

# *TPC*

## Operation and user Manual



### Advanced 850 Piezo Scaler

TPC Advanced Technology  
851 South Lawson Street  
City of Industry, CA 91748 - 800-560-8222

REV. 1

# Table of Contents

Section Contents	Section Title	Page
1	Specification	2
2	Introduction	3
2.2	How to Operate Unit	4
3	Indication	4
4	Contraindications and	4
4.2	Warnings	4
5	Precautions	5
5.1	Precautions for All Systems	
5.2	Precautions for Ultrasonic Prophylaxis Procedure	
6	Maintenance and	5
6.1	Sterilization4-5	
6.2	Tip sterilization	6
6.3	Handpiece sterilization	6
6.4	Replacing LED Light Bulb	
7	Installation Instructions	
	General Information	7
7.0	General Information	7
7.1	Selecting Water Source	7
7.2	Water Line Requirements	7
7.3	Unpacking the System 7.4 Power Switch / Connection	7
7.4	PowerSwitch/connection	9
8	System Control	9-10
8.1	Power Box	
8.2	Hand piece	10
8.3	Foot Switch	10
9	Accessories	10

# Section 1: Specifications

## 1.1 Electricity:

Vibration frequency: 24~32Khz

Power Supply Input: 100-240VAC 50/60Hz

Output : 24V DC 1.7A

## 1.2 Dimension:

Height: 21.59cm Width: 28.575cm Depth: 17.78 cm Weight: 1.133Kg

## 1.3 Operation Environment:

Ambient temperature: +10°C~+40°C

Relative humidity: 30%~75%

Atmospheric pressure: 700hPa~1060hPa

## 1.4 Transportation and Storage Environment:

Ambient temperature — 10C — +70C

Relative humidity range 10%~90%

Atmospheric pressure 500 hPa~1060hPa

## Conformance to Standards:

The ultrasonic scaler conforms to IEC60601-1-2 :2001 IEC60601-1-1 :2000.

TPC quality system is certified to ISO-9001:2008/ISO13485

The device is CE marked certified to European Medical Device Directive (93/42/EEC)

EQUIPMENT NOT SUITABLE FOR USE IN THE PRESENCE OF FLAMMABLE ANESTHETIC MIXTURE WITH AIR OR WITH NITROUS OXIDE.

CAUTION U.S FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A DENTAL PROFESSIONAL.

# Section 2: Introduction

## 2.1 Function:

The A850 Ultrasonic Scaler is designed for use in prophylaxis treatments periodontal, and other areas of operative dentistry. When used in prophylaxis treatment, the unit operates with a fine warm water spray, requiring little of the physical exertion necessary with hand instruments. It easily and effectively removes stubborn calculus and stains both supra gingival and sub gingival, leaving crown and root surfaces clean and smooth.

## 2.2 How to Operate Unit: (please read before operation)

1. Open the packing box; make sure that all the parts and accessories are complete according to the packing list
2. Insert the foot switch plug, power supply and (optional) water line into the corresponding sockets in the back of the unit.
3. Water sources for the A850 can either be derived from the external Water Line or on Board Water Bottle.
4. Screw the scaling tip tightly to the handpiece with the torque wrench; afterwards connect the handpiece to the front socket.
5. Switch on the main unit <On/Off>; select water source; with the Water selector button <City> or <Bottle>; or <Dry>
6. Activate foot control to begin. Select preset General, Perio or Endo modes with the <Option> button
7. To adjust scaling intensity press the <-> or <+> button
8. To adjust water volume, turn the corresponding knob on the side of the unit.

## Section 3: Indication

Ultrasonic procedure

- All general supra and subgingival scaling applications.
- Periodontal debridement for all types of periodontal diseases.
- Endodontic procedures.

## Section 4: Contraindications and Warnings

### 9. 1 Contraindications

Ultrasonic systems should not be used for restorative dental procedures involving the condensation of amalgam.

### 4.2 Warnings

Check the surface of the Plastic Case, Power Cord, Handpiece Cable, Power Inlet, Water Bottle, Fiber Optic Light Source and Handpiece Holder. If any broken of case or breakage at insulation coating is found .Please return the unit to Dealer during using the unit, make sure that water is flowing continuously, If handpiece overheat please check the water Supply, and stop using the unit for a while.

# Section 5: Precautions

## 5.1 Precautions for All Systems

- Do not place the System on or next to a radiator or other heat source. Excessive heat may damage the system's electronics. Place the System where air is free to circulate on all sides and beneath it.
- The System is portable, but must be handled with care when moving.
- Equipment flushing and dental water supply system maintenance are strongly recommended. .
- Close the coolant water shut-off valve to the System every night before leaving the office. The use of an in-line water filter is recommended.
- Please make sure to use appropriate, compatible scaling tips either EMS (E) or Satelec (S) designation. To ensure correct tips are used; initially thread on tip with fingers, before tightening with Tip Wrench.

## 5.2 Precautions for Ultrasonic Prophylaxis Procedures

- Like a toothbrush, ultrasonic inserts "wear out" with use. Tips with just 2 mm of wear lose about 50% of their scaling efficiency. In general, it is recommended that ultrasonic inserts be discarded and replaced after one year of use to maintain optimal efficiency and avoid breakage; use the Tip Wear Chart included as a guide.

# Section 6: Maintenance and Sterilization

## 6.1 Maintenance:

The outer surfaces of the TPC A850 Ultrasonic Scaler, consisting of the cabinet, water bottle, control knobs, power line cord, handpiece, handpiece cable assembly, footswitch and footswitch cable, should be cleaned and disinfected. The detachable handpiece and ultrasonic tips require cleaning and sterilization. Preferred methods are discussed. However, alternatives are available. Special steps may be required when following an alternate method.

## Recommended daily procedures:

### Beginning of the day:

Fill the on board water bottle with purified water or a medicament solution of your choice; or connect the water line to water supply source and select water source with the <Water> button. Connect a sterilized handpiece to its mating handpiece cable assembly. Hold the handpiece over a sink or drain, set power to low, activate the foot control, and flush the water line of the unit at maximum water flow for at least 2 minutes. Place a freshly sterilized tip into the handpiece. The unit is now ready for operation.

### Between patients:

Remove all ultrasonic tips and handpiece used, clean and sterilize.

Clean and disinfect the surfaces of the cabinet, Power Cord, Handpiece cable assembly\*, control knobs, Foot Control and cable assembly by applying an approved non-immersion type disinfectant solution\* carefully following the instructions provided by the disinfectant solution manufacturer. To clean system, generously spray disinfectant solution on a clean towel and wipe all surfaces. