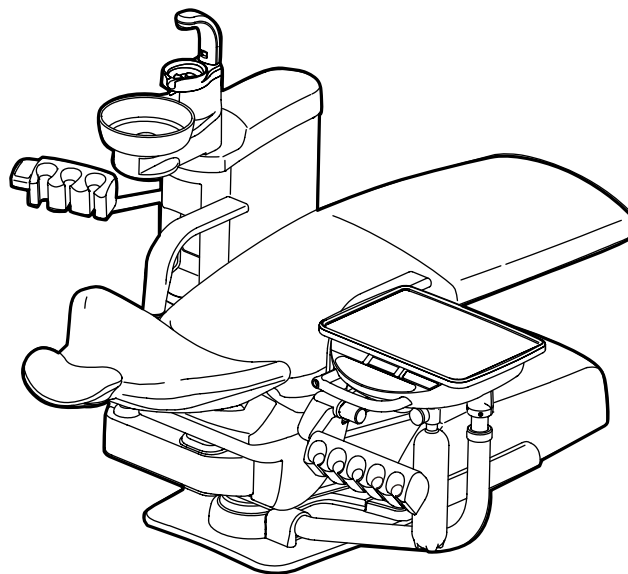


DENTAL UNIT AND CHAIR

tb COMPASS

**INSTALLATION
INSTRUCTIONS**



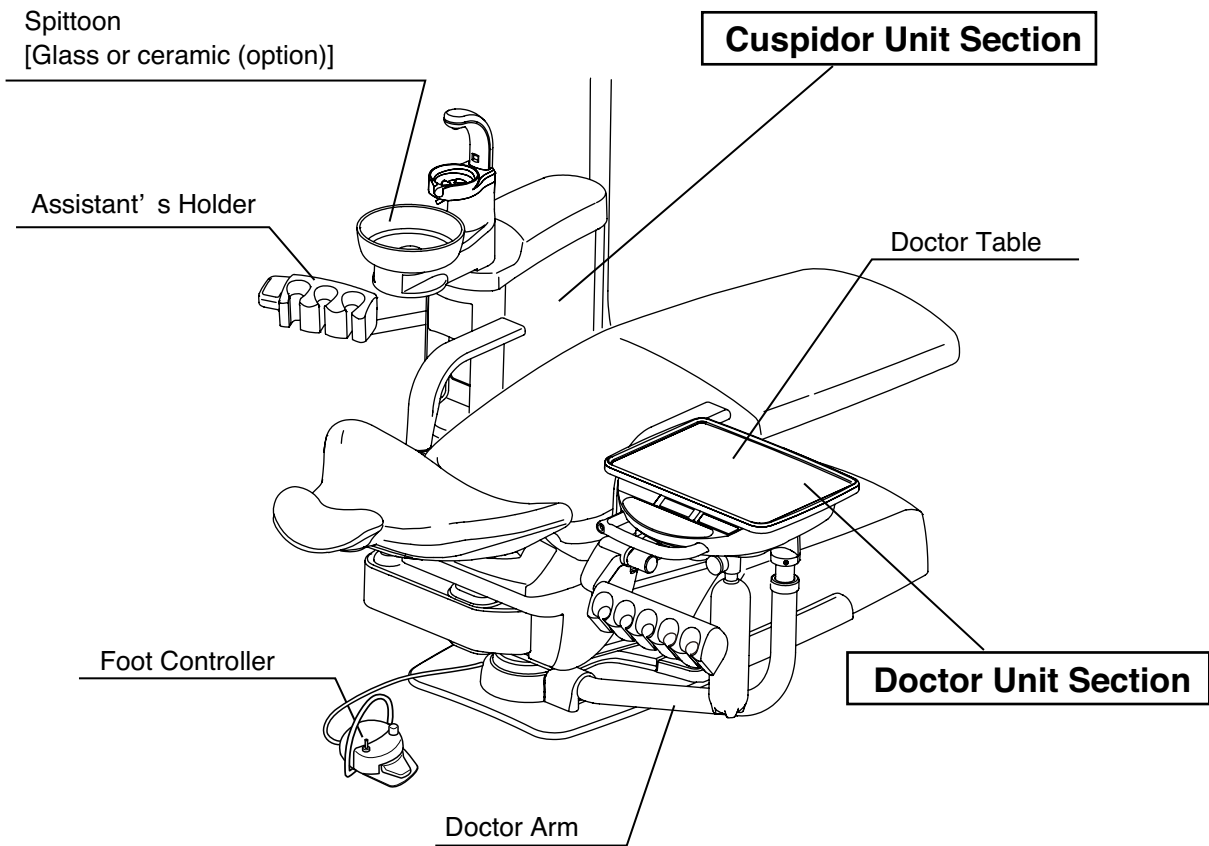
 **Belmont**

TABLE OF CONTENTS

Page

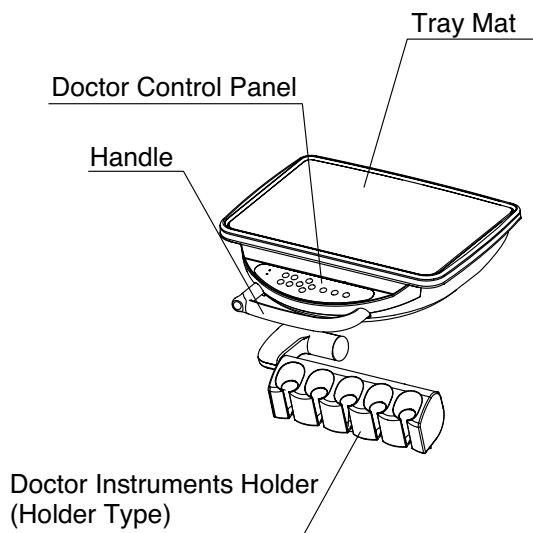
1. Overview and Major Components	1
2. Dimensions and specifications	
2-1. Standard Package.....	3
2-2. Doctor Package.....	4
2-3. Cuspidor Package.....	5
3. Pre-Installation Requirements	6
4. Precautions for Installation	8
5. Installation Instructions	
5-1. Installation Instructions for Standard Package.....	9
5-2. Installation Instructions for Doctor Package	16
5-3. Installation Instructions for Cuspidor Package	22
6. Drain Hose and Vacuum Hose Connection	28
7. Water and Air Supply Line Connection	28
8. Tubings connection	
8-1. Tubings connection for Standard Package	29
8-2. Tubings connection for Doctor Package	30
8-3. Tubings connection for Cuspidor Package.....	31
9. Electric wires connection	
9-1. Electric wires connection for Standard Package and Doctor Package	32
9-2. Electric wires connection for Cuspidor Package	33
10. Installation of Dental Light (720PAS, 820PAS, 920PAS)	34
11. Installation of Backrest and Seat	39
12. Adjustment	40
13. Chair Hydraulic Diagram	42
14. Unit Flow Diagram	
14-1. Cuspidor Unit and Junction Box Flow Diagram (Water / Air) for Standard Package	43
14-2. Doctor Table Flow Diagram (Water / Air) for Standard Package	44
14-3. Junction Box Flow Diagram (Water / Air) for Doctor Package.....	45
14-4. Doctor Table Flow Diagram (Water / Air) for Doctor Package	46
14-5. Cuspidor Unit and Junction Box Flow Diagram (Water / Air) for Cuspidor Package	47
15. Electrical Diagram	
15-1. Junction Box Section (115V)	48
15-2. Junction Box Section (220V, 230V, 240V).....	49
15-3. Doctor Table Section for Standard Package and Doctor Package.....	50
15-4. Cuspidor Section for Standard Package.....	51
15-5. Cuspidor Section for Cuspidor Package	52
15-6. Assistant PCB Module Section for Doctor Package	53
15-7. Chair Section (115V).....	54
15-8. Chair Section (220V, 230V, 240V)	55
15-9. Dental Light 720PAS (115V)	56
15-10. Dental Light 720PAS (220V, 230V, 240V)	57
15-11. Dental Light 820PAS (115V)	58
15-12. Dental Light 820PAS (220V, 230V, 240V)	59
15-13. Dental Light 920PAS (115V, 220V, 230V, 240V)	60

1. Overview and Major Components

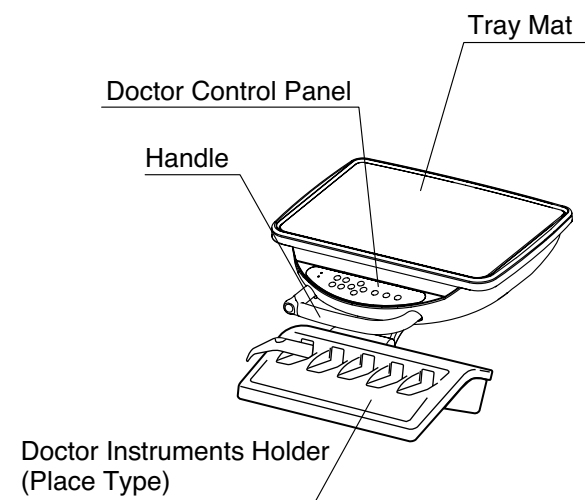


1-1. Doctor Unit Section

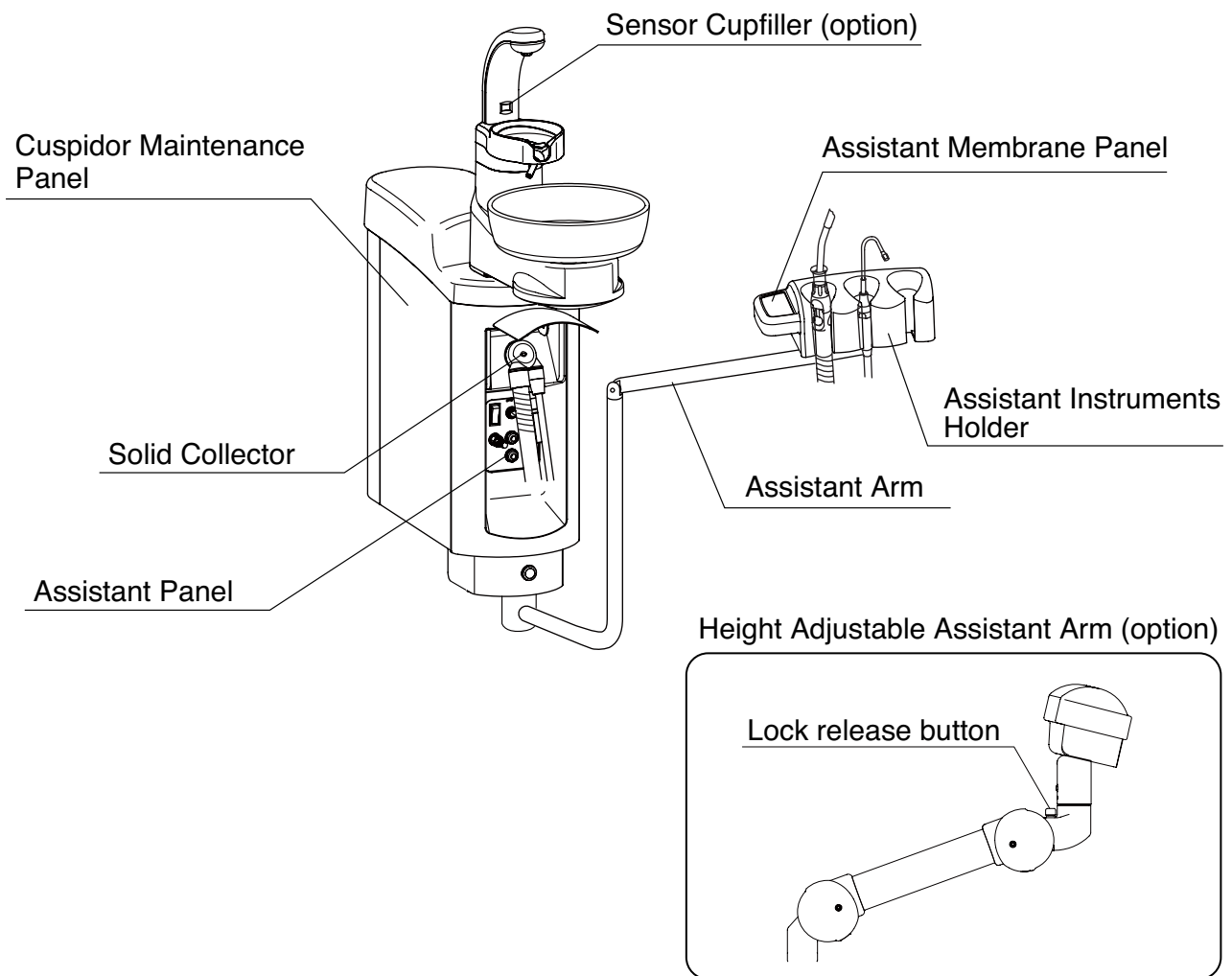
■ Holder Type



■ Place Type

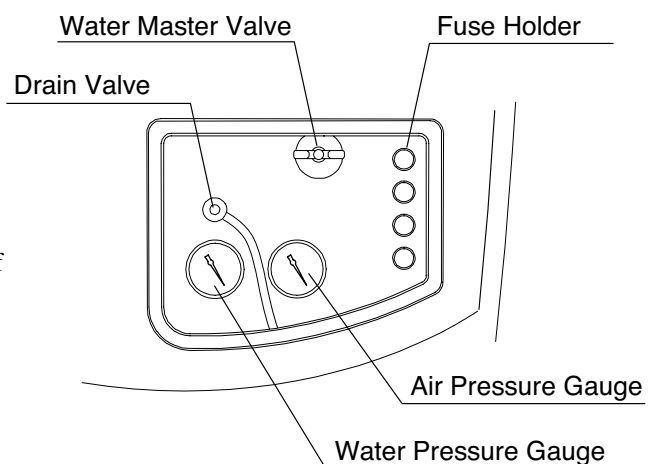


1-2. Cuspidor Unit Section



1-3. Utility Box Section

- ◆ **Water main valve (inside utility box)**
Turn clockwise to open and counter-clockwise to close.
- ◆ **Drain valve**
This valve is for draining the water in the air filter.
- ◆ **Fuse holder**
 - The main fuse of units is built-in.
 - Turn off the main switch when replacing the fuse.
 - The capacity of the fuse displays it on the left side of the fuse holder.

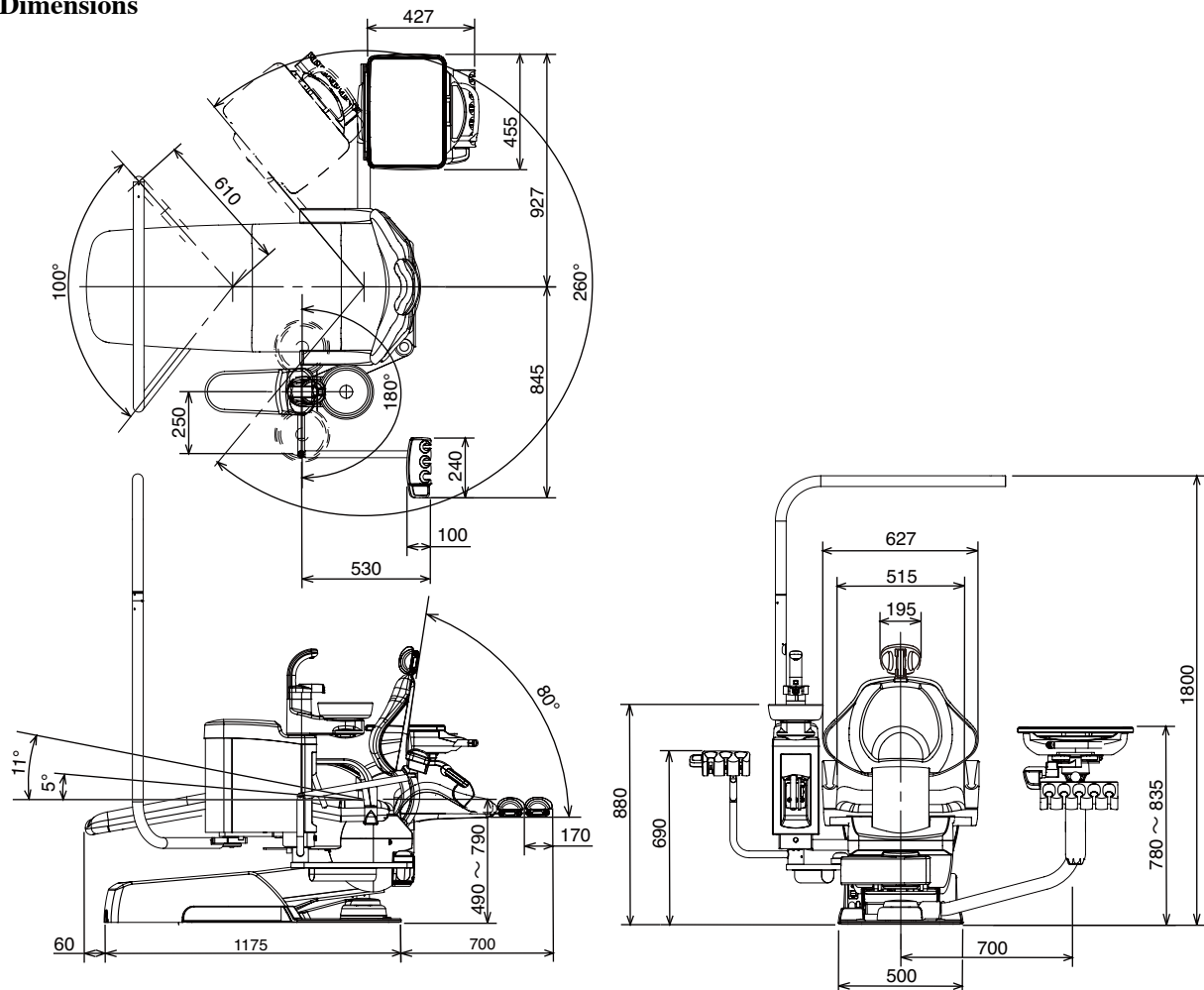


2. Dimensions and Specifications

2-1. Standard Package (Chair + Doctor Unit + Cuspidor Unit)

- **Rated power supply** : AC115V 50/60 Hz 7.7/6.3A
AC220V 50/60HZ 3.5/3.5A
AC230V 50/60HZ 3.5/3.5A
AC240V 50HZ 3.5A
- **Weight** : 185kg
- **Maximum Load** : 135kg
- **Classification of foot controller** : IPX1(applicable standard IEC60529)
- **Protection class against electric shock** : Class I equipment
- **Applied part** : type B applied part: Seat for chair,
: Handpieces for unit (List of compatible handpieces)
- **Usage environment** : **Temperature** 10 to 40°C
Humidity 30 to 75%
Air pressure 700 to 1060 hPa
- **Transportation / Storage environment** : **Temperature** -20 to +70°C
Humidity 10 to 95%
Air pressure 700 to 1060 hPa
- **Mode of operation** : **Non-Continuous Operation**
ON Time: 3min,
OFF Time: 15min

Dimensions

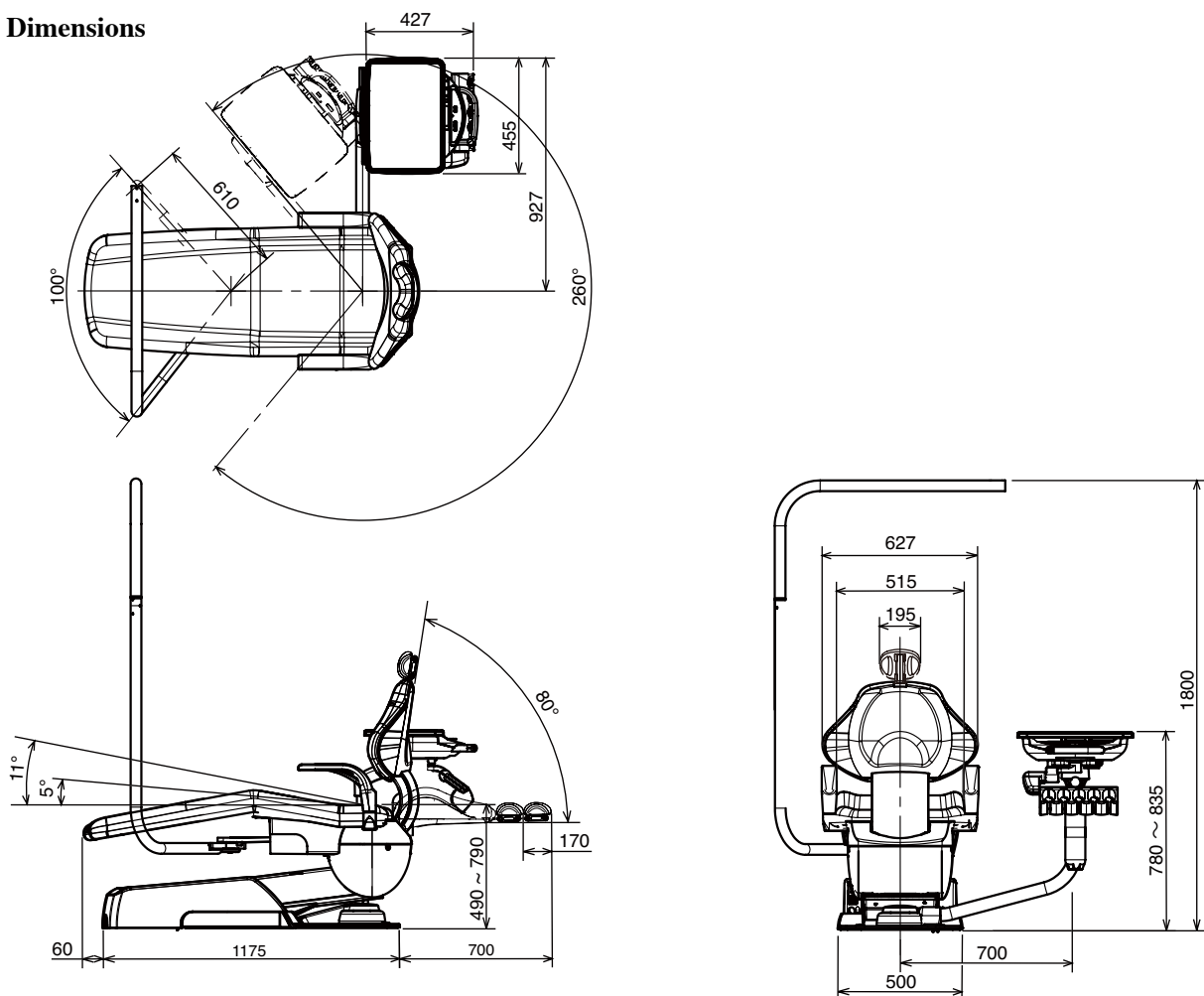


* Values are the standard values. (Unit: mm)
Dimensional tolerance: ±10%

2-2. Doctor Package (Chair + Doctor Unit)

- **Rated power supply** : AC115V 50/60 Hz 7.7/6.3A
 AC220V 50/60HZ 3.5/3.5A
 AC230V 50/60HZ 3.5/3.5A
 AC240V 50HZ 3.5A
- **Weight** : 185kg
- **Maximum Load** : 135kg
- **Classification of foot controller** : IPX1(applicable standard IEC60529)
- **Protection class against electric shock** : Class I equipment
- **Applied part** : type B applied part: Seat for chair,
 : Handpieces for unit (List of compatible handpieces)
- **Usage environment** : **Temperature** 10 to 40°C
 Humidity 30 to 75%
 Air pressure 700 to 1060 hPa
- **Transportation / Storage environment** : **Temperature** -20 to +70°C
 Humidity 10 to 95%
 Air pressure 700 to 1060 hPa
- **Mode of operation** : **Non-Continuous Operation**
 ON Time: 3min,
 OFF Time: 15min

Dimensions

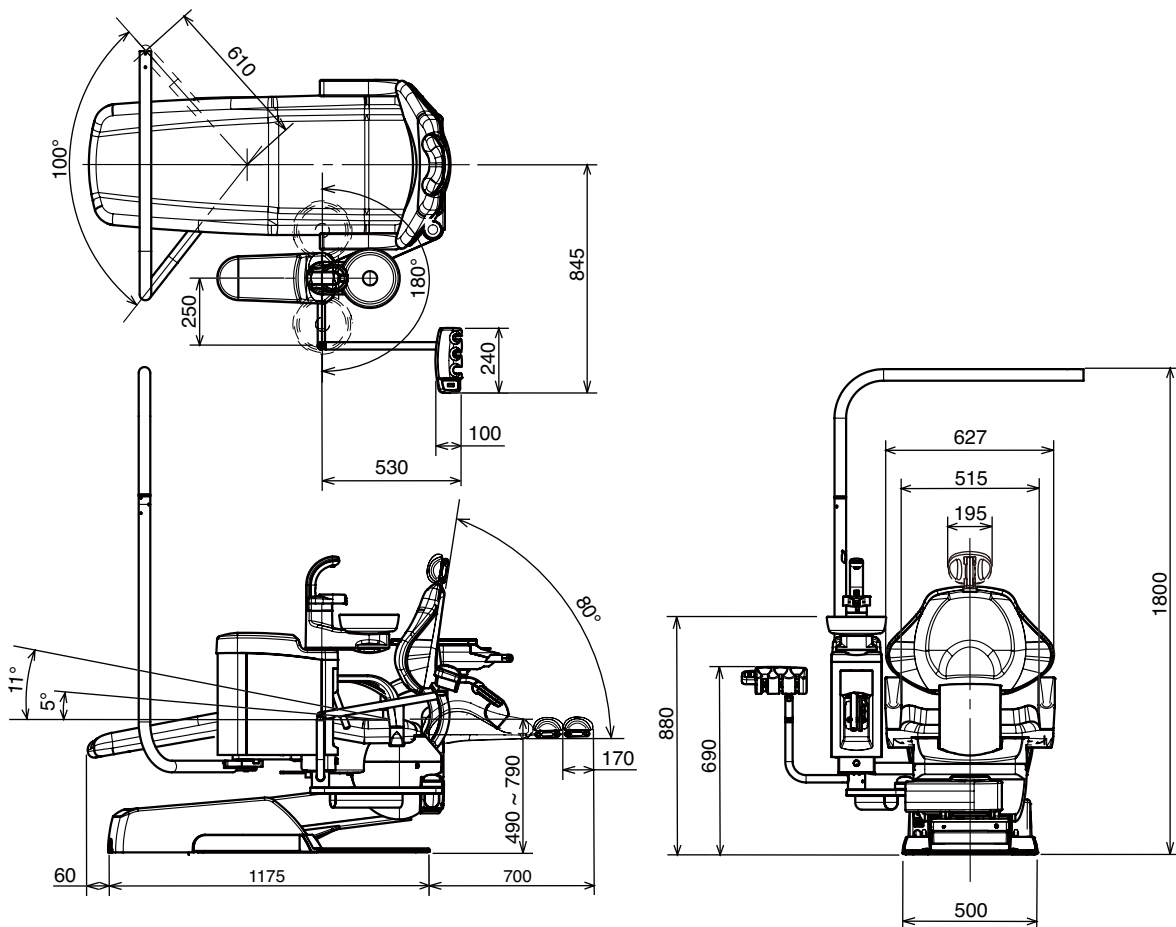


* Values are the standard values. (Unit: mm)
 Dimensional tolerance: $\pm 10\%$

2-3. Cuspidor Package (Chair + Cuspidor Unit)

- **Rated power supply** : AC115V 50/60 Hz 7.7/6.3A
AC220V 50/60HZ 3.5/3.5A
AC230V 50/60HZ 3.5/3.5A
AC240V 50HZ 3.5A
- **Weight** : 185kg
- **Maximum Load** : 135kg
- **Classification of foot controller** : IPX1(applicable standard IEC60529)
- **Protection class against electric shock** : Class I equipment
- **Applied part** : type B applied part: Seat for chair,
: Handpieces for unit (List of compatible handpieces)
- **Usage environment** : Temperature 10 to 40°C
Humidity 30 to 75%
Air pressure 700 to 1060 hPa
- **Transportation / Storage environment** : Temperature -20 to +70°C
Humidity 10 to 95%
Air pressure 700 to 1060 hPa
- **Mode of operation** : Non-Continuous Operation
ON Time: 3min,
OFF Time: 15min

Dimensions



* Values are the standard values. (Unit: mm)
Dimensional tolerance: ±10%

3. Pre-Installation Requirements

3-1. General requirements

- 1) The contractor is to supply the necessary service and materials to complete the installation of the satisfaction of the dentists and the installation engineer.
- 2) This includes the supply and installation of the electric power supply cables with main isolating switch and fuses, air supply piping, water supply piping, suction piping including vacuum pump and its control wires and drain piping as noted on the installation diagrams.

3-2. Setting requirements

- 1) The tbCOMPASS dental unit comprises a Chair section, Cuspidor section, Doctor unit section and Light section.
- 2) The tbCOMPASS should be sited taking into consideration the position of the drain pipe.
Refer to Fig.3-1.
- 3) The place on which the tbCOMPASS (approx. 185 kg) is set must have an endurance force of 500kg/m².
- 4) The installation position of the tbCOMPASS chair is shown in Fig.3-1. as recommended example.

3-3. Piping and plumbing requirements

- 1) All pipings and conduits for cables are to be laid down under the floor and to come out from the floor.
- 2) The installation position and height from the floor of each pipe and cable conduit are shown in Fig.3-1.
- 3) The recommended sizes, materials and end piece are shown in Table-1.
Note : The suction pipe and drain pipe should be laid under the floor with an inclination of 1/200 - 1/400.
- 4) All Piping should be arranged to avoid 90° bends where possible.

3-4. Air supply requirements

- 1) Compressed air to be supplied should be filtered.
Dirty and moisture contaminated air may cause trouble in unit air system.
- 2) Air Pressure
Regulate the outlet air pressure of the compressor to the utility section at 0.5 - 0.7Mpa(5.0 - 7.0kg/cm²) and the air pressure should be kept higher than 0.5 Mpa (5kg/cm²) at any time.
- 3) Compressed Air Supply Capacity
Compressed air supply capacity is at least 100 l/min. (Central Vacuum type)

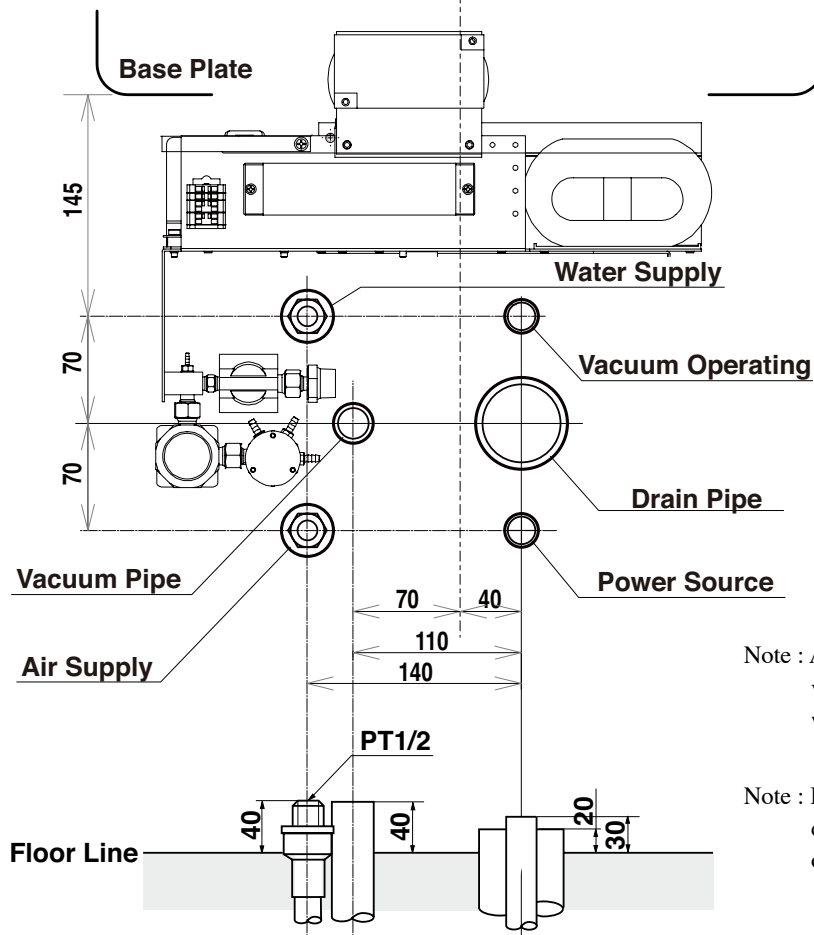
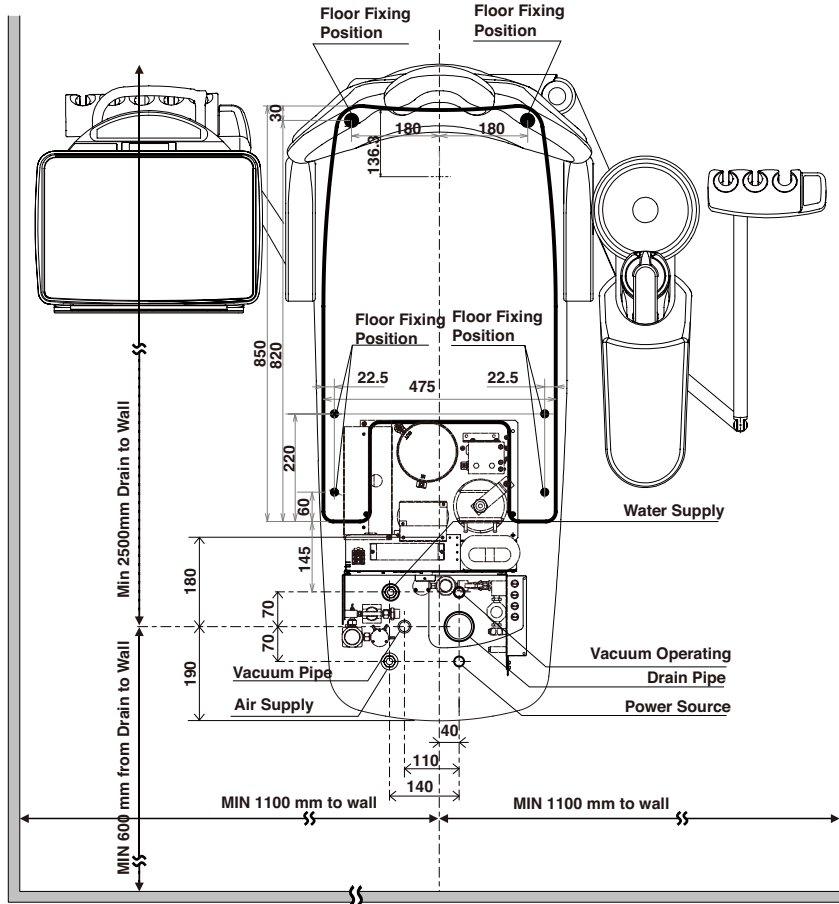
3-5. Water supply requirements

- 1) The supply water should be clean.
Dirty water may cause trouble in unit water line.
- 2) Water Pressure
Between 0.2 - 0.4Mpa(2.0 - 4.0 kg/cm²) Water pressure in utility section is required for operating unit efficiently at any time.
- 3) Water Supply Capacity
Water supply capacity is at least 6 l/min.

