

TPC

OPERATION MANUAL PC2630

PORTABLE DENTAL UNIT



TPC

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tpcdental.com

- **Before operating the unit, please read the manual carefully and keep it for future reference.**
- **Please operate and maintain the unit strictly in accordance with the operational instructions.**
- **Symbol “⚠” denotes that the user should read the instructions supplied with the dental unit carefully.**
- **Symbol “Attention” denotes that before using the device, read the operating manual carefully and carry out all the instructions to avoid any damage or injury.**
- **Please contact your the local dealer or the manufacturer if the unit needs repairs.**

Warranty Information

All of our products sold are guaranteed to be free from defects in workmanship and materials for a 1 year from date of purchase, unless otherwise stated. TPC will repair or replace any defective part at no charge. TPC will not be responsible for labor charges or shipping charges to / from the TPC facility. This guarantee does not cover normal wear or stains on surface finish. The guarantee does not cover damage resulting from improper installation, misuse or accidents incurred in shipping and handling. All claims against the freight carrier must be initiated at the time the damaged items are received. The claim is the responsibility of the customer. We are improving our products on a continuous basis. We reserve the right to make modifications without the need for prior notification and are not obliged to modify previously manufactured items. Main compressor pumps and tank parts are covered under the 1 year warranty. Any plastic components are covered under a 1 year warranty. Only authorized service technicians should attempt to service TPC equipment. Service performed by any unauthorized technicians may result in a voided warranty. Handpiece tubing is covered under a 6 month warranty.

Unpacking:

- Place box upside down. This can be indicated by the arrows on the box.
- Cut both shipping straps and remove.
- Lift up on outer box and remove it.
- Tip portable dental unit right side up and remove from shipping plastic.
- If you desire, you may also remove the blue poly coating from the dental unit. This is in place to insure there are no scratches on the unit.

1. Brief Introduction

The PC2630 is a portable dental unit to be used only by a dental professional. It possesses the same capabilities that are used in modern dental offices. Some of its standard components are as follows. Twohand piece positions, 3-way syringe and suction. In addition the unit also contains a water bottle for clean water and a waste bottle system for collecting saliva that is removed with the low suction. It contains a built in oil less air compressor and tank to allow the user to use the unit without delay.

The unit possess similar options as modern delivery systems. They include and are not limited to the following.

- High speed / slow speed selector valve.
- Air / Water adjustments for both high and low speed handpieces.
- Water bottle on / off toggle switch.
- Suction on / off toggle switch.
- Suction flow control valve.
- Viewable pressure gauge to reference air pressure to handpieces.

1.1 The Equipment Structure Identification



1. Pressure Gauge.	14. HP 1 / HP 2 Selector switch.
2. Saliva Ejector.	15. Clean water system on / off switch.
3. Suction On / Off switch.	16. Air water syringe
4. Waste container.	17. HP 1 Air adjustment
5. Suction flow adjustment.	18. HP1 Water adjustment
6. Tank pressure relief valve.	19. HP 2 water adjustment
7. Main Power inlet.	20. HP2 Air adjustment
8. Foot control	21.
9. Door storage compartment	22.
10. Removable door.	23.
11. Hp position 1	24.
12. Clean water supply. Water bottle.	25.
13. Hp Position 2	26.

1.2 PC2630 Configuration

1.2.1 PC2630 Standard Configuration:

- 4 hole handpiece tubing 2 pcs
- 3-way syringe 1 pc
- Saliva ejector 1 set
- Clean water bottle 1 pcs
- Waste bottle 1 pc
- Oil-free air compressor / tank 1 set

1.2.2 Options:

Tornado Handpieces

2. Technical data

2.1 Working condition:

Power supply: 110V/(220V) ; 60Hz(50 Hz) 600W

Air supply: 40L/min at 4Bar

2.2 Instruments control method: Air foot controller

2.3 Package Dimension: Length 21 3/8" X Width X 16 1/4" Height 29 5/8"
Actual Dimension: Length 17" X Width 11 1/2" X Height 25"

2.4 Package Weight 82 Lbs
Actual Weight 69Lbs

3. Installation and maintenance

Ensure that every component of the machine is intact after opening the box and check that parts are intact according to packing list. In case of damage or missing items, please contact your local dealer. After checking, install the machine in a dry, ventilated and cool place with a flat floor and sterile surroundings.

