

Mobile Dental Cart

Model No.: GU-P 302(A)

Operational Manual **(Technical Specification)**

Note : Read all these instructions before attempting to operate this product, and save these instructions for future reference.

Welcome to purchase our company's products.

The operational manual's purpose is to help you to use the cart correctly, before using the unit for the first time, please read all supplied information carefully, especially the information on manual and other terms mentioned in the notes. This will help you to make better use of our products.

Claim

In process of preparation of the manual, we have pursued to correct and complete, but for improving technology and craft, amending of the relevant laws and regulations, our company's products and manual will make changes accordingly, we reserve the right to make changes of products in this manual at any time without notice. We will continue to improve our products, improve our services. During operation, if you found the actual situation of product are inconsistent with manual, or you want to get the latest information, or have any question, please contact us.

Limited guaranty / warranty

If the cart comes with details of warranty documents, the company will be only provide after-sales service to you according to this document. If the cart does not come with warranty documents, it means that the after-sales service of your products will be carried out according to the written agreement signed by the supplier and buyer, it is not suitable for our service details, it also does not including any other express or implied guarantee / warranty. Under such circumstances, you will not receive our company's service, if you are willing to receive our company's products, you may check with the organization or person who provide you products, they will do the after-sales service well according to their promise.

The cart will be sold only in accordance with local laws and regulations of the country and regional.

The maximum extent permitted by law, the company will not be responsible for the following circumstances:

- 1, Third-party claims against you;
- 2, Incidental or consequential damages and economic losses;
- 3, Due to add your own configuration caused damage and economic loss;
- 4, Damage and economic losses due to failure in specified environment or operations not according to the instructions;
- 5, Damage and economic losses due to force majeure.

Signal



Note : It means it is possible to miss accessories and documents.



Warning : It means it is possible to damage the device or make it cannot work properly.

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1. Introduction

Thank you very much for choosing our company's mobile dental cart GU-P 302. Its main applications are for oral health and treatment. Our carts features attractive appearance, adjustable height, free moving, lower noise, easy operation and durable. In order to familiar the cart quickly, please read the manual carefully.

1.1 Contents of the manual

The manual including instructions, operational and maintenance, notice and so on. You can view the content according to your need, to obtain the help.

1.2 Performance and structure

Mobile Dental Cart consists 3-way syringe, handpiece tubing, saliva ejector, built-in LED curing light, built-in ultrasonic scaler, foot control, saliva bottle, trolley composition; built-in oil-free air compressor, air tank as option.

1.3 Usage

Mainly used in dental surgeries, dental hospital, it is one of the main equipment of a dentist for oral treatment, it can be used in dental care and inspection treatment.

1.4 Safety Information

1.4.1 Electrical Safety

- This cart must be used in well power supply environment.
- Before connect to power, please make sure voltage and frequency are correct as power input information in the vicinity of this unit identified.
- Do not share outlet with other electrical appliances to prevent instability voltage, causing damage.
- Maintenance / Repair or clean the cart, be sure to unplug the power cord, ensure that the unit completely powered off, then begin to operate.
- Check the cable and plug for damage, and make sure the power cord is not pressed by other items.

1.4.2 Cleaning

Please keep the environment clean, before cleaning, please cut off the power, with a soft cloth stained with neutral detergent to wipe the outer surface of the unit, and then use a soft cloth to clean the cart.

Note: Do not use liquid or detergent containing flammable substances.

1.4.3.1 "Notice" and "warning" contains important information of safe operation and utilization, please **DO NOT** operate the equipment unless you read and understand the manual. Please contact the manufacturer or authorized service providers if you don't understand operation risk, notice, warnings and operating instructions for fear of injury. When using this equipment, please confirm to the security rule.

Please confirm to the security rules which including the following items:

- 1) In the first use and first disinfection and sterilization.
New and re-use of the handpiece or device, must be cleaned, disinfected and sterilized before using. The handpiece or device without sterilization may cause infection of germ or virus.
- 2) In order to avoid fracture of the instruments were ingested or inhaled by patient, during treatment, must persuade the patient to breathe with nose.
- 3) Handpiece can not be used without cooling water, if without cooling water, working tips would get heat very soon, it will cause injury to teeth. Therefore, must ensure that handpiece used with cooling water.

4) Power switch is not the safe electric shutoff switch, but battery socket is the only safe electric shutoff device. Therefore, it is ensured to operate battery socket conveniently.



