
MENU

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1、 ATTENTION:



DANGER

It means that it is danger for the human or the machine. Or it is important information for the user and the maintenance man, it should be paid attention.



WARN!

It means that it is middle danger for the human or the machine. Or it is important information for the user and the maintenance man, it should be Paid attention.



NOTICE

It means that it is little danger for the human or the machine. Or it is important information for the user and the maintenance man, it should be Paid attention.



WARN!

To change the electric power wire, It should be done by authorized officer !



WARN!

The color of Live wire, earth wire , zero wire should be used according to the local laws and regulations



WARN!

For the fuse, it should be changed according to the demand of the unit strictly.



WARN!

To assemble the machine, It should be done by authorized officer !



WARN!

Before do the maintain and reparation, it should drain out all the water and air in the machine. And before use, open the water and air switch first.



NOTICE:

Plastic cover cleaned with the cloth without water. PU part clean with cloth with water.



NOTICE:

Three way syringe sterilized according to its demand.



NOTICE:

The head of the suction is one time use.

WARN!

Clean the cover and the reflector of the operation light should be use the soft and flat cloth. And To change the bulb of the operation light, It should be done by authorized officer !

**WARN!**

The limited weight of the dental unit can be load less than 135KGS, Strictly forbid over loading.

**WARN!**

Push any key of the dental unit, the dental unit will stop!

**WARN!**

Do not use the dental unit near the electric house and near the magnetic field.

**WARN!**

When dentist do the operation with other dental machine, it should shut down the electric power of the dental unit.

**WARN!**

The handpiece should be used according to its demand.

**WARN!**

Environmental protection

1. After treatment, the waste water and the waste thing should deal according to the local laws and regulations
2. If the dental unit and the spare part broken, or can not use any more, it should deal according to the local laws and regulations.
3. Whether it need to assemble one device to separate the silver and the HG, it should be done according to the local laws and regulations.

**WARN!**

If the detachable part or accessories are relevant to safety, It should exchange with original one.

**NOTICE:**

Before leave the clinic, it should shut down the water, air and electric switch.

**NOTICE:**

The power socket is installed inside the product plastic covering, each dental equipment must be equipped with a separate electricity isolator, and the "OFF" of the isolator must can be locked.

NOTICE:

Responsible organisation is responsible for incorporating a disinfection system at the water entrance.

The unit exclude the Handpiece, Polymerization activators, Scaler, Air compressor, Vacuum pump, disinfection system, Amalgam separator device.

2、 INTENDED USAGE

For dentist to do the oral treatment.

3、 CLASSIFICATION





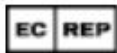




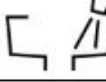

















- 3.1. Type of protection against electric shock: Class I equipment;
- 3.2. Degree of protection against electric shock: Type B applied part;
- 3.3. Classification according to the degree of protection against ingress of water: IPX0
- 3.4. Equipment not suitable for use in the presence of flammable mixtures: Not Category AP / APG equipment;
- 3.5 Mode of operation: continuous operation with intermittent loading corresponding to the dental mode of working.
- 3.6 The Dental patient chair and dental handpieces are considered as a type B applied part

4、 TECHNICAL PARAMETER

- 4.1 X-ray film viewer: a.c.24V, power 20VA。
- 4.2 Operation light: a.c.12V, power 50VA。
- 4.3 Heater: a.c.24V, Input power 80W。
- 4.4 DC motor: d.c.24V.
- 4.5 Electric volt: 230V\50Hz Power 1100VA。
- 4.6 Fuse: F250V/T3,15AL F250V/T6,3AL
- 4.7 Output pressure of the compressor should not be lower than 500kPa; Air flux should not be lower than 50L/min。
- 4.8 The pressure of the water supplier: 200kPa—400kPa
- 4.9 Vacuum Pump: Vacuum pressure: Not lower than 9 kPa, 300L/min
 - A. Air source: air pressure 0.55MPa ~0.6MPa; flow rate > 50L/min;
 - B. Water source: water pressure 0.2 MPa~0.4MPa; flow rate > 10L/min;
- 4.10 Device operation mode: continuous operation with intermittent loading corresponding to the dental mode of working:

Motor Mode of operation: duty cycle: 2 minutes on, 20 minutes off.
- 4.11 Water particle filter aperture should less than 90um.
- 4.12 Air filter aperture does not exceed 25um, the input gas should not contain oil, water, bacteria, etc.
- 4.11 Operation Temperature: 5° C to 40° C Relative humidity: up to 80% R.H. 86 kPa - 106 kPa
- 4.12 Shippment Temperature:-25°C to 70°C Relative humidity: up to 93% R.H. 50 kPa to 106 kPa
- 4.13 Total weight of the unit is 200KGS

5、SYMBOL ILLUSTRATE

| | | | |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------|
|  | Caution and Notice: Consult accompanying documents to get the safety information. |  | Backrest up |
|  | It means that it is danger for the human or the machine. Or it is important information for the user and the maintenance man, it should be paid |  | Backrest down |
|  | Authorized Representative in the European Community |  | Chair up |
|  | CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC. |  | Chair down |
|  | Date of manufacture. |  | Key for washing cuspidor |
|  | Manufacturer |  | Key for operation light |
|  | Specifies serial number |  | Key for cup water |
|  | Type B applied part |  | Key for heat |
|  | Direct current |  | Keep dry from rain |
|  | Sterilizable up to the temperature specified at most |  | Fragile, handle with care |
|  | The device should not be used after the end of the shown or the day |  | Upward |
|  | Consult the User Operation Manual |  | Temperature limitation |
|  | <u>DISPOSAL</u> : Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary. |  | No tumbling |
|  | Prohibited stacking of 2 | IPX4 | IP classification of Foot switch |

6.EMC

Guidance and manufacture's declaration – electromagnetic emissions - for all EQUIPMENT and SYSTEMS

| Guidance and manufacture's declaration – electromagnetic emission | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The MARE is intended for use in the electromagnetic environment specified below. The customer of the user of the MARE should assure that it is used in such and environment. | | |
| Emission test | Compliance | Electromagnetic environment – guidance |
| RF emissions CISPR 11 | Group 1 | The MARE must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected. |
| RF emission CISPR 11 | Class B | Class A with IEC61000-3-2 Complies with IEC61000-3-3 The MARE is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| Harmonic emissions IEC 61000-3-2 | Class A | |
| Voltage fluctuations/ flicker emissions IEC 61000-3-3 | Comply | |