3.1 Installation

3.1.1 Handpiece

When using the high speed handpieces, please select HS using the HP selector switch on the front of the unit. To make air and water adjustments to the handpiece use the HS air adjustment knob to adjust the air pressure. Use the HS water adjustment knob to adjust the water flow to the handpiece.

When using the slow speed handpieces, please select LS using the HP selector switch on the front of the unit. To make air and water adjustments to the handpiece use the LS air adjustment knob to adjust the air pressure. Use the LS water adjustment knob to adjust the water flow to the handpiece.

Note:

- (1) The handpiece must not be started without the bur or testing bar inserted into the chuck.

3.1.2 3-way syringe

- (1) Press down the ring nut and insert the syringe tip, then lock the nozzle by resetting the ring nut back out. To remove the syringe tip, press in the ring nut and pull tip out.

3.1.3 The Saliva ejector

To activate the suction on the unit allow the air build up. Once there is an ample air supply, you may turn the suction toggle switch on. Once the switch has been turned to the on position you may operate the suction. To make adjustments to the suction flow use the adjustment knob labeled suction. This will increase and decrease the amount of suction that is delivered to the saliva ejector.

Note: it is recommended that you clean the waste bottle and system after each use. This can be achieved by sucking a clean cup of water through the system.

3.1.4 Clean Water System

To activate the bottle system, turn the selector switch to the on position. Turn it to the off position to turn it off. Only use with purified or distilled water. The water that is placed in the bottle is used to supply water to the hand pieces and syringe. The use of hard water or un purified water can damage and cause obstructions in the handpieces and water lines of the unit. Turn the water bottle counter clockwise to remove it and clockwise to attach it. Be sure not to misalign the threads.

3.1.5 Waste bottle

The waste bottle must be cleaned after each use. When cleaning, unscrew it by turning it counter clockwise. Dispose of waste properly and rinse with clean water.

3.1.6 Air Supply System

The portable dental unit uses an oil less compressor that has been tested before packaging. When using, turn the main power switch to the “on” position, This can be confirmed when the light on the main power switch illuminated green. Once the unit is turned “on” the compressor will begin to run. When the air reserve tank fills the compressor will turn “off”. This will happen several times while operating the unit.

Once the pressure in the air tank is under 0.4Mpa , the compressor begins to work until the pressure rise to0.6Mpa. The device runs in the above cycle.

Never adjust the regulator or disassemble it. Doing so may result in bodily injury to yourself and others around you.

3.2. Maintenance

Note:

The machine employs an oil less air compressor. While using the machine, please pay attention to frequent maintenance and good care so you can prolong its life span. After each use, be sure to clean both bottle systems

3.2.1 Gas Tank

After each use, allow the tank to fully pressurize. Once the unit fully pressurizes, then press and hold the relief valve located next to the main power switch. This will drain any excess moisture left in the tank along with any air pressure.

3.2.2 Disinfection of 3-way syringe

Remove the spray tip of 3-way syringe then autoclave the tip in the autoclave

Note: Any components operating in the patient’s oral cavity must be autoclaved after the treatment of each patient.

3.3 Troubleshooting

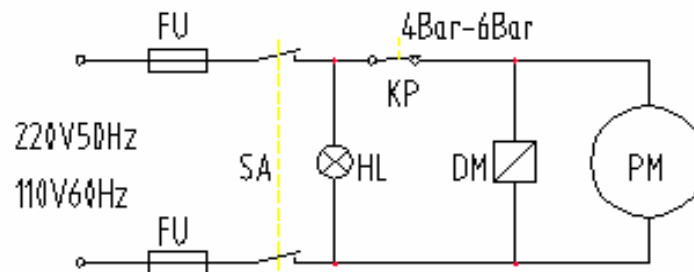
	Problem	Reason	Check	Tips
1	The power switch can not be turned on	The power is not switched on	Check if the power supply is connected correctly	Connect the power supply correctly
		A fuse is blown	Check if the fuse is broken	Replace the fuse
2	Compressor can not be started up.	The wire to the power supply has fallen off or an electronic component is loose.	Check the patch board and the electric connection of the compressor	Connect the wire according to circuit diagram
		The temperature of air compressor is too high	Touch the shell of the air compressor by hand.	Cool the air compressor, use it until it is cooling.
		The forward valve fails to work	Take off the tube which connects the inlet of the valve, check if there is air leakage	Clean the valve
3	The air compressor keeps working and can not be stopped	The unloading valve on the pressure switch fails to function.	The unloading valve is exhausting when the air compressor is working.	Remove the unloading valve, exchange O ring, clean tube.
		Leakage in the tube.	Watch and listen to the flow, or check it with suds.	Avoid leaking air.
		Air leakage in automatic drainage of filter valve	Check if there is air leakage in automatic drainage of filter valve	Avoid leaking air
4	The compressor stops working, air pressure decrease immediately, compressor starts up again.	Lots of leakage in the tube.	Watch and listen to the flow, or check it with suds.	Avoid leaking air
		The leakage in the forward valve connects to the gas can	No other air leakage, the pressure switch keeps working continuously	Remove the valve replace the O ring and clean the valve core
5	Electriferous shell.	The earth is not connected properly.	Check the shell with the electric pen.	Connect the earth wire properly.
		The unit has been affected with damp.	<5M Ω Check with multimeter. Insulating resistance: <5M Ω	Use the device until it is dry.
6	Can not start up the compressor with the compressor shaking and noisy	The power pressure is too low.	<198V Check the working power pressure with the multimeter. Power pressure <198V	Make the pressure rise or use manostat.

