

# **Portable Dental Unit**

**Model No.: GU-P 302S**

**Operational Manual  
(Technical Specification)**

**Note:**

Read well all these instructions before attempting to operate this equipment, and save these instructions for future reference.

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- Thank you for purchasing our portable dental unit.
- Before using this portable dental unit, please read these instructions carefully and keep it for future reference purposes.
- When use the portable dental unit, please strictly abide by the rules, proper care and maintenance.
- The " ⚠ " mark paragraph should carefully review the accompanying documents.
- The "Note" logo paragraph should read carefully, to avoid cause damage or injury to the unit, the operator and patient.
- If the device has a problem in the process, please contact your local dealer or contact us directly, we will provide you with technical support and assistance.
- Commitment: When handling a fault, if you need, we will provide you with the necessary more detailed technical information.

## 1. Introduction

GU series portable dental unit, comes with novel shape, complete functions and excellent production. It is made of high-quality alloy aluminum material; it is solid, beautiful and light weight. It can be used in combination with dental chair and oral lamp, it is easy to move and carry. Normally, it is suitable for hospital oral cavity, dental clinics, community dental clinics, mobile dental clinics, etc.

 **Danger:** Power supply must connect reliable ground wire.

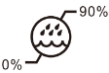
 **Warning:** Before cleaning and maintenance, please cut off electric power supply.

 **Note:** Disconnect plug to cut off electric power supply.

 **Note:** Please do not use the unit in the presence of flammable anesthetic gases mixed with air or flammable anesthetic gases mixed with oxygen or nitrous oxide.

 **Note:** Avoid using in strong electromagnetic environment, may cause the device does not work properly.

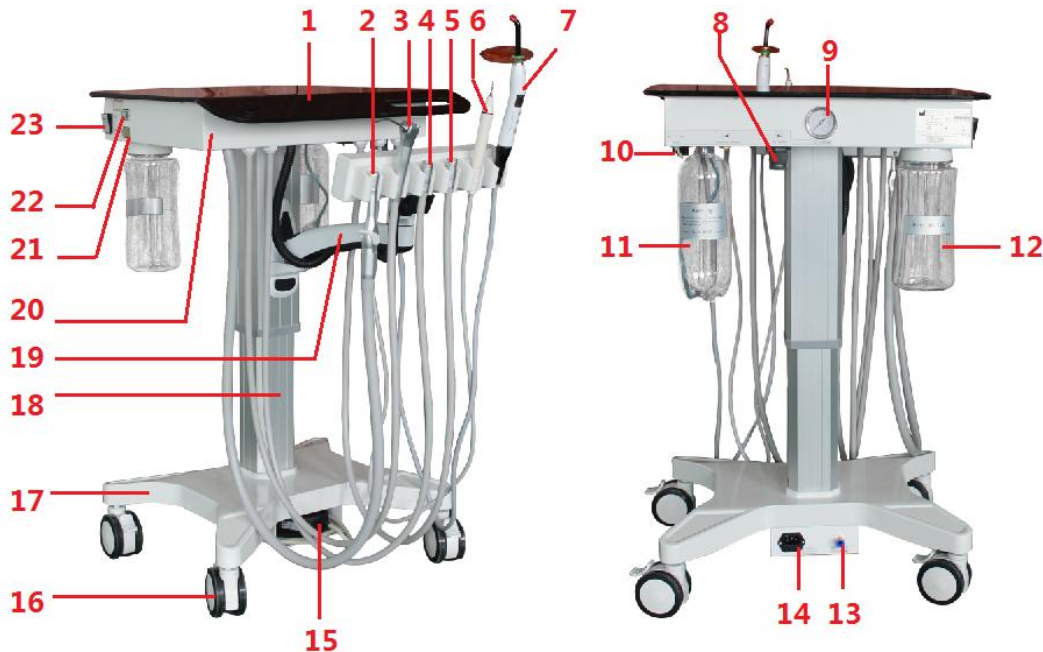
## 2. Mark explanation

| Mark                                                                                                                     | Explanation                      |
|--------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|  (on name plate)                      | Note! Please read accompany file |
|  (Beside Air control electric switch) | Note! AC 220V voltage            |
|                                       | Class II                         |
|                                       | Type B equipment                 |
|                                       | Protect ground line              |
|                                       | An alternating voltage (AC)      |
|                                       | Avoid rain                       |
|                                       | Up                               |
|                                       | Handle with care                 |
|                                       | Storage humidity                 |
|                                       | Production date                  |

### 3. Structure introduction

This portable dental unit comes with built-in electric lifting system, universal rotating instrument holder, clean water supply, dirt bottle and other devices. The standard accessories including suction, 3-way syringe, high-speed handpiece tubing, low-speed handpiece tubing, ultrasonic scaler and LED curing light.