Guidance and manufacture's declaration – electromagnetic immunity – for all ME EQUIPMENT and ME SYSTEMS

| Guidance and manufacture's declaration – electromagnetic immunity | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| The MARE is intended for use in the electromagnetic environment specified below. The customer or the user of MARE should assure that it is used in such an environment. | | | |
| Immunity test | IEC 60601 test level | Compliance level | Electromagnetic environment - guidance |
| Electrostatic discharge (ESD) IEC 61000-4-2 | ±6 kV contact ±8 kV air | ±6 kV contact ±8 kV air | Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%. |
| Electrical fast transient/burst IEC 61000-4-4 | ±2 kV for power supply lines | ±2kV for power supply lines | Mains power quality should be that of a typical commercial or hospital environment. |
| Surge IEC 61000-4-5 | ± 1 kV line(s) to line(s) ± 2 kV line(s) to earth | ±1 kV differential mode ±2 kV common mode | Mains power quality should be that of a typical commercial or hospital environment. |
| Voltage dips, short interruptions and voltage variations on | <5% U _T (>95% dip in U _T) for 0.5 cycle | <5% U _T (>95% dip in U _T) for 0.5 cycle | Mains power quality should be that of a typical commercial or hospital environment. If the user of the |

| | | | |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| power supply input lines IEC 61000-4-11 | 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec | 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec | MARE requires continued operation during power mains interruptions, it is recommended that the MARE be powered from an uninterruptible power supply or a battery. |
| Power frequency (50Hz) magnetic field IEC 61000-4-8 | 3A/m | 3A/m | Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment. |
| NOTE U_T is the a.c. mains voltage prior to application of the test level. | | | |

**Guidance and manufacture's declaration – electromagnetic immunity –
for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING**

| Guidance and manufacture's declaration – electromagnetic immunity | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The MARE is intended for use in the electromagnetic environment specified below. The customer or the user of MARE should assure that it is used in such an environment. | | | |
| Immunity test | IEC 60601 test level | Compliance level | Electromagnetic environment - guidance |
| Conducted RF IEC 61000-4-6 | 3 V_{rms} 150 kHz to 80 MHz | 3 V_{rms} | Portable and mobile RF communications equipment should be used no closer to any part of the MARE, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Portable and mobile RF communications equipment should be used no closer to any part of the including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.167 \sqrt{P}$ $d = 1.167 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.333 \sqrt{P}$ 800 MHz to 2.5 GHz |
| Radiated RF IEC 61000-4-3 | 3 V/m 80 MHz to 2.5 GHz | 3 V/m | where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: |



NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

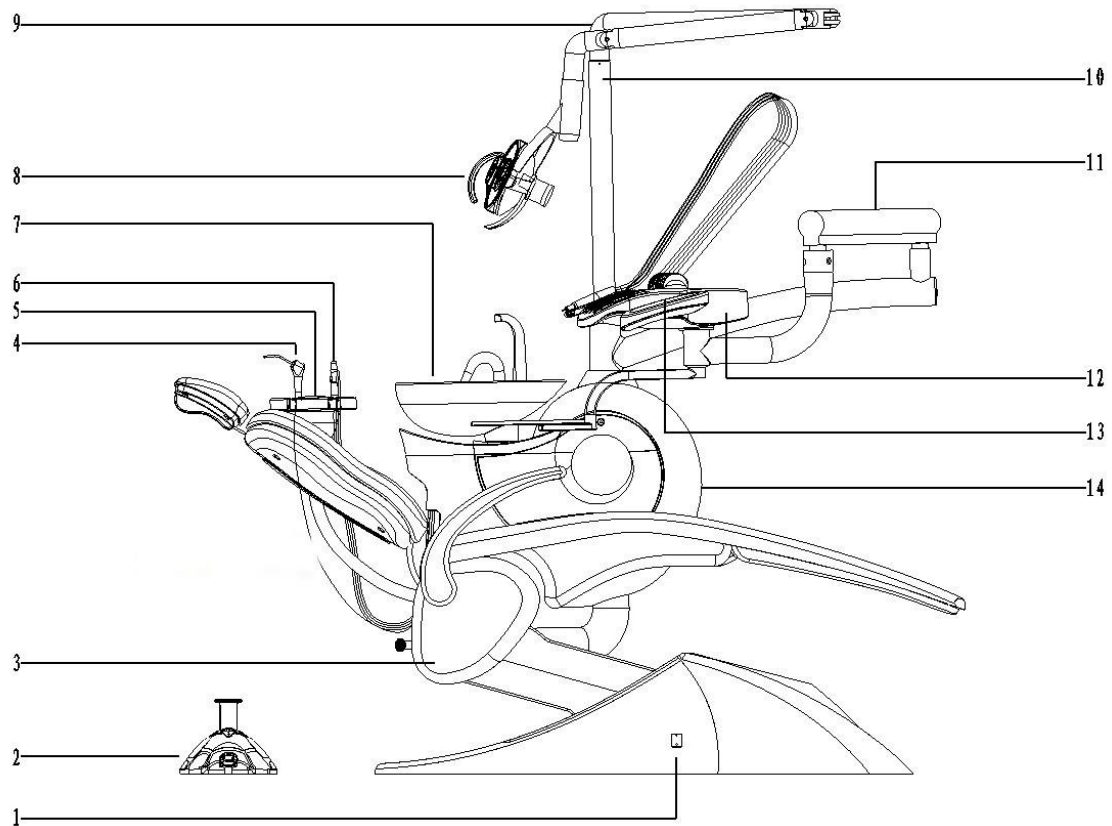
^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ELE007839V1 is used exceeds the applicable RF compliance level above, the ELE007839V1 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ELE007839V1.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

**Recommended separation distances between portable and mobile
RF communications equipment and the EQUIPMENT or SYSTEM –
for ME EQUIPMENT or ME SYSTEM that are not LIFE-SUPPORTING**

| Recommended separation distances between portable and mobile RF communications equipment and the MARE Fitness Equipment. | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| The MARE is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the MARE can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the MARE as recommended below, according to the maximum output power of the communications equipment. | | | |
| Rated maximum output power of transmitter W | Separation distance according to frequency of transmitter m | | |
| | 150 kHz to 80 MHz $d = 1.167 \sqrt{P}$ | 80 MHz to 800 MHz $d = 1.167 \sqrt{P}$ | 800 MHz to 2,5 GHz $d = 2.333 \sqrt{P}$ |
| 0,01 | 0.117 | 0.117 | 0.233 |
| 0,1 | 0.369 | 0.369 | 0.738 |
| 1 | 1.167 | 1.167 | 2.333 |
| 10 | 3.690 | 3.690 | 7.377 |
| 100 | 11.67 | 11.67 | 23.33 |
| For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. | | | |
| NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. | | | |
| NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people. | | | |