Note: To avoid the risk of electric shock, the equipment can connect a electric power line protection grounding, but incorrect grounding plug will cause the risk of electric shock.

5) Only skilled staff through training can operate the equipment. Undue operation may cause severe injury.

6) Equipment cannot be used in flammable mixture environment.

7) Equipment cannot be used in anesthetic and air, oxygen, nitrogen mixture environment.

8) Don't put the equipment together with oxygen cylinder.

9) Don't use the equipment nor open it and change the accessories in the following situations, it just can be maintained by the manufacturer or the authorized service providers.

- Damage of the power plug
- Equipment cannot work normally
- Breakdown of the equipment
- Water inlet of the equipment
- Loud or shrill noise, overheating outlet air or foul smells during operation.

Circuit diagrams, parts lists, unit descriptions, manuals, technical specification and other useful information, will be provided when the authorized technicians need to provide maintenance.

10) **Note:** use disinfectant the Instruction Book recommended or clinical use proved.

11) Pull out the power plug when the operator left.

12) Dispose of waste liquid and waste solid according to local health regulations.

13) **DO NOT** use and store the equipment outside of specified environment.

14) Keep accessories from dropping to avoid damaging the appliance.

15) Guarantee power lead safe and unfalling in the process of treatment.

16) Please use accessories of the manual.

17) Keep the equipment in a solid and horizontal level.

2. Specification

2.1 Technology Specification (for the optional air compressor)

2.1.1 Power Data

Voltage: AC 110~240V±10% 50/60 Hz±1 Hz

Power: 600W

Fuse: 5*20mm 10A



Warning: The power environment of mobile dental cart you purchased, please refer to the logo and brand near the plug. If the voltage is too high or too low, it will affect the normal use of the cart, even damage the unit. In this case, please install the manostat which the rating power should be not less than 1000VA.

2.1.2 Air Supply

This air compressor supply clean air, pressure: > 0.55MPa, air flow:> 50L/min at 4Bar, if there is lots water when using, please press the button in time to drain the water inside of tank.

2.1.3 Water Supply parameters

The handpiece and other equipment with water are from clean water bottle, so must be sure to add distilled water into the clean bottle.

2.1.4 Suction parameter

When using the Saliva Ejector, the vacuum up to 130~150mbar, pumping rate is greater than 400ml/min.

2.2 Classification

2.2.1 Electric Shock Protect type

Based on protect type, this item is belong to Class I.

2.2.2 Electric Shock Protection Degree

Based on protection degree, this item is belong to B type.

2.2.3 Waterproof type

Based on waterproof type, this item is belong to ordinary equipment (IP20).

2.3 Environment of transport, storage and usage

2.3.1 Environment of transport, storage

The unit should be transported and storied in the following condition:

Temperature: -10℃~+50℃

Relative Humidity: ≤90%

Atmospheric Pressure: 50Kpa ~106Kpa

2.3.2 Environment of usage

Temperature: 5~40℃

Relative Humidity: ≤80%

Atmospheric Pressure: 86Kpa ~106Kpa

The device cannot be used in the environment of flammable anesthetic and air, oxygen, nitrogen oxides mixture.

3. Structure, Installation

3.1 Structure



1, Saliva ejector	5, Ultrasonic scaler	9, Handpiece working pressure display
2, 3-way syringe	6, LED curing light	10, Clean water bottle
3, Handpiece tubing-1	7, Foot control	11, Frame
4, Handpiece tubing-2	8, Instrument tray	12, Medical caster

3.2 Installation Steps

3.2.1 Open the box to check

Open the outer box, check whether the cart is in good condition, and check whether the attached spare parts are good and intact according to packing list. If there is any doubt, contact distributor or our company immediately.

3.2.2 Installation

Make the mobile cart on ground, and the ground must be flat, level, solid, to prevent accident as a result of ground instability. Open the lid, put the foot control from the pocket on ground. Unlock the tie of saliva ejector tube, 3-way syringe and handpiece tube, hung them on the racks accordingly.

3.2.3 Installation of Handpiece

The handpiece from us is 4-hole, standard M4 connector, please connect the handpiece according to the manual, make sure do not no-load or overload operation. *(2-hole as options, or if you need, we may offer you the unit with 6-hole fiber optic handpiece tubing)*

3.2.4 Power connection

Get the power cord from the pocket inside of lid, put the inner plug to connect the power outlet, and plug the power cord into the socket.