Schematic diagram of structure: refer to fig. 1:



(Fig. 1) Schematic diagram of Portable Dental Unit GU-P302S

|    |                            |    |                               |    |                                      |    |                            |
|----|----------------------------|----|-------------------------------|----|--------------------------------------|----|----------------------------|
| 1  | Operation panel            | 2  | Suction                       | 3  | 3-way syringe                        | 4  | H.S. handiece tubing       |
| 5  | L.S. handiece tubing       | 6  | Ultrasonic scaler             | 7  | LED curing light                     | 8  | General air flow regulator |
| 9  | General air pressure gauge | 10 | Clean water bottle air switch | 11 | Clean water bottle                   | 12 | Dirt water bottle          |
| 13 | Air inlet                  | 14 | Two-in-one socket             | 15 | Foot control                         | 16 | Medical universal wheel    |
| 17 | Frame base                 | 18 | Electric lifting column       | 19 | Universal rotating instrument holder | 20 | Chassis                    |
| 21 | Button 'DOWN'              | 22 | Button 'UP'                   | 23 | Power switch                         |    |                            |

### 4. Environmental conditions

#### 4.1 Environment of usage

4.1.1 Temperature: +5℃~+40℃

4.1.2 Relative Humidity: ≤80%

4.1.3 Atmospheric Pressure: 86Kpa~106Kpa

#### 4.2 Environment of transport, storage

4.2.1 Temperature: -10℃~+55℃

4.2.2 Relative Humidity: ≤90%

4.2.3 Atmospheric Pressure: 50Kpa~106Kpa

4.2.4 Transportation & Storage condition: "UP", "Avoid Rain"

## 5. Specifications

- 5.1 Power supply: AC 220V 50Hz
- 5.2 Power: 50VA
- 5.3 Air flow input:  $0.5\text{MPa} \leq \text{INPUT} \leq 0.7\text{MPa}$
- 5.4 Suction: Vacuum  $\geq -15\text{kPa}$ ; pumping rate  $\geq 3\text{L} / \text{min}$
- 5.5 3-way syringe: Can spray water, air and fog
- 5.6 High-speed handpiece: working pressure  $\geq 0.25\text{MPa}$ , can meet the request for air and water supply
- 5.7 Low-speed handpiece: working pressure  $\geq 0.3\text{MPa}$ , can meet the request for air and water supply
- 5.8 Product dimension:  $500\text{mm} \times 600\text{mm} \times 800\text{mm}$
- 5.9 Net weight: 21kg

## 6. Installation instructions

Open the packing carton, to check whether the unit is in good condition, and to check whether the attached spare parts are good and intact according to the packing list. If there is any doubt, contact your local distributor or with our company immediately.

- 6.1 After the inspection, keep the mobile cart on flat ground, clean, dry, ventilated and cool place.
- 6.2 Connect to correct electric power supply. (Power interface, refer to fig. 3)
- 6.3 Restore all the instruments to holder in the order shown in fig. 1. For the holder, from left to right, they are suction, 3-way syringe, high-speed handpiece tubing, low-speed handpiece tubing, ultrasonic scaler and LED curing light.
- 6.3.1 Turn on the power switch, power indicator light on. Press button "UP" to adjust the height as you need, connect with correct air flow supply (Input air flow pressure as  $0.5\text{MPa}$  to  $0.7\text{MPa}$ ). Refer to fig.2 and fig.

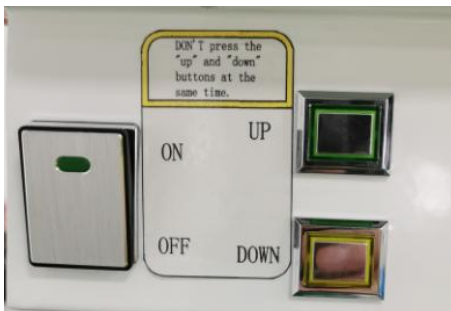


Fig. 2



Fig. 3

## 7. Usage Instructions

### 7.1 Usage of clean water bottle

Clean water bottle provides water for 3-way syringe, handpiece and ultrasonic scaler. Dental use water quality is very important, normally we would suggest with pure water or distilled water. When add water, please unscrew the bottle in a clockwise direction, add about 2/3 capacity water, and reverse tightening bottle well.