3-6. Electric supply requirements

- 1) The connection of power supply cable is to be carried out in accordance with the local electric regulation.
- 2) Rating of supply voltage and power consumption
115V Type Single Phase 50/60 Hz : 15 A
220/230 Type Single Phase 50/60 Hz : 10 A
240V Type Single Phase 50 Hz : 10 A
- 3) Power supply line should be provided with fuses or circuit breaker in accordance with power consumption.
- 4) The earth wire (ground wire) should be provided in the utility section.
- 5) All cables should have at least 500mm surplus from the floor so that they are long enough to be connected with the terminals in the utility section.

Fig.3-1. Installation Position and Plumbing Layout (Central Vacuum Type)



Note : Air vacuum type does not need vacuum pipe, vacuum operating wires and conduit.

Note : Doctor package does not need drain pipe, vacuum pipe, vacuum operating wires.

Table -1 The Recommended sizes, materials and end piece of pipes

Item	Material	Size	End Piece
Compressed Air Supply Pipe	Shock Resistance P.V.C. Pipe HI-13	Out. Dia. 18mm In. Dia. 13mm	PT1/2
Water Supply Pipe	Shock Resistance P.V.C. Pipe HI-13	Out. Dia. 18mm In. Dia. 13mm	PT1/2
Suction Pipe	P.V.C. Pipe VP-20	Out Dia. 26mm IN. Dia. 20mm	
Drain Pipe	P.V.C. Pipe VP-50	Out. Dia. 58mm In. Dia. 50mm	
Power Supply Cable Conduit	P.V.C. VE-16	In. Dia. 16mm	
Vacuum Control Wire Conduit	P.V.C. VE-16	In. Dia. 16mm	

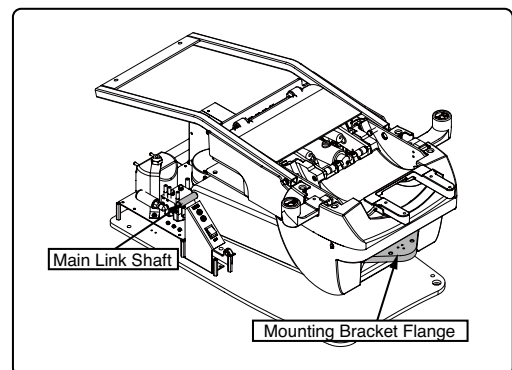
Note : The suction pipe and drain pipe should be laid under the floor with an inclination of 1/200 - 1/400.
Air vacuum type does not require suction pipe, vacuum control wire and its conduit.

4. Precautions for Installation

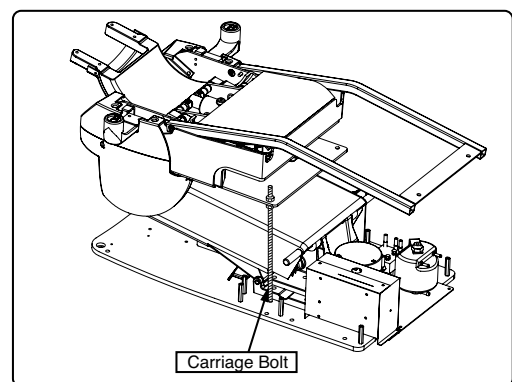
1. During lifting and unpacking of the chair, make sure to hold only the designated parts. If not, it may lead to physical injury or property damage.

Remove the chair section by holding the parts as follows.

- Main link shaft
- Mounting bracket flange



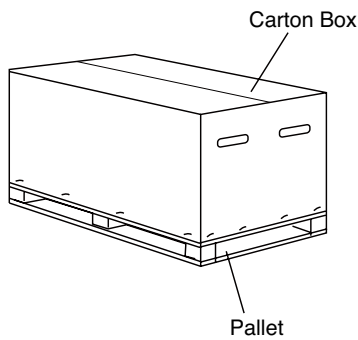
2. Confirm that the carriage bolt is tightened before carry the chair
3. Take care not to topple the equipment during transportation.
4. Do not drop or hit the product.
5. Make sure that the floor plumbing construction is done properly.
6. Before install the junction box section, open the supply valves and flush out dust and ships in the pipings.
7. Make sure that the floor plumbing construction is done properly.
8. Chair must be fixed to the floor with bolts to prevent from falling down.
9. Do not connect the power supply other than rated voltage.
10. Properly connect ground wires.
11. Adjust the leveling of the chair base plate, avoid the swing its self of the doctor table and the dental light.
12. When the installation process has been completed, Check water leaks, air leaks, verify that all the mechanical and electrical functions are working properly.



5. Installation Instructions

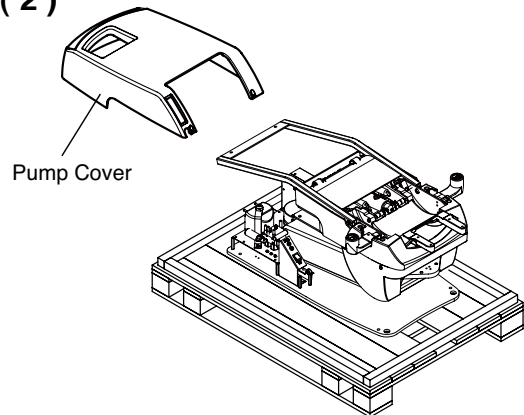
5-1. Installation Instructions for Standard Package

(1)



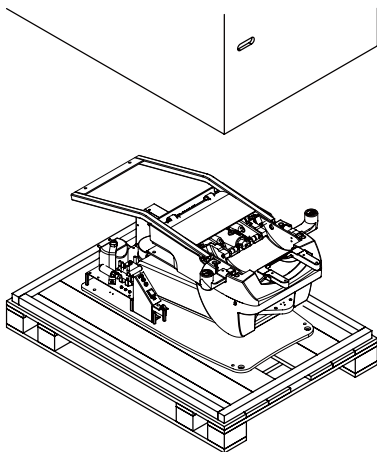
Remove all the staples fixing the carton box to the pallet and remove the carton.

(2)



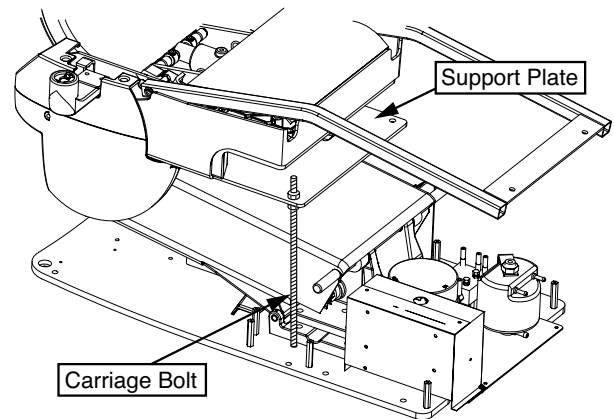
Remove the pump cover.

(3)



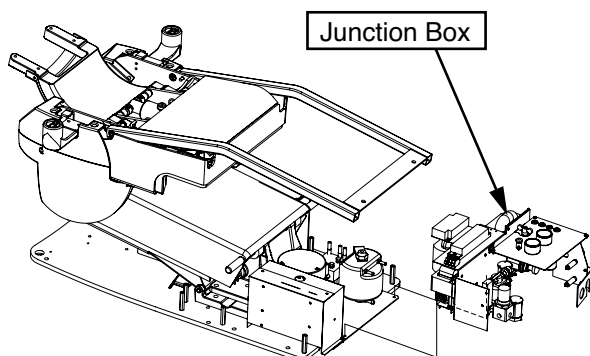
Remove wood screws from the base.
Remove the base section from the pallet and place it at the planned location.

(4)



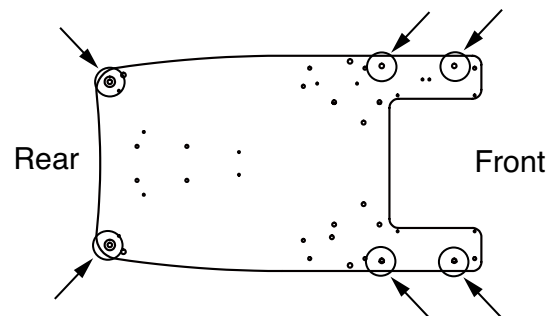
Before lift the chair by upper structure, remove the carriage bolt and support plate from the chair.

(5)



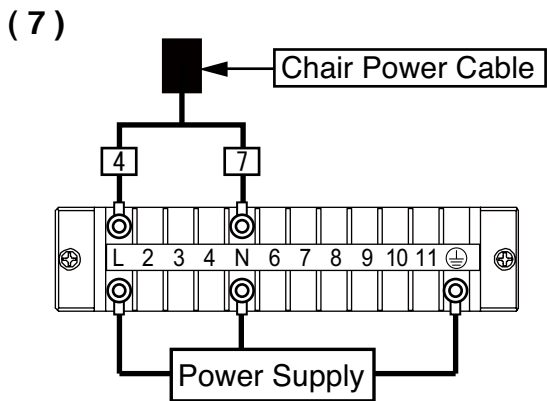
Fix the junction box to the chair base plate with M5 x 10 (2pcs.) screws

(6)

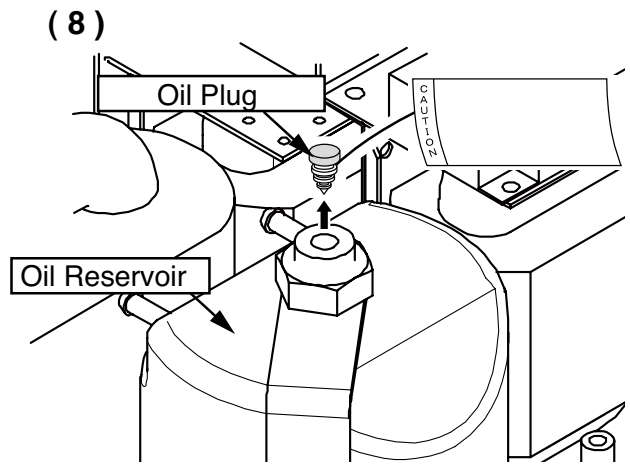


Fix the base on the floor with M6 x 50 (6 pcs) coach bolts.

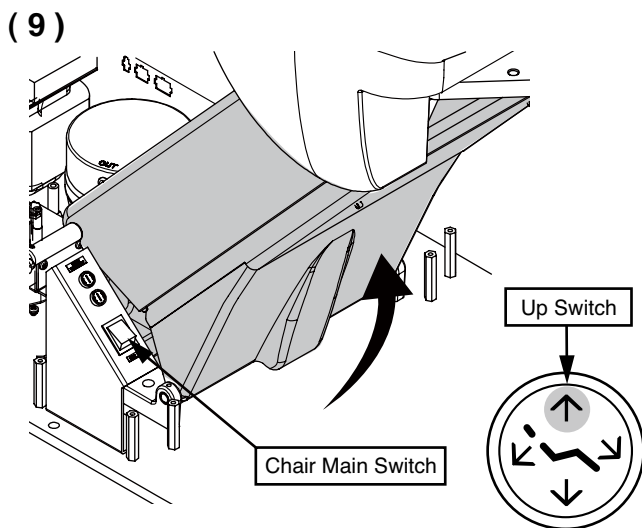
*Chair must be fixed to the floor with bolts to prevent from falling down when installing the unit.



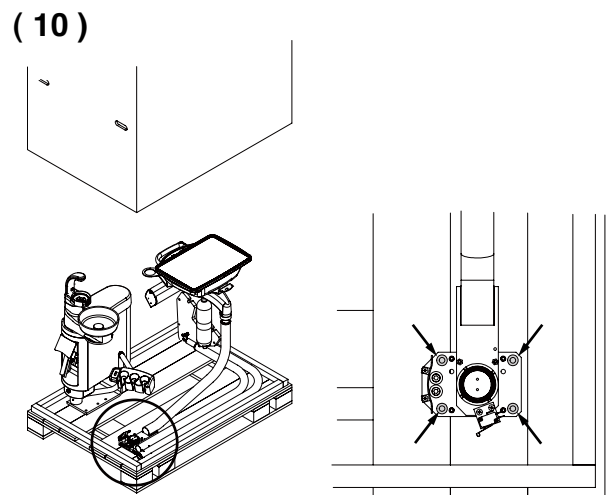
Connect the power supply line from floor to terminal block L, N and earth in the junction box. Then temporary connect the chair power cable to the terminal block L and N as shown on the above figure.



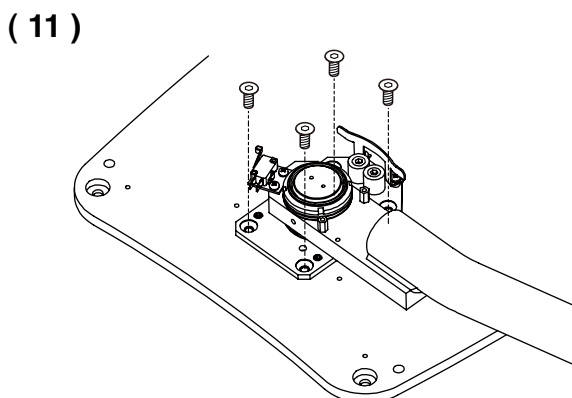
Remove the red tagged oil plug from the oil reservoir.



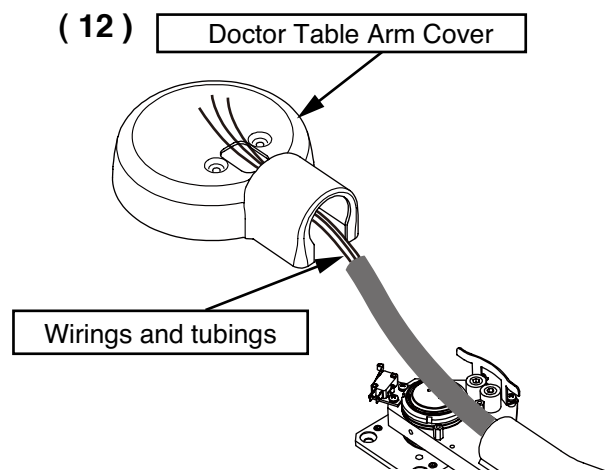
Turn on the chair main switch. Lift up the upper structure by the foot switch to the highest position.



Remove all wood screws fixing the carton to the pallet and lift up to remove the carton. Hold the doctor table unit and remove a doctor table fixing cap bolts (M8 - 15).

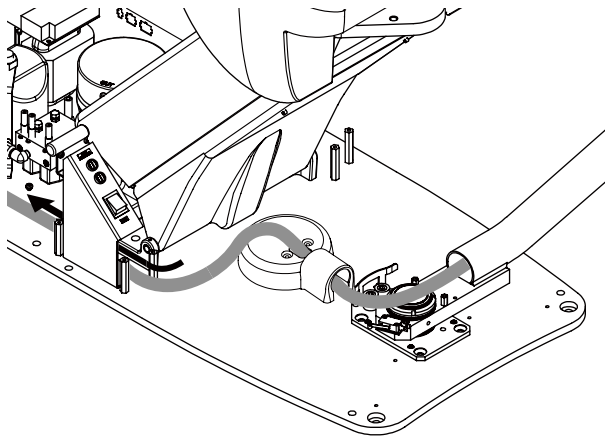


Fix the doctor table to the chair base plate with four flat head screws (M8 x 15).



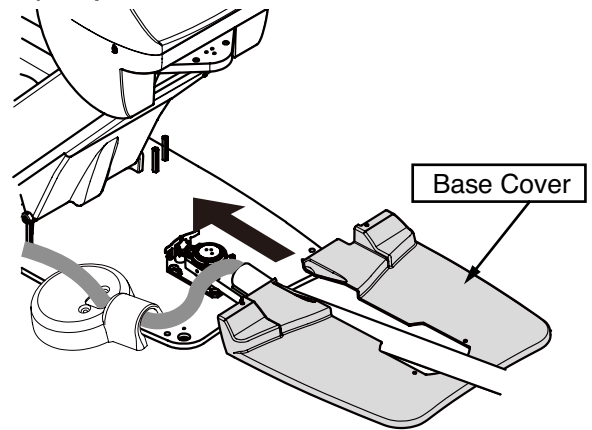
Through the wirings and tubings of the doctor table to the doctor table arm cover.

(13)



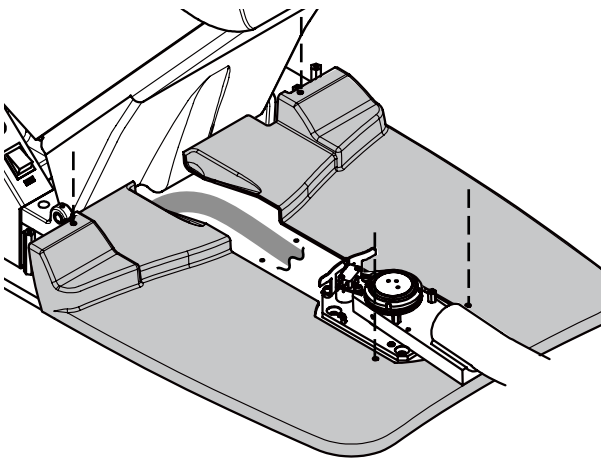
Pass the wirings and tubings through the junction side from under chair power switch.

(14)



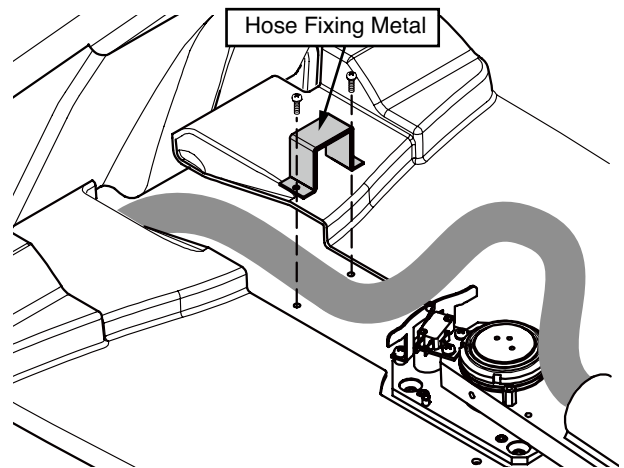
Move the doctor table arm to twelve o'clock. Insert the base cover under the doctor table arm and put it on the base plate.

(15)



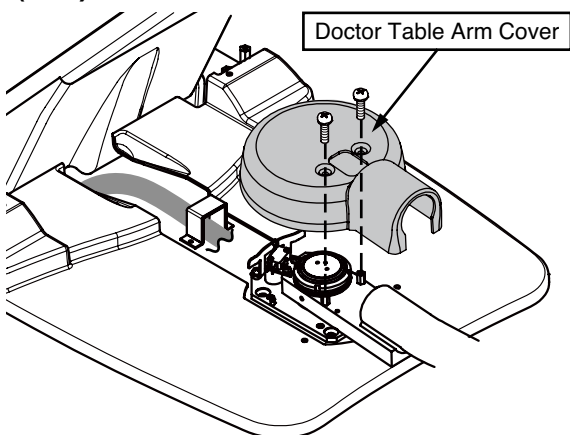
Fix the base cover to the base plate with four pan head screws (M5 x 10).

(16)



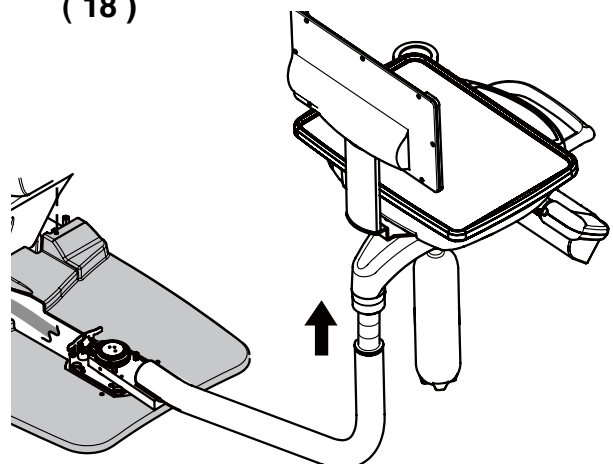
Fix the hose fixing metal to the base plate with two pan head screws (M5 x 10).

(17)



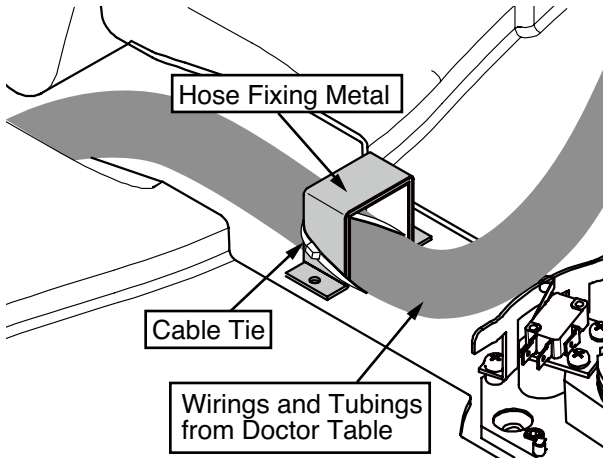
Fix the doctor table arm cover to the doctor table arm with two pan head screws (M5 x 10).

(18)



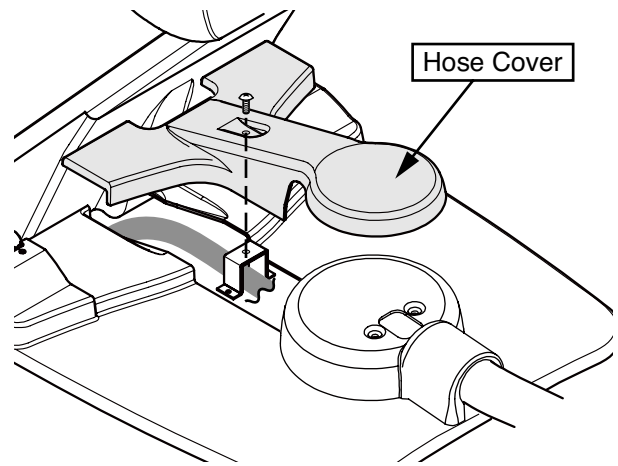
Move the doctor table arm to twelve o'clock. Pull up the doctor table to highest position.

(19)



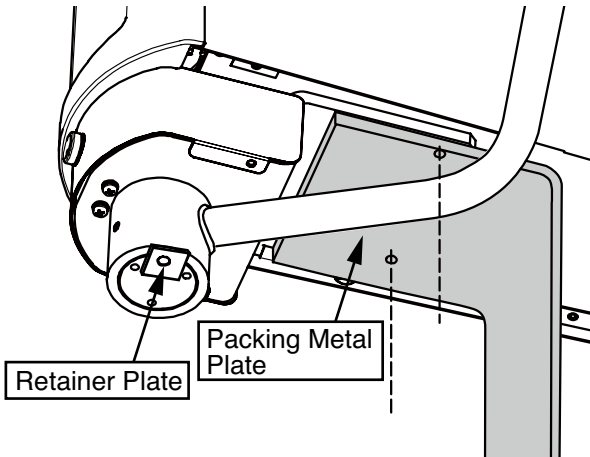
Fix the wirings and tubings of the doctor table to the hose fixing metal with cable tie.

(20)



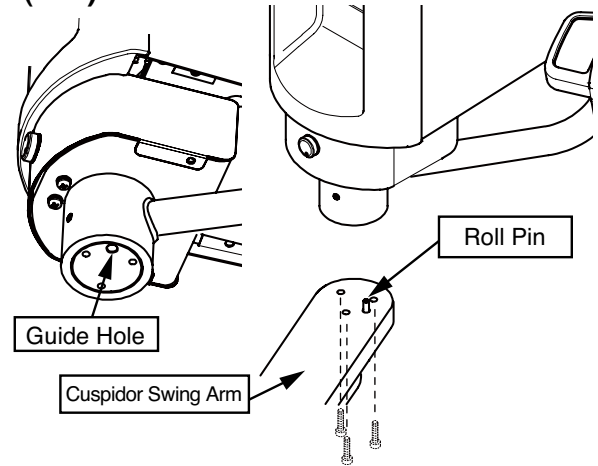
Fix the hose cover to the hose fixing metal with truss screw (M4 x 12 white).

(21)



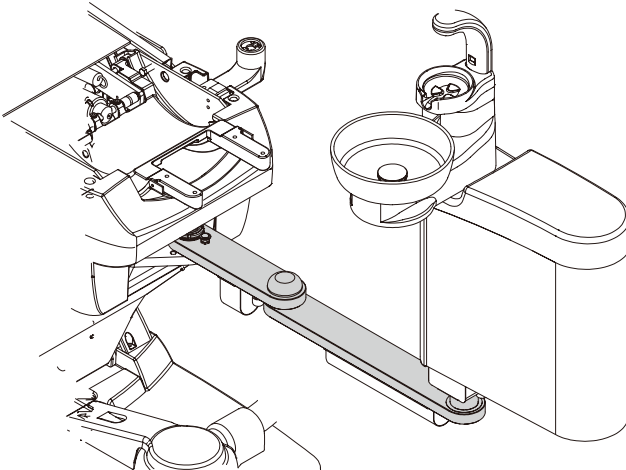
Remove the retainer plate from bottom of the assistant arm shaft and hold it. Remove the cuspidor portion from the packing metal plate.

(22)



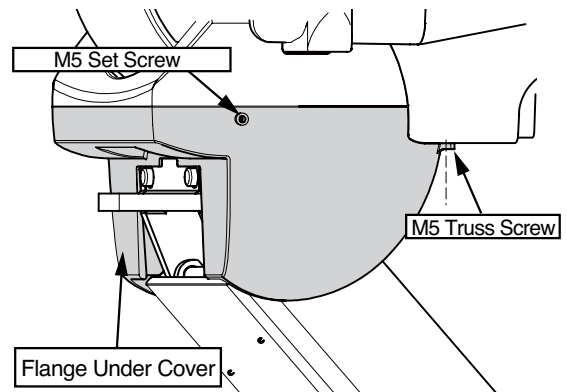
Set the guide hole of the assistant arm shaft to the roll pin of the cuspidor swing arm. Fix the cuspidor portion to the cuspidor swing arm with three cap bolts (M6 x 25).

(23)



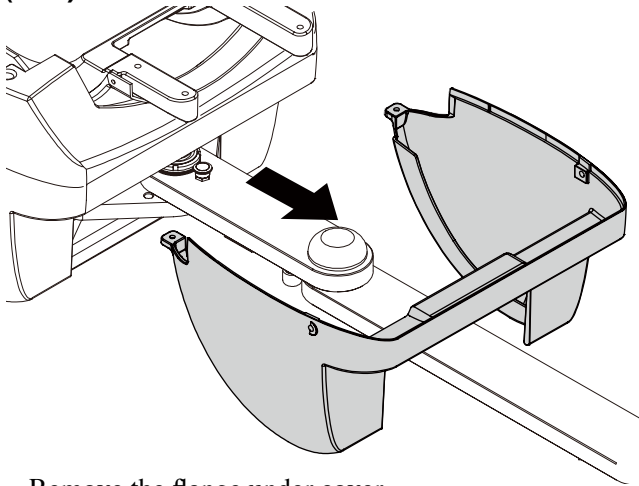
Move the cuspidor portion to twelve o'clock.

(24)



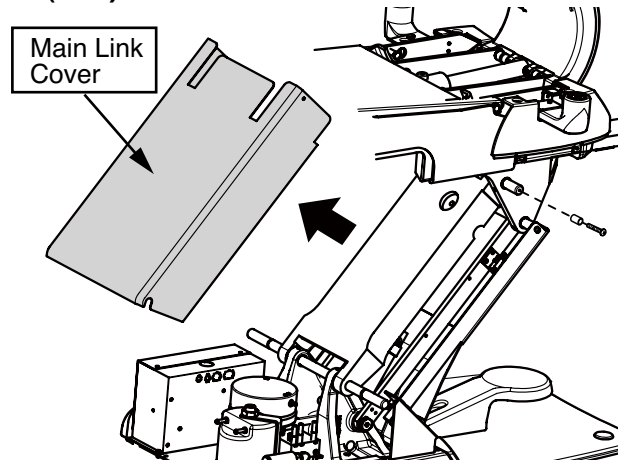
Remove the two set screws and two truss screws from the flange under cover.

(25)



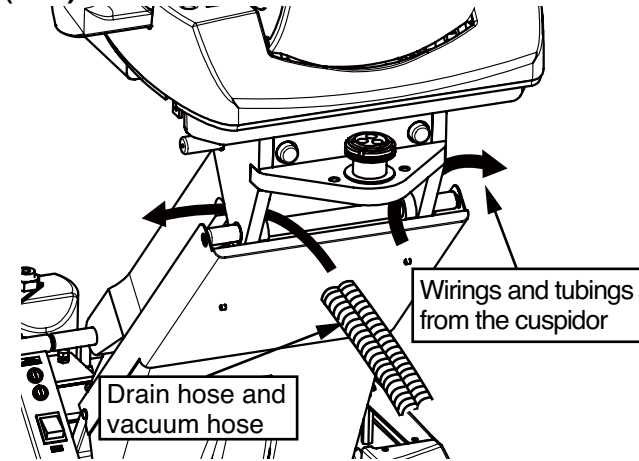
Remove the flange under cover.

(26)



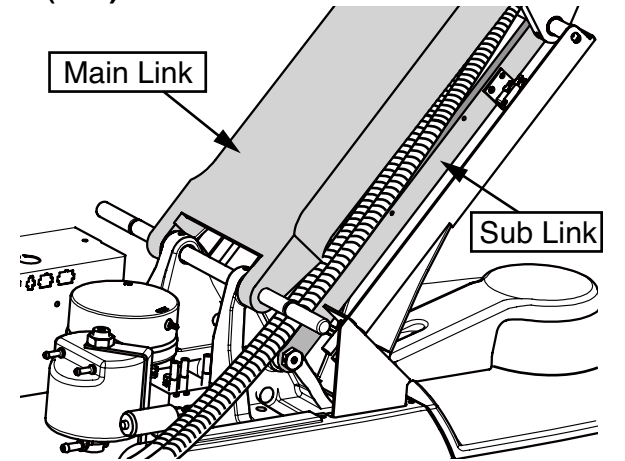
Remove the main link cover by removing the two screws (left and right side).

(27)



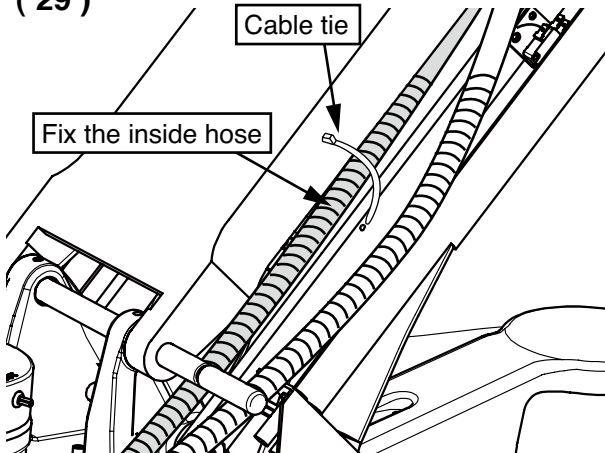
Pass the drain hose and vacuum hose through left side of link and the wirings and tubings through right side of link of the chair.

(28)



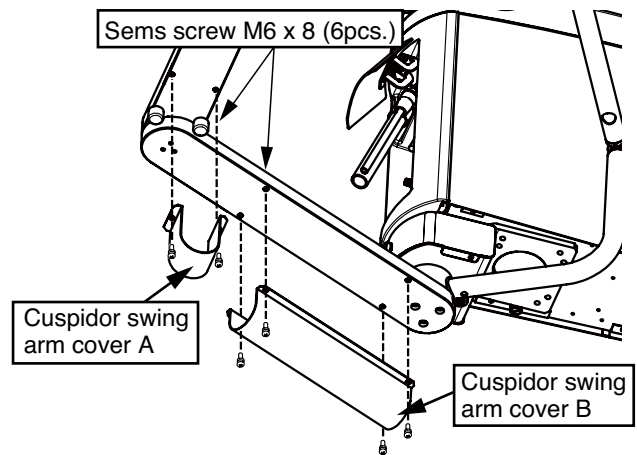
The drain hose and vacuum hose through along between left side of the main link and sub link.