7、 OVERALL COMPOSITION

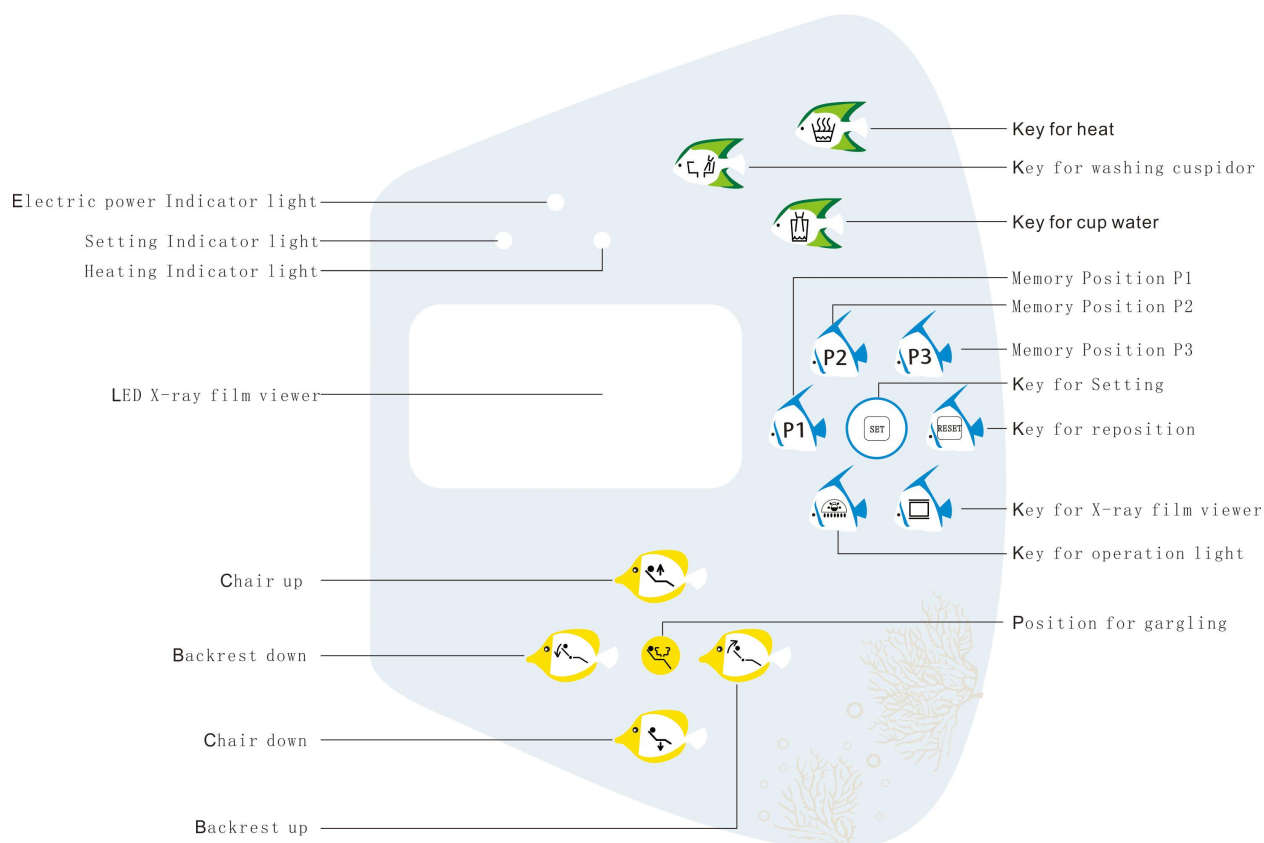


Picture 1: Structure of the dental unit


- 1 ---Electric power switch,
- 2 --- Foot controller,
- 3 ---Patient chair
- 4 ---Three way syringe,
- 5 ---Assistant table,
- 6 ---Suction,
- 7 ---Cuspidor,
- 8 ---Operation light,
- 9 ---Arm of the operation light,
- 10 ---Pole of the operation light,
- 11 ---Arm of the instrument table,
- 12 ---Instrument table,
- 13 ---Pannel,
- 14 ---Side box,


8、 OPERATION


8.1 Panel picture




8.2 Key for the chair position

Push “” , Chair go down, do not push, chair stop;




Push “” , Chair go up, do not push, chair stop;

Push “” , Backrest go up, do not push, Backrest stop;

Push “” , Backrest go down, do not push, Backrest stop;


8.3 Memory Position

8.3.1 Three memory position key



Three memory key “” 、 “” 、 “” , and push each key, the chair will

move to the memory position automatic.



8.3.2 Zero Key

Push “  ” , The chair will go the lowest position and the backrest will go the highest position automatic.



8.3.3 The position for patient to gargle .

Push “  ” , the backrest will go the highest position automatic, Push “  ” again, the backrest move to the position before.



8.4 Gargle water control

Push “  ” , water come out automatic and will stop automatic in the pre set time.And before it stop, if you push “  ” again, the water stop at once.



8.5 Water to clean cuspidor

Push “  ” , and will stop automatic in the pre set time.And before it stop, if you push “  ” again, the water stop at once.


8.6 Heater control

Push “  ” , it begin to heat, the indicator light flash, and when the temperature reach the pre set degree, the heater stop,the indicator light normally on. If the temperature of the water go down, the heater work automatic. If push “  ” again, Heater stop, the indicator light off.

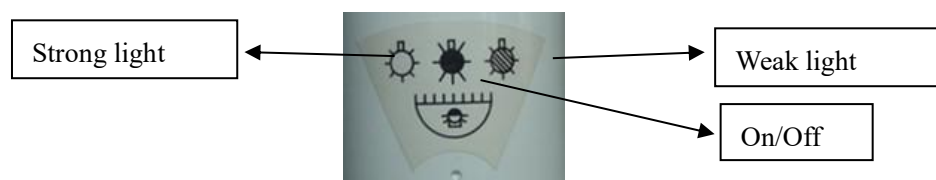
8.7 X-ray film viewer control

Push “  ” , X-ray film viewer on, push “  ” again, X-ray film viewer off.

8.8 Operation light control

8.8.1 Push “  ” , then it can control by the switch of the lamp.

8.8.2 It has four switch of the light. One for Strong light, one for normal light, one for weak light, one for on/off.



8.9 FOOT CONTROLLER

8.9.1 Foot controller 1



8.9.1.1 T1 Handle of the foot controller to move.

8.9.1.2 T2 Control the position of the chair:

Push “UP” , Chair go up, do not push, the chair stop.

Push “DN” , Chair go down, do not push, the chair stop.

Push “BU” , Backrest go up, do not push, the chair stop.

Push “BD” , Backrest go down, do not push, the chair stop.

8.9.1.3 T3 The switch to control the water for the cuspidor, push, water come out to clean cuspidor, do not push, water stop.

8.9.1.4 T4 The switch to control the water for patient gargle: push, water come out , do not push, water stop.

8.9.1.5 T5 The switch for the water and air of handpiece:

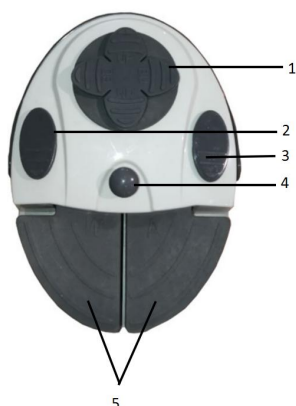
a) Push only, for water of the handpiece;

b) Do not push, only move the head, for air of the handpiece.

c) Push and move, water and air of the handpiece.

8.9.1.6 T6 The switch for cleaning the water of the handpiece when finish the operation.

8.9.2 Foot controller 2



8.9.2.1 Tap “1” Control the position of the chair:

Push “UP” , Chair go up, do not push, the chair stop.

Push “DN” , Chair go down, do not push, the chair stop.

Push “BU” , Backrest go up, do not push, the chair stop.