#### Note:

Before unscrew the clean water bottle, please turn off the "clean water air switch" to release inner pressure.

## 7.2 Usage of dirt water bottle

MUST clean the dirt water bottle after daily use (everyday after all operations finished).

When cleaning, unscrew the bottle in clockwise direction; after cleaning, add some clean water, reverse spin on the joint and it can be installed again.

## 7.3 Usage of suction.

Pick up suction from holder, turn on the manual suction switch, then suction can start to work.

### **Note:**

Everyday, after daily use (after all operations finished), suck a cup of clean water to clean all the tubes (about 200ml).

## 7.4 Usage of regulator

7.4.1 General air switch (refer to No.8 from fig.1): pull down the handle, clockwise direction rotation to increase air pressure, counterclockwise direction rotation could decrease pressure.

(Factory setting is 0.4MPa)

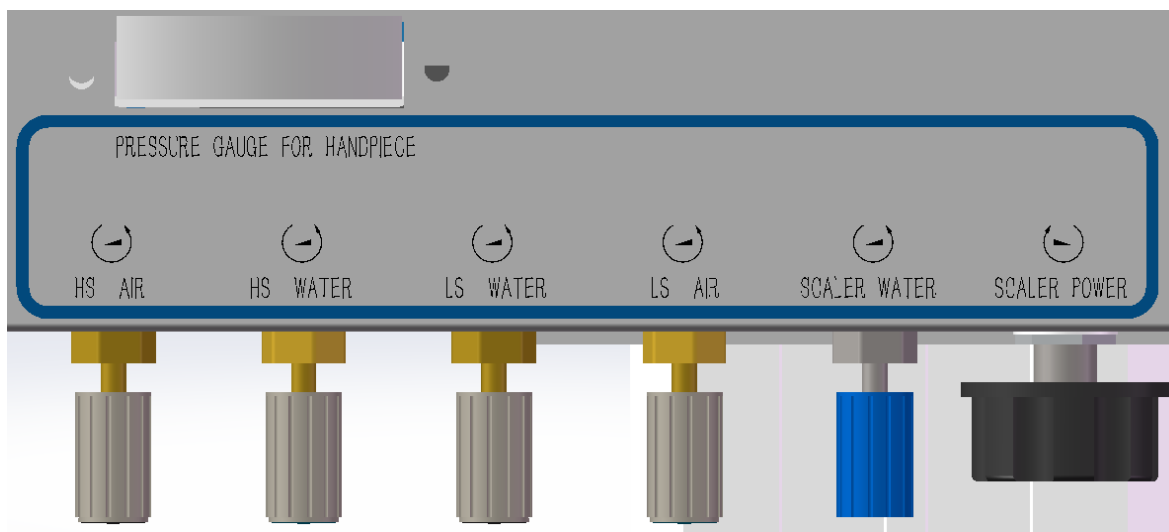
7.4.2 Clean water bottle air switch (refer to No. 10 from fig.1): during operation, turn on the "Clean water bottle air switch", there will be air flow supply for bottle, the whole unit would be with water supply. Turn off the "Clean water bottle air switch", air release from bottle, stop water supply for whole unit.

## 7.5 Usage of 3-way syringe

Refer to operation manual of 3-way syringe please.

## 7.6 Air & Water supply for handpiece

Pick up handpiece from the instrument holder, press down foot switch, handpiece can start to work, adjust the corresponding air regulator could increase or decrease the air volume, and adjust the corresponding water regulator could change the amount of spray.



### **Note:**

Handpiece thread is ultra-fine teeth, be sure to align the interface after screwed, so as not to damage the threaded connections.

## 7.7 Usage of ultrasonic scaler

Refer to operation manual of ultrasonic scaler please.

## 7.8 Usage of LED curing light

Refer to operation manual of LED curing light please.