(29)



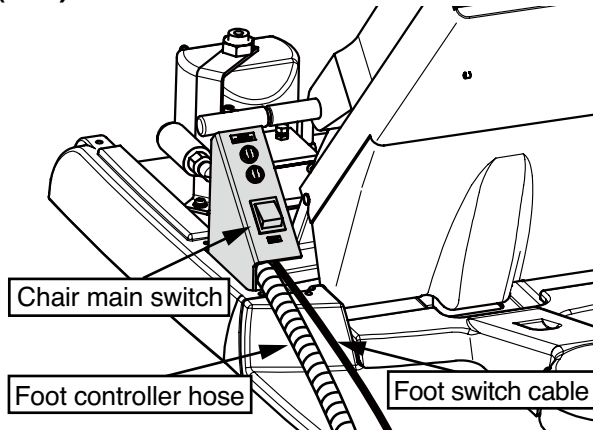
Fix the one of the hose (inside hose) to the sub link with the cable tie.

(30)



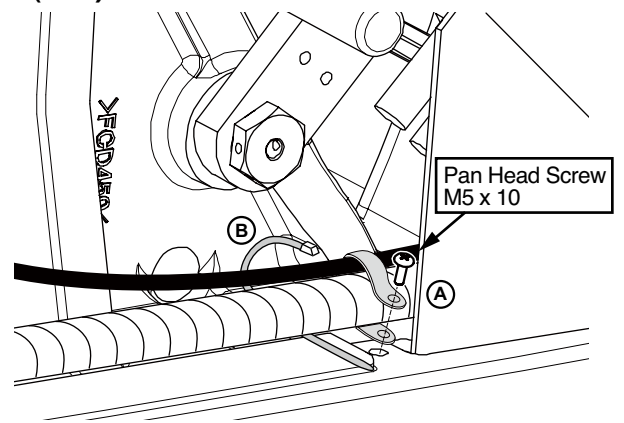
Fix the cuspidor swing arm cover A and B to the cuspidor swing arm with sems screws (M6 x 8).

(31)



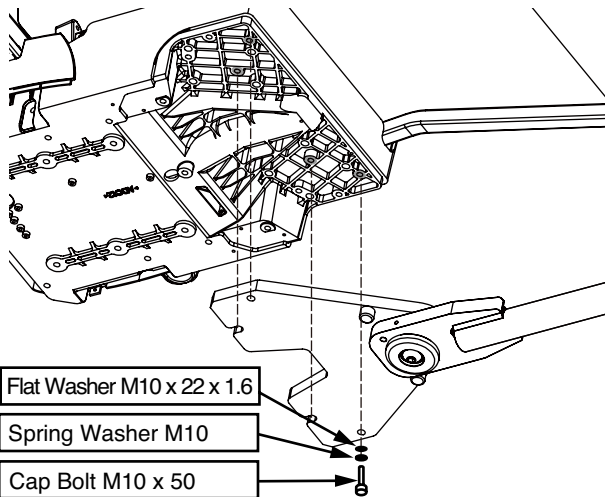
Pass the foot controller hose and foot switch cable through under the chair main switch.

(32)



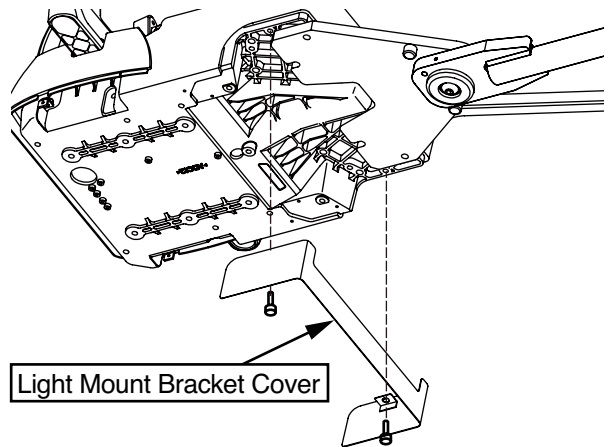
Fix the foot controller hose and foot switch cable with clamp (A) and cable tie (B).

(33)



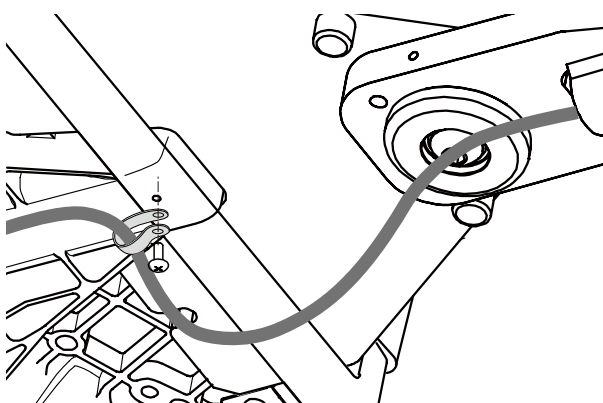
Fix the light mount bracket to seat flange by six cap bolts (M10 x 50) with spring washers and flat washers.

(34)



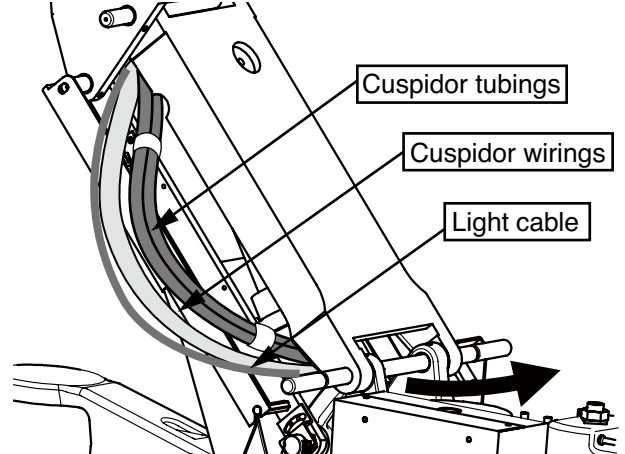
Fix the light mount bracket cover to the light mount bracket with two cap bolts (M10 x 15).

(35)

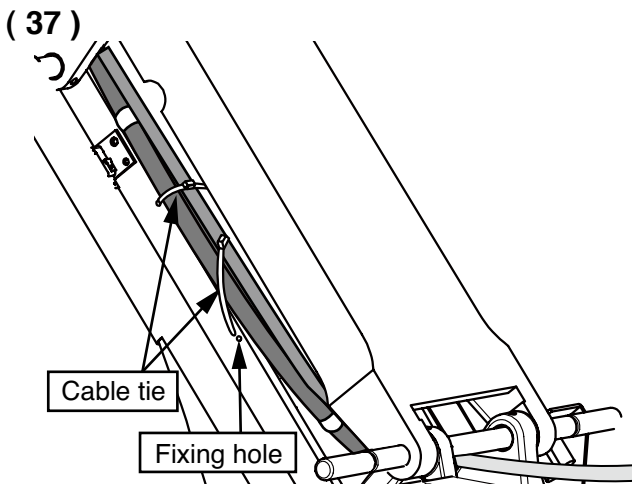


Fix the light cable to seat flange by clamp with pan head screw (M5 x 10).
* Fix the light cable after installing the dental light.

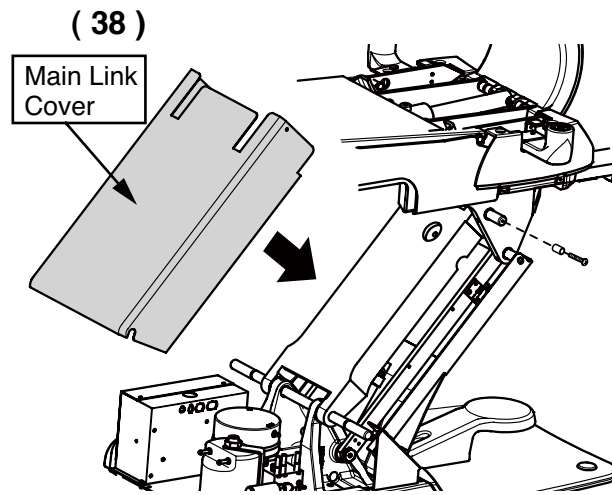
(36)



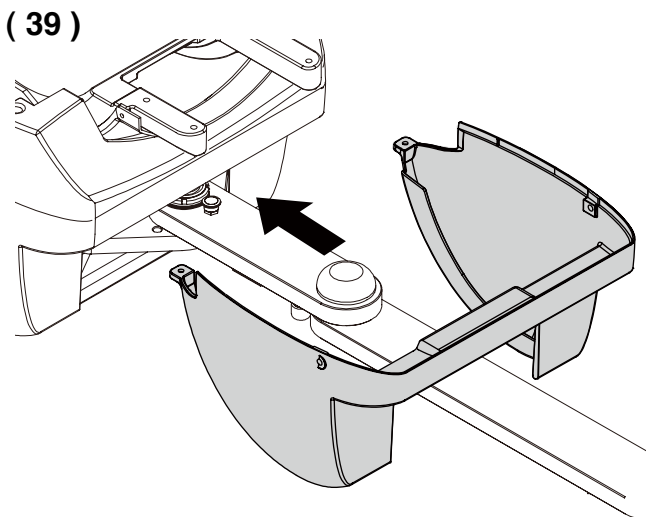
Pass the cuspidor tubings, cuspidor wirings and light cable through the right side of the chair link.



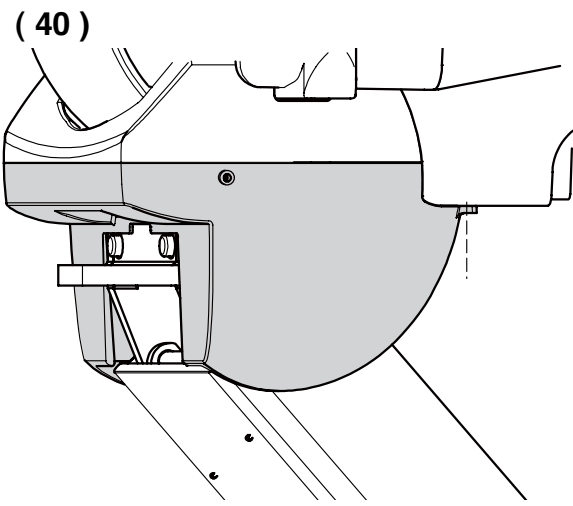
Fix the cuspidor tubings, wirings and light cable to the sub link with cable ties (2pcs.).



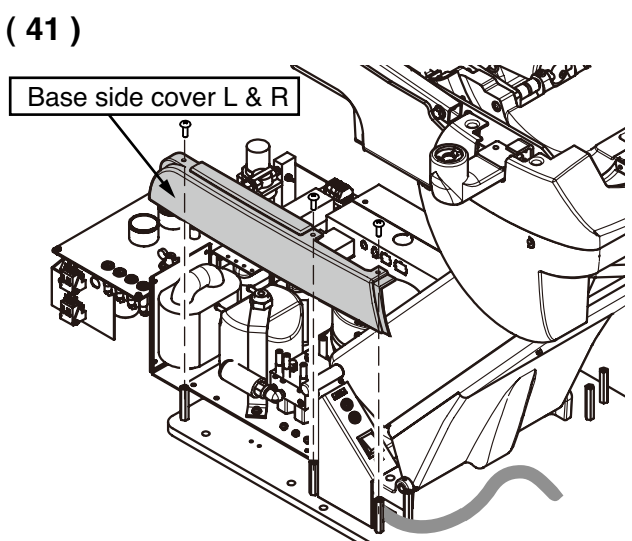
Fix the main link cover with two truss screws (M4 x 15 white).



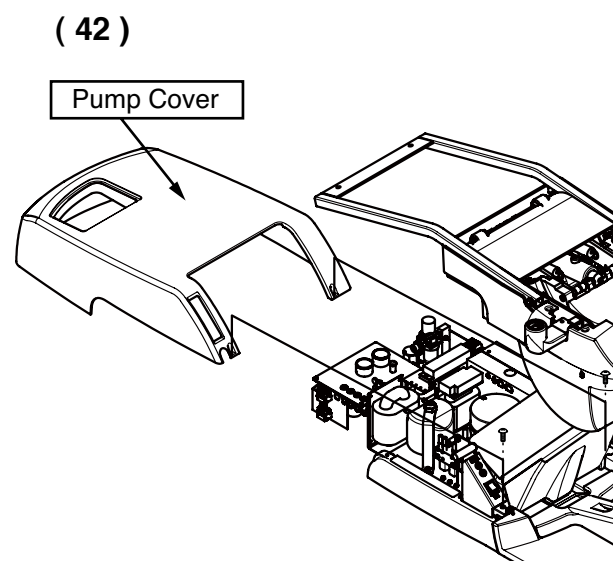
Move the cuspidor portion to twelve o'clock and insert the flange under cover.



Fix the flange under cover with two set screw (M5) and two truss screw (M5 white).



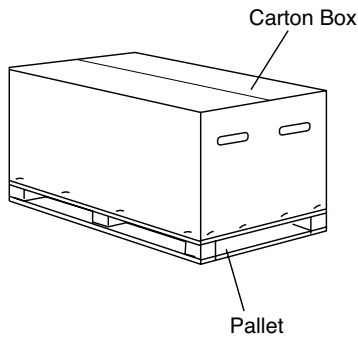
Fix the base side cover (left and right) to the base plate with pan head screws (M5 x 10)



Fix the pump cover with two truss screws (M5 x 12 white).

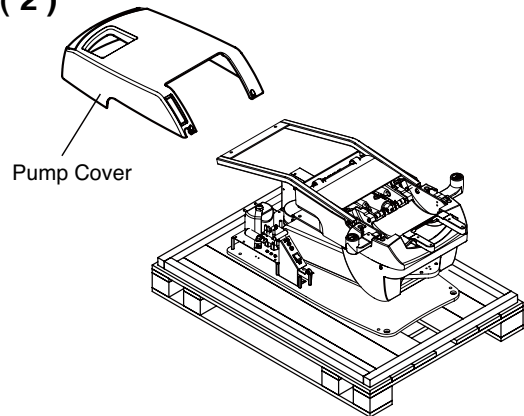
5-2. Installation Instructions for Doctor Package

(1)



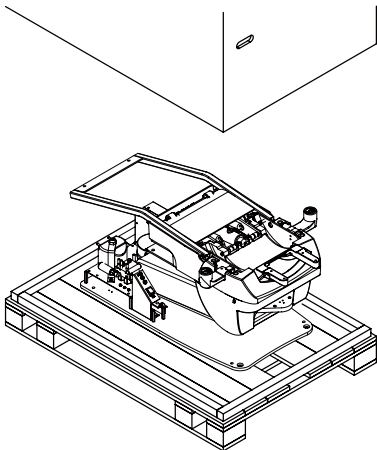
Remove all the staples fixing the carton box to the pallet and remove the carton.

(2)



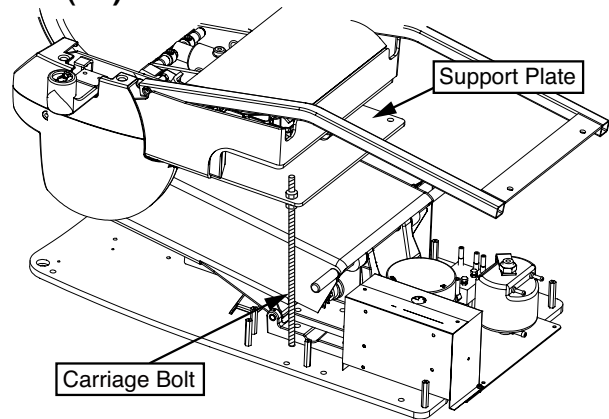
Remove the pump cover.

(3)



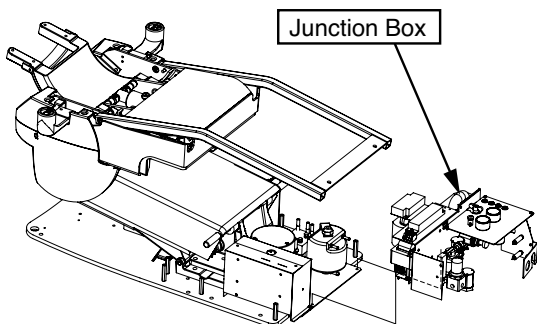
Remove wood screws from the base.
Remove the base section from the pallet and place it at the planned location.

(4)



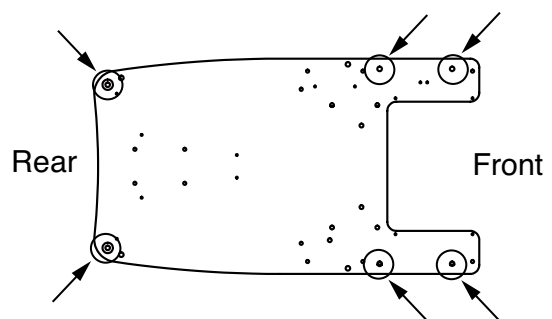
Before lift the chair by upper structure, remove the carriage bolt and support plate from the chair.

(5)



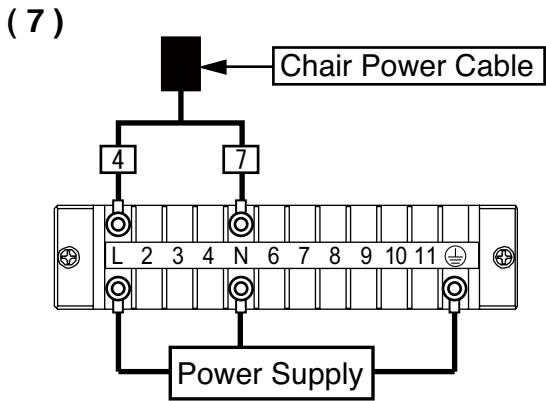
Fix the junction box to the chair base plate with M5 x 10 (2pcs.) screws

(6)

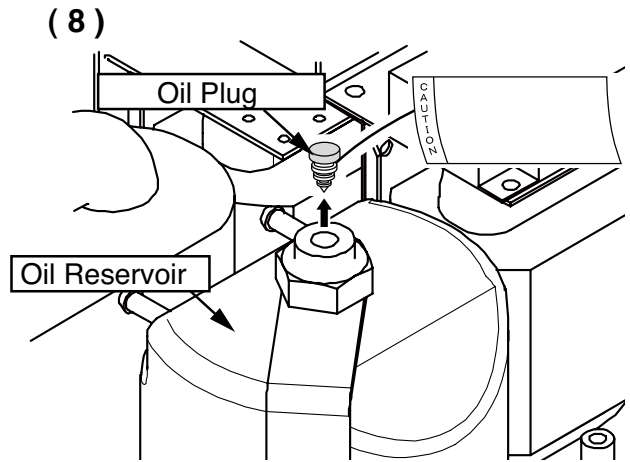


Fix the base on the floor with M6 x 50 (6 pcs) coach bolts.

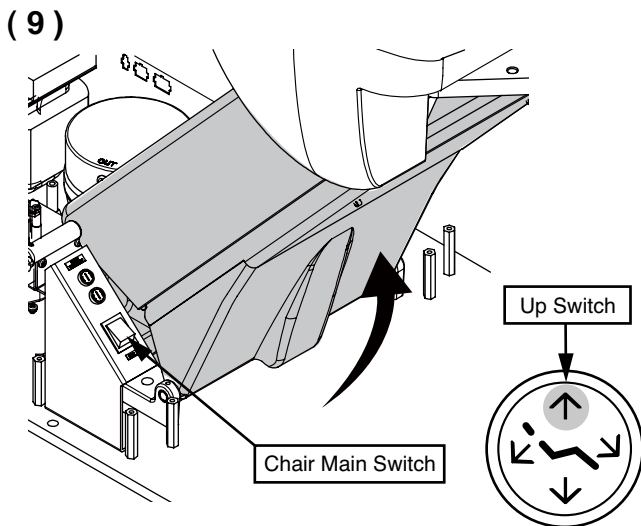
*Chair must be fixed to the floor with bolts to prevent from falling down when installing the unit.



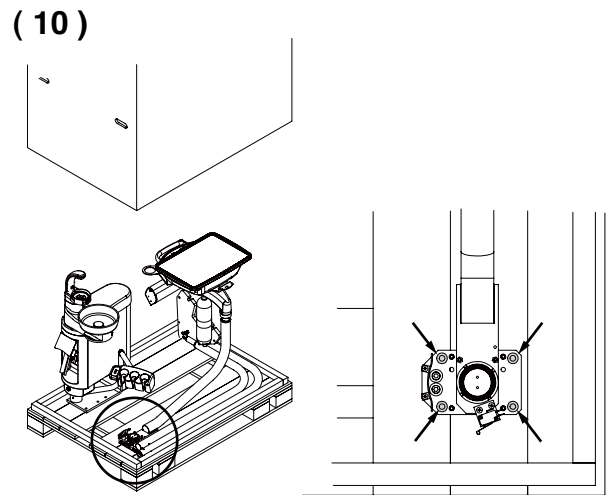
Connect the power supply line from floor to terminal block L, N and earth in the junction box. Then temporary connect the chair power cable to the terminal block L and N as shown on the above figure.



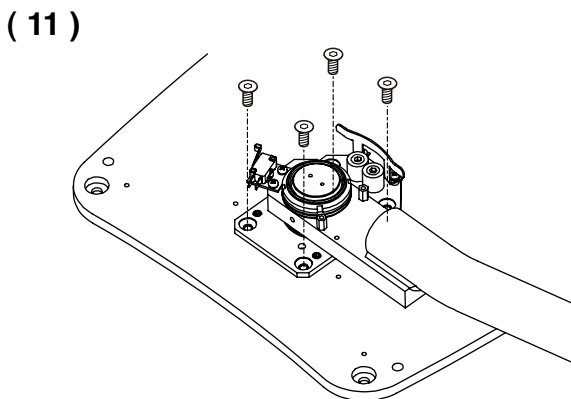
Remove the red tagged oil plug from the oil reservoir.



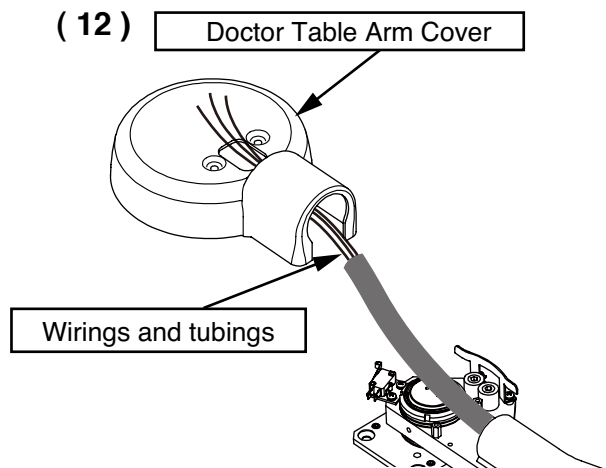
Turn on the chair main switch. Lift up the upper structure by the foot switch to the highest position.



Remove all wood screws fixing the carton to the pallet and lift up to remove the carton. Hold the doctor table unit and remove a doctor table fixing cap bolts (M8 - 15).

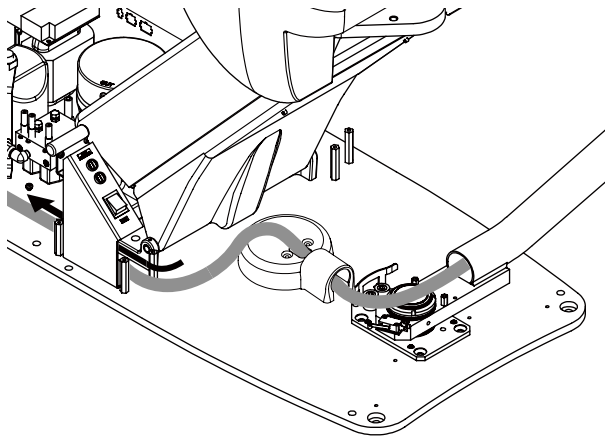


Fix the doctor table to the chair base plate with four flat head screws (M8 x 15).



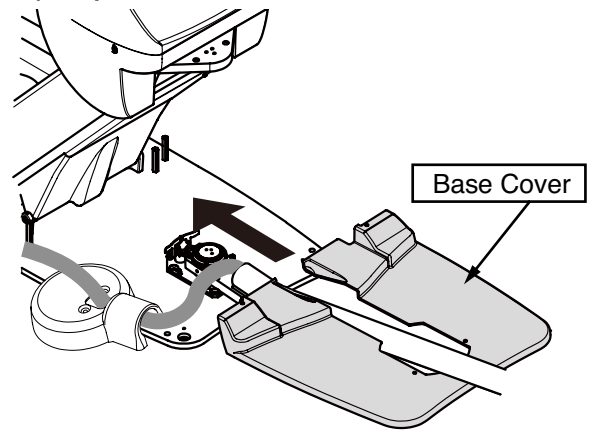
Through the wirings and tubings of the doctor table to the doctor table arm cover.

(13)



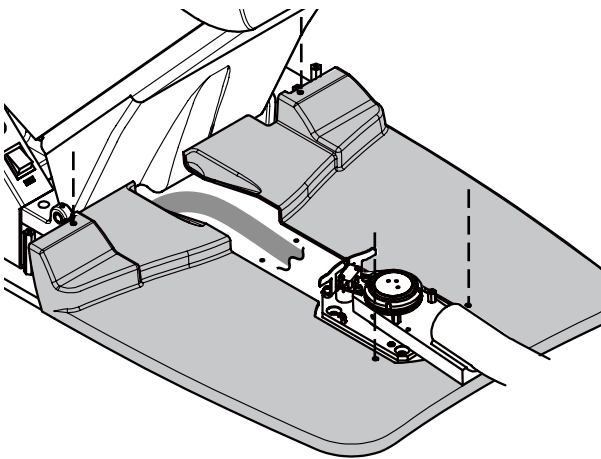
Pass the wirings and tubings through the junction side from under chair power switch.

(14)



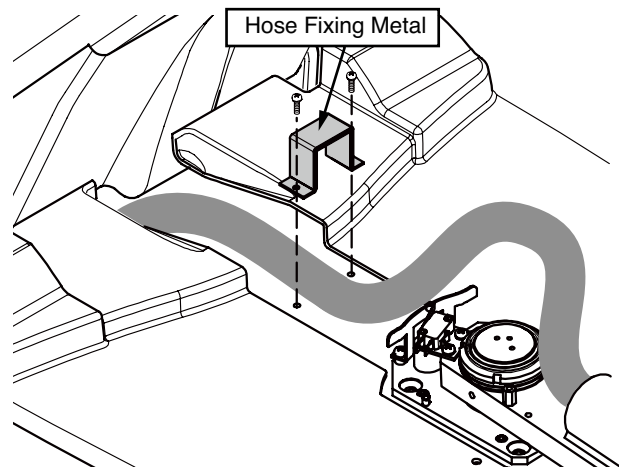
Move the doctor table arm to twelve o'clock. Insert the base cover under the doctor table arm and put it on the base plate.

(15)



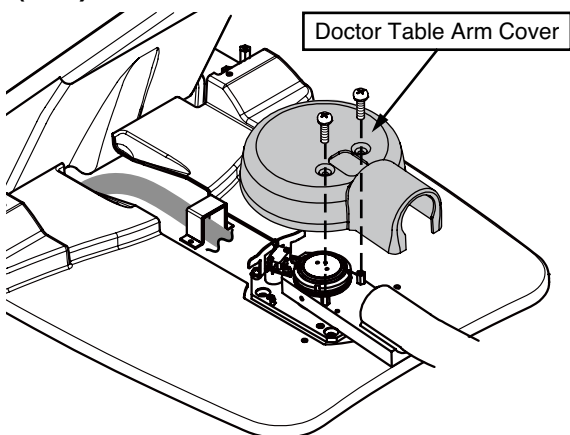
Fix the base cover to the base plate with four pan head screws (M5 x 10).

(16)



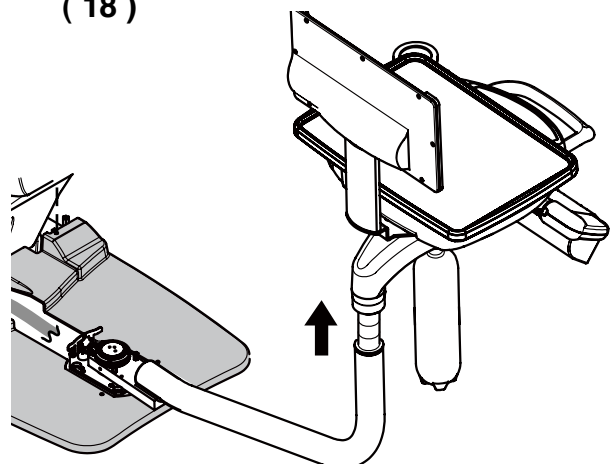
Fix the hose fixing metal to the base plate with two pan head screws (M5 x 10).

(17)



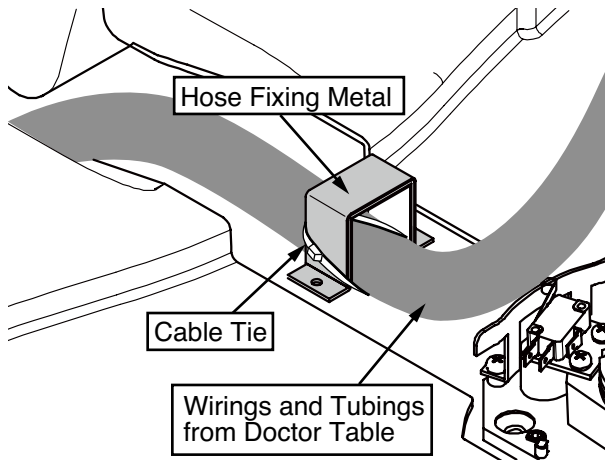
Fix the doctor table arm cover to the doctor table arm with two pan head screws (M5 x 10).

(18)



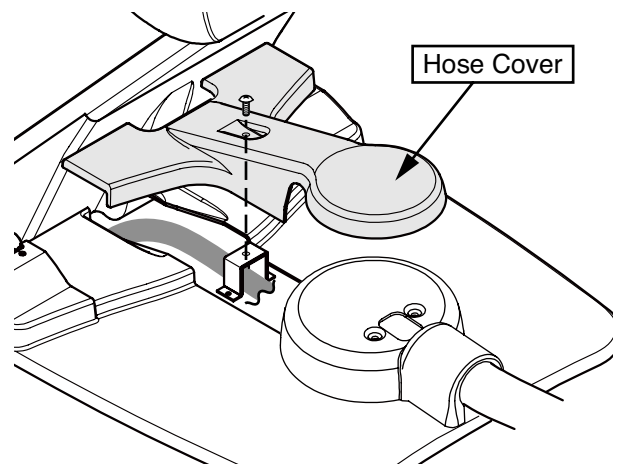
Move the doctor table arm to twelve o'clock. Pull up the doctor table to highest position.

(19)



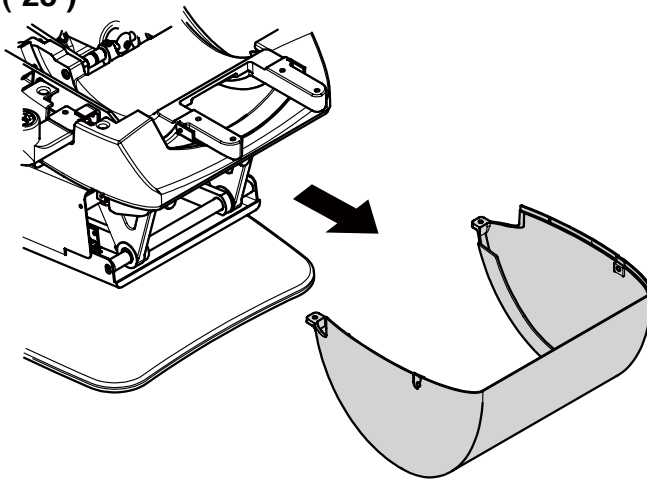
Fix the wirings and tubings of the doctor table to the hose fixing metal with cable tie.

(20)



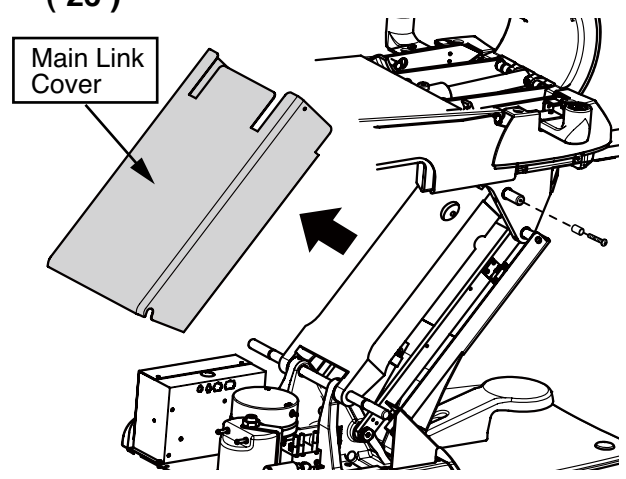
Fix the hose cover to the hose fixing metal with truss screw (M4 x 12 white).

(25)



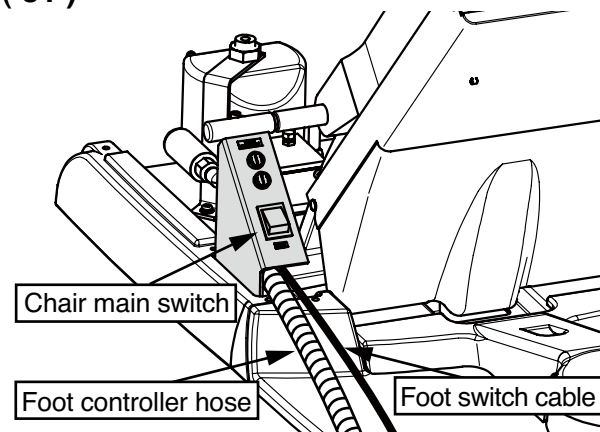
Remove the flange under cover.