Push “BD” , Backrest go down, do not push, the chair stop.

8.9.2.2 Tap “2” The switch to control the water for the cuspidor,push, water come out to clean cuspidor, do not push, water stop.

8.9.2.3 Tap “3” The switch to control the water for patient garple: push, water come out , do not push, water stop.

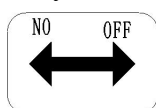
8.9.2.4 Tap “4” The switch for cleaning the water of the handpiece when finish the operation.

8.9.2.5 Tap “5” The switch for the water and air of handpiece:

a)Push “Water”only, for water and air of the handpiece;

b)Push “Air”only, for air of the handpiece.

8.10 Safety Switch



When chair go down, if the cover of the chair touch anything, the chair will stop at once.

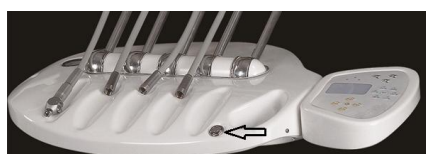
8.11 EMERGENCY STOP SWITCH



During the treatment, if any urgent matter happen, you can push this switch, the machine will stop at once. And turn the switch by arrowhead way,the switch will return back.

8.12 Instrument table movement

8.12.1 Push the air lock switch just like the photo, you can move the instrument table up and down, and when you do not push, it is locked.



8.12.2 Instrument table can move by hand, until to the limited position.

8.12.3 Instrument table can load least than 1kg.

8.13 Handpiece operation.

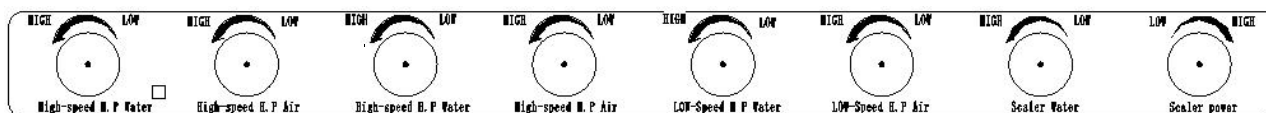
8.13.1 Connect the handpiece like the photo. And the handpiece used should be according to the handpiece user direction.



8.13.2 Take out the handpiece from the holder, and push and move the head of the foot controller, the handpiece work, and the Pressure meter on the instrument table shows the pressure of the handpiece. Like the photo.



It can adjust the water and air of the handpiece with the switch, photo as follows,deasil way is lower, and anticlockwise way is higher.



8.14 Three way syringe

Push "1" Button, it is water, Push "2" button, it is air. Push both "1" and "2" button together, it is water and air. Push "A" , it can pull out the head of the three way syringe. The three way syringe on the instrument table, it is cold water, the three way syringe on the assistant table, it is hot water.



8.15 Sunction

8.15.1 When take out the suction from the holder, it works, take it back, it stop.

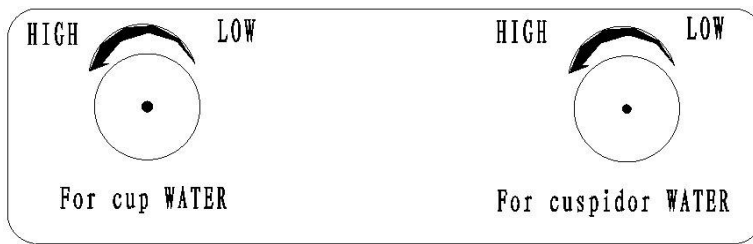
8.16 Water Supplier

It has two kinds of water supplier system for user choosing, one is tap water supplier system, another one is distilled water supplier system. User choose by the two switch like the picture. The left one is air switch, the right one is water conversion switch. If both these two switch up, it is distilled water; And if both these two switch down, it is tap water. If you want to add the distilled water to the bottle, the air switch should be down first.



8.17 Manual to adjust the flux of the cup water and the cuspidor water.

In the side box, there are two switch like the photo. It can adjust the flux of the cup water and the cuspidor water. The left one adjust the cup water. The right one adjust the cuspidor water.



8.18 Headrest, the picture as follows,

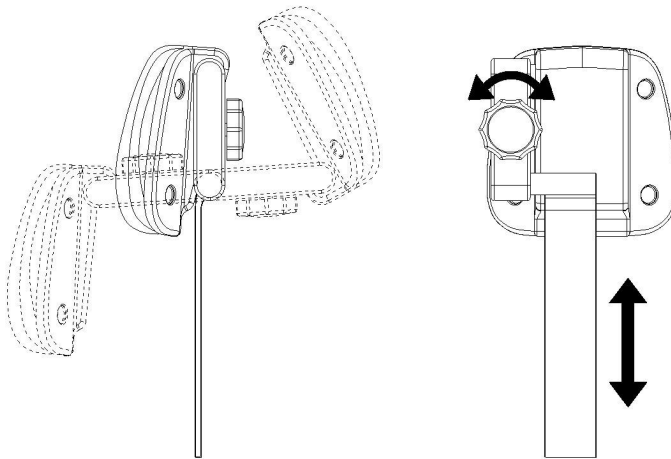
8.18.1 Headrest up and down:

Move the headrest up and down by hand.

8.18.2 Move the Headrest to any angle:

Turn the lock anticlockwise, then move the headrest to any angle you want. Then turn the lock clockwise, to fit this position. If move the headrest to the backrest, it can use for child.

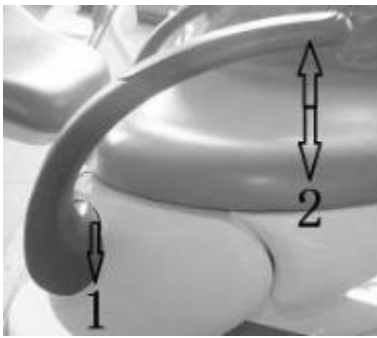
Notice: After you adjust the position of the headrest, please be sure that the lock has been locked well. It is very important!!!



8.19 Electric power: Operate like the picture.



8.20 Armrest:



8.20.1 Handhold the position of "1", pull out, then the armrest will move down.

8.20.2 Handhold the position of "2", move up to the position, the armrest will lock automatic.

8.21 Assistant table



"1" and "4" is the holder for suction, take the suction, suction work, take it back, suction stop.