## 8. Common faults and exclusion

| NO | Problem                                           | Reason                                                                                     | Check                                                                                              | Tips                                                                                       |
|----|---------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1  | Suction does not work                             | Switch of suction is closed or inside tubing is bending                                    | Check the suction switch, remove the panel to inspect inside tube.                                 | Turn on the suction switch and re-connect the tube                                         |
| 2  | No power of suction                               | Vacuum generator blocked                                                                   | Check the vacuum generator                                                                         | Clean the vacuum generator                                                                 |
|    |                                                   | Air leakage from dirt water bottle                                                         | Check the dirt water bottle, make sure it is tight well.                                           | Tighten the dirt bottle                                                                    |
| 3  | Water and air leakage from 3-way syringe          | The core of 3-way syringe is not restored, or have impurities or O-ring of valve is failed | Check the water and air button of 3-way syringe                                                    | Clean or replace the o-ring of button                                                      |
| 4  | The handpiece can not spray water while rotating. | Air switch of clean water bottle is closed                                                 | Check the air switch of clean water bottle                                                         | Open the air switch of clean water bottle                                                  |
|    |                                                   | Handpiece water regulator is closed                                                        | Check handpiece water regulator                                                                    | Regulate Handpiece water regulator                                                         |
|    |                                                   | Clean water used up.                                                                       | Check the volume of clean water                                                                    | Add more water                                                                             |
| 5  | The handpiece leaks water when not in operation   | Air & water distributing valve fails to function, or there is impurities in valve core.    | Remove air & water distributing valve , find out valve core and spring, check the both             | Clean valve core or relace the seal                                                        |
|    |                                                   | The foot switch is not restored.                                                           | The pressure gauge does not decrease after foot switch releasing, check the foot switch valve seal | Remove the cover of foot switch, make it act freely, clean the core and replace the O-ring |
| 6  | Scaler does not work                              | PCB power line is loose or damaged                                                         | Remove the operation panel, check the PCB indicator light, check the power line                    | Re-plug circuit line or replace circuit boarder                                            |
| 7  | Scaler has no water when working                  | Air switch of clean water bottle is closed                                                 | Check air switch of clean water bottle                                                             | Open air switch of clean water bottle                                                      |
|    |                                                   | Running out of water in clean water bottle                                                 | Check volume of water in bottle                                                                    | Add some more distilled water or pure water                                                |
|    |                                                   | Scaler magnetic valve does not work                                                        | Open the operation panel and check magnetic valve                                                  | Connect circuit line, repair or replace scaler magnetic valve                              |
| 8  | Scaler is                                         | Scaler magnetic                                                                            | Remove operation panel                                                                             | Clean valve core                                                                           |

|   |                                 |                                                       |                                                                 |                                                |
|---|---------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------|
|   | water leakage                   | valve core has impurities                             | and check valve core                                            |                                                |
| 9 | LED curing light does not work. | LED curing light power box is damaged or out of power | Remove the operation panel, check power box of LED curing light | Re-connect the power line or replace power box |
|   |                                 | Curing light handpiece is damaged                     | Check curing light handpiece                                    | Replace curing light handpiece                 |

After above inspection, if the device still does not work, contact your local dealer or our service department, and inform the product model, serial number and fault details

## 9. Repair and maintenance

### Note:

All devices that enter into patient's mouth should be sterilized according to the prescribed sterilization method before use.

#### 9.1 Sterilization with 3-way syringe

Maintain and disinfect according to the operation manual.

#### 9.2 Scaler

Maintain and disinfect according to the operation manual.