(26)



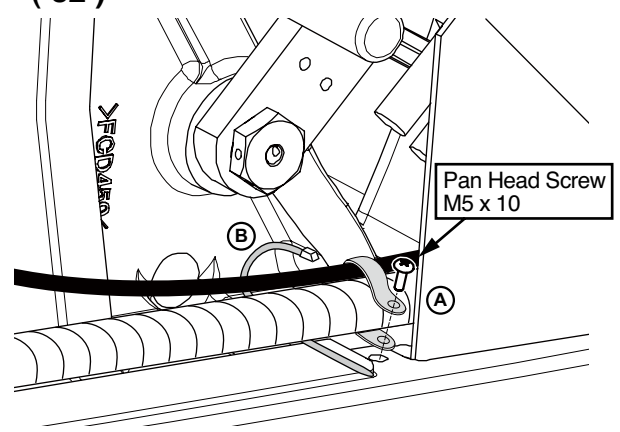
Remove the main link cover by removing the two screws (left and right side).

(31)



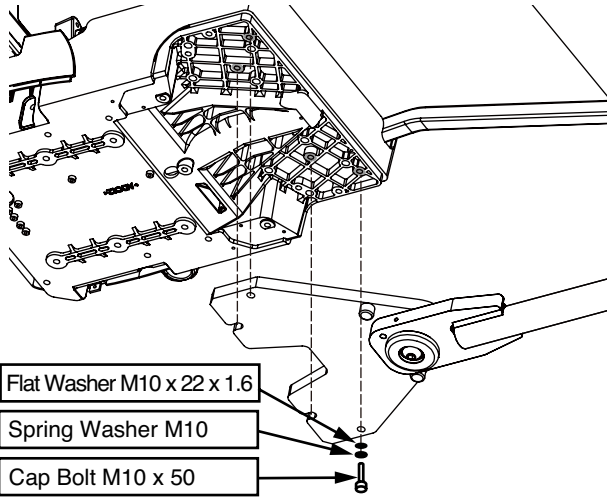
Pass the foot controller hose and foot switch cable through under the chair main switch.

(32)



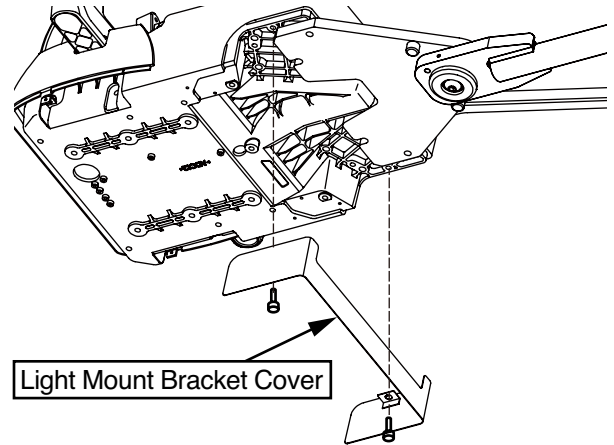
Fix the foot controller hose and foot switch cable with clamp (A) and cable tie (B).

(33)



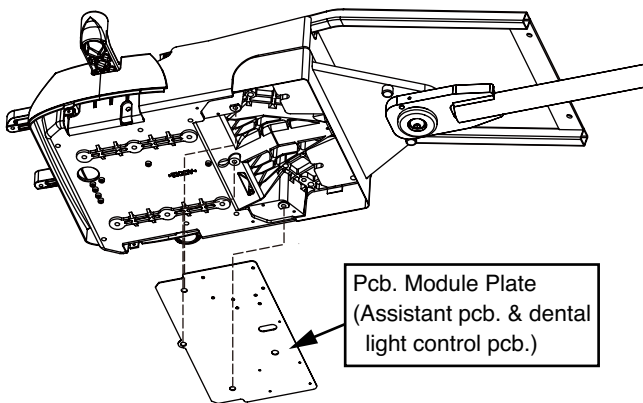
Fix the light mount bracket to under the seat flange by six cap bolts (M10 x 50) with spring washers and flat washers.

(34)



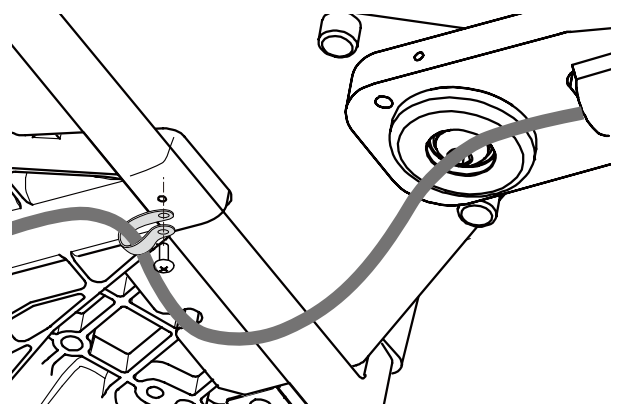
Fix the light mount bracket cover to the light mount bracket with two cap bolts (M10 x 15).

(35)



Fix the pcb module plate to under the seat flange with three cap bolts (M10 x 15).

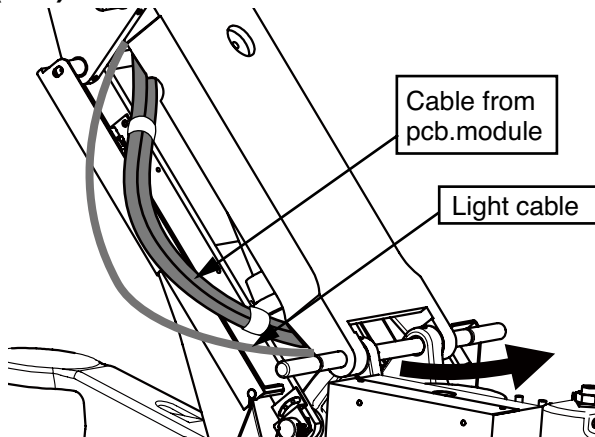
(36)



Fix the light cable to seat flange by clamp with pan head screw (M5 x 10).

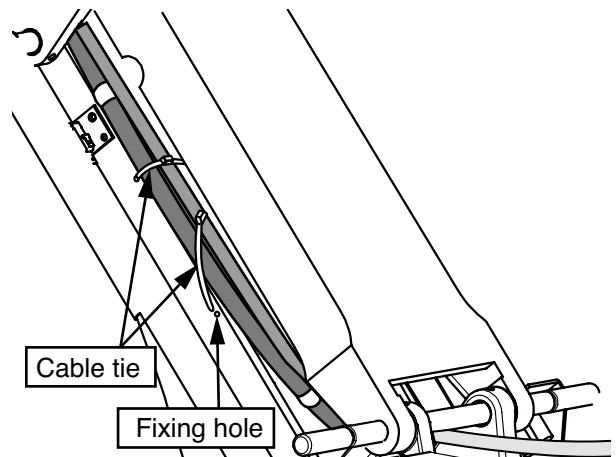
* Fix the light cable after installing the dental light.

(37)



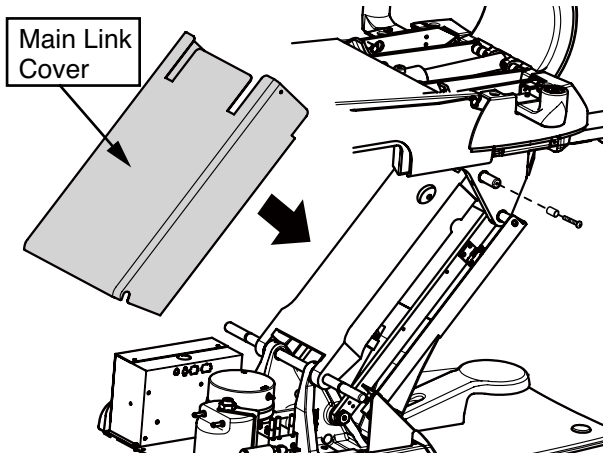
Pass the cable from pcb module and light cable through the right side of the chair link.

(38)



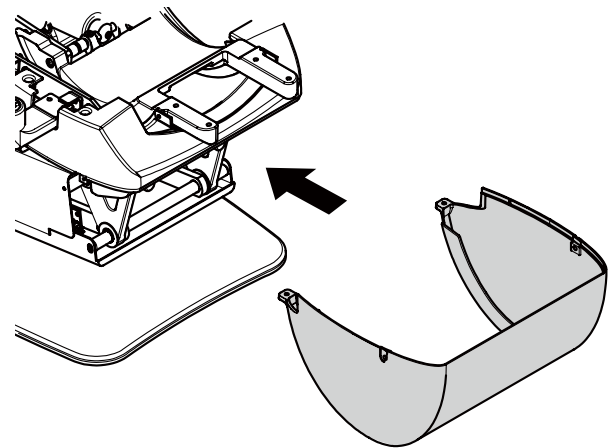
Fix the cables to the sub link with cable ties (two positions).

(31)



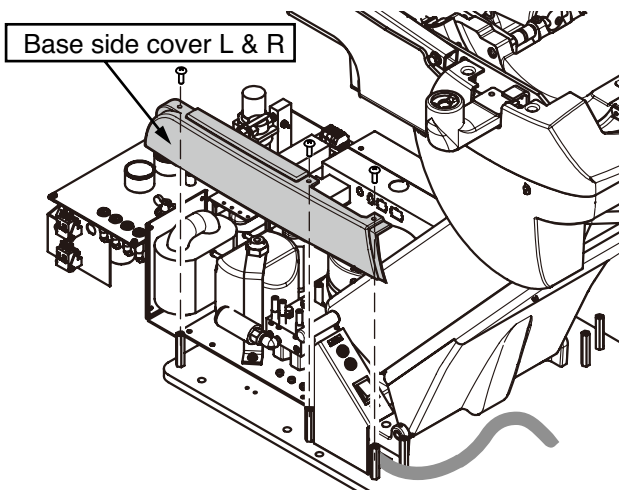
Fix the main link cover with two truss screws (M4 x 15 white).

(32)



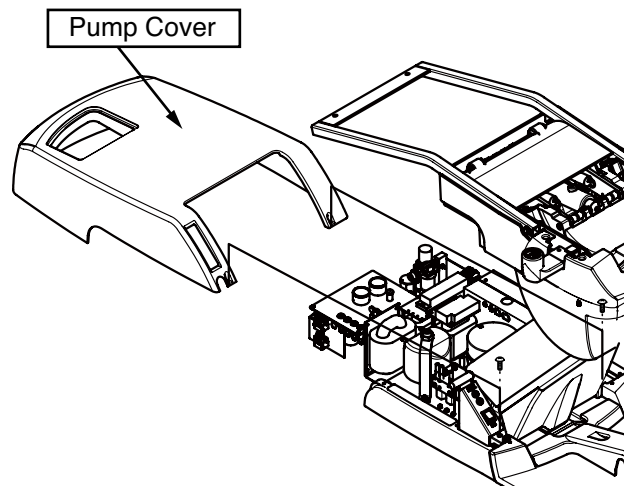
Fix the flange under cover with two set screw (M5) and two truss screw (M5 white).

(33)



Fix the base side cover (left and right) to the base plate with pan head screws (M5 x 10)

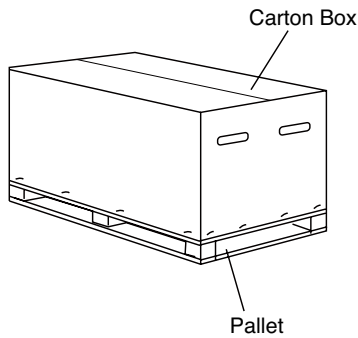
(34)



Fix the pump cover with two truss screws (M5 x 12 white).

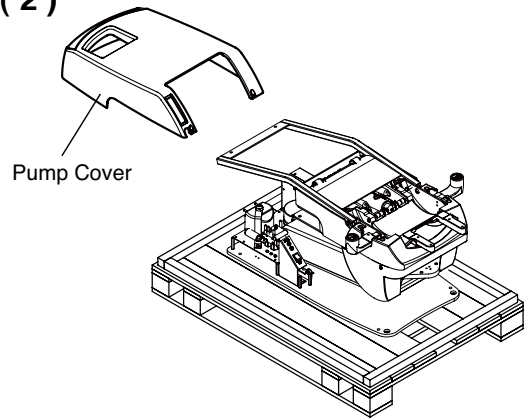
5-3. Installation Instructions for Cuspidor Package

(1)



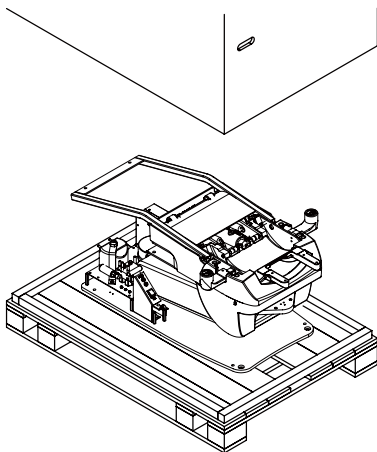
Remove all the staples fixing the carton box to the pallet and remove the carton.

(2)



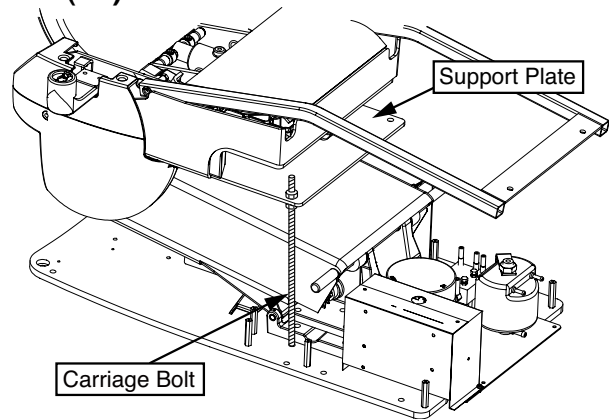
Remove the pump cover.

(3)



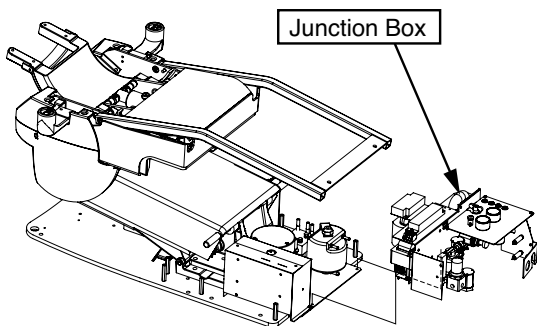
Remove wood screws from the base.
Remove the base section from the pallet and place it at the planned location.

(4)



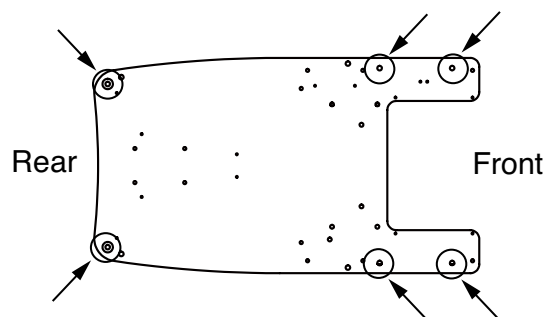
Before lift the chair by upper structure, remove the carriage bolt and support plate from the chair.

(5)

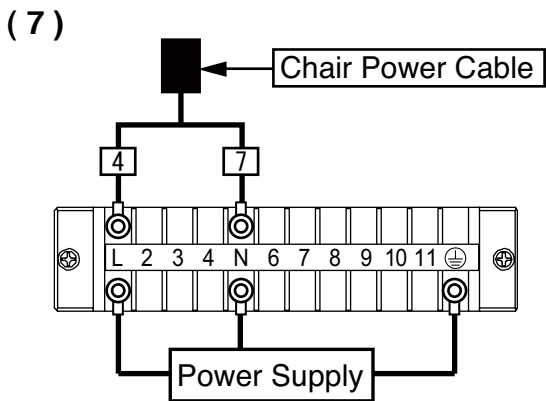


Fix the junction box to the chair base plate with M5 x 10 (2pcs.) screws

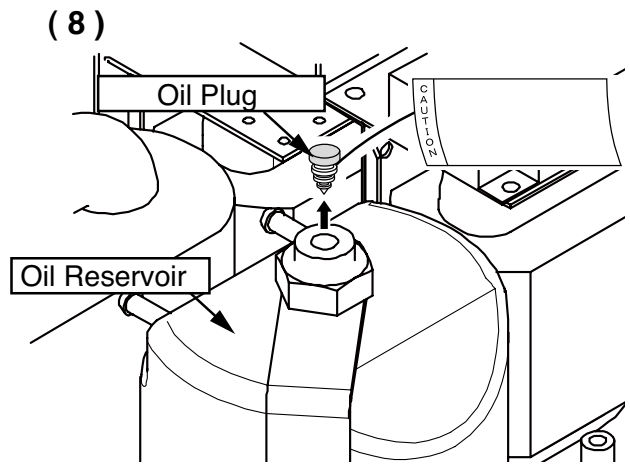
(6)



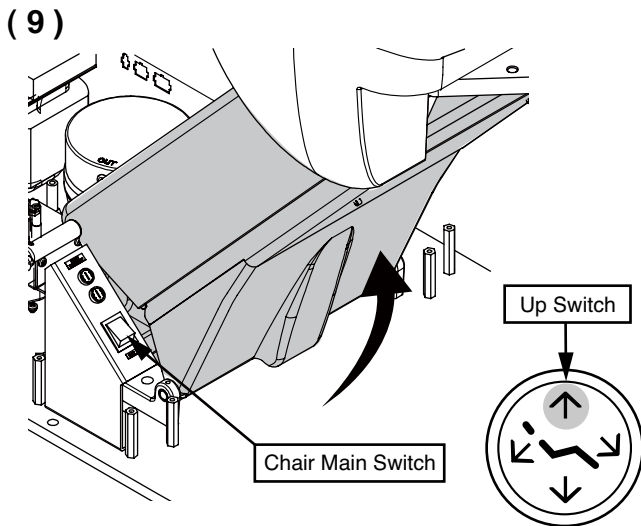
Fix the base on the floor with M6 x 50 (6 pcs) coach bolts.
*Chair must be fixed to the floor with bolts to prevent from falling down when installing the unit.



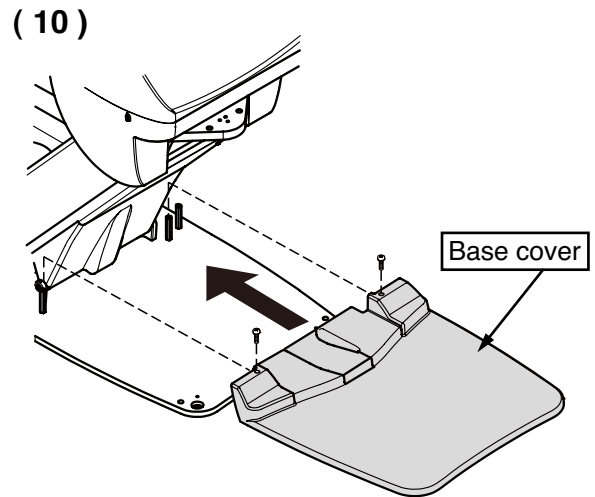
Connect the power supply line from floor to terminal block L, N and earth in the junction box. Then temporary connect the chair power cable to the terminal block L and N as shown on the above figure.



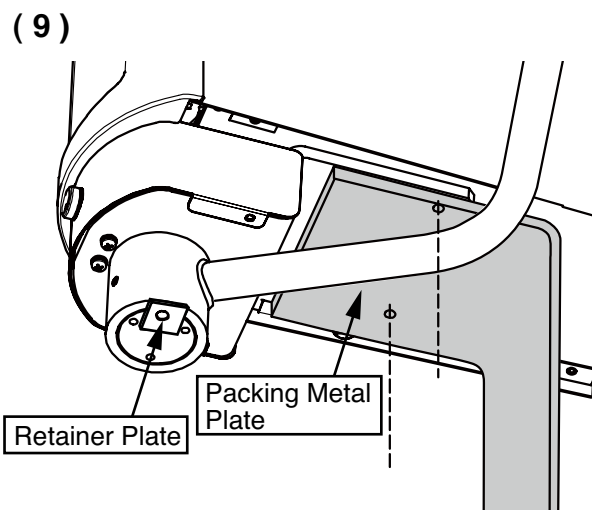
Remove the red tagged oil plug from the oil reservoir.



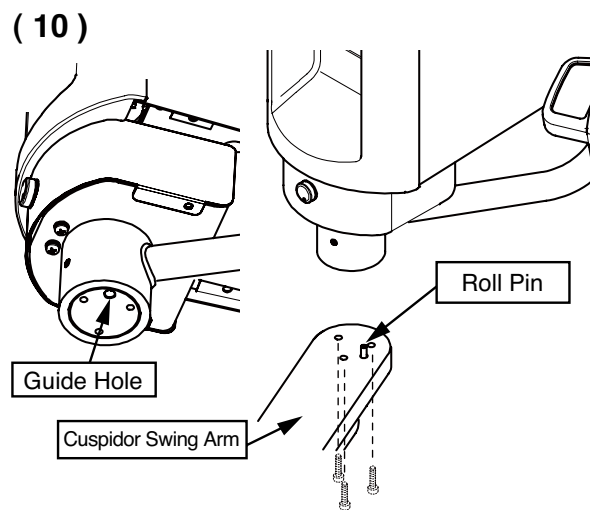
Turn on the chair main switch. Lift up the upper structure by the foot switch to the highest position.



Fix the base cover to the base plate with two pan head screws (M5 x 10).

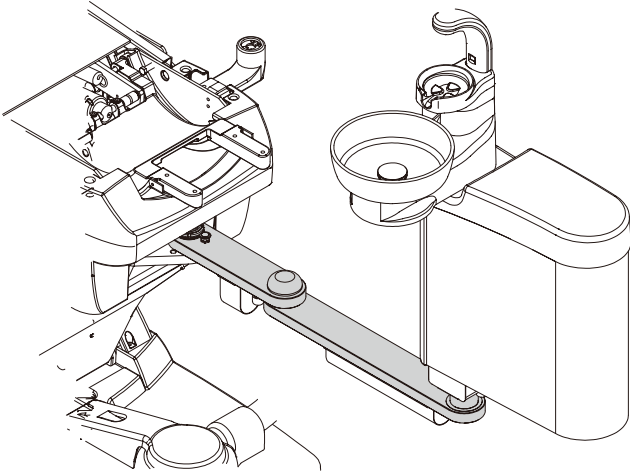


Remove the retainer plate from bottom of the assistant arm shaft and hold it. Remove the cuspidor portion from the packing metal plate.



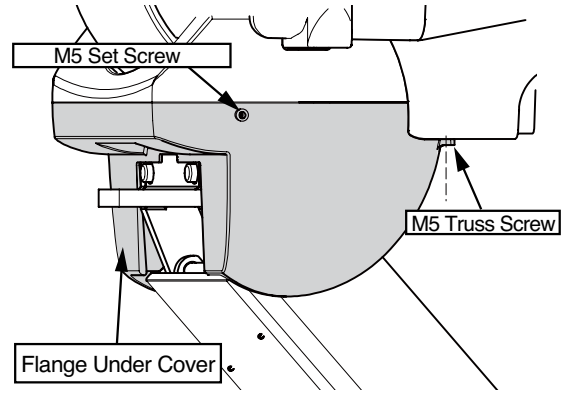
Set the guide hole of the assistant arm shaft to the roll pin of the cuspidor swing arm. Fix the cuspidor portion to the cuspidor swing arm with three cap bolts (M6 x 25).

(13)



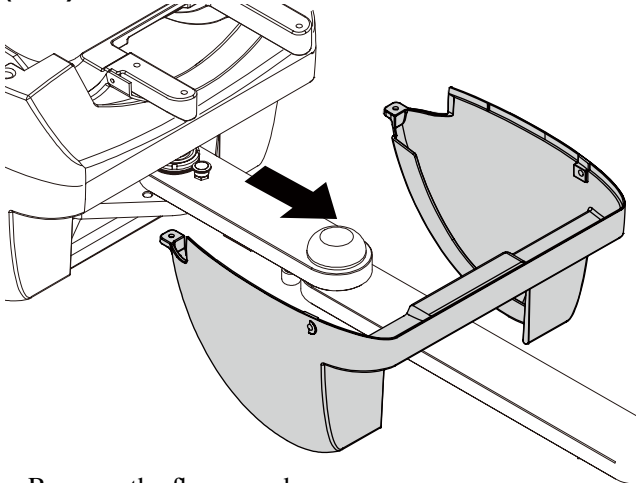
Move the cuspidor portion to twelve o'clock.

(14)



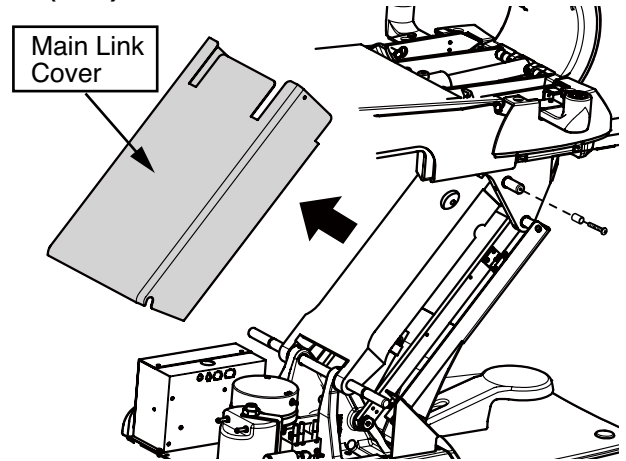
Remove the two set screws and two truss screws from the flange under cover.

(15)



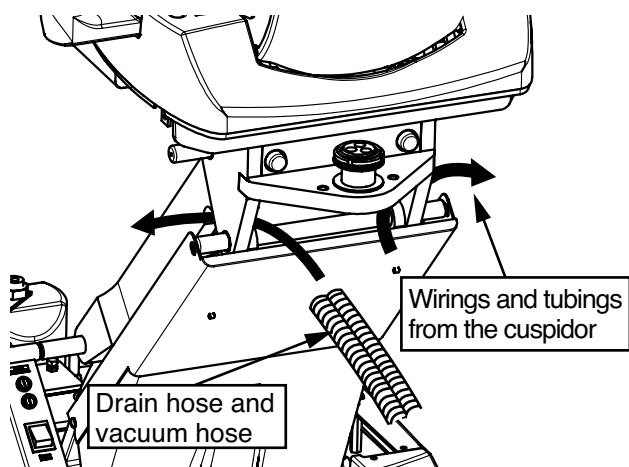
Remove the flange under cover.

(16)



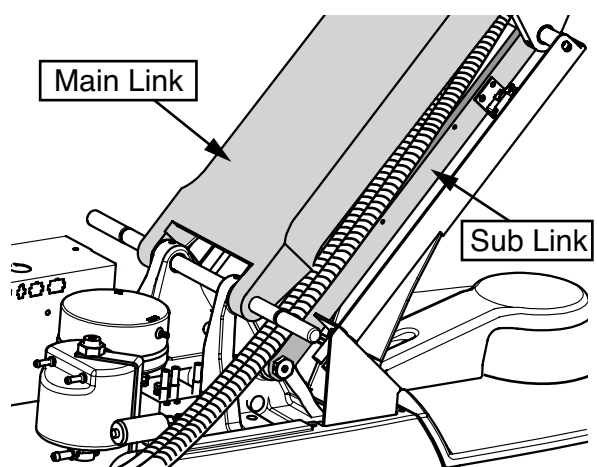
Remove the main link cover by removing the two screws (left and right side).

(17)



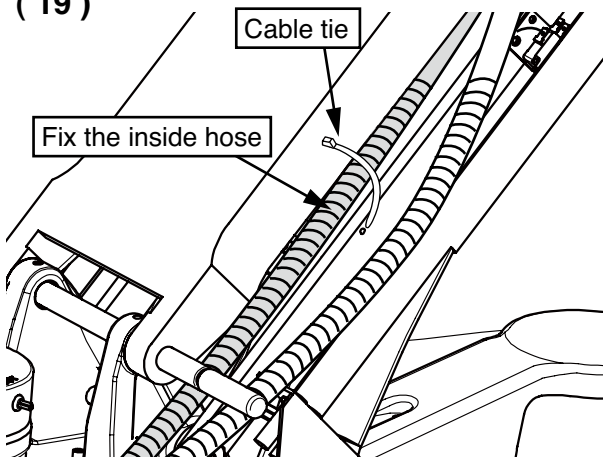
Pass the drain hose and vacuum hose through left side of link and the wirings and tubings through right side of link of the chair.

(18)



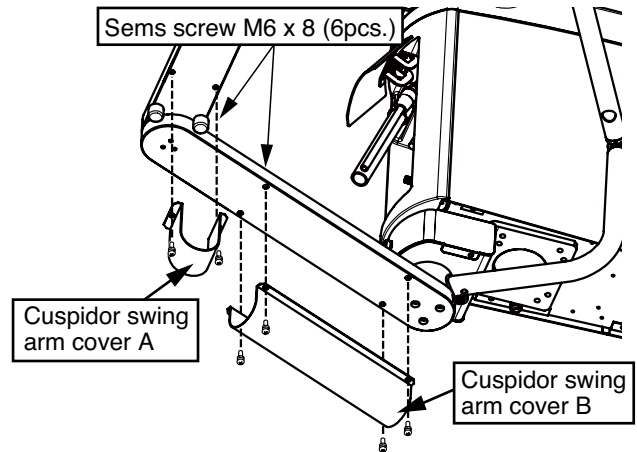
The drain hose and vacuum hose through along between left side of the main link and sub link.

(19)



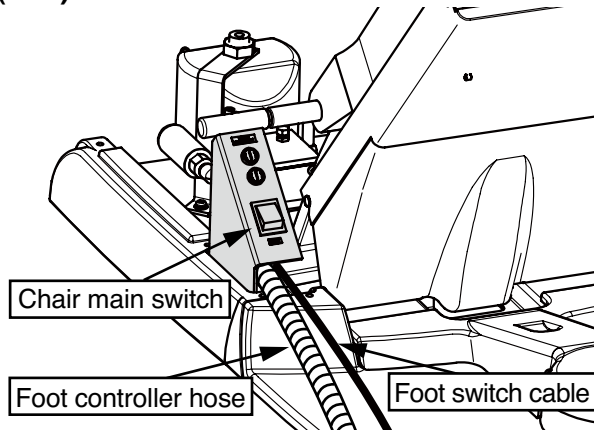
Fix the one of the hose (inside hose) to the sub link with the cable tie.

(20)



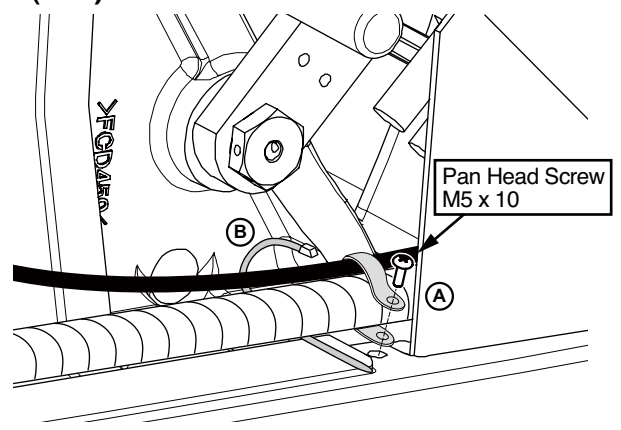
Fix the cuspidor swing arm cover A and B to the cuspidor swing arm with sems screws (M6 x 8).

(21)



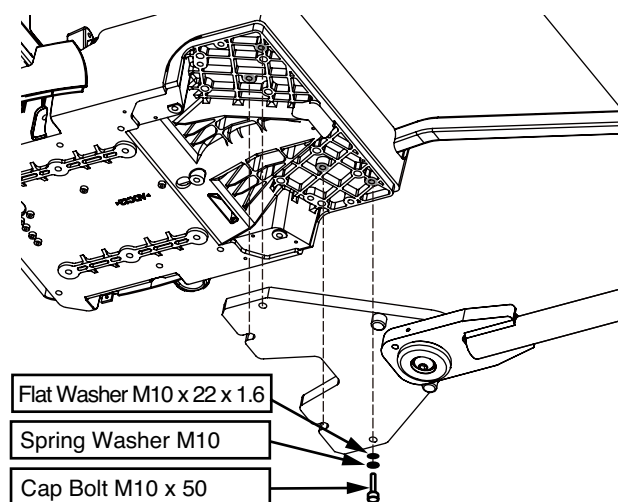
Pass the foot controller hose and foot switch cable through under the chair main switch.

(22)



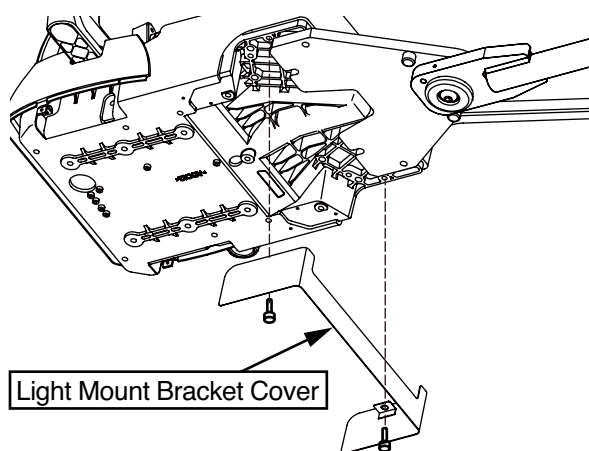
Fix the foot controller hose and foot switch cable with clamp (A) and cable tie (B).

(23)



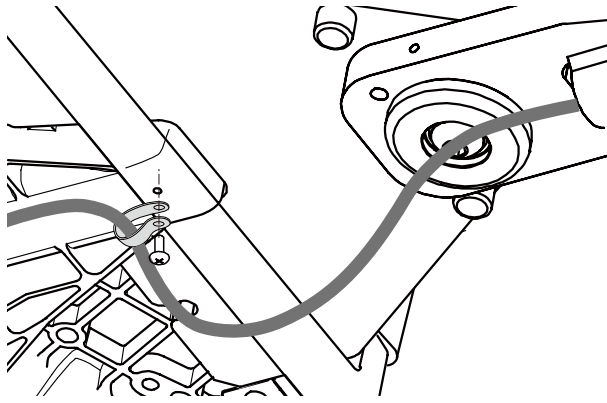
Fix the light mount bracket to under the seat flange by six cap bolts (M10 x 50) with spring washers and flat washers.