Warning :Do not share the outlet with other electrical appliances to prevent voltage instability, and causing damage.

4. Debugging

4.1 Air Supply System

When using, open the power switch, then the compressor runs at once, supply air to air tank. Air pressure would rise from 0Bar to 8Bar, once reach to 8Bar, compressor will automatically stop. If the inside pressure reduce to 5Bar, the compressor begins to work again, until pressure rise to 8Bar. The device runs as above cycle.



Warning : Non-professionals do not operate or dismantle the system, sincerely defend trouble

4.2 Handpiece

The cart with two handpiece tubing, one high speed and one low speed. Clean water bottle supply water for handpiece and other devices. The water pressure is determined by input pressure of clean bottle, the air pressure is in controlled by the special valve in the box.

The method of adding water: turn off "air switch", after release the inside pressure of bottle, holding the bottle, remove it clockwise; add the distilled water and rotate the bottle in counterclockwise, seal it well, open the "air switch," then complete this process.

Pick up high speed handpiece from the rack, set " Low speed /high speed transferring switch " to "high speed" position, make foot control work, turn the "Pressure Adjustor of High Speed Handpiece " counterclockwise, to adjust the rated pressure from low to high, turn the " Water Volume Adjustor of High Speed Handpiece " counterclockwise, adjust the water supply from low to high. When the turbine rotate and spray, you can start work.

Pick up low speed handpiece from the rack, set " Low speed /high speed transferring switch " to "low speed" position, make foot control work, turn the " Pressure Adjustor of Low Speed Handpiece " counterclockwise, to adjust the rated pressure from low to high, turn the " Water Volume Adjustor of Low Speed Handpiece " counterclockwise, adjust the water from low to high. When the turbine rotate and spray, you can start work.

Note : At this time, the pressure of "Pressure Gauge for Handpiece" is the handpiece working pressure. Do not exceed the rated maximum pressure when using, so as not to damage the device. Please be careful when adjusting. For turbine is sophisticated device, please read the manual before using.

4.3 3-way syringe

The unit is equipped with a 3-way syringe, use the distilled water together with handpiece. The water and air of 3-way syringe is connected with the water vapor behind the panel. Pick up 3-way syringe, press the ring nut, and insert the tip, then release the nut, check out whether the water and air is the same with the graphic near the 3-way syringe.

4.4 Saliva Ejector

The unit is equipped with saliva ejector, pick up the saliva ejector, open "Switch of Saliva Ejector", then it can start to work.

Note:

- 1, Be sure to use saliva ejector alone, do not use with handpiece together, or will affect the normal use of handpiece.
- 2, After daily using, suction a cup of water, exclude the water of pipe and then clean saliva bottle.
- 3, When cleaning, rotate the saliva ejector clockwise, wash with neutral detergent, and sterilize with a disinfectant solution. Then rotate the bottle counterclockwise to tighten.

5. Maintenance

5.1 After using saliva ejector, please suction a cup of water, to clean the pipe, generator and other components, to prevent jams and damage.

5.2 Before and after using the handpiece, should rotate and spray 1~2 seconds, in order to exclude the dirt in the pipe, to prevent cross-infection.

5.3 After using, wipe the surface to prevent corrosion of equipment.

Do not use the cleaner with acid and bases.

5.4 Operation and maintenance of handpiece should refer to the manual of handpiece.

Pay attention to clean and lubricate.

5.5 After daily working, be sure to close the water, electricity, air supply of the unit, then can leave.

5.6 Before working, should make the handpiece work about 2 minutes, to purify the water and air pipe.

5.7 After using and before sterilizing should clean and lubricate, to protect the normal use and working life. Please refer to the handpiece manual for maintenance strictly.

5.8 The sterilization of 3-way syringe and handpiece

The following requirements are in full accordance with provisions of handpiece:

- Pick up the used 3-way syringe and handpiece
- Clean visible contaminants before sterilization
- Sterilization at 132 °C saturated steam for 10 minutes
- Before next patient, make sure already have done sterilization

Note: For the parts that can not be removed, should apply a one-time plastic

sleeve packaged.