#### 9.3 LED curing light

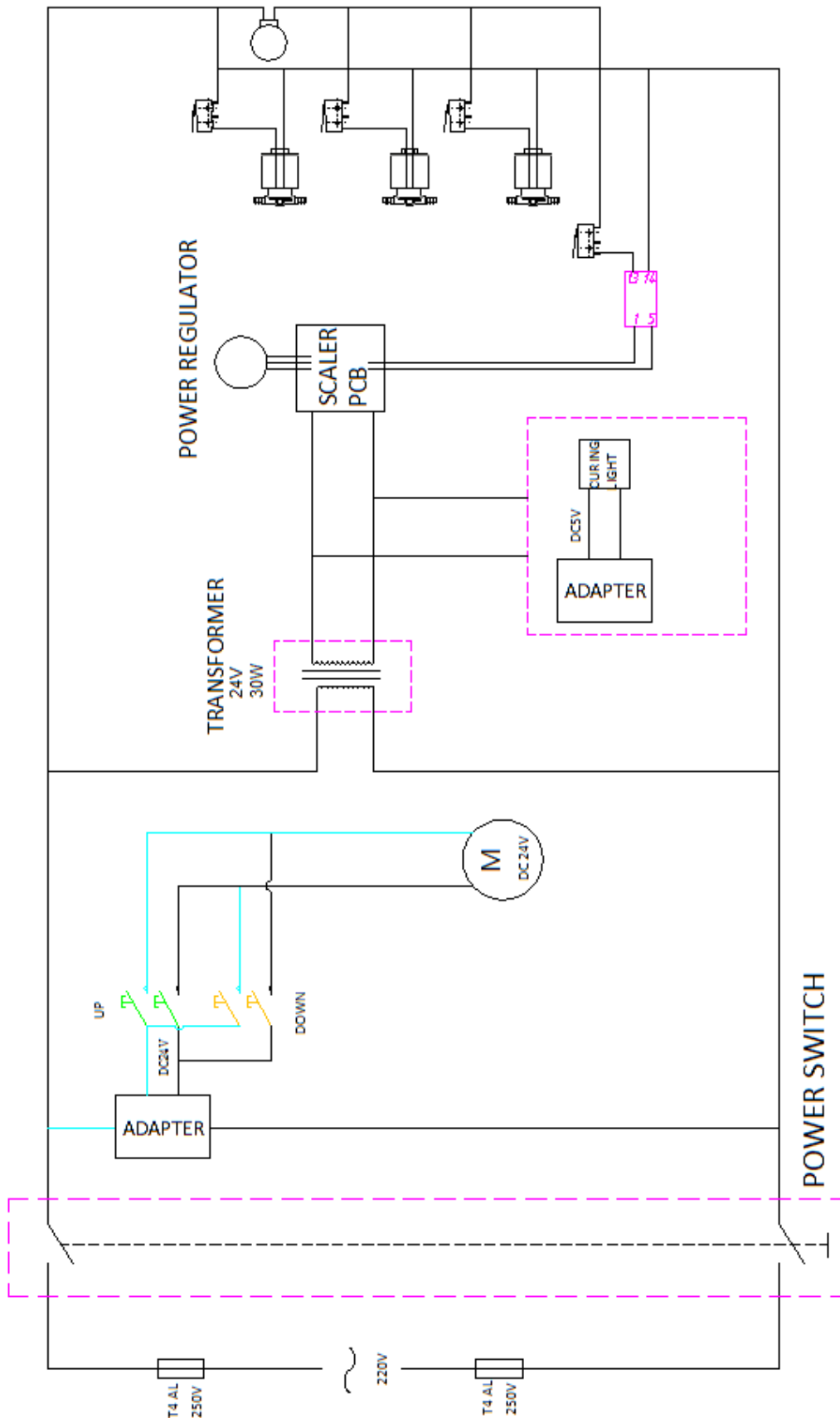
Maintain and disinfect according to the operation manual.

#### 9.4 Precautions

- (1) Clean up the equipment in time, including removing accumulated water and waste liquid.
- (2) Before replace any electrical component, cut off electric power supply first.
- (3) Before any cleaning or maintenance, cut off electric power supply first.
- (4) Only trained personnel could use this equipment.
- (5) Minor or mentally ill patients must be supervised during the treatment to avoid manipulation of the device or accidental injury to the device.
- (6) It is forbidden to use this equipment if you know or foresee that there is a hidden danger in this equipment and may cause harm to the patient or medical staff.
- (7) It is strictly forbidden to use this equipment in places where electromagnetic radiation is too strong.
- (8) This equipment and its accessories should be disposed of in accordance with local regulations after the end of its useful life.