(24)



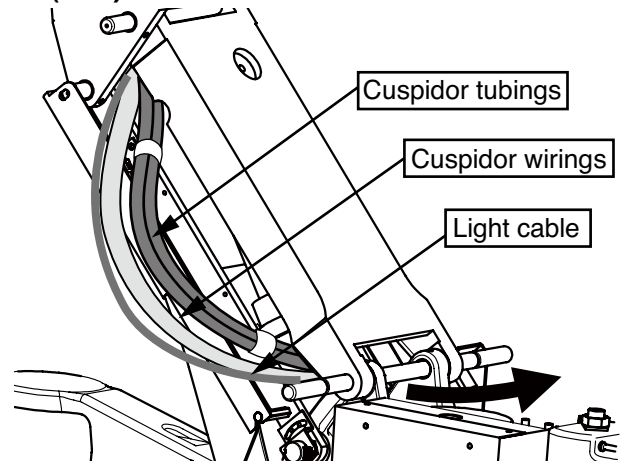
Fix the light mount bracket cover to the light mount bracket with two cap bolts (M10 x 15).

(25)



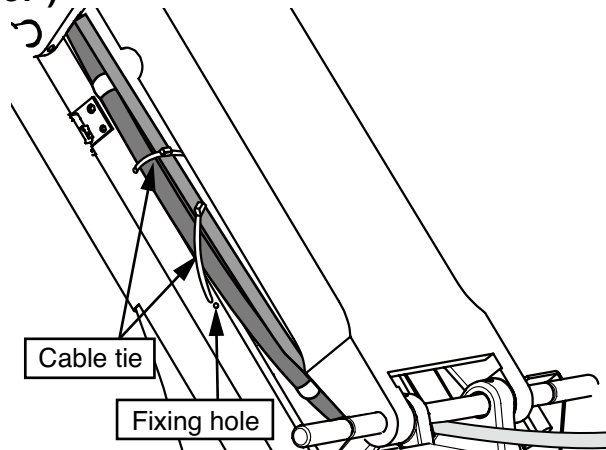
Fix the light cable to seat flange by clamp with pan head screw (M5 x 10).
 * Fix the light cable after installing the dental light.

(26)



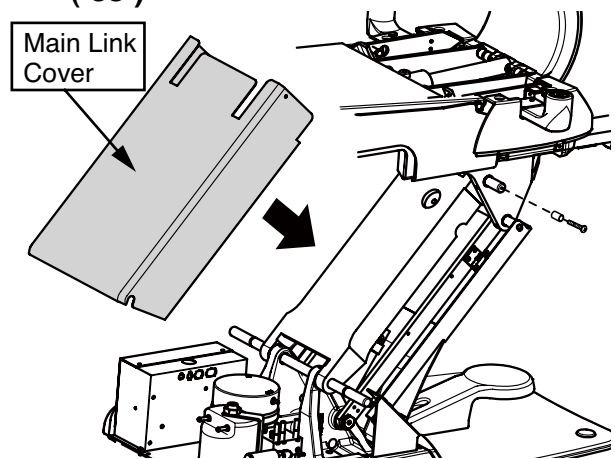
Pass the cuspidor tubings, cuspidor wirings and light cable through the right side of the chair link.

(37)



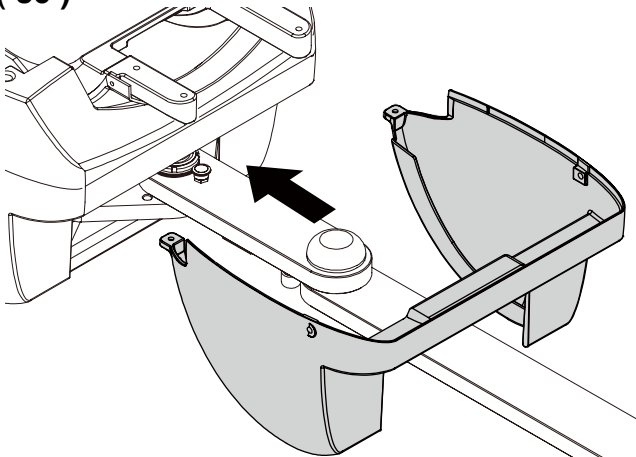
Fix the cuspidor tubings, wirings and light cable to the sub link with cable ties (2pcs.).

(38)



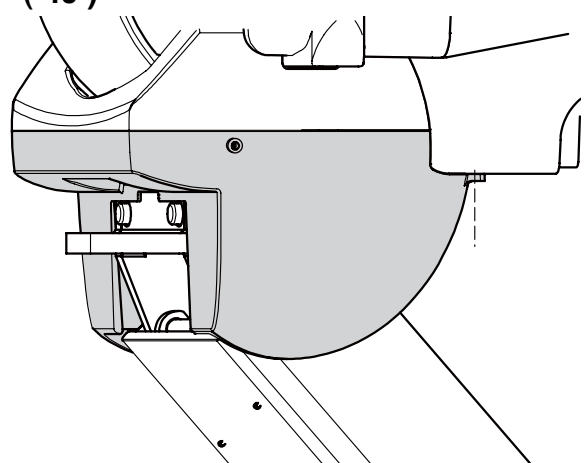
Fix the main link cover with two truss screws (M4 x 15 white).

(39)



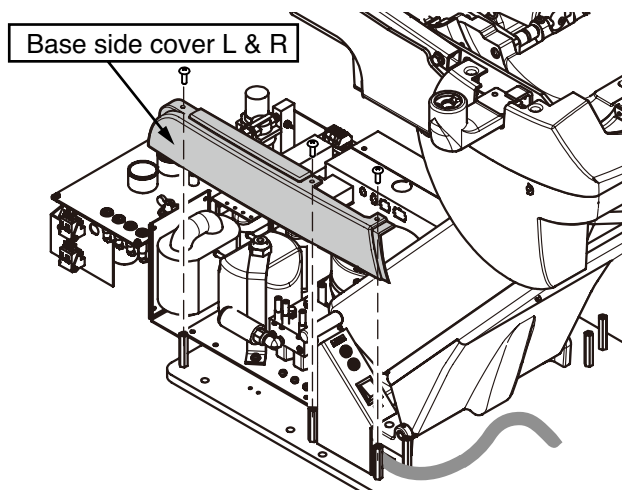
Move the cuspidor portion to twelve o'clock and insert the flange under cover.

(40)



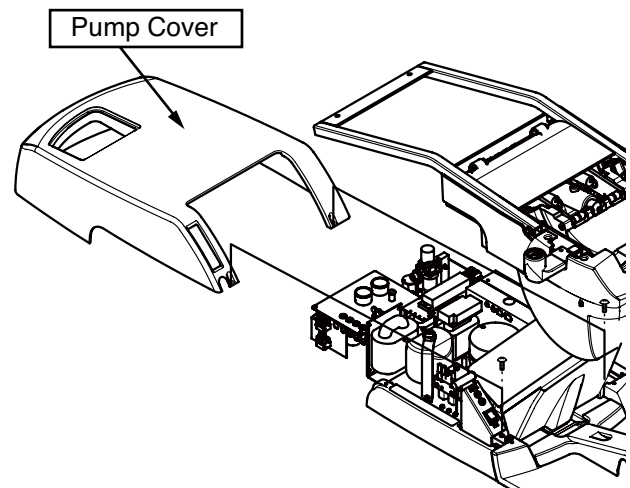
Fix the flange under cover with two set screw (M5) and two truss screw (M5 white).

(41)



Fix the base side cover (left and right) to the base plate with pan head screws (M5 x 10)

(42)

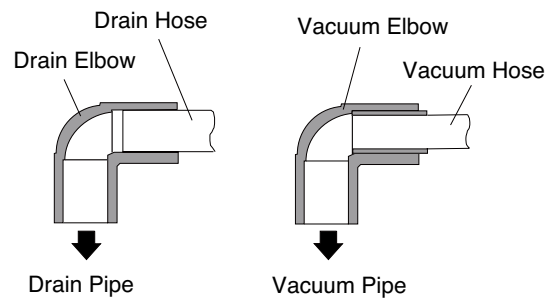
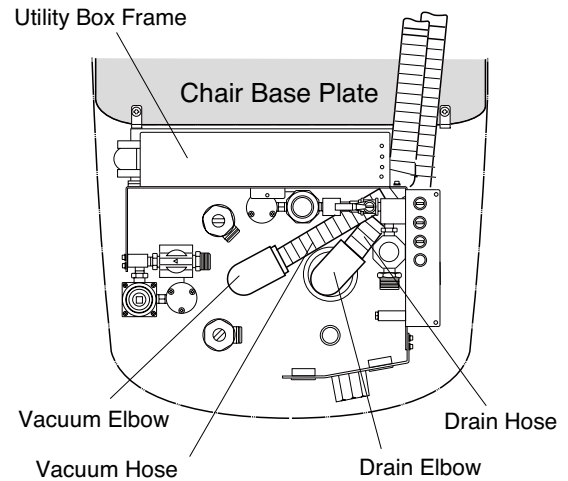


Fix the pump cover with two truss screws (M5 x 12 white).

6. Drain Hose and Vacuum Hose Connection

- (1) Run the drain hose and vacuum hose through and under utility section frame.
- (2) Cut the drain hose and vacuum hoses at suitable length and connect them to each elbow with plastic glue.(Pipe solvent)
- (3) Insert the drain hose elbow and vacuum hose elbow into each pipe.

Note : The Drain pipe should be sealed with silicone sealant or taping.

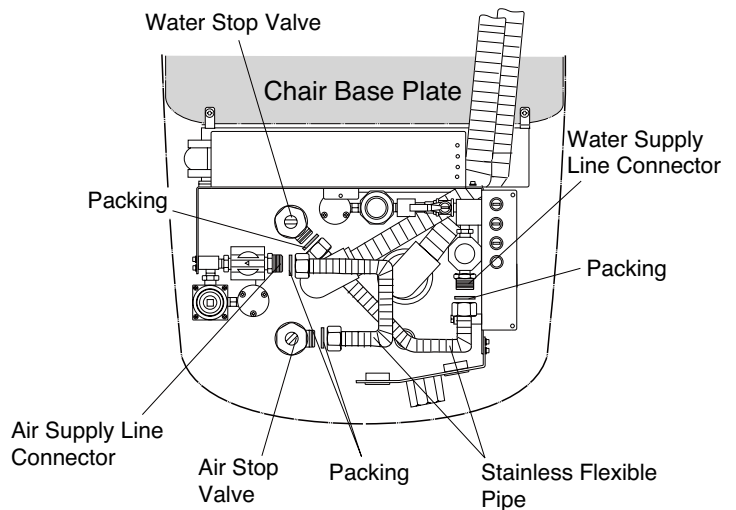


7. Water and Air Supply Line Connection

- (1) Bend each stainless flexible pipe to a suitable angle for connection.
- (2) Connect the water supply line to the water stop valve with the stainless flexible pipe and the seals.

Note : Pass through and connect the water stainless flexible pipe to the water stop valve under the vacuum elbow

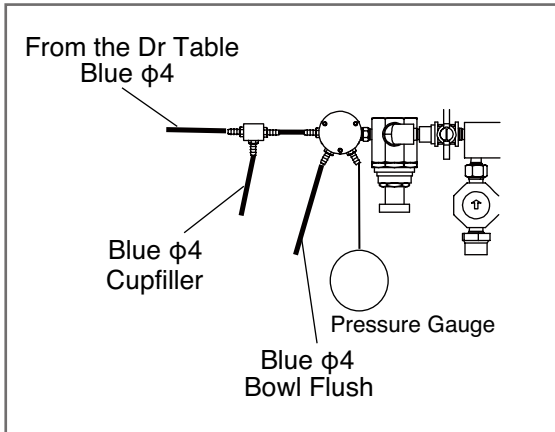
- (3) Connect the air supply line to the air stop valve with the stainless flexible pipe and the seals.



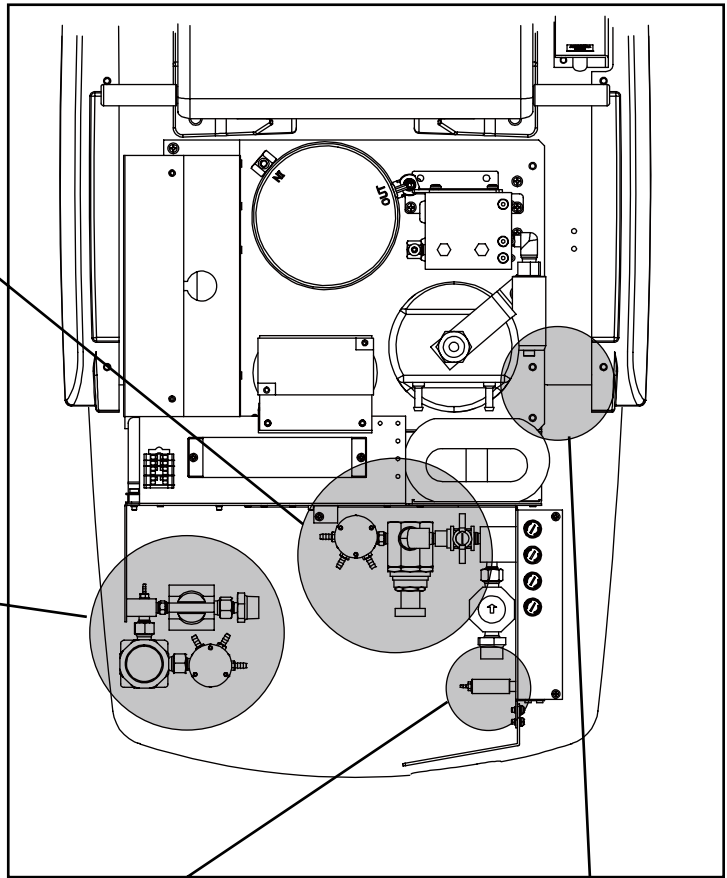
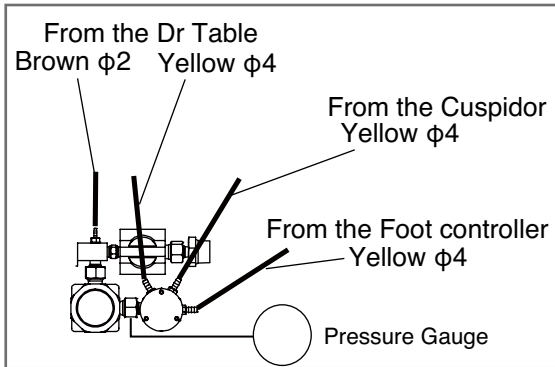
8. Tubings connection

8-1. Tubings connection for Standard Package

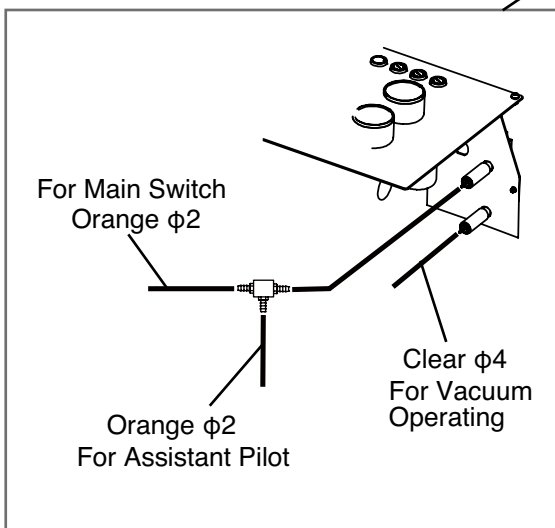
Main water master valve



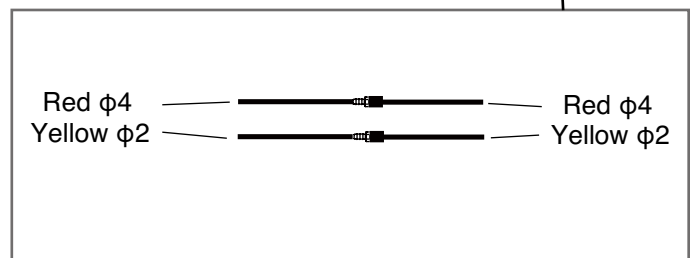
Main air master valve



Air switch

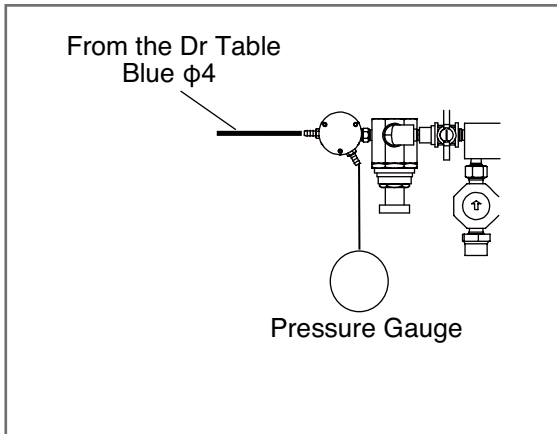


Foot controller

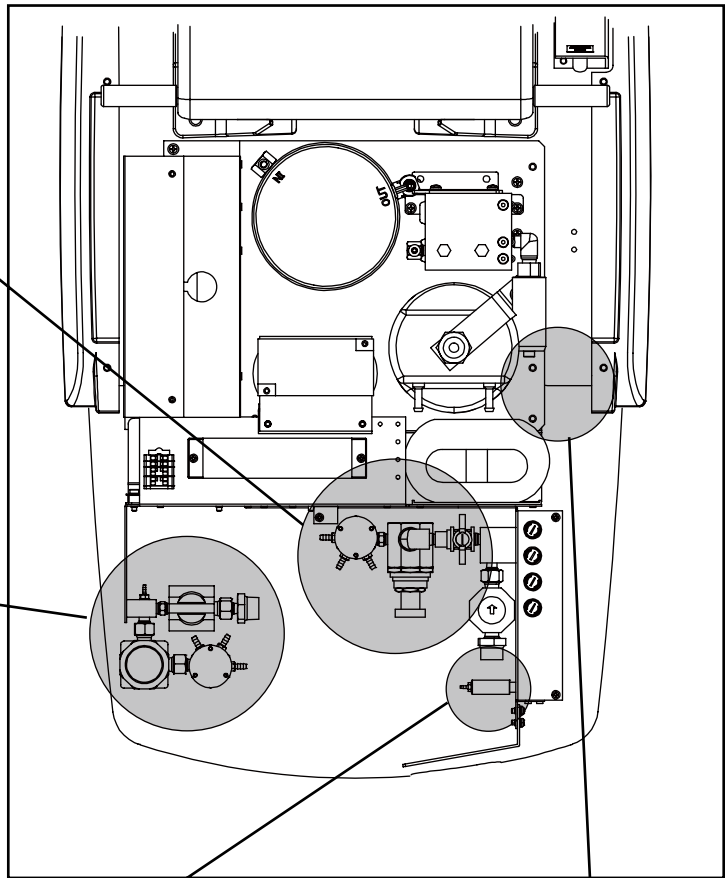
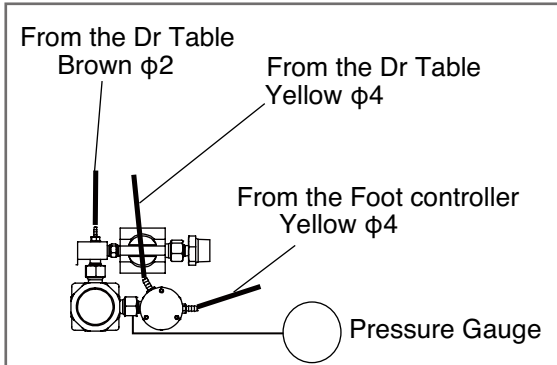


8-2. Tubings connection for Doctor Package

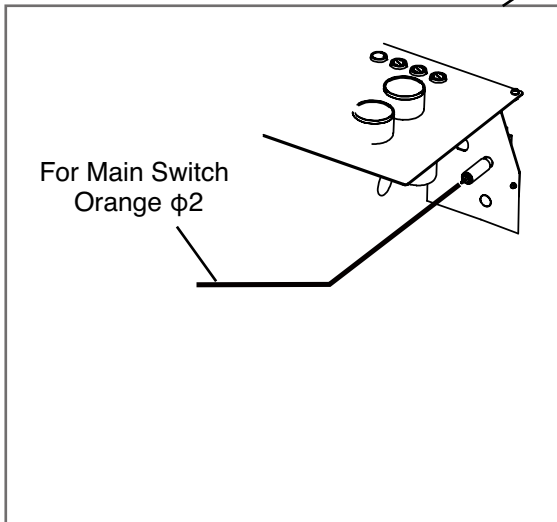
Main water master valve



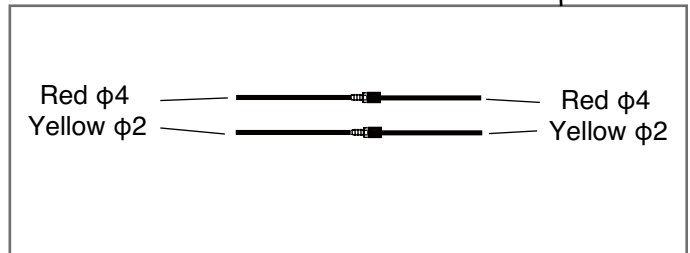
Main air master valve



Air switch

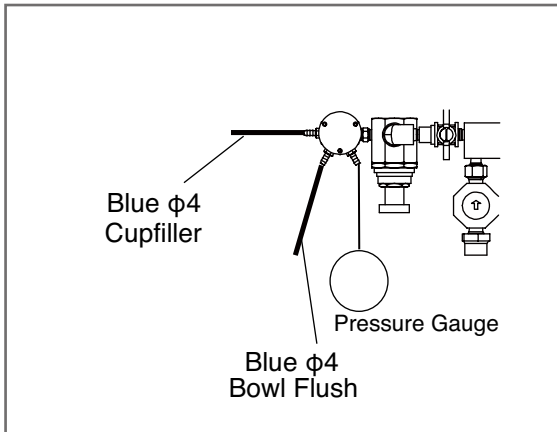


Foot controller

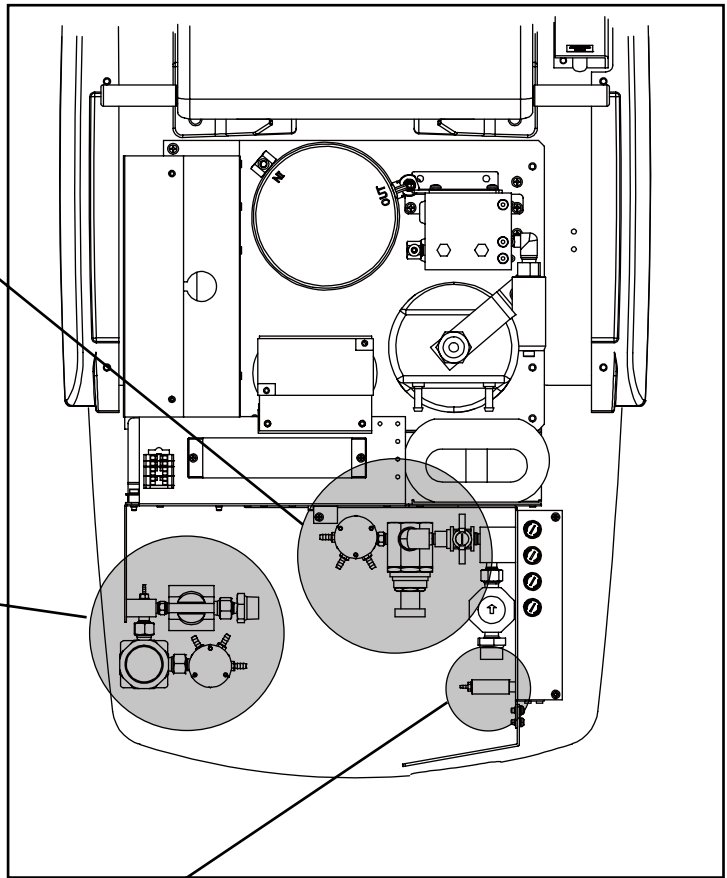
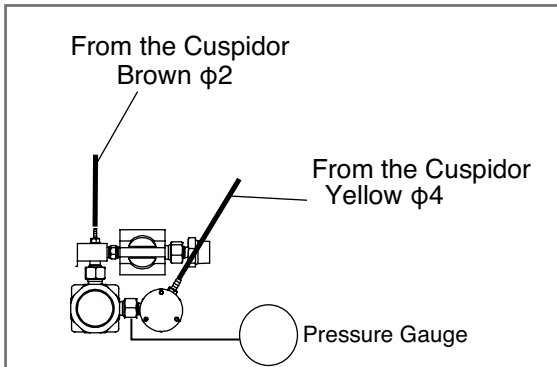


8-3. Tubings connection for Cuspidor Package

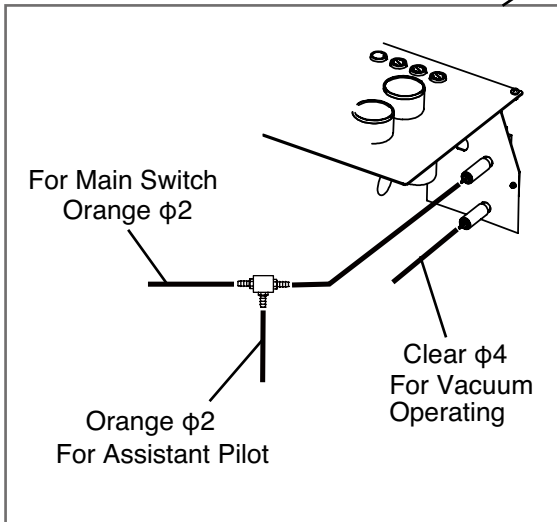
Main water master valve



Main air master valve



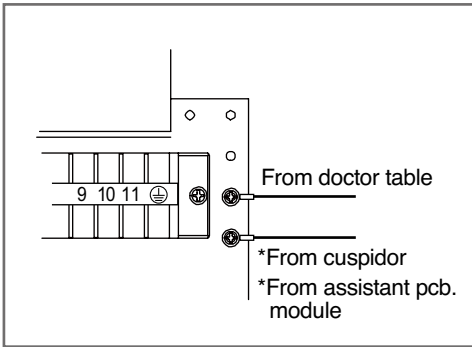
Air switch



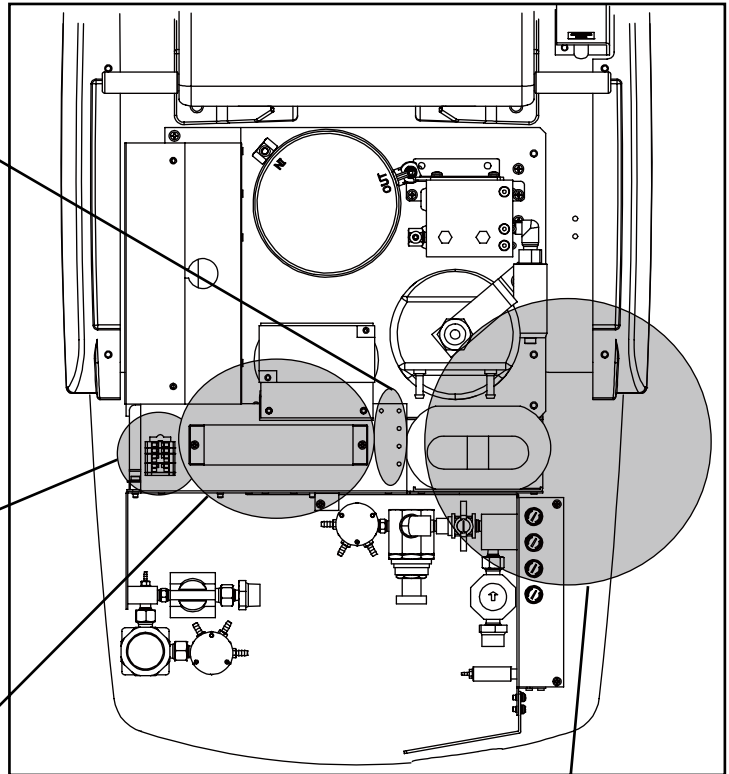
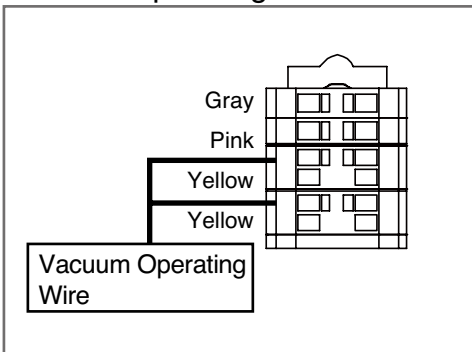
9. Electric wires connection

9-1. Electric wires connection for Standard Package and Doctor Package

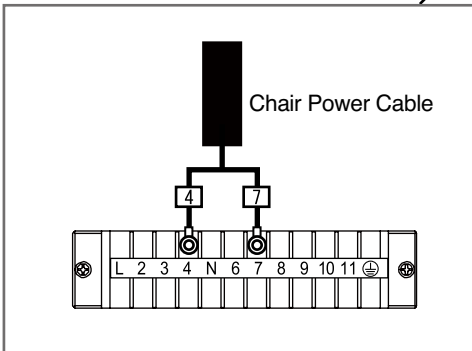
Earth



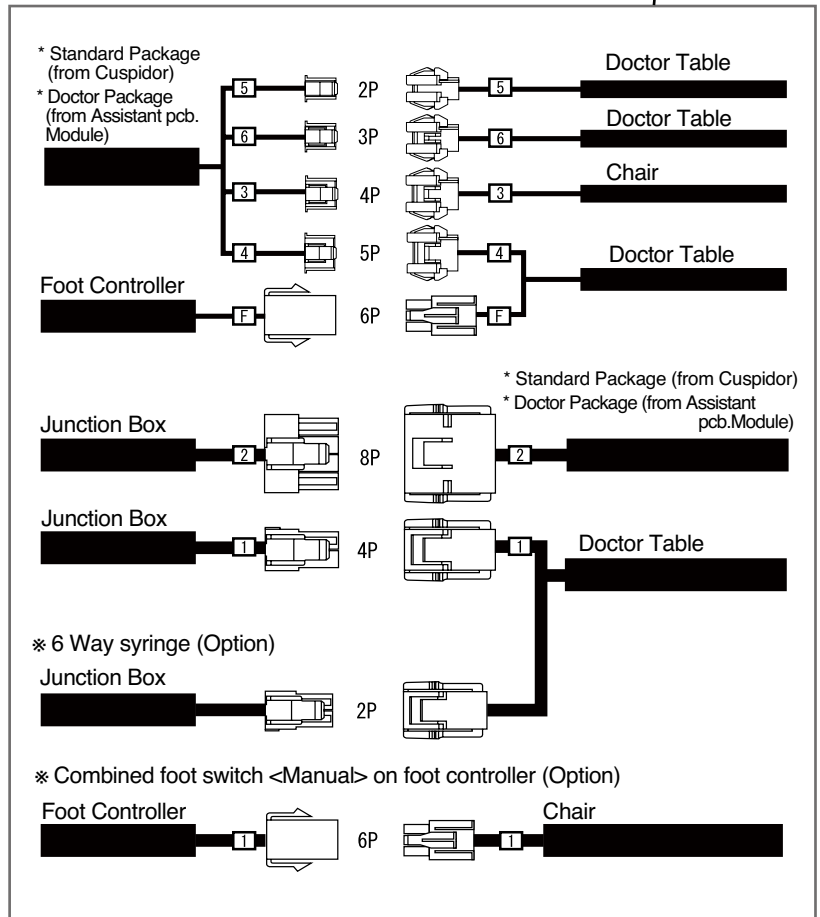
Vacuum Operating Wire



Terminal Block

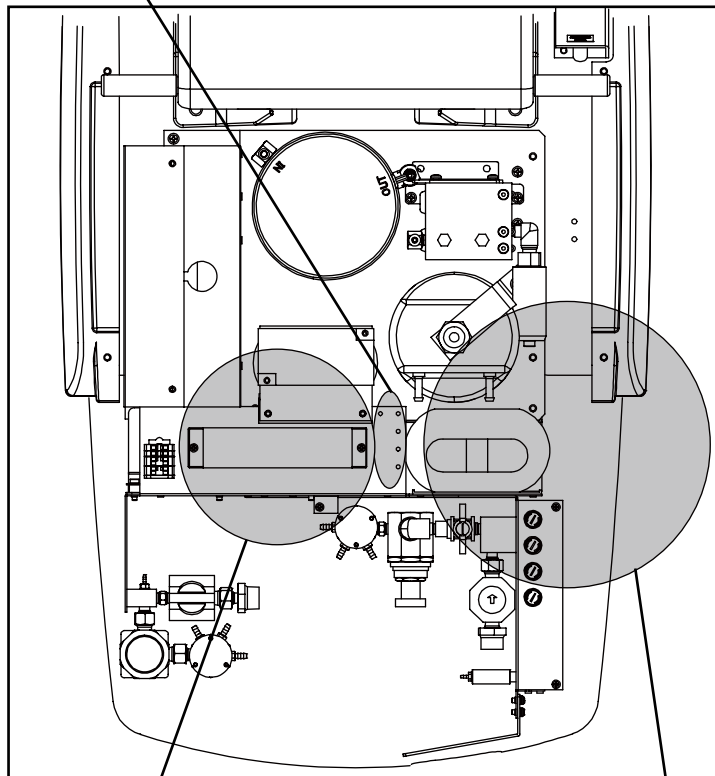
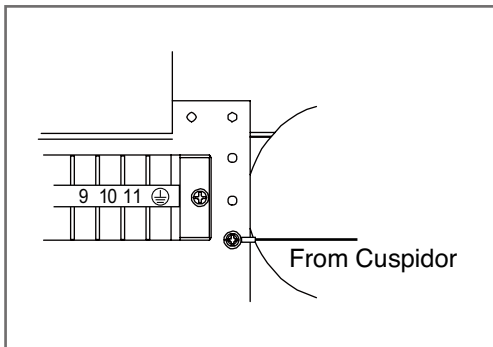


Connectors

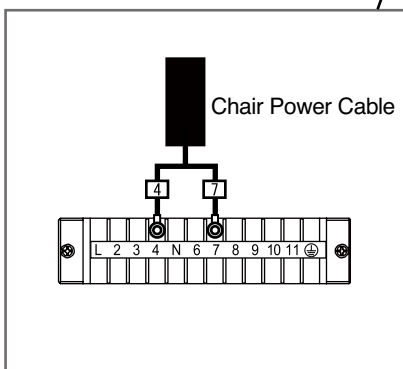


9-2. Electric wires connection for Cuspidor Package

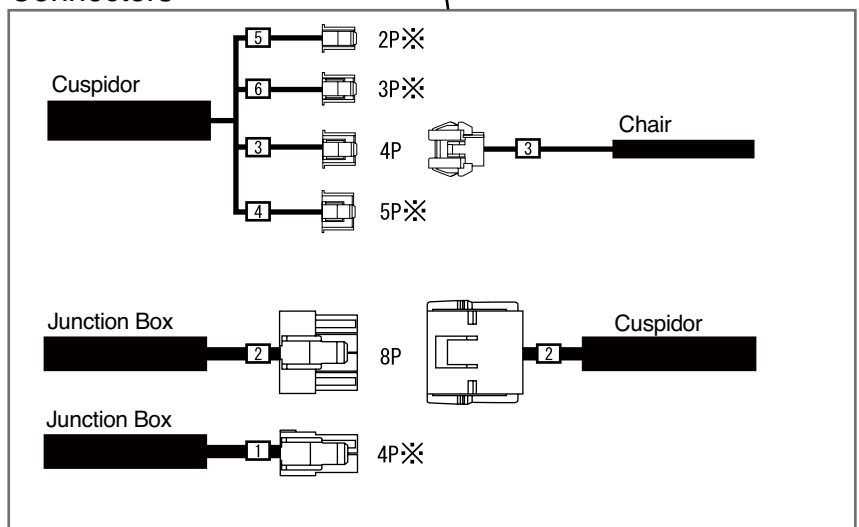
Earth



Terminal Block



Connectors



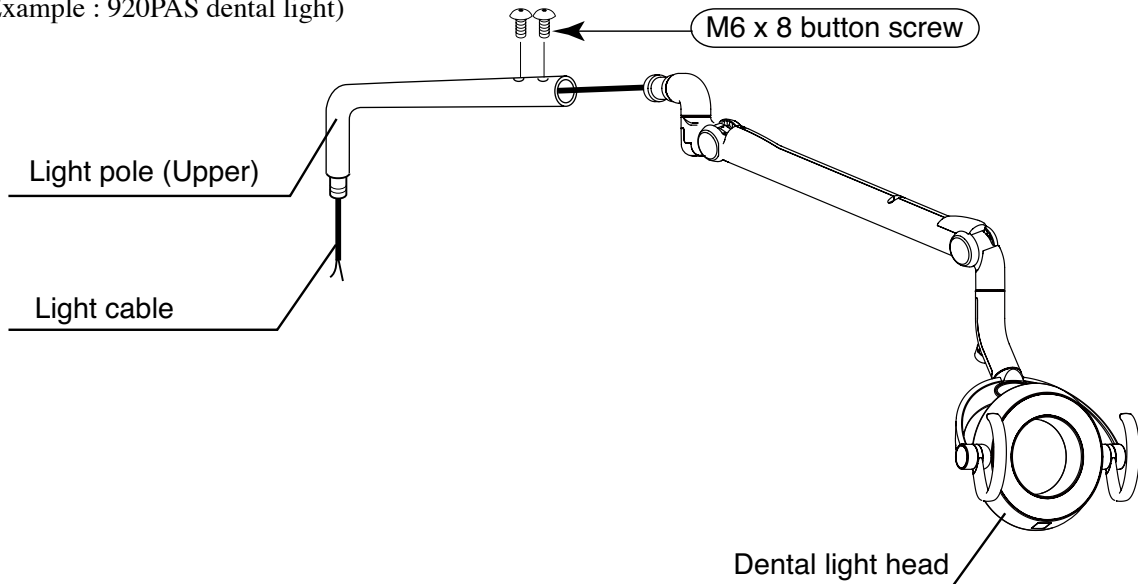
※ Do not connect

10. Installation of Dental Light (720PAS, 820PAS, 920PAS)

(1) Fix the light balance arm to light pole

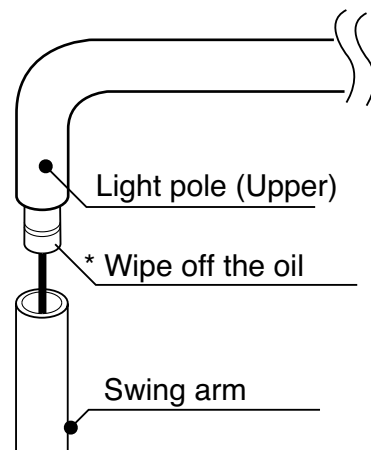
Pass the light cable through the light pole and insert the light spigot into the light pole and fix it with two button screws (M6-8).

