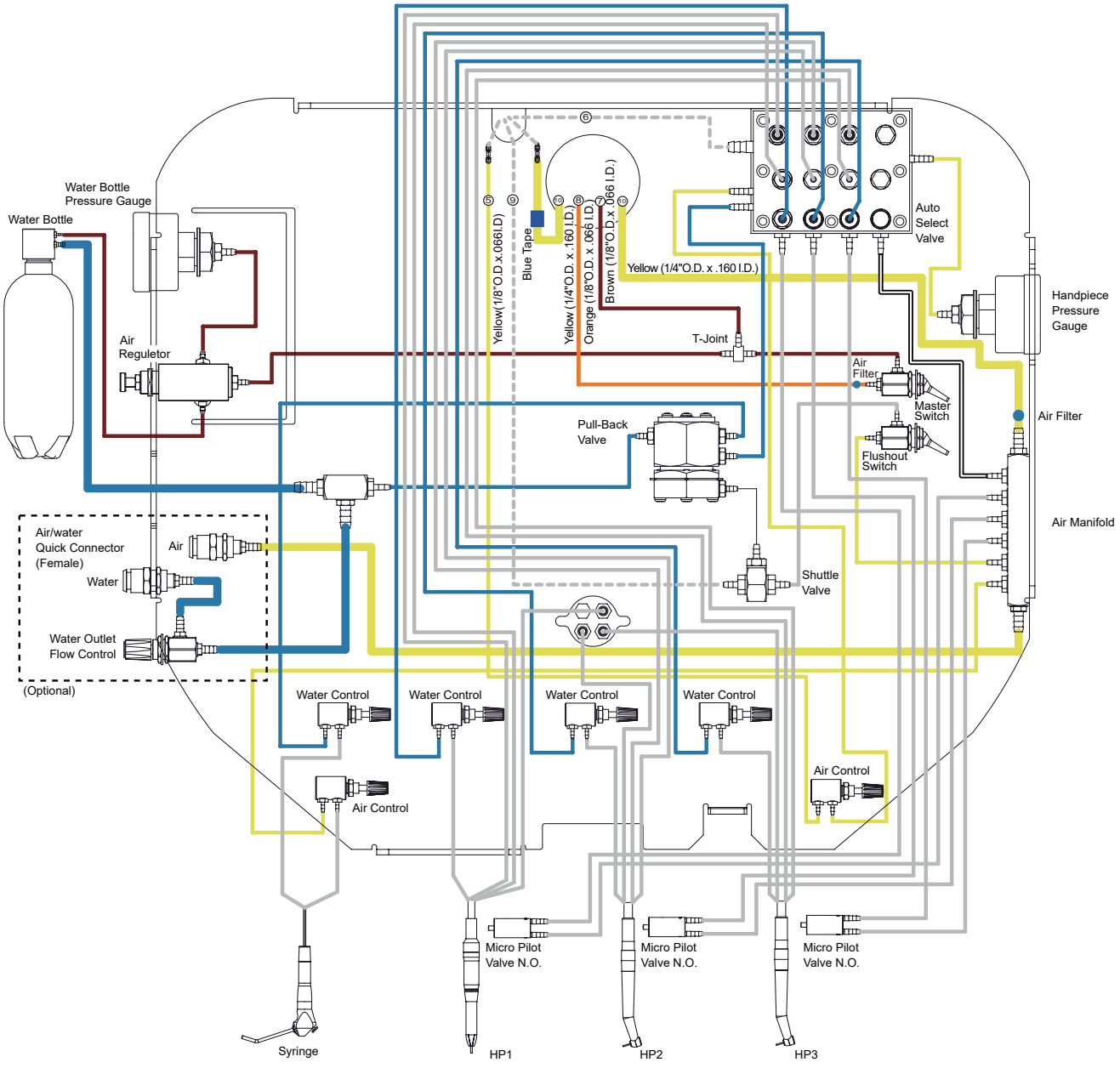
## ⚠ CAUTION

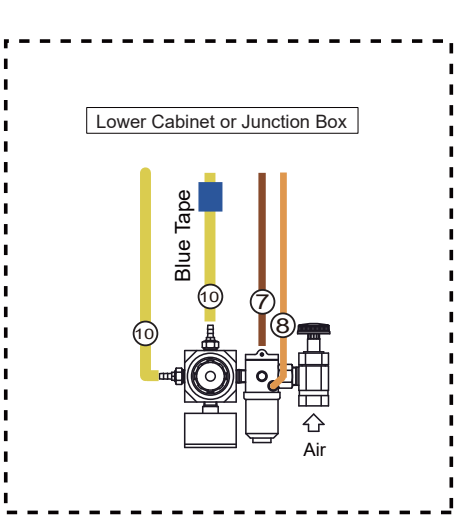
**When removing doctor table covers with integrated touchpad control for service, be careful to remove the cover slowly to prevent damage to the wire harness or integrated touchpad. Harness from chair seat positioning touchpad of the table top cover is connected to the Doctor table section.**
**Do not pull the Doctor table top cover excessively. This could cause damage to the harness of the chair seat positioning touchpad.**