5.9 The handpiece tubing should be disinfected only with disinfectant, can not in high-temperature condition.

5.10 Replace the fuse

5.10.1 Pull out the power plug from the socket, remove the fuse from allocated.

5.10.2 Remove the defective fuse.

5.10.3 Insert the new fuse. Please be accordance with the rated and fusing characteristics.

5.10.4 Press down the cover.



Note: Unqualified fuse may cause a fire!

6. Trouble shooting

No.	Problem	Reason	Check	Tips
1	Suction cannot work in normal.	Suction switch closed.	Check the suction switch.	Open the suction switch.
		Suction pipe inside of box bended.	Remove operation panel, check the suction pipe.	Re-fix the suction pipe well.
2	Suction is powerless in operation.	The switch of suction is closed or filter is blocked.	Check the switch of suction and the internal filter.	Open the suction switch, clean inner filter core
		Suction generator is blocked	Remove the dirt bottle to check whether the suction generator is blocked.	Clean the suction generator and re-fix it back.
		Dirt bottle didn't tight well, or crack with the cover, air leaking	Check the dirt bottle, check the bottle cover.	Tight the dirt bottle or replace the cover.
3	Water or air leakage in 3-way syringe	The core of 3-way syringe is not restored, or have impurities or O-ring is failed.	Check the water and air button of 3-way syringe	Clean or replace the o-ring.
4	Handpiece cannot spray water while rotating.	Distilled water has been used up.	Check the water volume of water tank.	Add some more water
		Air switch of water bottle does not open or cannot work.	Check the air switch of water bottle	Open the air switch or replace it
		Water volume regulator was closed.	Check the water volume regulator.	Adjust the water volume regulator or replace it.
5	Handpiece water leaking when not in operation.	Air & water distributing valve fails to function, or there is impurities in	Remove one side of the valve, take out faucet, spring and valve core,	Clean the valve core or replace the O ring.