(Example : 920PAS dental light)

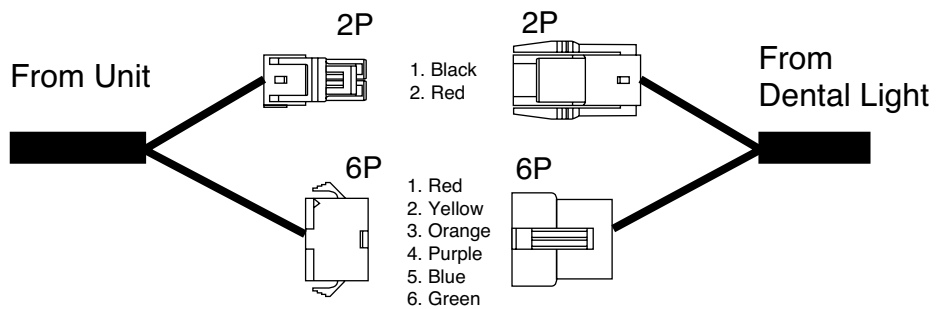
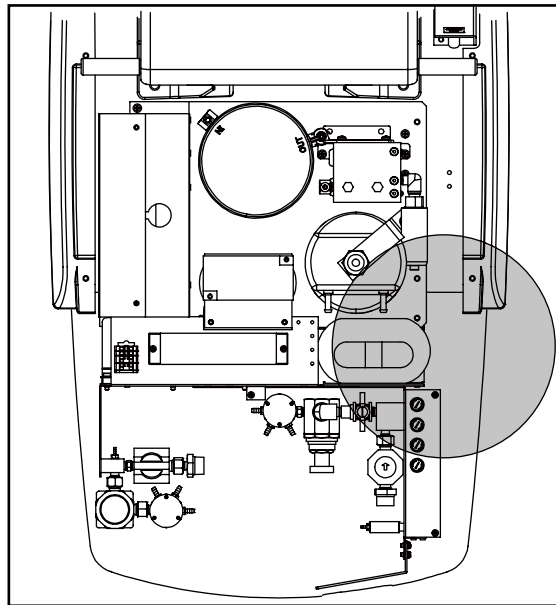


(2) Insert the light pole into the swing arm

Pass the light cable through light pole to swing arm bottom. Insert the light pole into the swing arm.



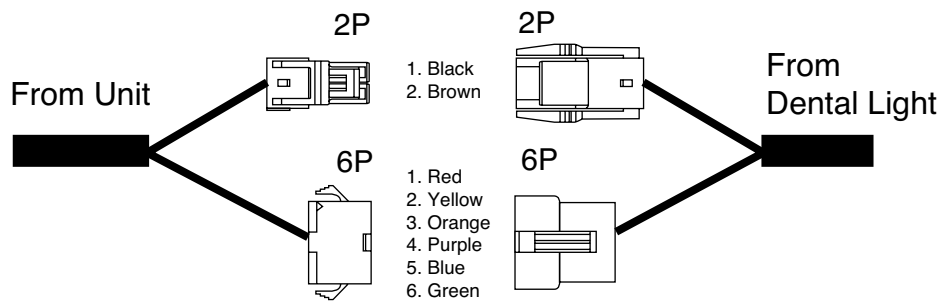
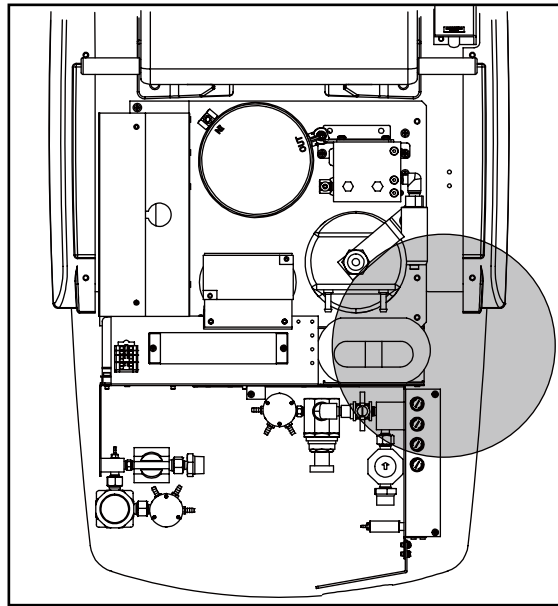
(3) Wiring Connection for 720PAS



CAUTION

- Securely insert a connector.
- Make sure pins are firmly inserted.
- When you remove a connector, instead of pulling wire, pull a connector by holding connector housing.

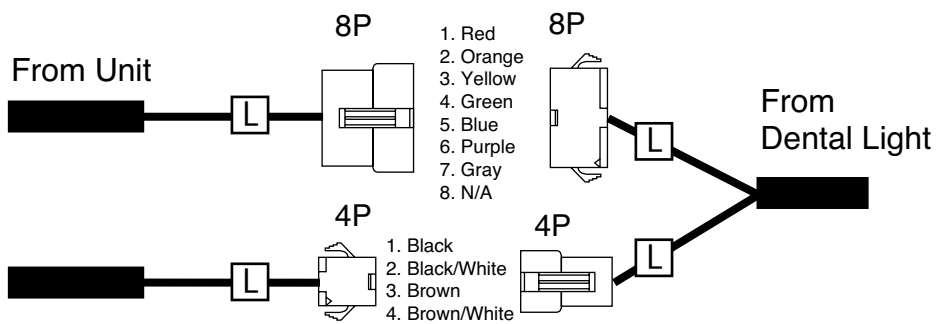
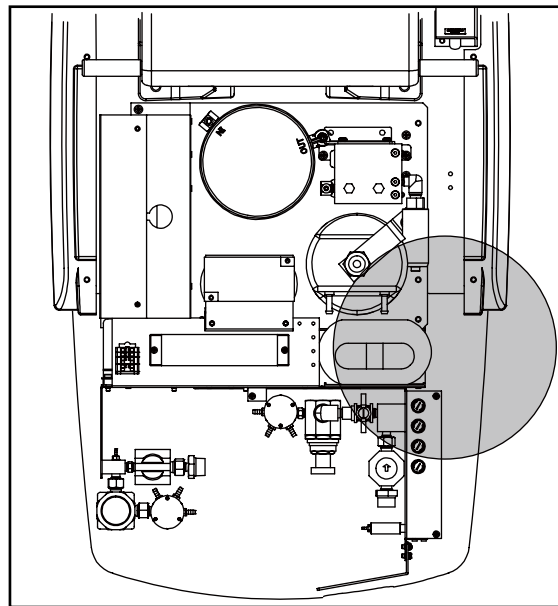
(4) Wiring Connection for IO5000TA (820PAS)



 CAUTION

- Securely insert a connector.
- Make sure pins are firmly inserted.
- When you remove a connector, instead of pulling wire, pull a connector by holding connector housing.

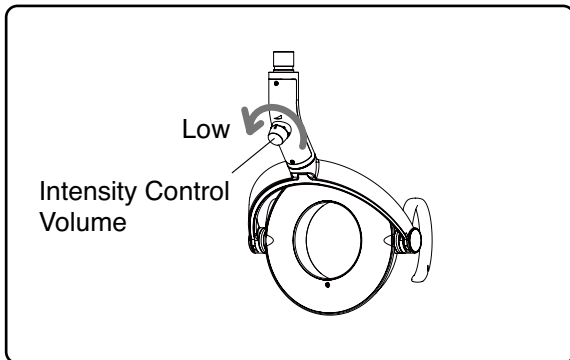
(5) Wiring Connection for 920PAS



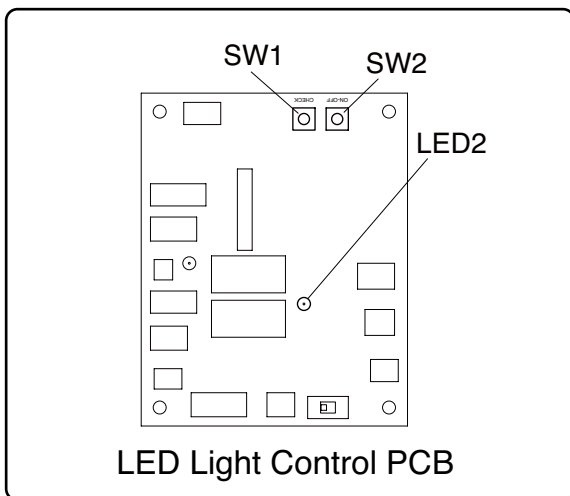
 **CAUTION**

- **Securely insert a connector.**
- **Make sure pins are firmly inserted.**
- **When you remove a connector, instead of pulling wire, pull a connector by holding connector housing.**

(6) Set the Lower Volume Limit of 920 Dental Light (920 Dental Light Only)



1. Turn light intensity control volume to its lowest end. (turn counter clockwise)



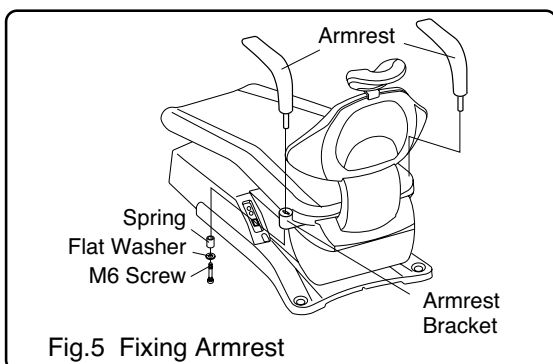
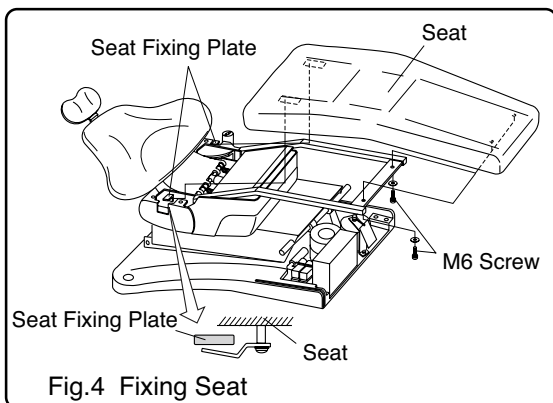
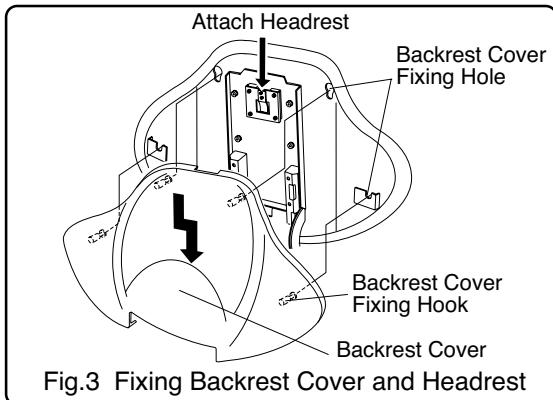
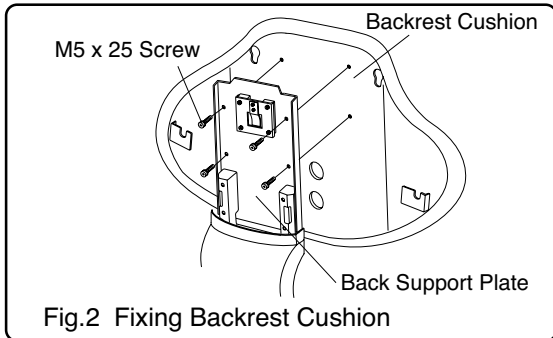
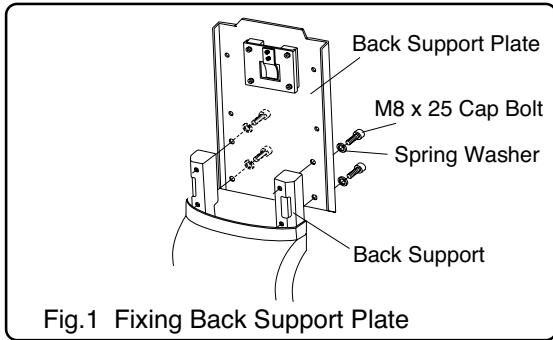
2. Push SW1 (CHECK) on a LED Light Control PCB. Yellow LED2 brinks.

3. Push SW2 (ON-OFF) on a LED Light Control PCB. Yellow LED2 turns off.

(7) Check Operation of the Dental Light (720PAS, 820PAS, 920PAS)

Item	Inspection method	Method of confirmation
Sensor/Manual Select Switch	<ul style="list-style-type: none"> • Change the mode of select switch, make sure working properly. • Confirm the direction of the select switch label and function of the switch, it must be coinciding with each other. Switch labels and switch must be coinciding with each other. 	Visual check
Light ON/OFF	<ul style="list-style-type: none"> • Confirms the light turn ON and OFF from the touchless switch and membrane switch. 	Operation Check
Touchless Sensor	<ul style="list-style-type: none"> • Confirms the light ON and OFF when shake hand within approximately 65mm from the touchless switch. * 85mm for 720PAS light. 	Operation Check
	<ul style="list-style-type: none"> • Confirms switching the composite mode when hold hand within approximately 65mm from the touchless switch for 2 seconds. *85mm for 720PAS light. 	Operation Check
Movement of the Light	<ul style="list-style-type: none"> • Make sure the light head stops and hold any positions. • Make sure that no abnormal noise occurs when the product is operated. 	Operation Check

11. Installation of Backrest and Seat



Fixing the Backrest

(1) Fix the back support plate to the back support by 4 x M8 cap bolts and spring washers. (Fig.1)

(2) Fix the backrest cushion to the back support plate by 4 x M5 screws. (Fig.2)

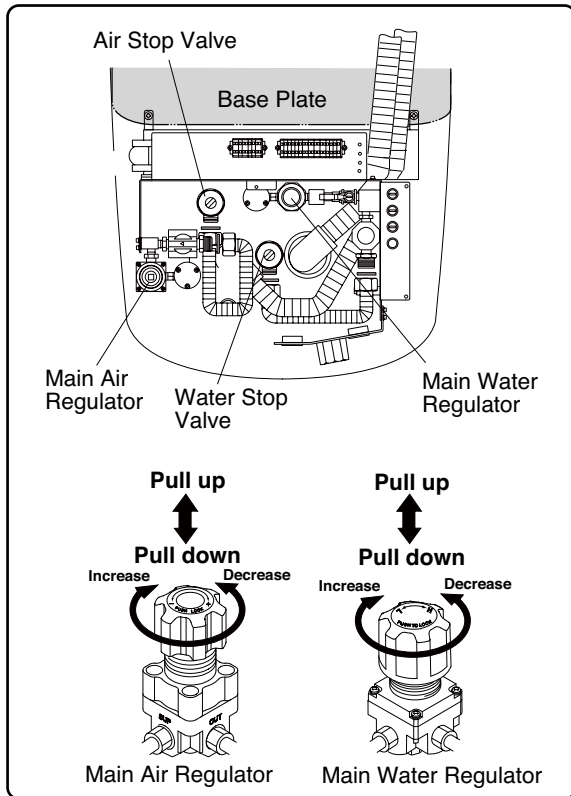
(3) Attach the backrest cover to the backrest. Insert upper two hooks of backrest cover into the upper fixing holes of the backrest. Keep pressing the backrest against backrest, slide down the backrest cover so that lower two hooks catch the lower fixing holes. (Fig.3)

(4) Attach the headrest. (Fig.3)

(5) Fix the seat to the base section. Hook the seat hooks to the seat fixing plate on the chair base and screw the seat to the seat frame with 2 x M6 screws and flat washers. (Fig.4)

(6) Fix the armrest to the armrest bracket with M6 screw, flat washer and spring. (Fig.5)

12. Adjustment



Unit Section Adjustment

(1) Water and Air Stop Valves

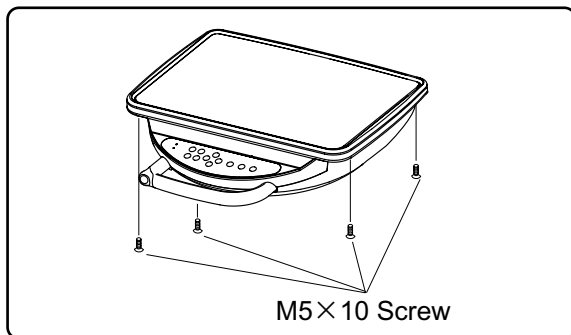
Open the water stop valve and the air stop valve in the utility section. Turn on the master switch and check that water and air are not leaking.

(2) Main Air Pressure

The main air pressure has been adjusted in the factory. Confirm that the main air pressure is at 0.5-0.55Mpa (5.0 - 5.5 kg/cm²) by the main air pressure gauge. The main air pressure can be regulated by the main air regulator in the utility section.

(3) Main Water Pressure

The main water pressure has been adjusted in the factory. Confirm the main water pressure is at 0.2Mpa (2.0 kg/cm²) by the main water pressure gauge. The main water pressure can be regulated by the main water regulator in the utility section.



Handpiece Adjustment

(1) Removing Doctor Table Top

Loosen and remove M5 x 10 screws (4 pcs.) from the doctor table bottom and remove the doctor table top.

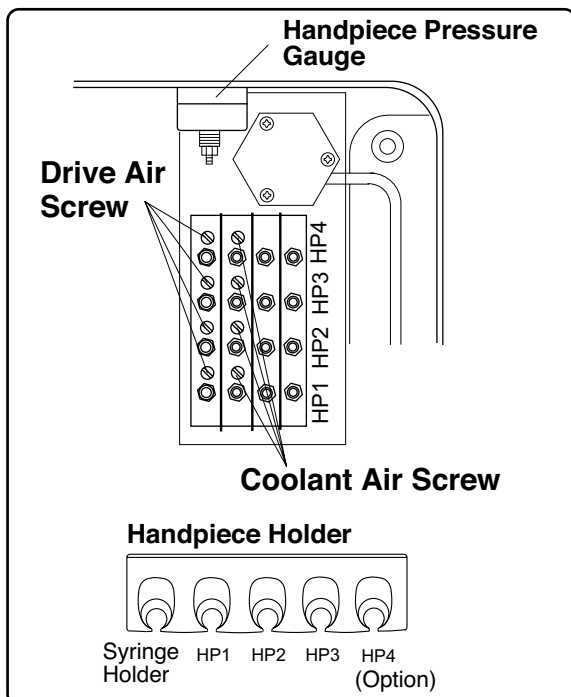
(2) Handpiece Drive Air Adjustment

Adjustment of each handpiece drive air can be made by the screw on the auto select valve. It is important to set the drive air pressure in according with the handpiece manufacture's recommendation.

Drive air pressure is indicated on the handpiece pressure gauge located on the rear side of table.

(3) Setting The Optimum Condition

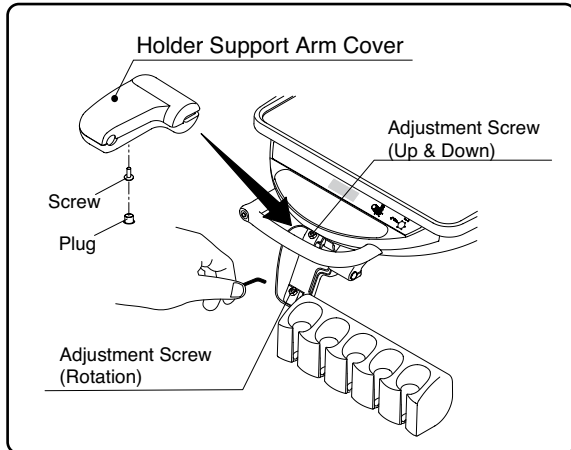
Turn the appropriate drive air screw fully clockwise, then depress the drive air pedal on the foot control fully (maximum foot pressure) and turn the screw counterclockwise slowly. Stop turning the screw immediately when the handpiece pressure gauge shows the desired drive air pressure.



(4) Handpiece Coolant Air Adjustment

Handpiece coolant air adjustment screws are provided for individual adjustment of handpiece coolant air. Turning a handpiece coolant air adjustment screw counterclockwise increases flow volume and turning clockwise decreases.

Note : Do not loosen the adjustment screw excessively, it will make air leaking.



HANDPIECE HOLDER ADJUSTMENT

Angle and Height Adjustment

- A. Remove the holder support arm cover and loosen the adjustment screw with a hex L wrench. (Remove the plug located on the underside of the holder support arm with a fingernail. The cover can be detached by removing the screw.)
- B. Set the holder at the client's favorite position and fix by tightening the screw.
Be careful not to tighten the screw too much.

Chair Section Adjustment

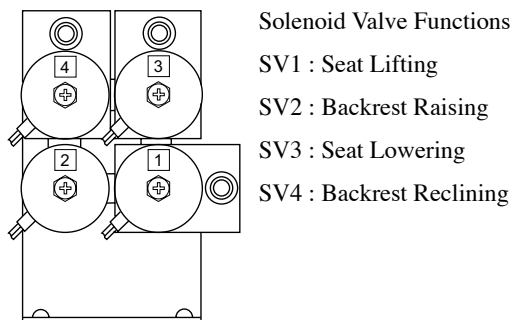
(1) Speed Adjustment

Seat lowering speed and backrest reclining speed can be adjusted by the speed control knob on the solenoid valve block. The solenoid valve numbers and functions are shown in drawing below.

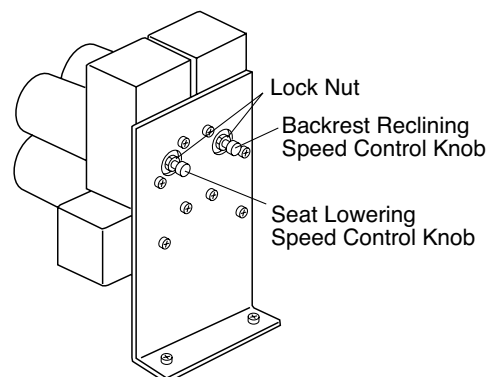
- A. Remove the pump cover.
The solenoid valve block is located on the left side at the front of the chair base.
Each speed control knob is located on the rear side of the solenoid valve block.
- B. Loosen the lock nut for the speed control knob.
- C. Turning the speed control knob clockwise to decrease the speed and turning counterclockwise to increases the speed.
- D. After adjustment, tighten the lock nut and reattach the pump cover.

⚠ CAUTION

The chair movement will be locked if the speed is reduced excessively.
Oil may leak from the speed control knob if the speed is increased excessively.

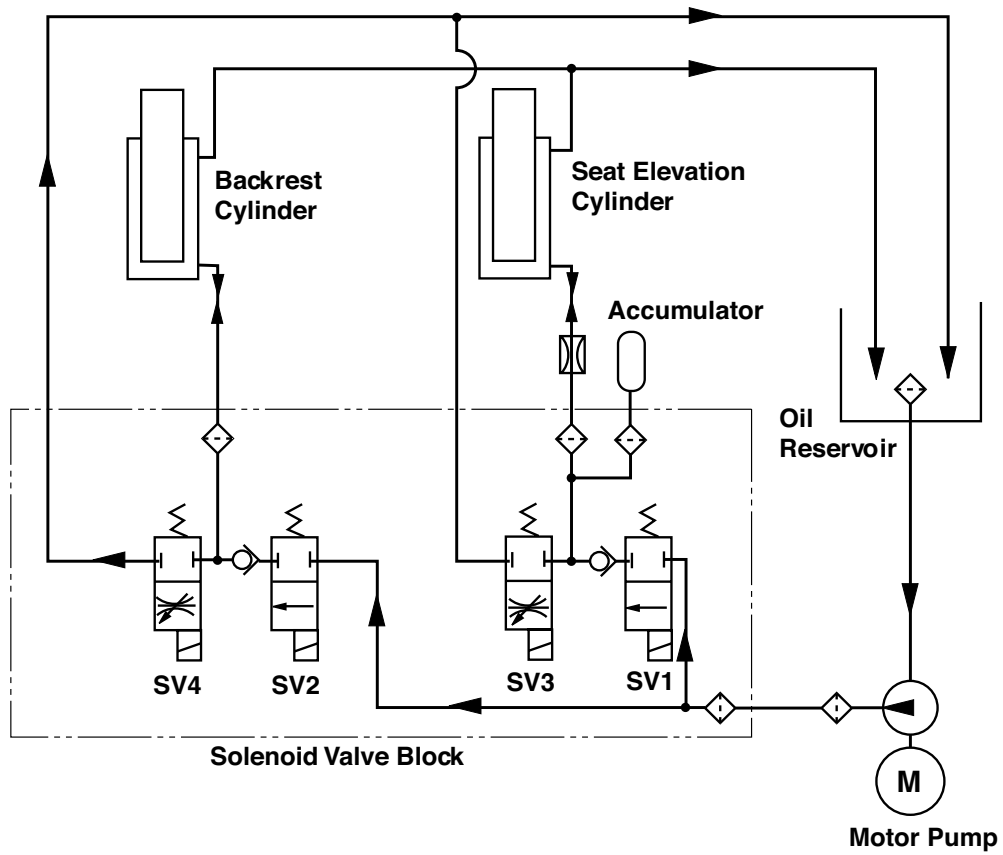


Solenoid Valve Numbers and Functions



Speed Control Knobs on Solenoid Valve Block

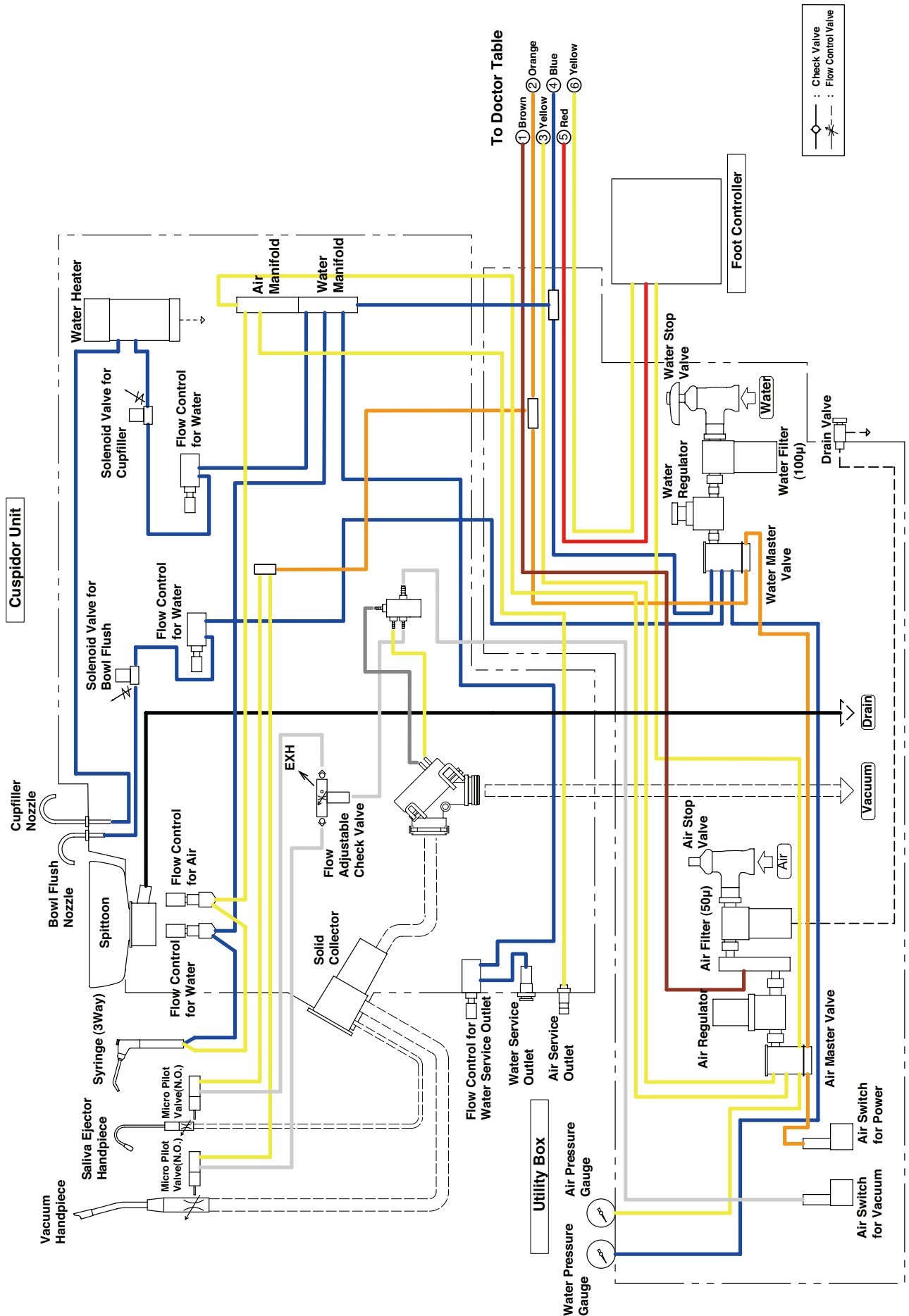
13. Chair Hydraulic Diagram



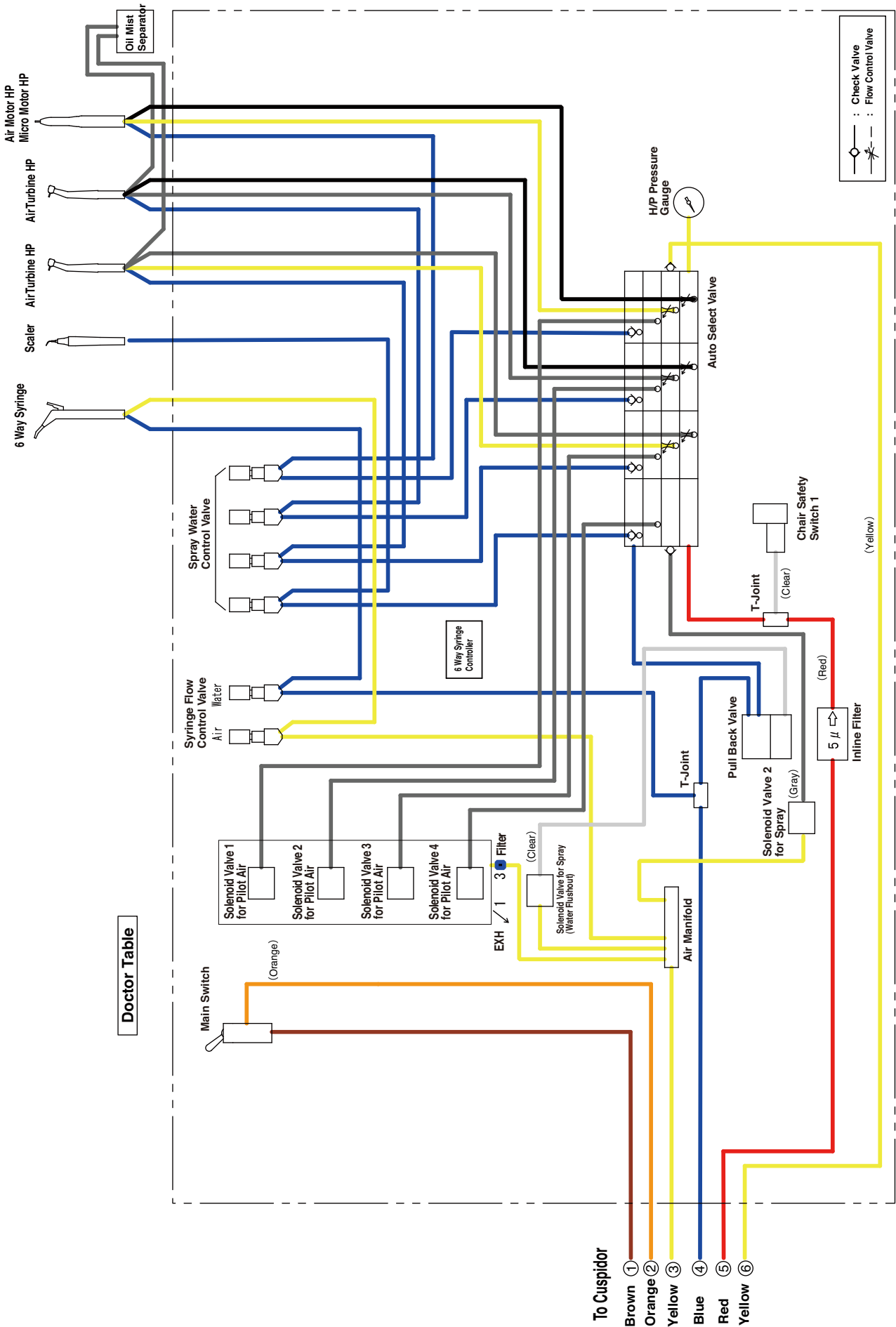
- ◊ : Filter
- : Check Valve
- ⊗ : Flow Adjustable Solenoid Valve
- ⊕ : Solenoid Valve