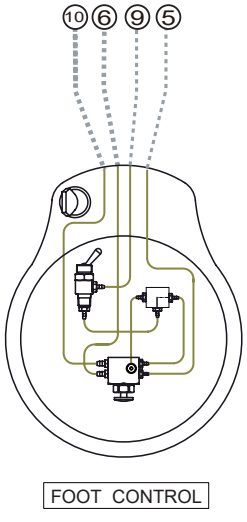
# 27. Electrical Diagram



# 28. Flow Diagram



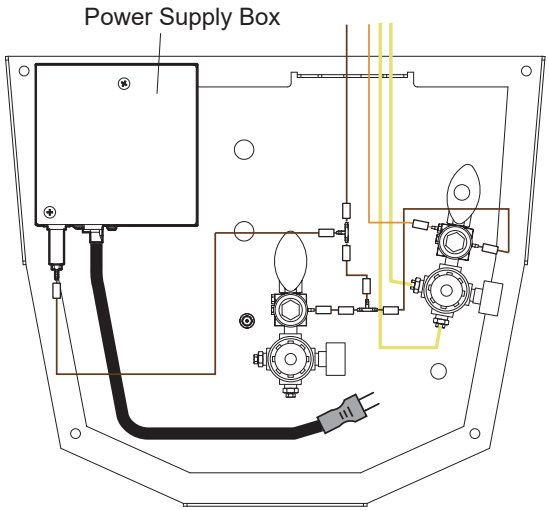



# Installation for Power Supply Box / Floor Template

## 29. Installation for Power Supply Box (Micromotor, Electric Scaler and Fiber Optic)

This power supply box is power of the micromotor, electric scaler and fiber optic.

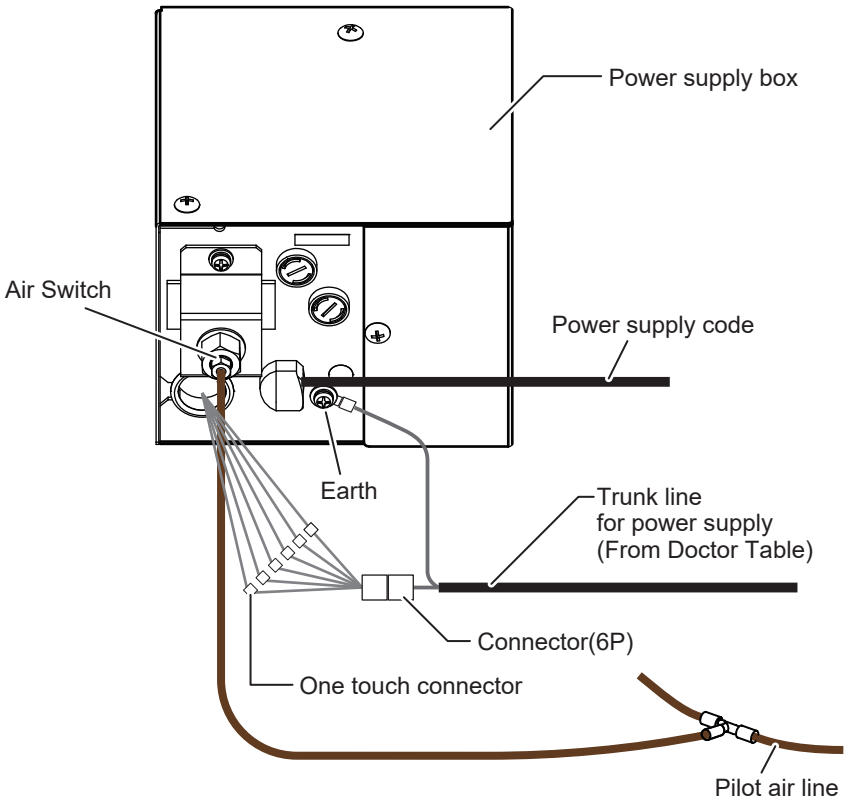
1. Place the power supply box into the junction box. Connect the power supply cable to the outlet.