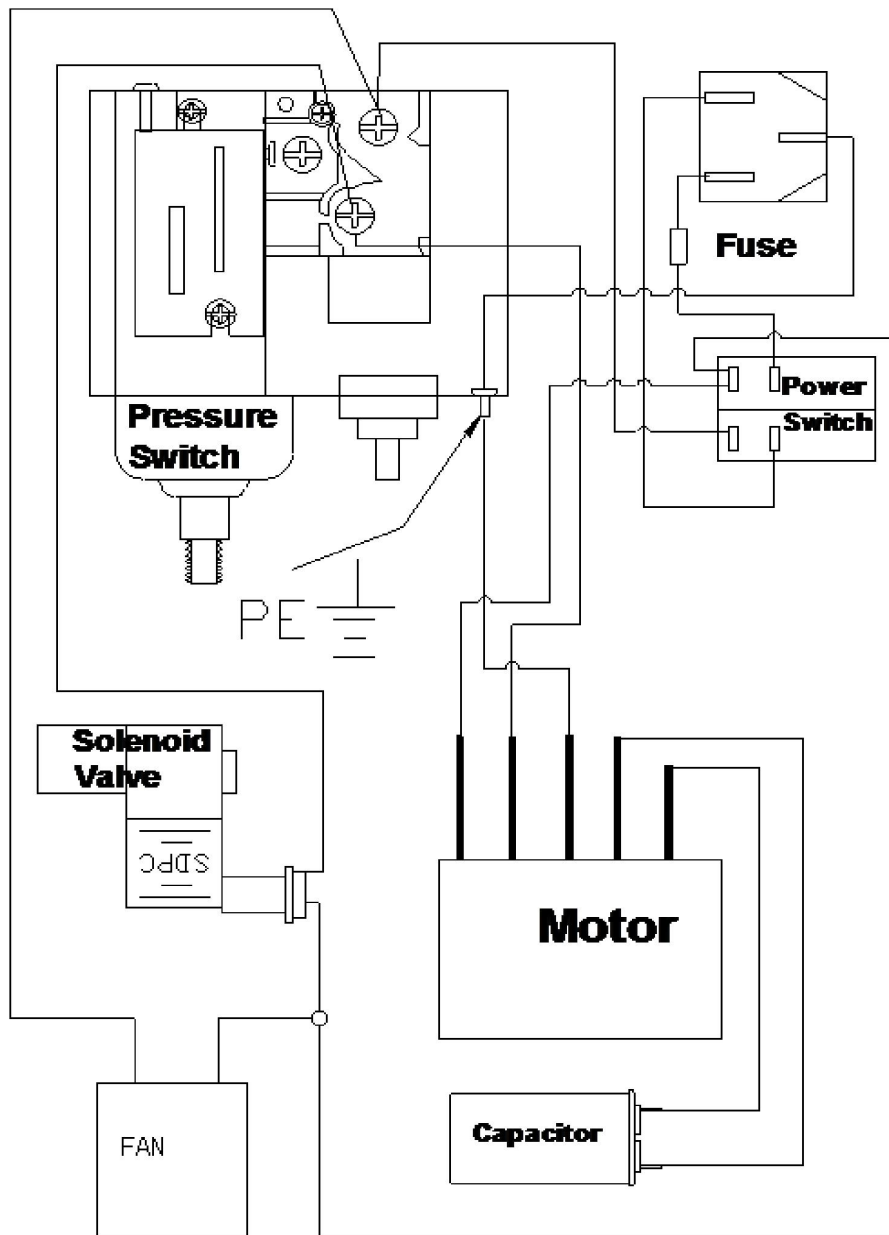
		core.	check the O ring.	
		The foot control is not restored.	The pressure gauge does not decrease when foot control is put up. Check foot control, check the valve core and O ring.	Loosen the cover of foot control, make it act freely, clean the core or replace the O-ring
6	Fiber optic handpiece, no LED light source in operation.	Less air flow, cannot open the air valve in power box.	Check the handpiece air flow regulator.	Set the handpiece air flow regulator correctly.
		Wire connection loose with the power box.	Check the power box.	Remove the operation panel, fix all wire connection well.
7	Ultrasonic Scaler cannot work in operation.	Wire connection of the power set PCB is loose or failed.	Remove the operation panel, check the PCB light, check all wire connection.	Fix all wire connection well or replace the PCB.
8	Ultrasonic Scaler work without water	Air switch of clean water tank is closed	Check the water tank air switch	Open the water tank air switch
		Scaler water supply regulator is closed	Check the water supply regulator	Turn on more of water supply regulator
		Distilled water has been used up.	Check the water volume of water tank.	Add some more water
		Scaler solenoid valve is failed.	Remove the operation panel, check the solenoid valve.	Re-fix wire connection of solenoid valve or replace it.
9	Ultrasonic scaler with water leaking	Solenoid valve care with impurities.	Remove the operation panel, find the solenoid valve, open it and check the core.	Clean the valve core and re-fix it.
10	LED curing light cannot work	No power supply to the power set or it is failed.	Remove the operation panel, check the power set of LED curing light.	Connect to electric power replace the power set.
		Curing light handpiece is failed.	Check the curing light handpiece.	Replace the curing light handpiece
11	Air Compressor cannot work in normal.	Power connection with mistake	Check if the power supply is connected correctly	Connect the power supply correctly
		The fuse is blown	Check the fuse.	Unplug the plug socket, open the fuse cover,

				replace the fuse.
		Wire connection to electric power supply fall off or electronic components loose.	Remove the operation panel, check the inside wire connection and electronic components.	Find a professional engineer connect all wires according to circuit diagram
		Compressor working for long time, overload protected.	/	Stop the compressor for cooling till temperature drop down.
12	Air compressor keeps working and cannot be stopped.	Air pipes broken or lose.	Remove operation panel, check all air pipes connection.	Connect all air pipes well or replace it.
		Leaking from solenoid valve.	Remove the operation panel, find the solenoid valve, check where here is impurities with the core.	Clean the valve core or replace the solenoid valve.
		Suction leaking or leakage from air pipes.	Check the suction and all air pipes connection, and all connectors.	Turn off suction, tight all air connect all air pipes well or replace it.
		Pressure switch is failed	Check whether the pressure switch can work in normal	Adjust or replace the pressure switch
13	Unit is stopped, but compressor motor stop and restart automatically.	Air pipes with leaking.	Check all air pipes connection, listen the sound or test with soap water.	Check all air pipes connection, avoid leaking.
		Air leaking from check valve.	After compressor stopped, check whether here is air leaking from solenoid valve.	Remove check vale, clean the inner core.
14	Unit with too much shake and high noise, compressor cannot start.	Electric voltage is too low.	Check the electric power voltage with multimeter	Wait till voltage is stable or equip with a voltage stabilizer.