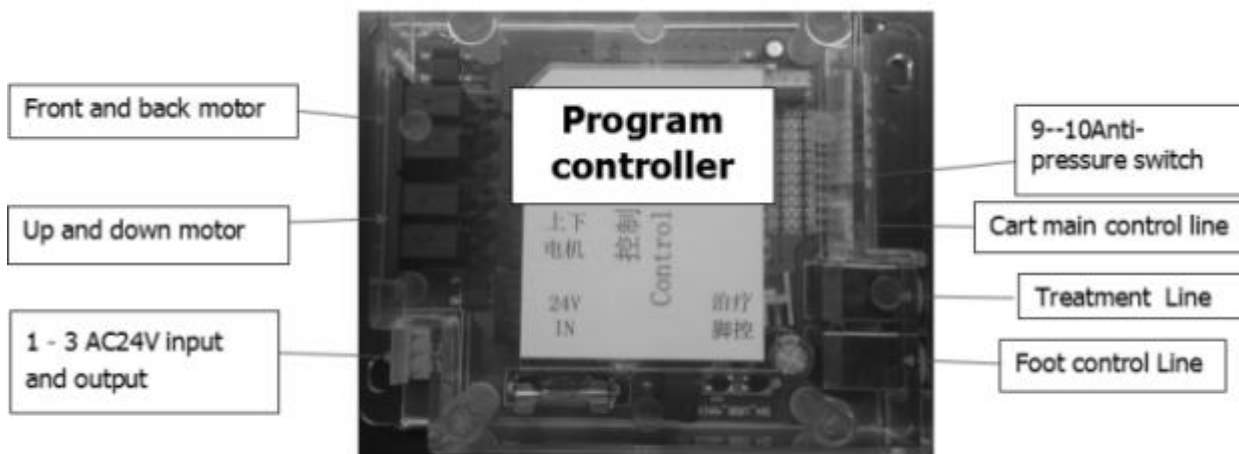
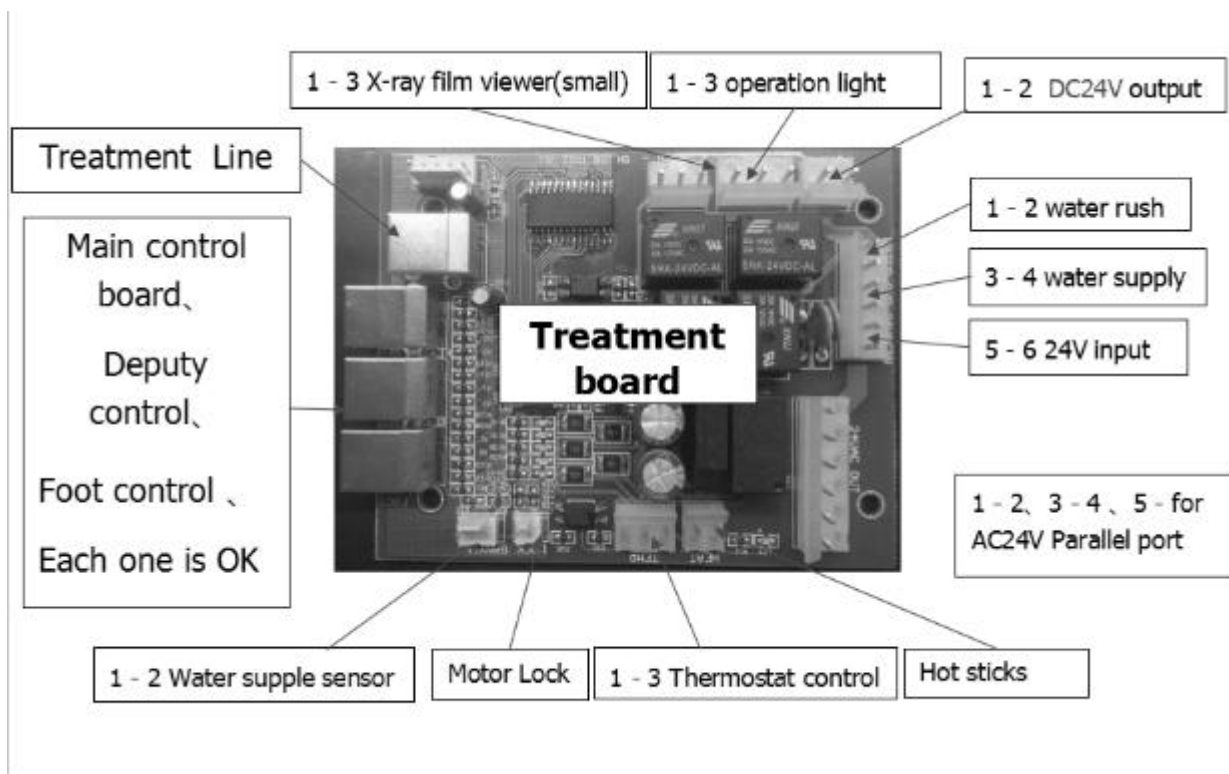
"2" is the reserving for the other suction.

"3" is the reserving for the other suction.

"5" is the holder for three way syringe.

"6" is Control panel.

9、USB CONTROL SYSTEM





10、 DENTAL UNIT PARAMETER SETTINGS

10.1 Chair settings

10.1.1 Press “  ” for two second, the indicator light will be on


10.1.2 Manually adjust the chair to the desired position


10.1.3 Press one of the three memory key “  ” 、 “  ” 、 “  ” to save the position memory



10.1.4 Press “  ” again, the indicator light will be off,then the position will be save in your memory key.You can repeat the same step to set another position.

10.2 Water time setting

10.2.1 Press “  ” for two second, the indicator light will be on


10.2.2 Press “  ” and then manually add the water.When you stop pressing


“  ”then the water will stop.


10.2.3 Press “  ” again, the indicator light will be off,then the water time will be saved in your “  ”key.


10.3 Gargle water time setting



10.3.1 Press “  ” for two second, the indicator light will be on

10.3.2 Press “  ” for first time, the rushing time is 3 minutes.

Press “  ” for second time, the rushing time is 5 minutes.;



Press “  ” for third time, keep rushing.



Press “  ” for forth time, the rushing time is 15 seconds and that is also the default setting


10.3.3 Confirm the rushing time,press “  ” again, the indicator light will be off,then the rushing time will be saved in your “  ”key.



10.4 The limit position setting of the chair


Set the chair and backrest to the highest position , and then set the chair and backrest to the lowest position.