14. Unit Flow Diagram

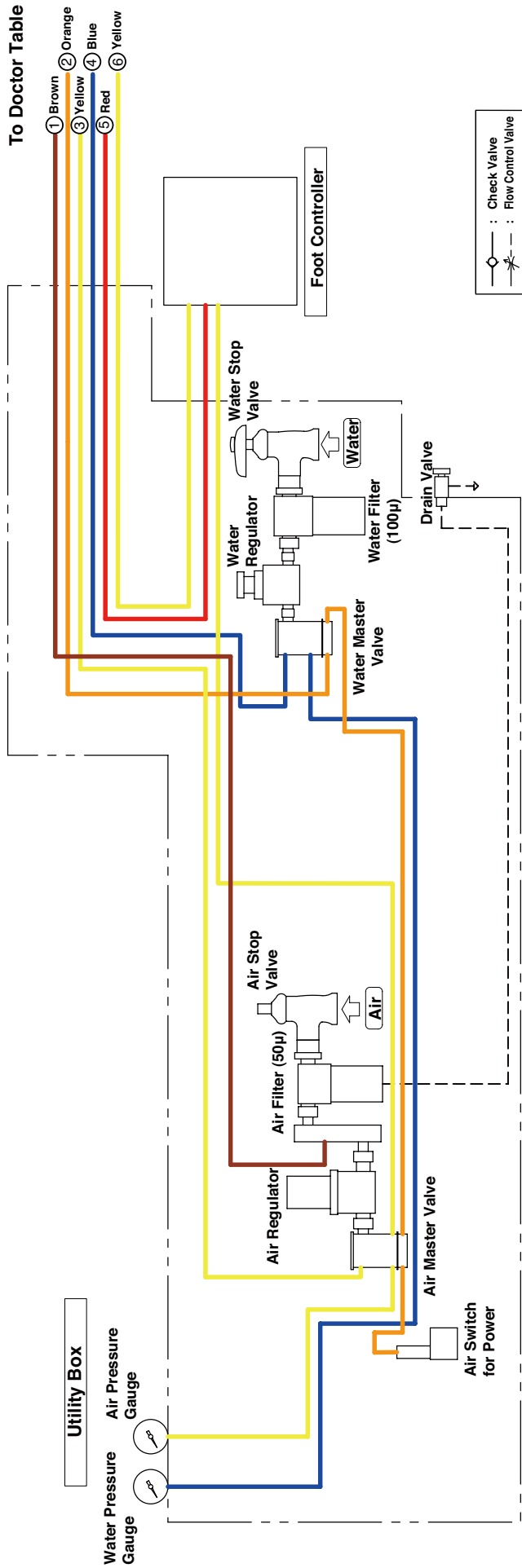
14-1. Cuspidor Unit and Junction Box Flow Diagram (Water / Air) for Standard Package



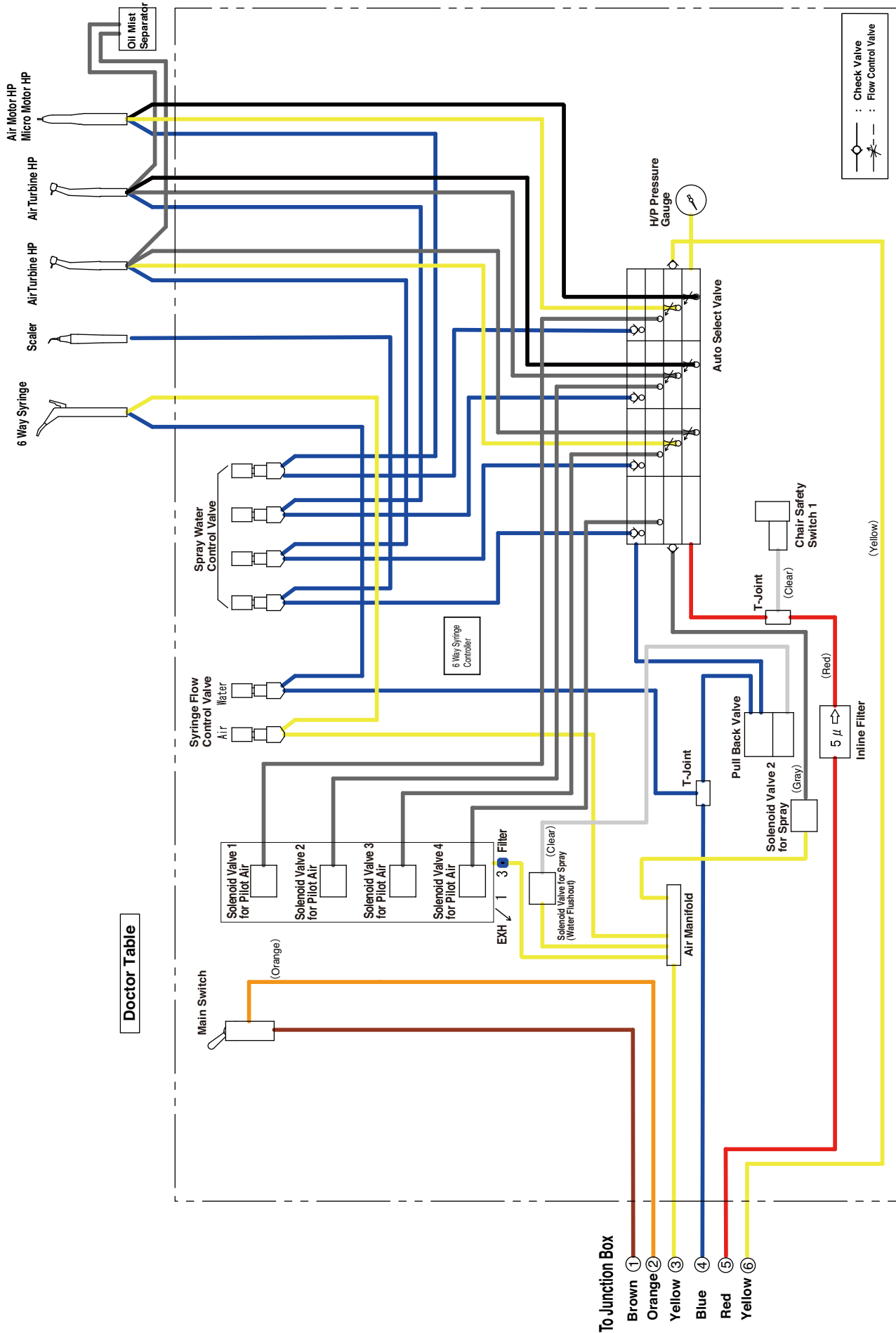
14-2. Doctor Table Flow Diagram (Water / Air) for Standard Package



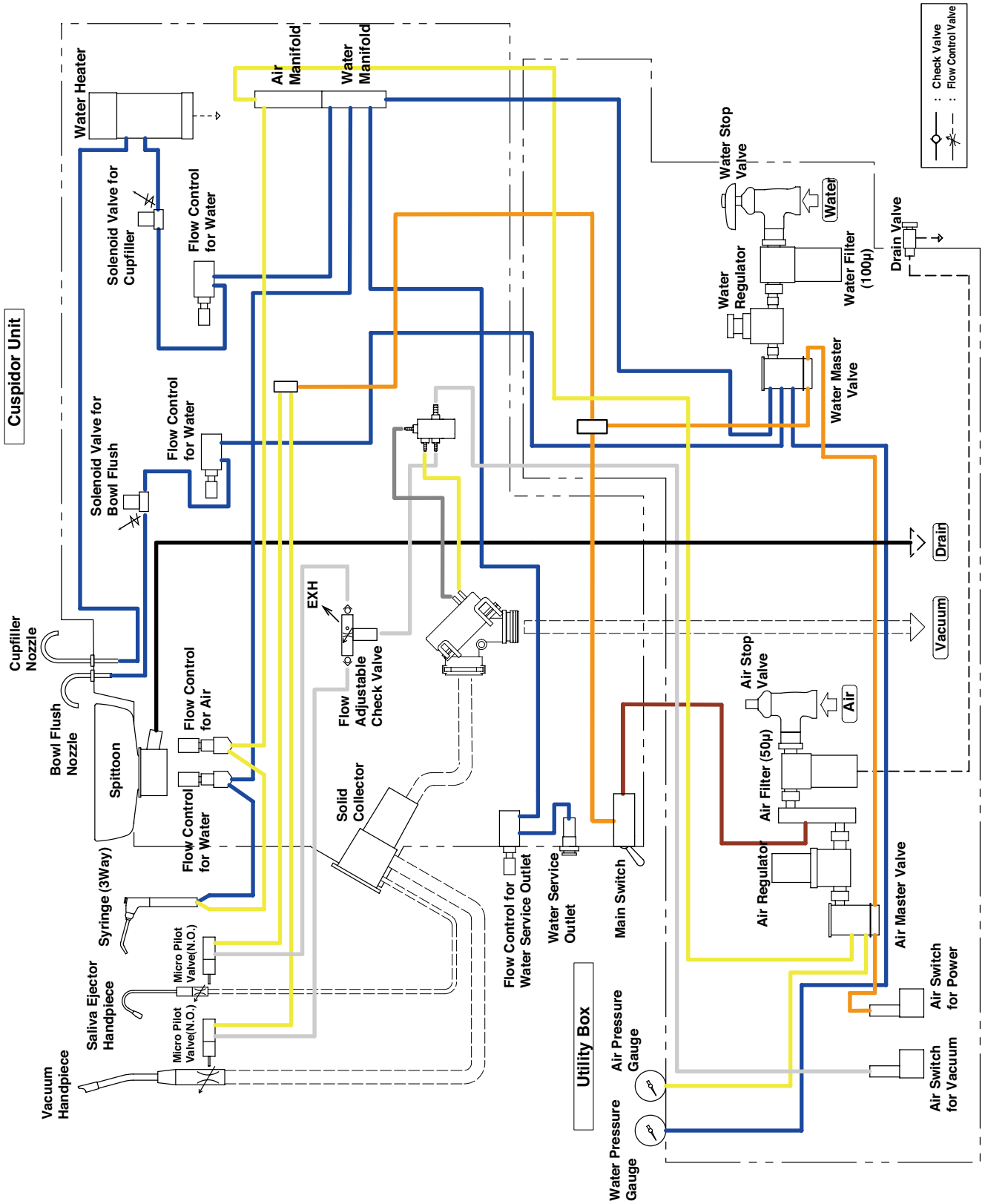
14-3. Junction Box Flow Diagram (Water / Air) for Doctor Package



14-4. Doctor Table Flow Diagram (Water / Air) for Doctor Package

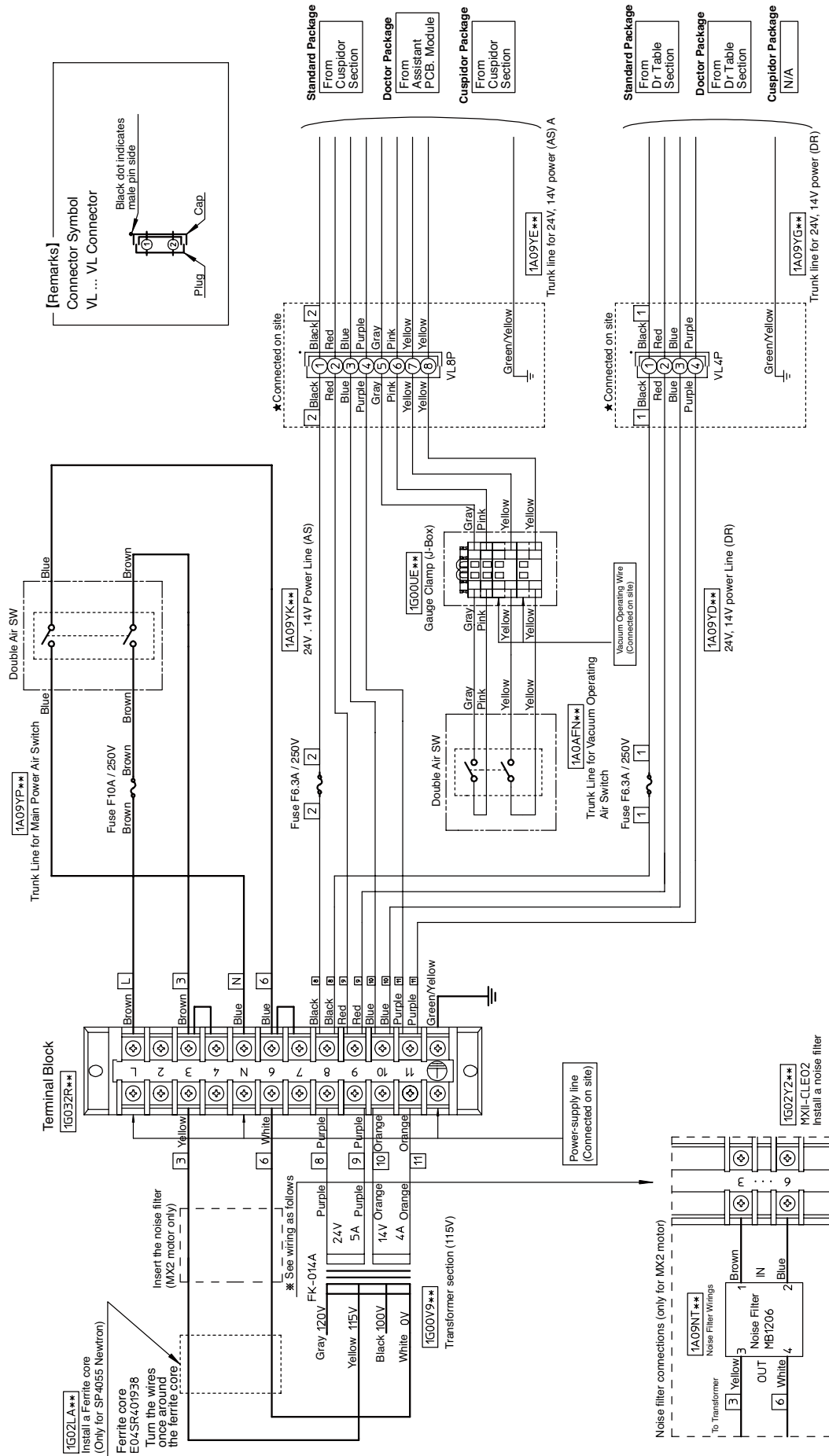


14-5. Cuspidor Unit and Junction Box Flow Diagram (Water / Air) for Cuspidor Package

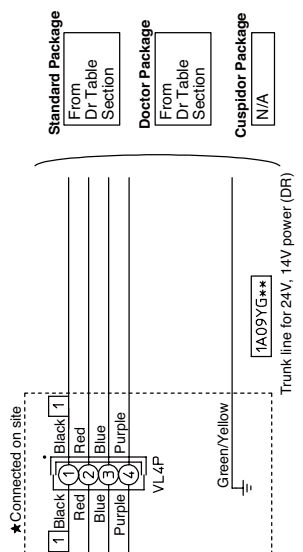
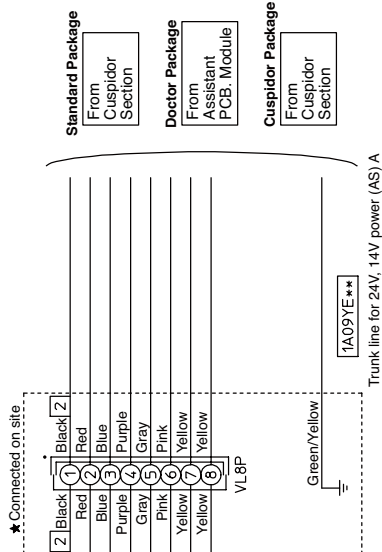
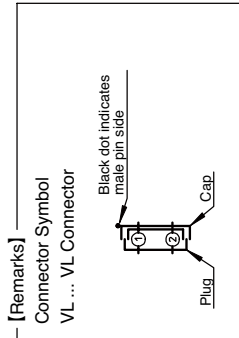
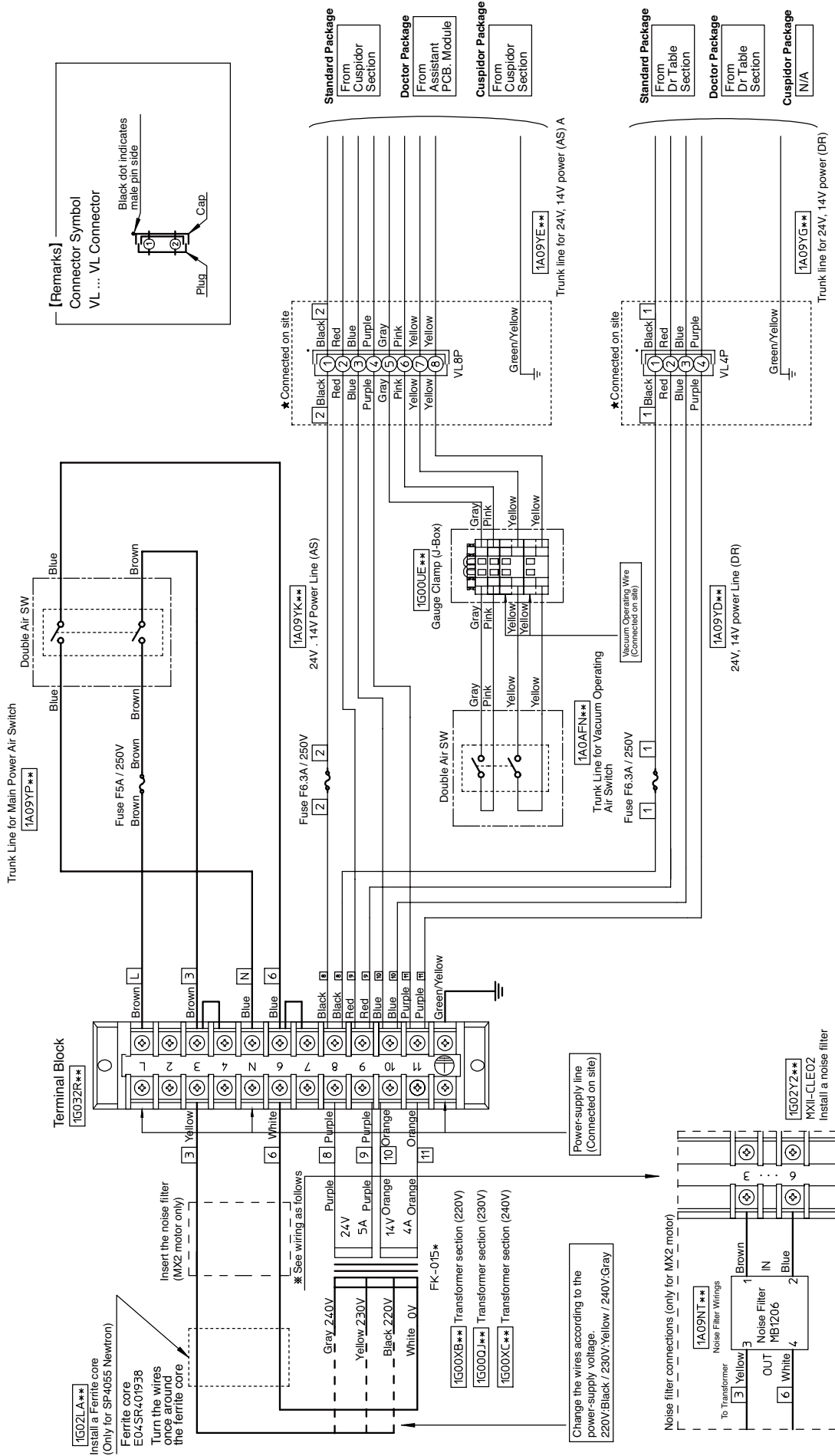


15. Electrical Diagram

15-1. Junction Box Section (115V)

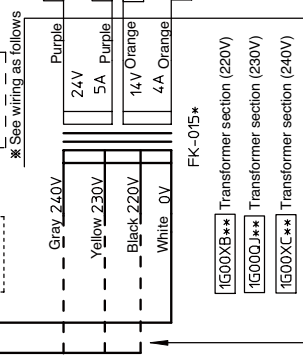


15-2. Junction Box Section (220V, 230V, 240V)

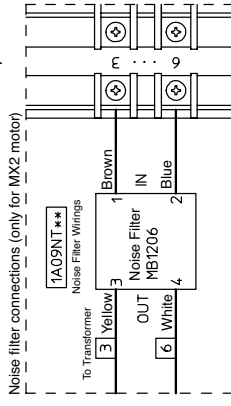


1G02LA**
Install a Ferrite core
(Only for SP4055 Newton)

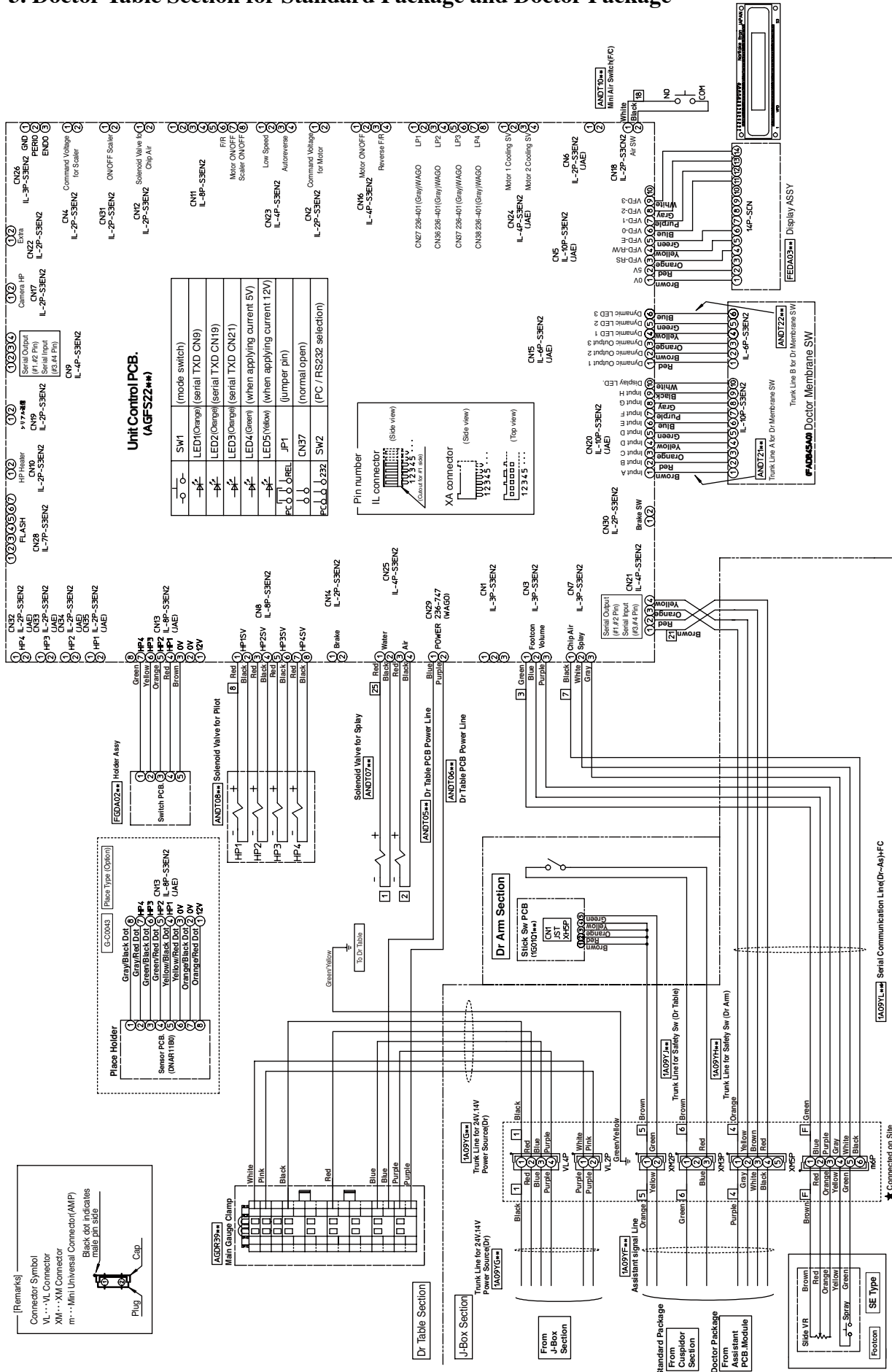
Ferrite core
E04SR401938
Turn the wires
once around
the ferrite core



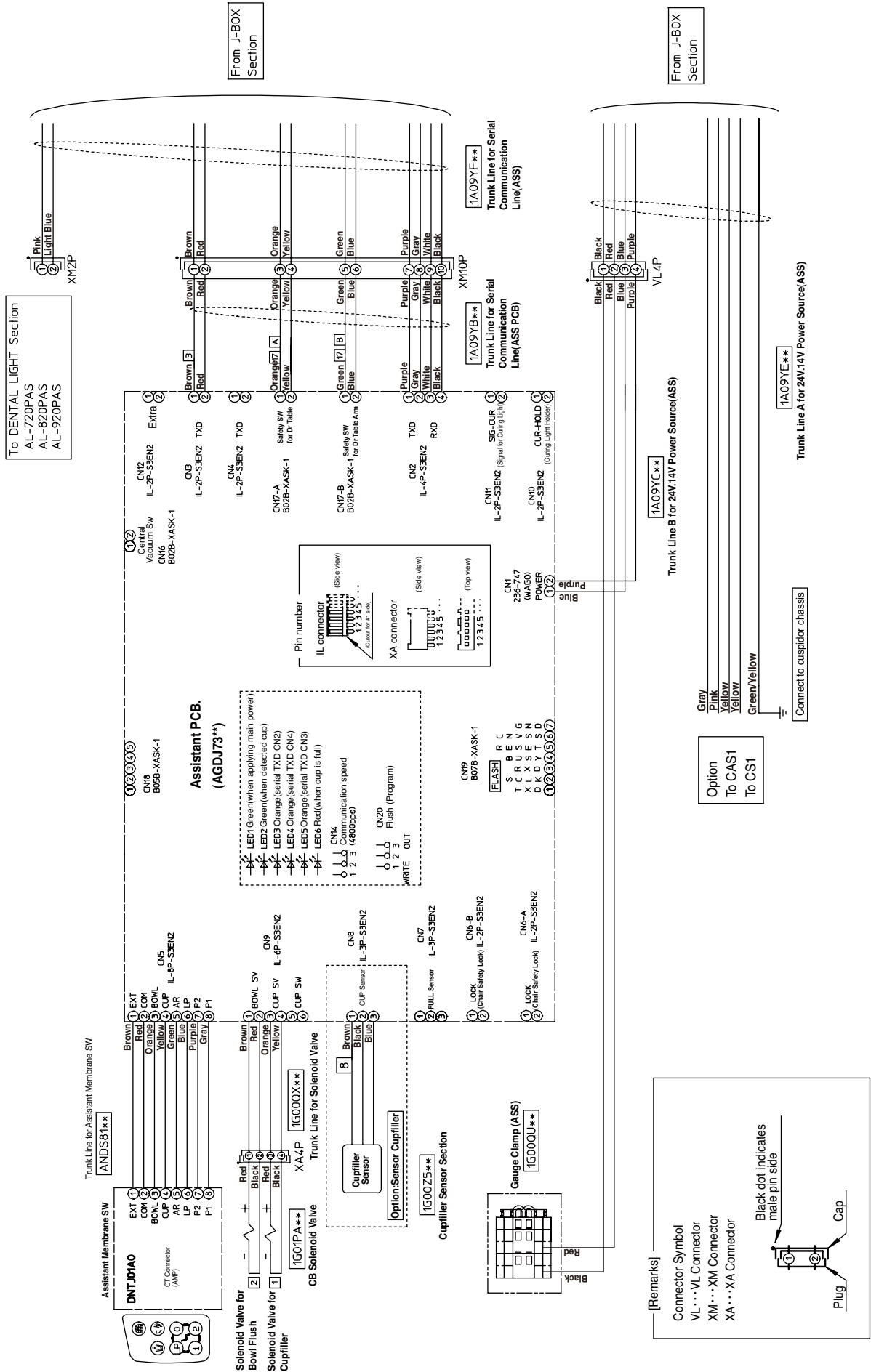
Change the wires according to the power-supply voltage.
220V:Black / 230V:Yellow / 240V:Gray