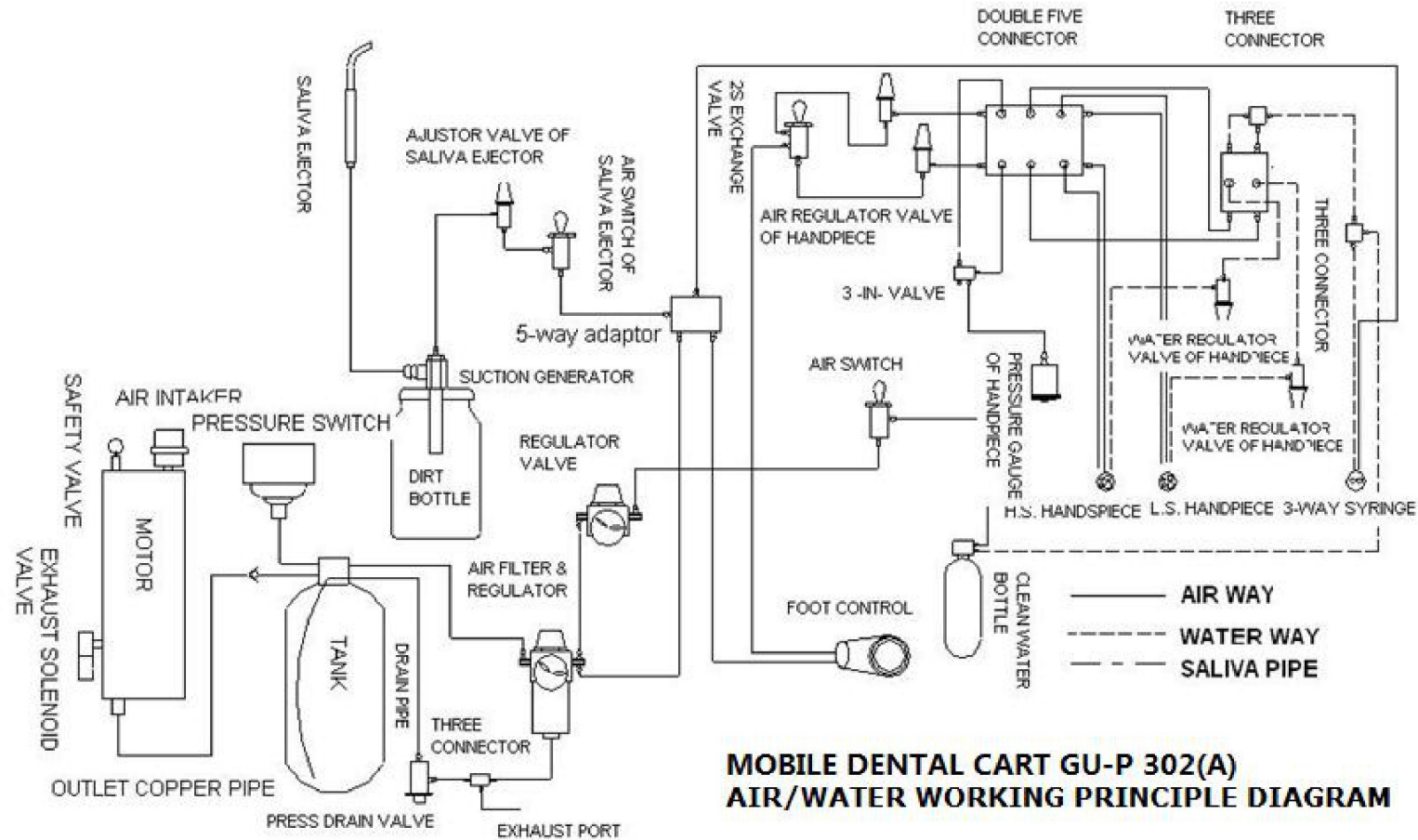
7. Working Principle

Mobile Dental Cart with oilless air compressor to supply stable, clean air to turbine. The air is connected from tank to foot switch, 3-way syringe, saliva ejector, and water bottle, get into handpiece from foot control. Water bottle adjusts air pressure by pressure valve, to supply water for 3-way syringe, handpiece.

7.1 Drawing of working principle



7.2 Air water Working Principal Diagram



8. Packing List

1. GU-P 302 Unit Body	1set
2. Built-in Power Line	1pc
3. Operation Manual	1pc
4. Fuse	2pcs
5. Dental Air Compressor as option	
6. Scaler or Curing Light parts according to different order details	