10.4.1 Press “  ” for twenty seconds until the “  ” indicator light flash and ring.

10.4.2 Press “” and “”, manually adjust the chair to the desired highest position

10.4.3 Press “” again, the indicator light flash and ring.

10.4.4 Press “” and “” manually adjust the chair to the desired lowest position

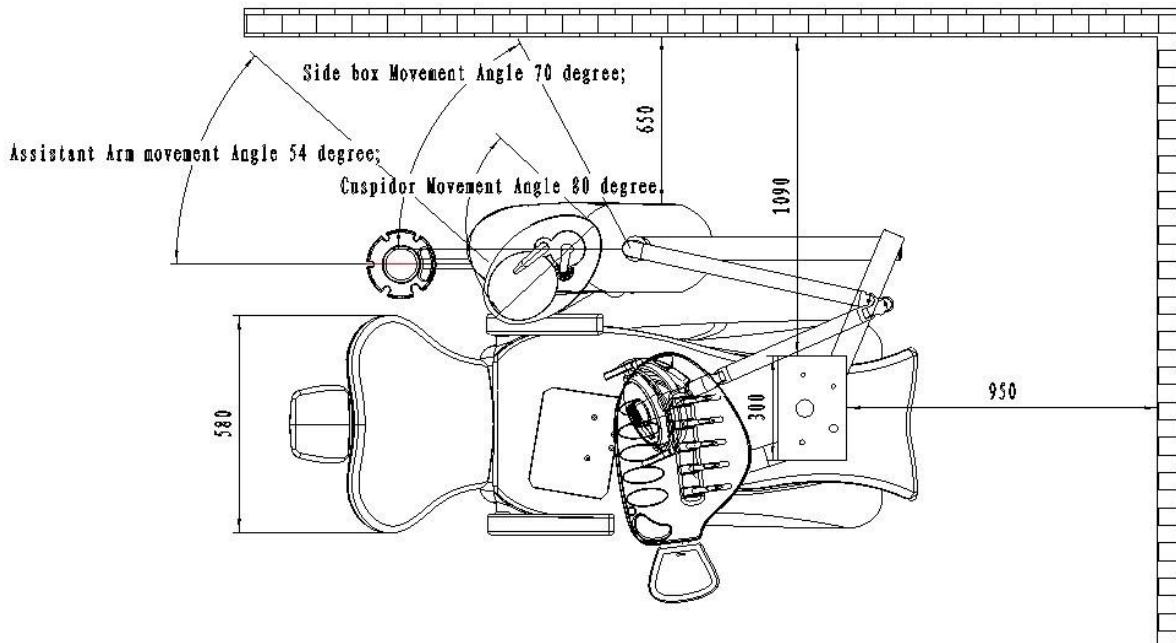
10.4.5 Press “” to save the memory and the indicator light off.

PS:

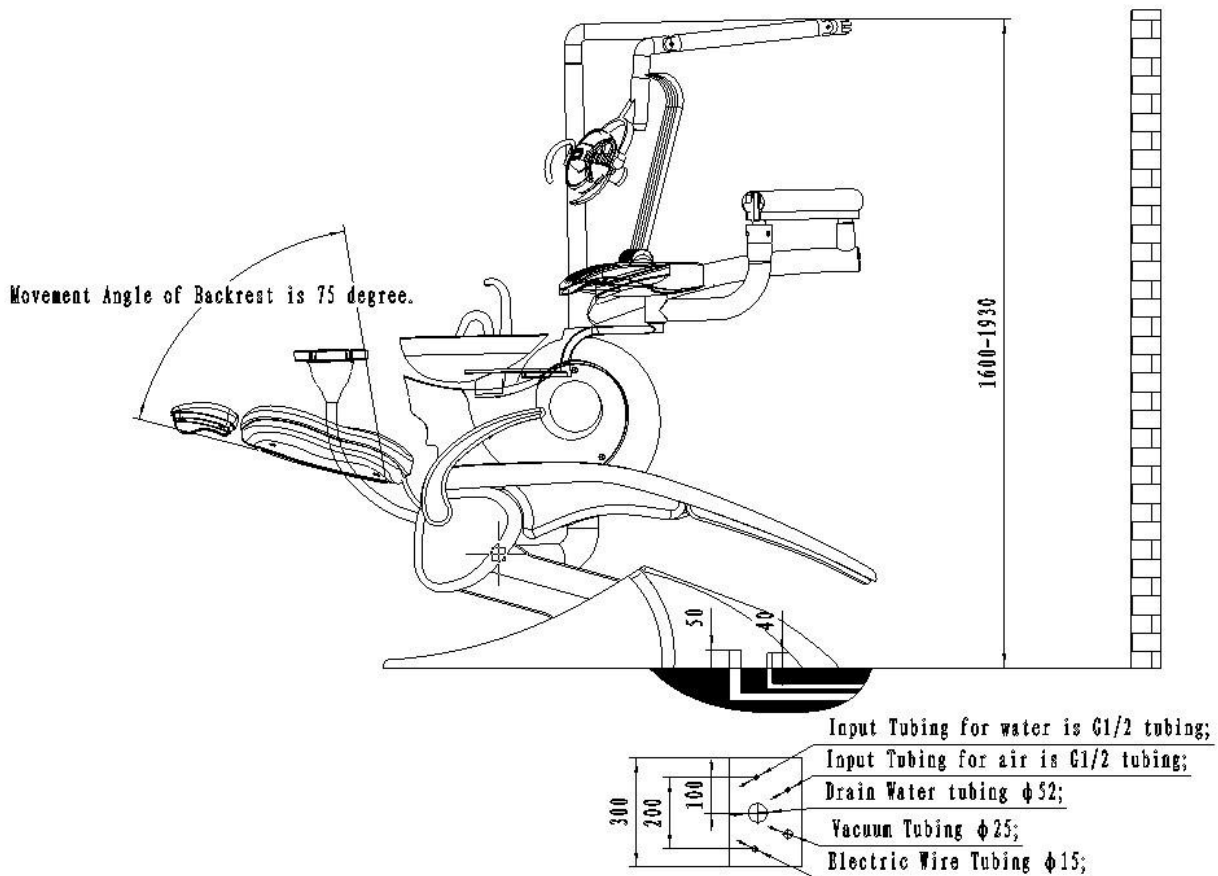
- 1 The dental unit has set the limit position before leaving the factory.
- 2 If you want to stop running immediately during the automatic operation of the chair, you can press any key of the chair.

11、 ASSEMBLE

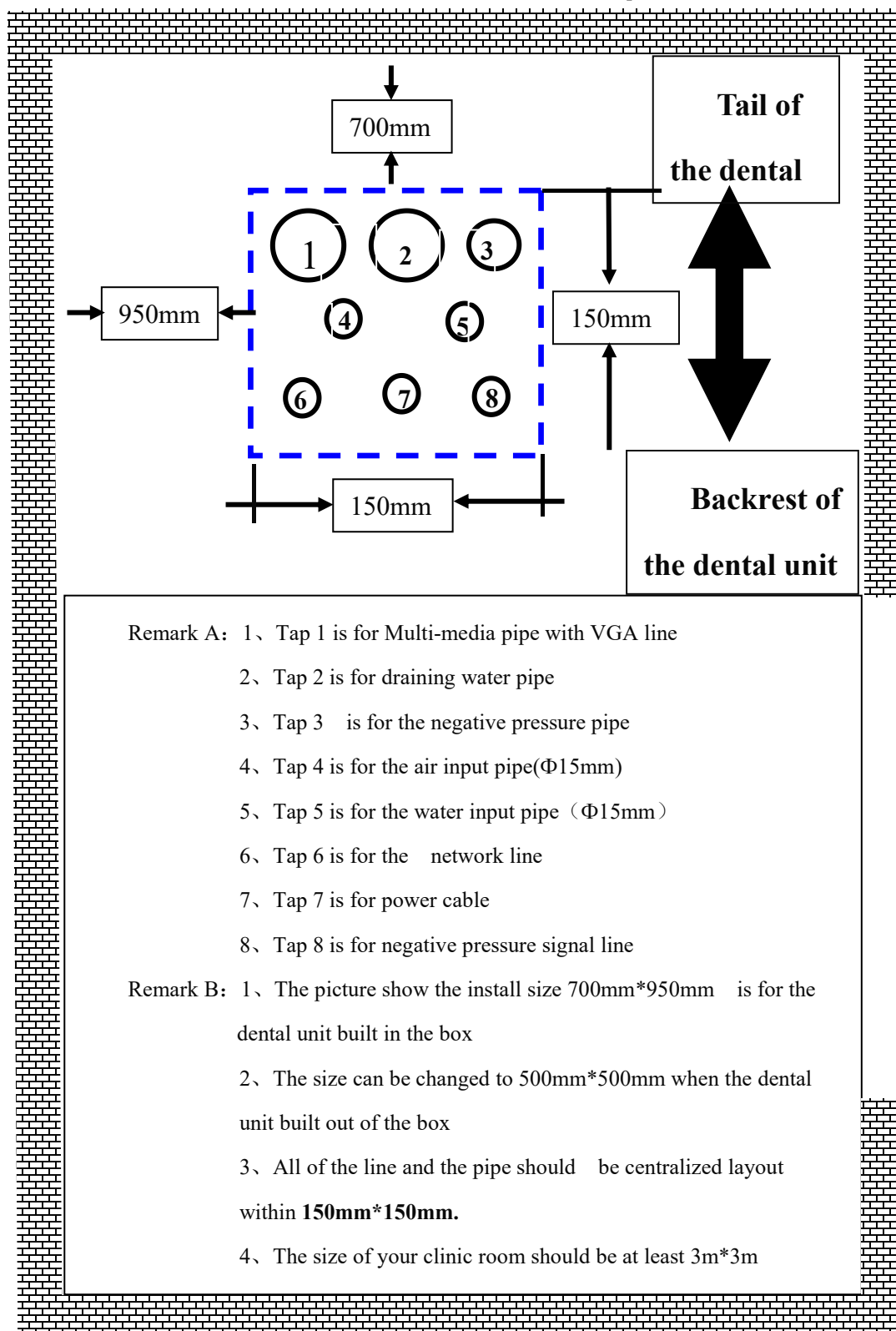
11.1 Assemble drawing of the unit in the clinic is as follows