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7	The handpiece can not spray water while rotating.	The water in water tank has been used up.	Check the water volume of the water tank.	Replace the tank.
		Air & water distributing valve is blocked.	If the 3-way syringe sprays water.	Regulate the Air & water distributing valve or clean the valve core.
8	The handpiece leaks water when not in operation.	Air & water distributing valve fails to function.	Remove one side of the valves in handpiece , take out faucet, spring and valve core.	replace the valve core
		The foot switch is not restored.	The pressure gauge does not decrease when foot switch is put up.	Loosen the cover of foot switch, make it act freely.
9	Air and water leakage in water and air adjustor	The valve core is screwed too far in or out.	Remove and check the component.	Screw the valve core properly.
		O-ring is damaged.	Remove and check the valve core.	Replace O ring.
		Thread connector is loose	Check if there is leakage in the thread connector	Tighten the thread connector

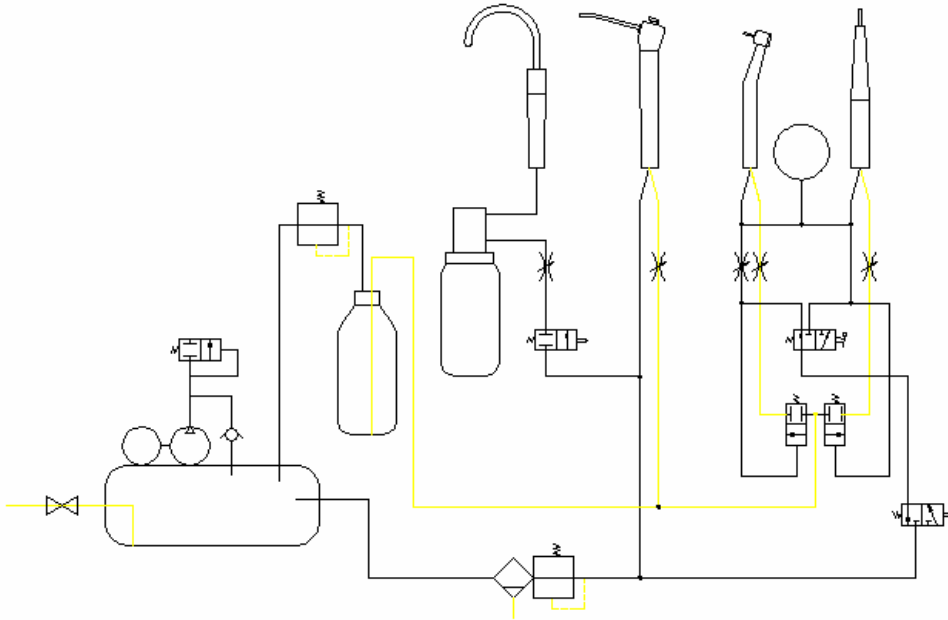
4 . Drawing of working principle

5.1 . Circuit diagram



FU: Fuse 8A/15A SA: Power switch HL: Indicating lamp
 KP: Pressure Controller DM: Exhausting solenoid PM: Compressor

5 Air and Water Connection Diagram



6. Packing List

1 .	PC2630 UNIT BODY	1 set
2 .	Clean water bottle	1 pc
3 .	Saliva Gathering Bottle	1 pc
4 .	Foot switch	1 pc
5 .	Electrical wire	1 pc
6 .	Fuse 8A/15A	2 pcs
7 .	Operating manual	1 set