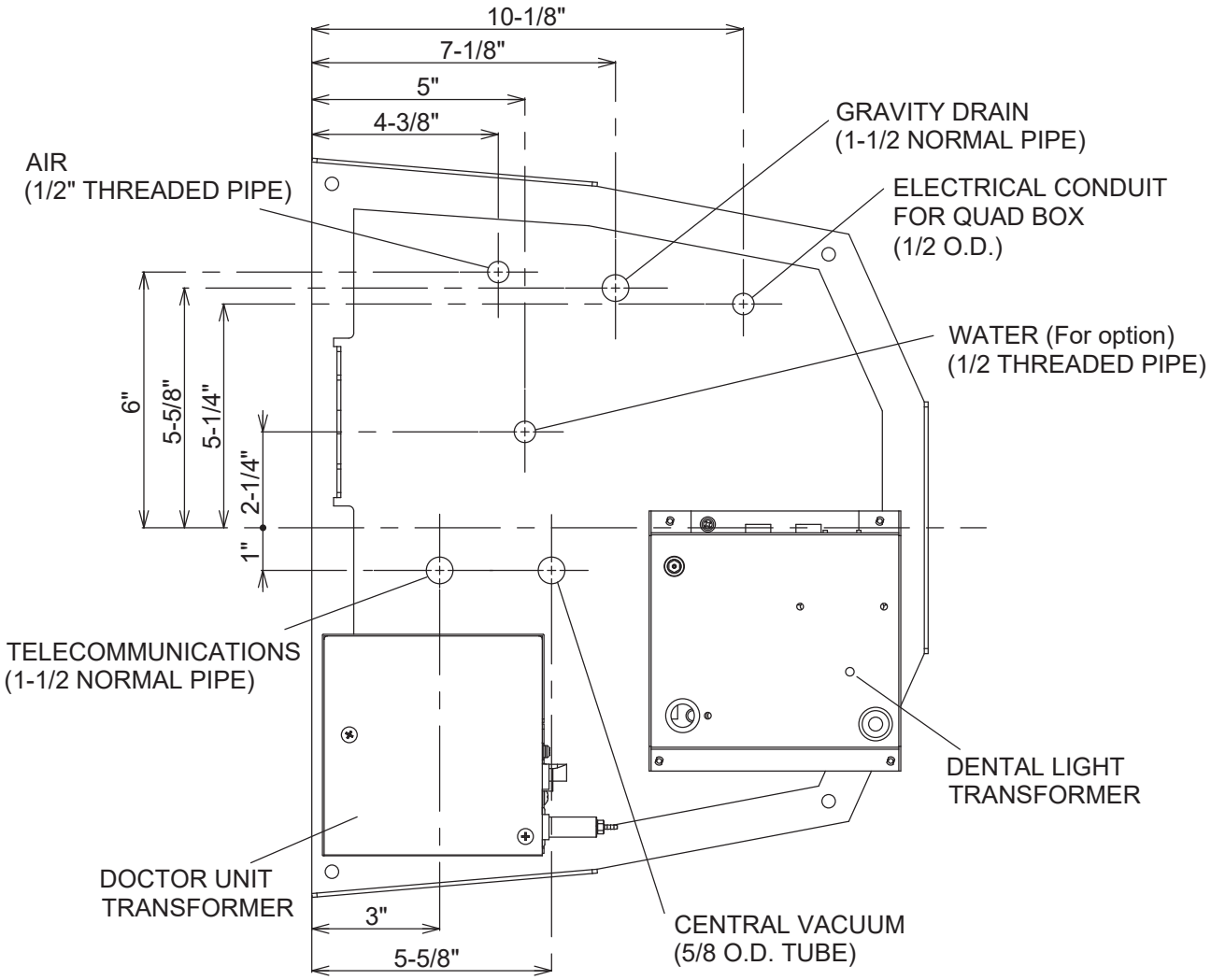

**CAUTION**

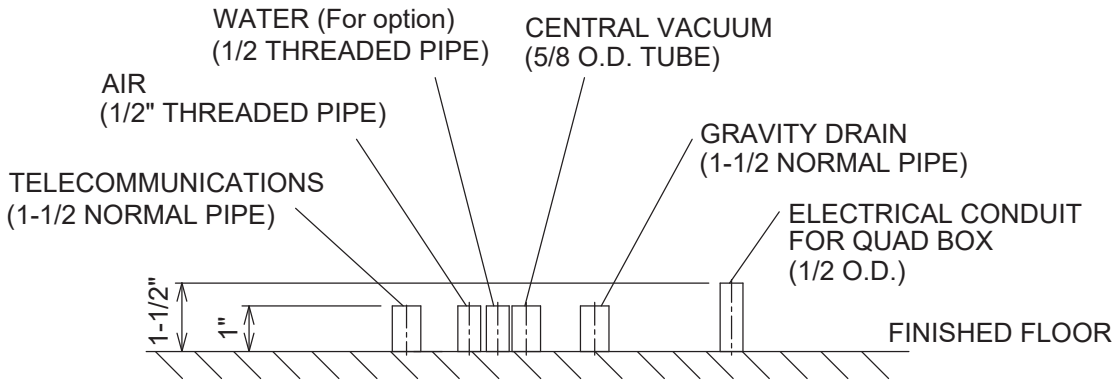
**Ground reliability can only be achieved when the equipment is connected to an equivalent receptacle marked HOSPITAL only or HOSPITAL GRADE.**

2. Connect brown tubing to the air switch of the power supply box and pilot air line with T-joint. Connect connector (6P) and earth line of the trunk line from Doctor table to the power supply box.



## 30. Floor Template




Unit：inch

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