11.2 Water, air, electric wire connect size drawing is as follows:



11.3 The install station of the dental unit's pipe and line



11. 4 The requirements of the clinic to install the dental unit

※Water input pipe:

1. Responsible organisation is responsible for incorporating a disinfection system at the water entrance
2. The water pipe should install underground at least 50mm. Please install a G1/2" valve close to the ground and the pipe should be height from the ground 40mm
3. Water input pipe should use the PPR material that can overload at least 1.6MPa. The pipe should be DN15 with screw G1/2" and made of PPR (Above 5 unit, the pipe's size should be enlarged)

※Air input pipe:

1. The air pipe should install underground at least 50mm. Please install a G1/2" valve close to the ground and the pipe should be height from the ground 40mm.
2. Water input pipe should use the PPR material that can overload at least 1.6MPa. The pipe should be DN15 with screw G1/2" and made of PPR (Above 5 unit, the pipe's size should be enlarged)
3. After the pipe is installed, it needs to be filled with 0.8MPa pressure and makes sure the pressure keep at least 0.5MPa 24 hours.

※ Draining water pipe:

1. The pipe should install underground at least 50mm and the pipe height should above the ground at least 30mm.
2. The pipe size should be Φ 50mm and made of PVC.
3. From the chair to the draining water pipe should keep the slope of at least 2° .

※ Power cable:

1. Electric volt: 230V/50Hz with 2x2.5mm²Cu+S, you must install the protective grounding wire.
2. The power socket is installed inside the product plastic covering, each dental equipment must be equipped with a separate electricity isolator, and the "OFF" of the isolator must can be lock.
3. Power cable with insulation tube, from the ground height of 40mm.
4. Power cable at least 800mm.

※ The length of the VGA line and the network line not less than 3500mm

1. Network line: Make sure 6 types of network cable with signal screen layer, with signal enhancement, with separate pipeline.
2. VGA line:
 - 2.1 Multi-media pipe should be Φ 50mm with PVC and should be installed underground 20mm.
 - 2.2 Multi-media pipe should have the national standard VGA cable and VGA wire welding connector.

※ Negative pressure pipe:

1. The pipe should be installed underground 20mm and above the ground 30mm.
2. From the chair to the vacuum pump room should keep the slope of at least 2° .
3. The pipe size should be Φ 50mm and made of PVC and the pipe should be under the pressure at least 1.0MPa.
4. The pipe should be out of the ground with 45° and should transfer to Φ 25mm pipe when connect the dental unit.
5. The pipe is replaced by two 45-degree elbows when it encounters a 90 degree angle.
6. The pipe can not be reverse slope and make sure that the water can flow to the vacuum pump room even thought stationary state.
7. The pipe needs to be filled with 0.3m pa pressure and makes sure the pressure keep at least 0.1MPa 24 hours.

※ Negative pressure signal line:

1. The signal line should be installed underground 20mm and above the ground 500mm.
2. The signal line is connected to the vacuum pump with the two wires connected in parallel to all of the dental units.

3.The signal line use 1.5 square and 2-inch jacket line

4.Signal line should with the insulation tube

11.5 Assemble step

11.5.1 Open the package to check.

Open the package, check every part of the unit is well or not, the accessories is complete or not. If any question, you can contact with the dealer or contact with our coMPany. (Notice: when you open the package, should be careful, and please do not use the edge tool!!!)

11.5.2 Assemble the unit on the floor.

The floor should be smooth and strong. If the floor is not smooth enough, you can use four of the bolt M10*25 in the accessories box, crew them on the base of the unit to adjust the level of the unit.

11.5.3 Water and Air connection

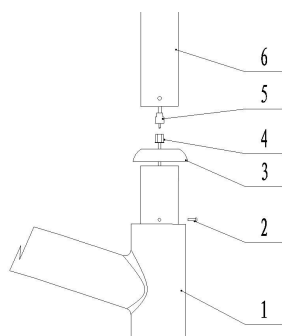
Connect the input water and air tubing: In the accessories box, there are two tubing connector (G1/2"), connect it to the input water tubing and input air tubing. Please be sure do not leak water and air. Before connect to the air and water supplier, please be sure that the air and water supplier tubing is clean.In the floor box, there are two tubing $\phi 8 \times 5$ (Blue is air tubing, crystal is water tubing), connect to the water and air supplier, Please be sure do not leak water and air.

Moreover, insert the drain pipe of dental unit into the user' s existing drain pipe, connect them while paying attention to secure connection and smooth drainage. Connect the drain water tubing: please be sure drain tubing work well, do not be jam.

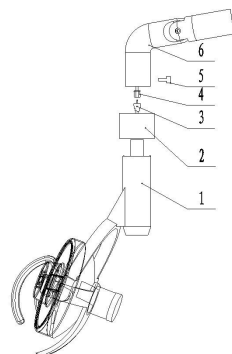
11.5.4 Operation light assemble.

11.5.4.1 Assemble the pole of the operation light (Picture 1): Screw out the M4 bolt"2", pull on the electric wire of the operation light arm to the pole, to "5" position, Connector "5" and connector "4" connect well. Then put the pole well. Screw back the M4 bolt"2".