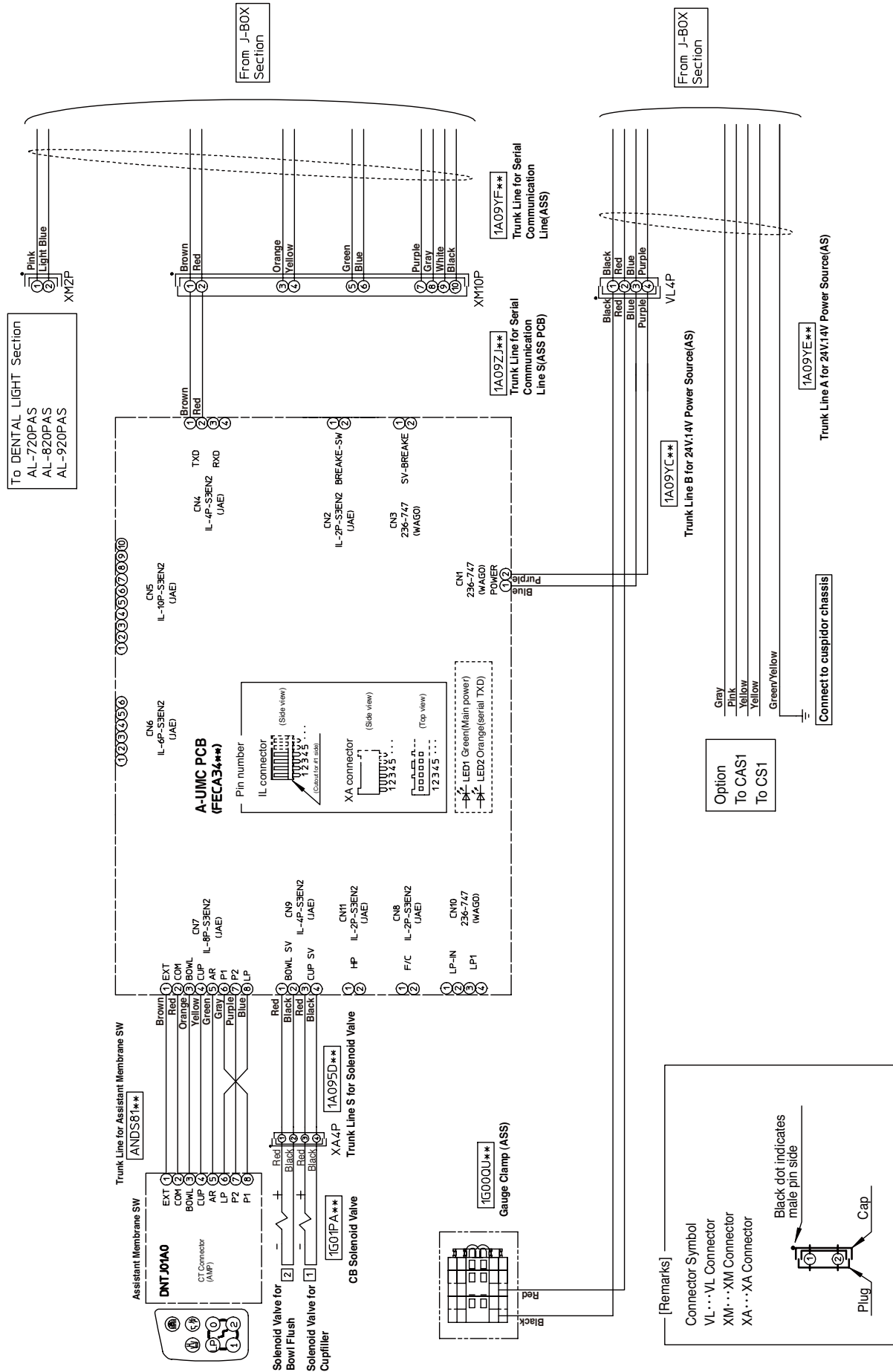
15-3. Doctor Table Section for Standard Package and Doctor Package



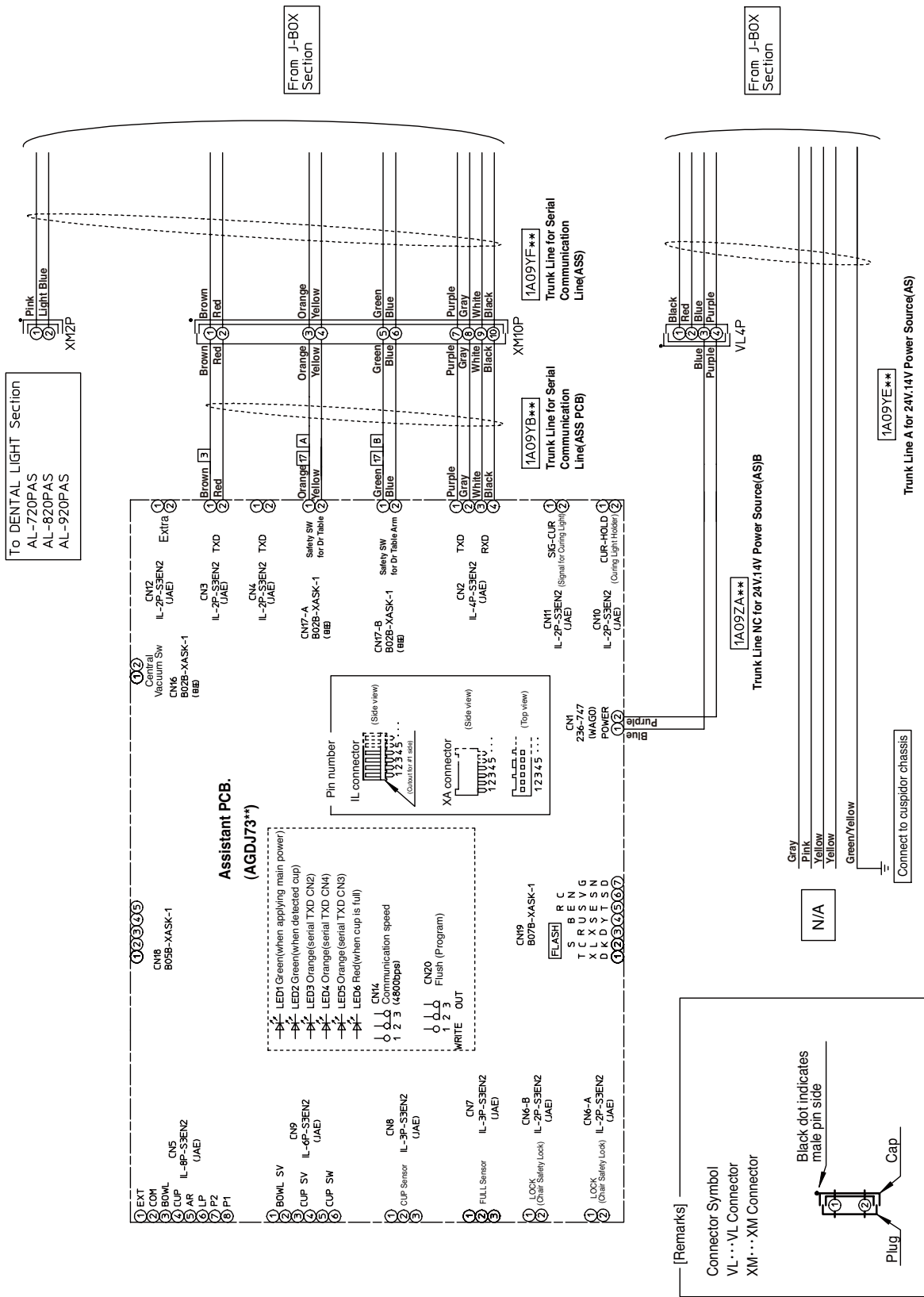
15-4. Cuspidor Section for Standard Package



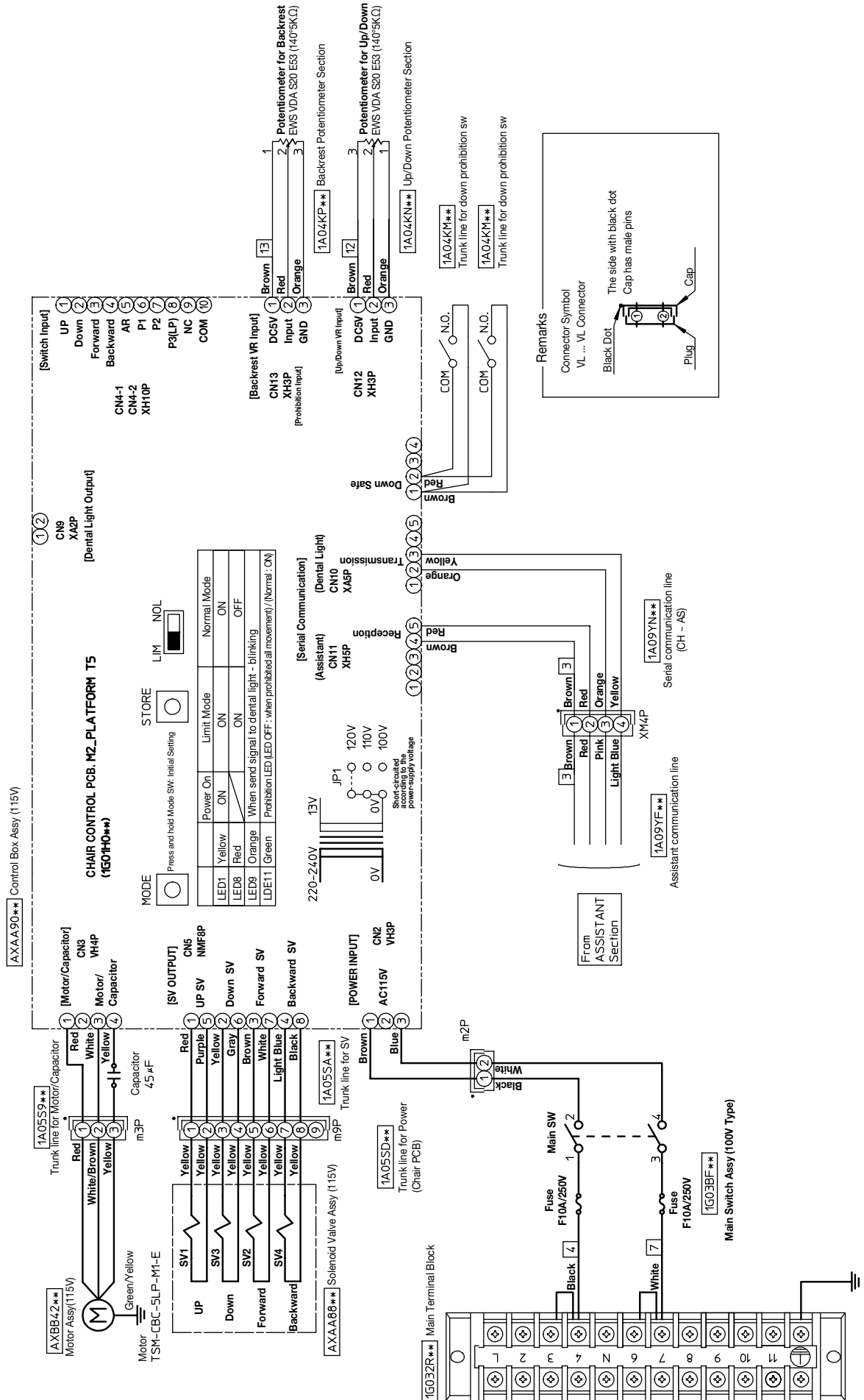
15-5. Cuspidor Section for Cuspidor Package



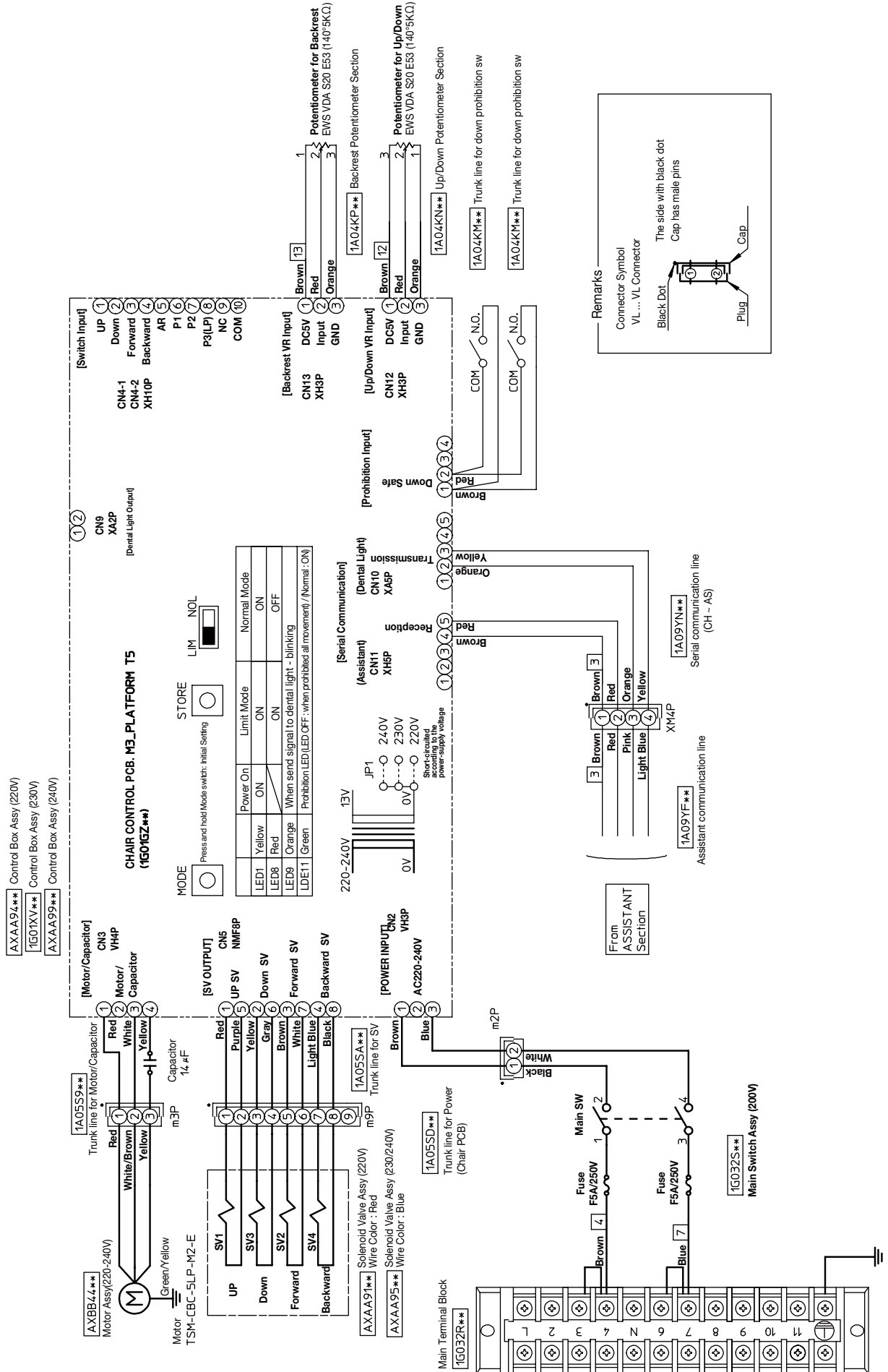
15-6. Assistant PCB Module Section for Doctor Package



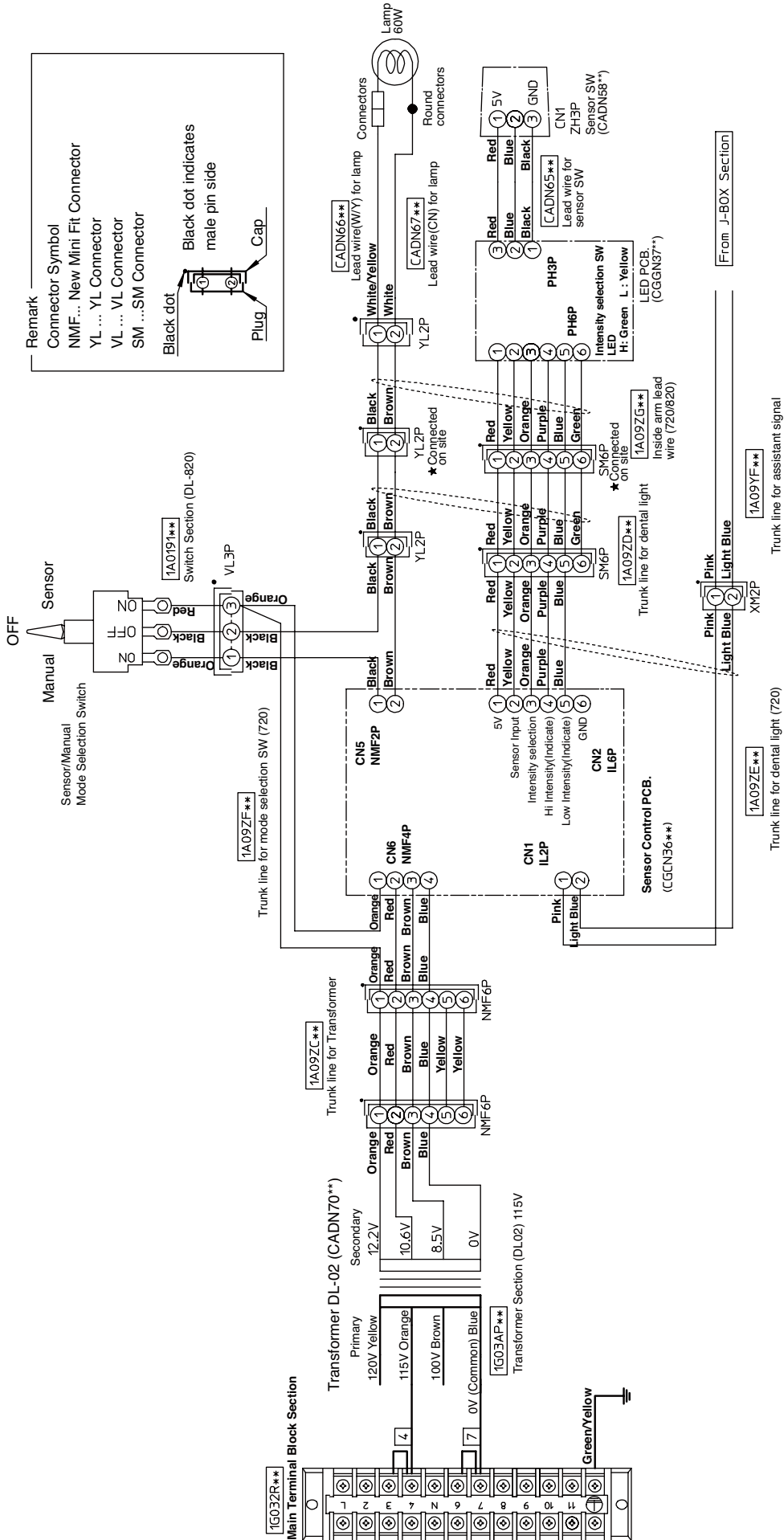
15-7. Chair Section (115V)



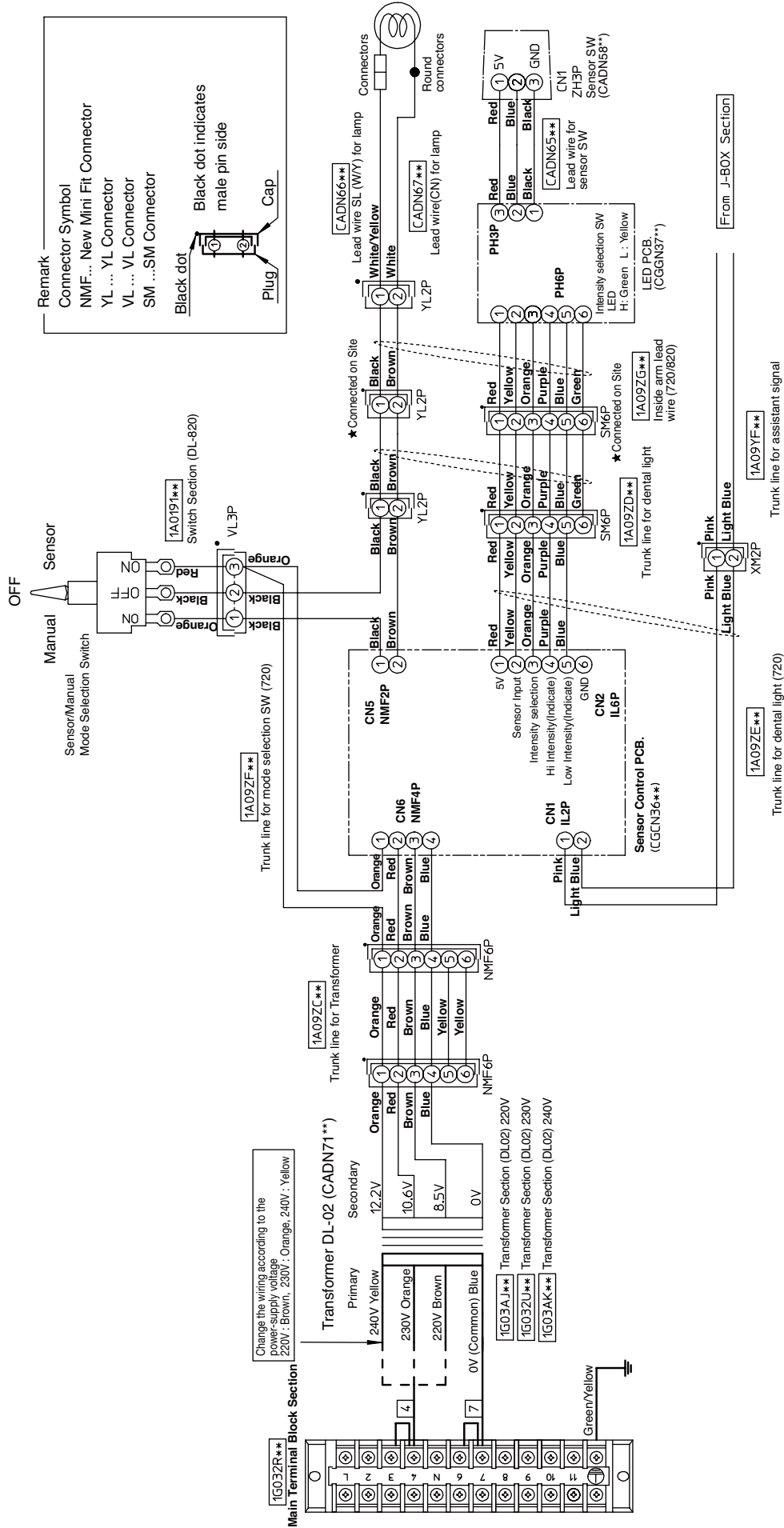
15-8. Chair Section (220V, 230V, 240V)



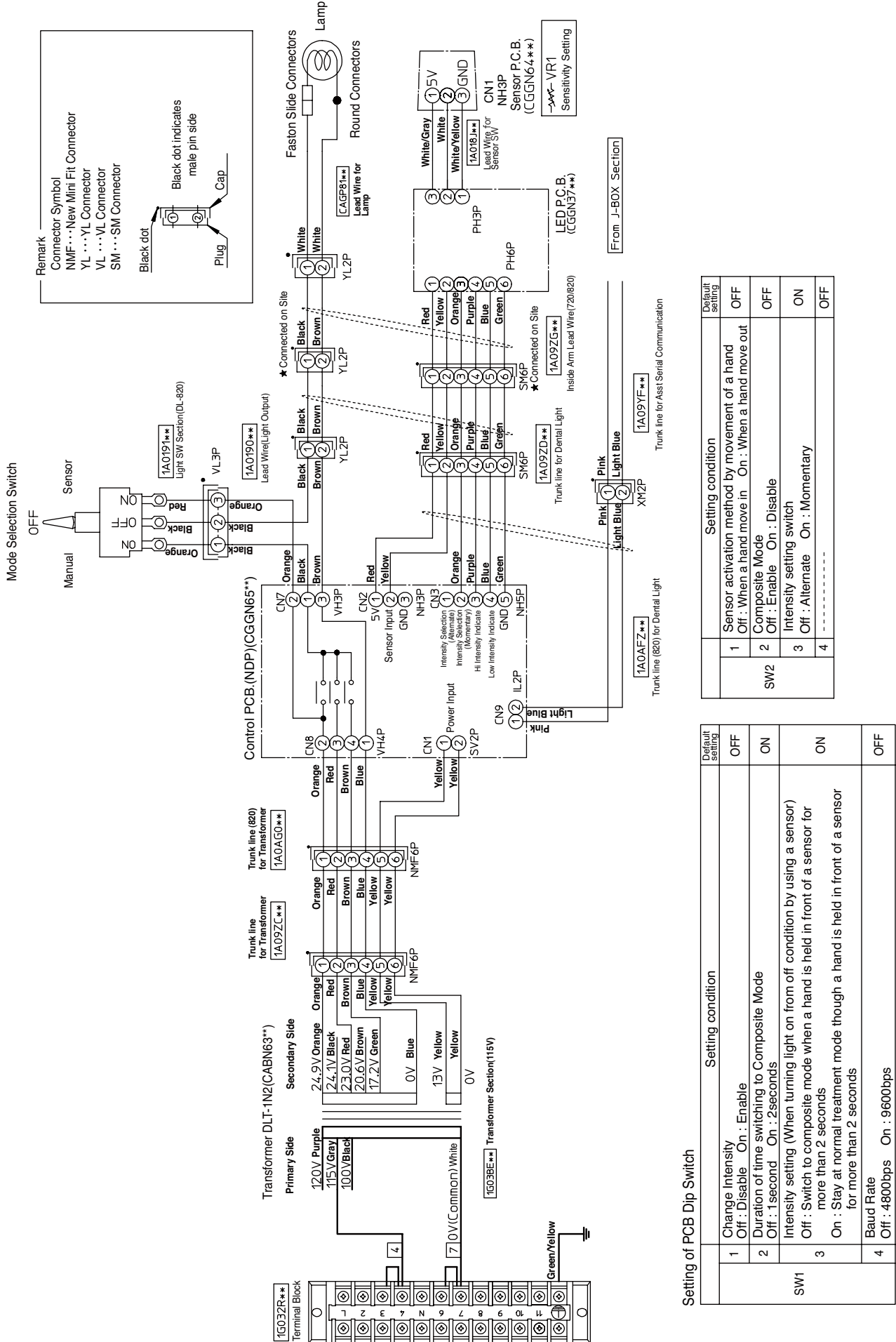
15-9. Dental Light 720PAS (115V)



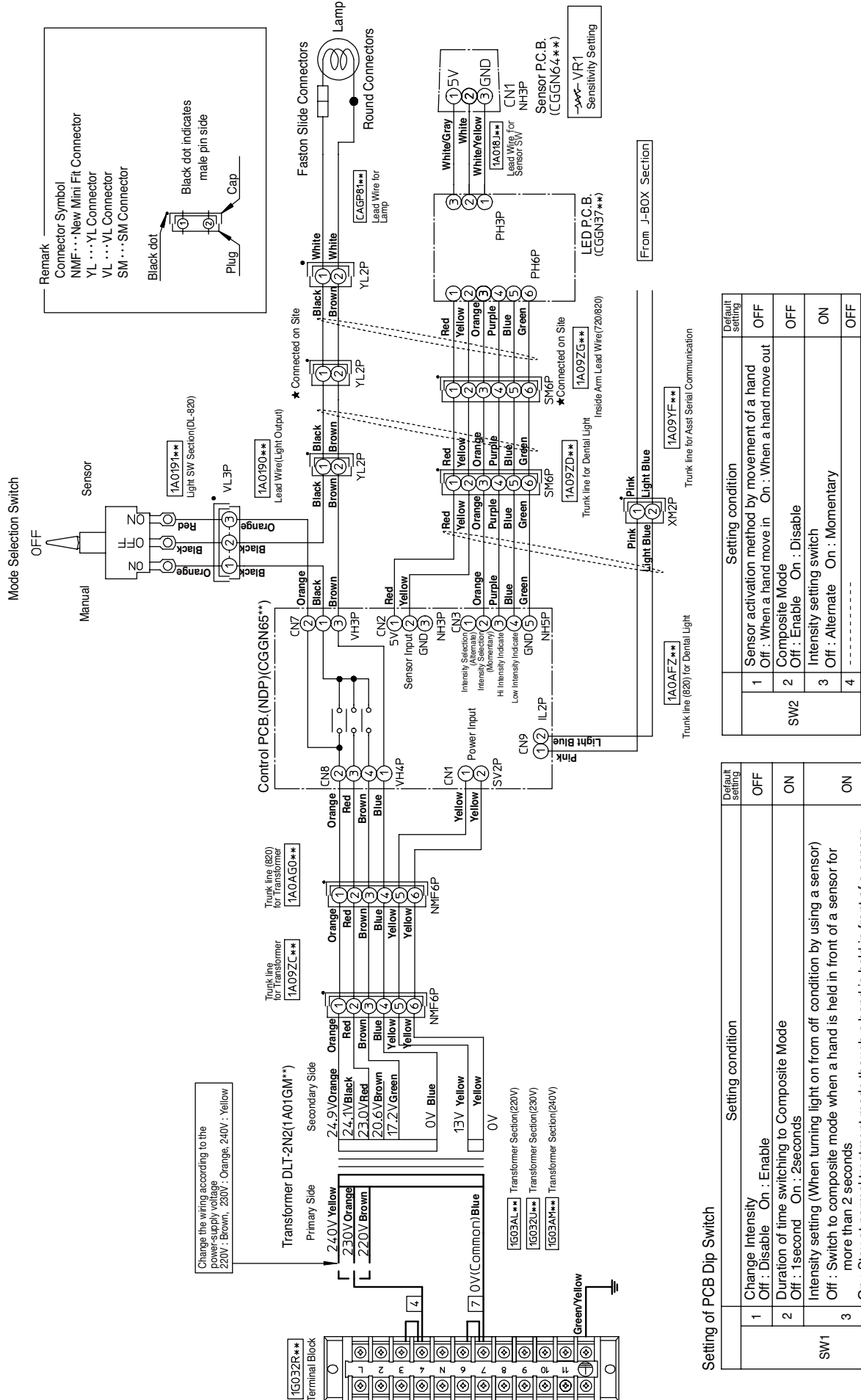
15-10. Dental Light 720PAS (220V, 230V, 240V)



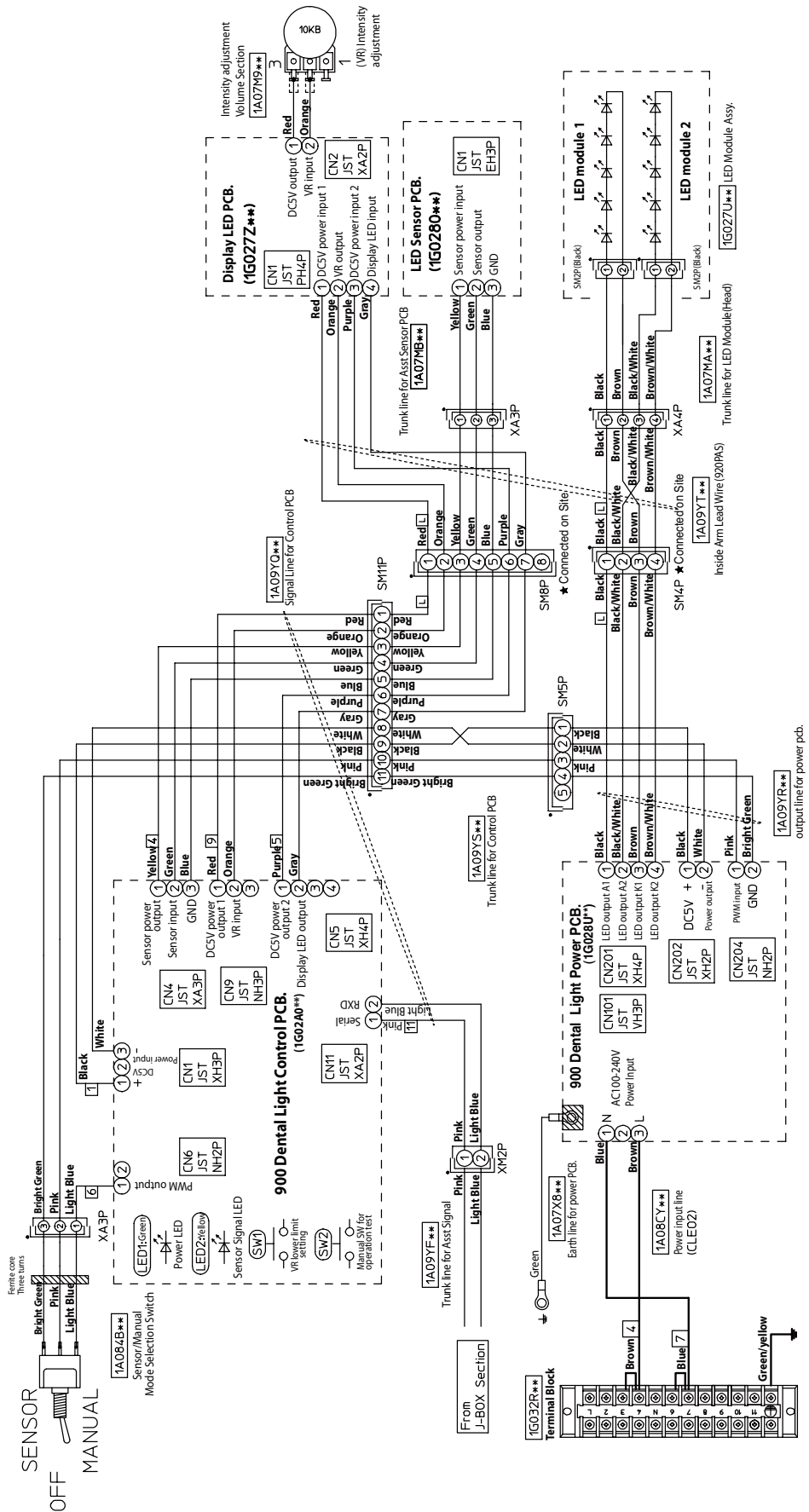
15-11. Dental Light 820PAS (115V)



15-12. Dental Light 820PAS (220V, 230V, 240V)



15-13. Dental Light 920PAS (115V, 220V, 230V, 240V)



Settings of PCB dip switches (SW3,4) and jumper pin (JP3).

	Setting condition	Default setting
1	Test mode (Always OFF) Off: Normal operation, On: Test operation	OFF
2	Transition time to Composite mode (by a sensor) Off: 1 second, On: 2 seconds	ON
SW3	Wake-up brightness setting from light off condition. Off: 1. Composite Mode when a light is turned on by using a sensor. : 2. Keeps on getting on/off signal from dr. table, light stays in composite mode. On: 1. Regular Mode when a light is turned on by using a sensor. : 2. Keeps on getting on/off signal from dr. table, light goes into regular mode.	ON
4	Combining dental unit Off: Clair unit, On: CP-One plus	OFF

	Setting condition	Default setting
5	Sensor activation setting Off: Activate when a hand goes away, On: Activate when a hand comes in.	OFF
6	Includes Composite Mode Off: Yes, On: No	OFF
SW3	Speed setting of communication line Off: 4800bps, On: 2400bps	OFF
8	LED blink setting of Composite Mode Off: Slow blinking, On: Rapid blinking	OFF
SW4	PC side: Clair Unit, 232 side: CP-One plus	PC
JP3	PC side: Clair Unit, 232 side: CP-One plus	PC

Remarks

Connector Symbol
 XA ...XA Connector
 XM ...XM Connector
 SM ...SM Connector

Black dot
The side with black dot has male pins
Plug
Cap

NOTE

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