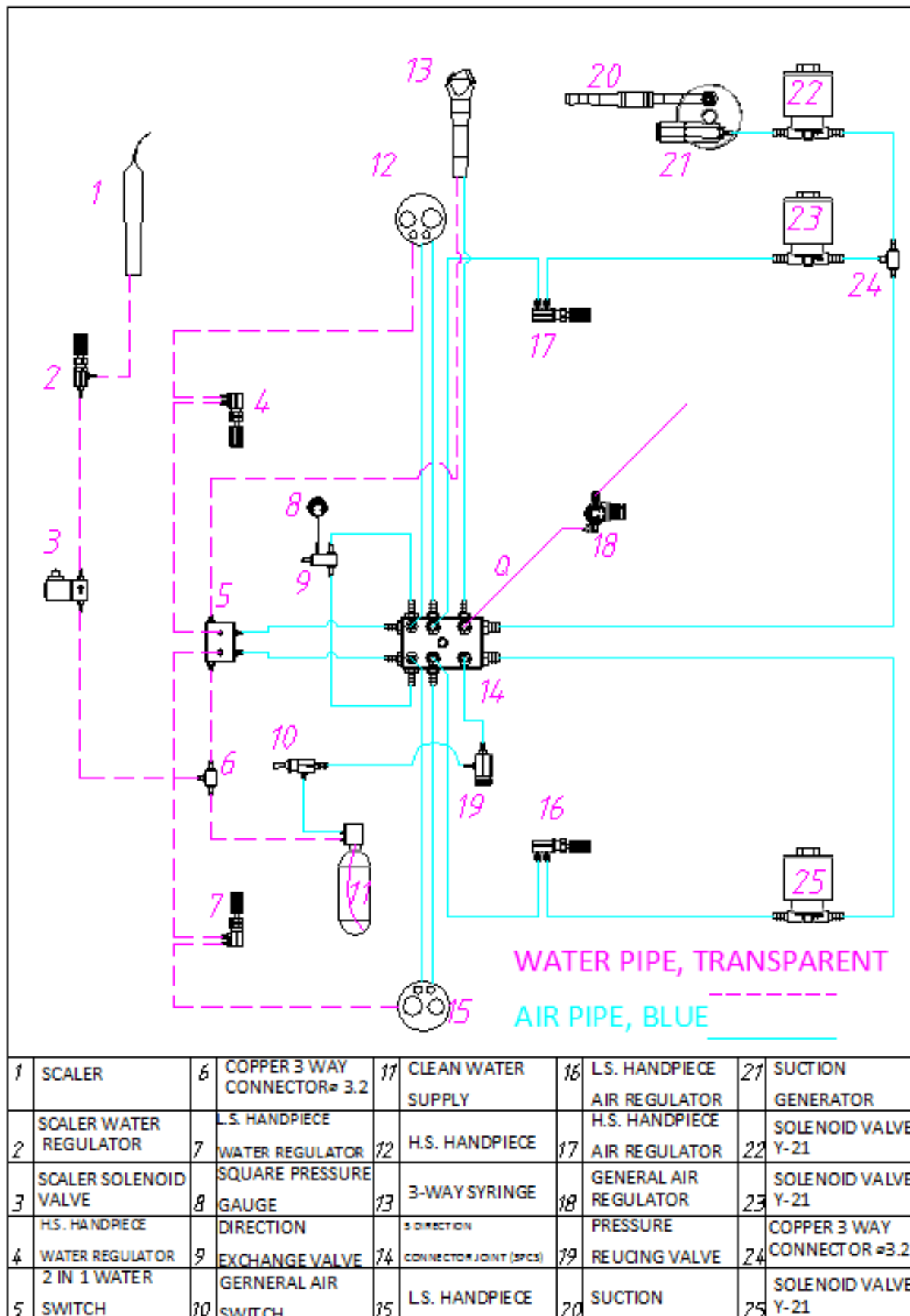
## 10. Working principle

### 10.1 Electrical Working Principal Diagram



PORTABLE DENTAL UNIT GU-P 302S

## 10.2 Air Water Working Principal Diagram



PORTABLE DENTAL UNIT GU-P 302S

## 11. Packing list

| No. | Item                          | Quantity |
|-----|-------------------------------|----------|
| 1   | Portable Dental Unit GU-P302S | 1pc      |
| 2   | Power line                    | 1pc      |
| 3   | Operation manual              | 1pc      |
| 4   | 3-way syringe spare parts     | 1set     |
| 5   | Ultrasonic scaler spare parts | 1set     |
| 6   | Curing light spare parts      | 1set     |
| 7   | Ø8 PU pipe                    | 1m       |
| 8   | Fuse T4AL 250V                | 2pcs     |

## 12. Disclaimer

We reserves the right to modify the product design, technology, spare parts, operation manual or packaging contents at any time without prior notice. The product is subject to the actual item, and the final interpretation right belongs to manufacturer.