11.5.4.2 Assemble the operation light(Picture 2): Take out the operation light from the box, and loose the bolt of the light, and connect the connector "3" and "4", And then connect the light to the arm, then screw the bolt to "5" hole to lock the light.



Picture 1



Picture 2

11.5.5 Assemble the cuspidor accessories part.

Put all the accessories well in the cuspidor.

11.5.6 Connect the plug well.

12、 MAINTAIN:

12.1 Before do the maintain, please shut down the air, water and electric power.

12.2 Clean the filter of the cuspidor by water.

12.3 Clean the water filter by water at least per year. Or change the new one.

12.4 Water tubing disinfection:

12.4.1 Fulfill the water reservoir with 3% H₂O₂ or other disinfectant.

12.4.2 Rinsing the water line under the pressure until empty the water reservoir.

12.4.3 Fulfill the water reservoir with fresh purified water.

12.4.4 Rinsing the water line under the pressure until empty the water reservoir.

12.4.5 Disinfect the water tubing weekly or at least per month.

12.5 Handpiece should be done the maintain according to its demand.

12.6 It is better to close the operation light, if do not using.

12.7 After using the suction, it should be cleaned. The clean method: let the suction suck the clean water. And the filter of the suction should be clean at least two times per week. Take it out and clean by water.

12.8 Every movement part of the unit, it is better to spray the lube on it one time per 6 months.

12.9 Clean the Plastic cover with cloth without water, clean PU part with cloth with water. Other part clean with cloth without water.

12.10 When customer change the head of the suction or the three way syringe, it should be done according to the local law.

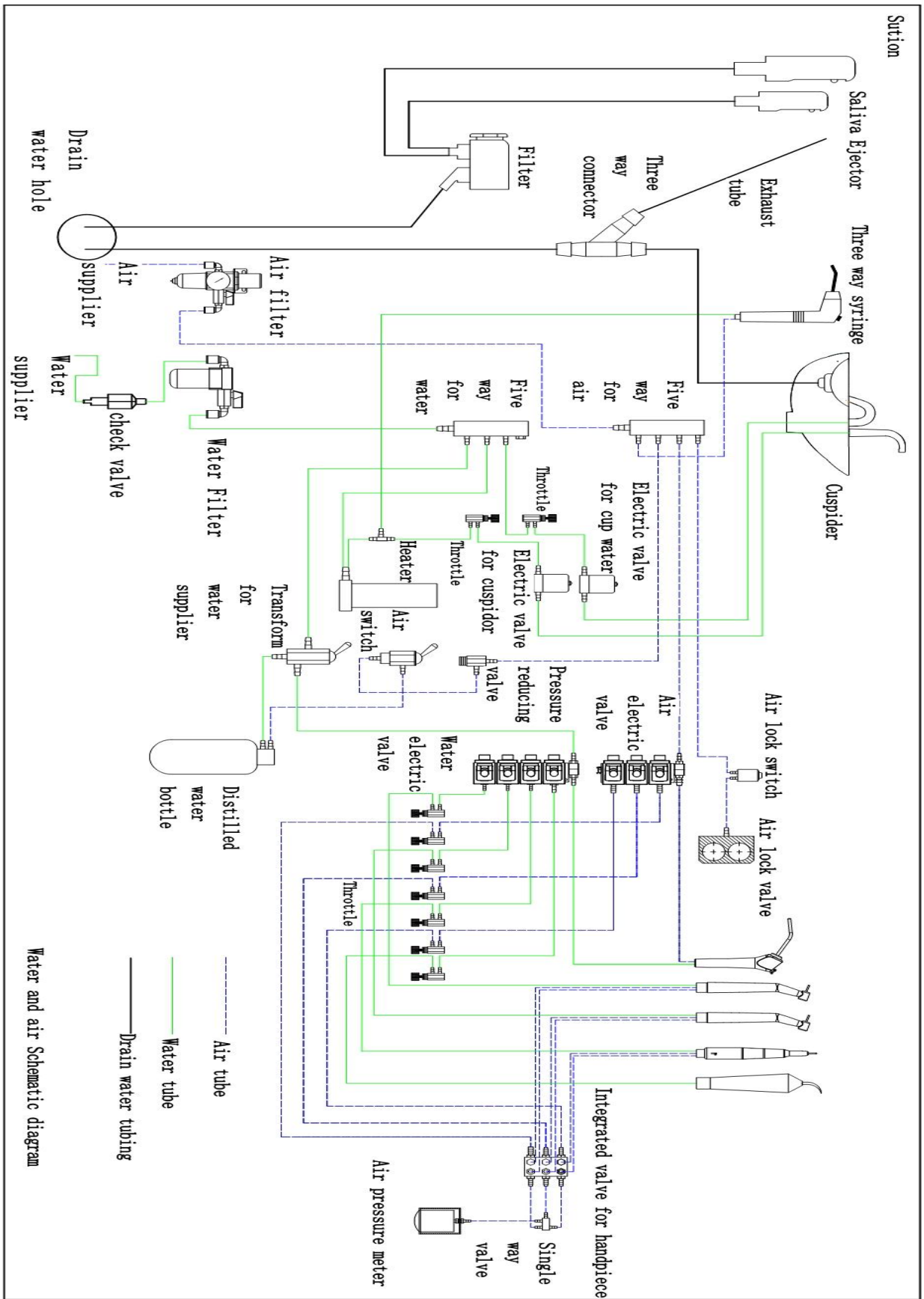
12.11 After sale service: Foshan Safety Medical Equipment Co.,Ltd.

Tel/Fax: 86 0757-85433706 Post code: 528216

13、 FAULT ANALYSIS AND SOLUTION

| Fault | Analysis | Solution |
|--------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1.Handpiece do not have strong enough. | Check the tip of the handpiece | Change to the new one |
| | Check the bearing of the handpiece | Change to the new one |
| | Check the air pressure of the handpiec. | Adjust |
| | Check the handpiece tubing jam or not? | Clean |
| | Check the air filter | Clean |
| | If still have problem, please contact with dealer or the manufactory. | |
| 2、 There is no water to the handpiece | Check water adjust valve. | Adjust |
| | Check the micro switch for the handpiece on the instrument table. | Change to the new one |
| | Check the spray hole of the handpiece jam or not | Clean |
| | If still have problem, please contact with dealer or the manufactory. | |
| If do not use the handpiece, the handpeice leak water. | Check the electric valve of the handpiece in the instrument table, jam or not | Open the electric valve and clean. |
| | If still have problem, please contact with dealer or the manufactory. | |
| 7、 Instrument table can not be locked. | Check the air lock valve. | Change to the new one |
| 8、 Operation light do not work | Check bulb and the connector of the wire. | Change to the new bulb and repair the connector. |
| 9、 Heater do not work | Check the control PC board in the side box. | Repair the control PC board or change to the new one. If still problem, change the heater. |
| 10、 X-ray film veiwer do not work. | Check the electric power and the bulb in the light. | Change to the new one. |

14、 SCHEMATIC OF THE WATER AND GAS



15、SCHEMATIC OF ELECTRICAL

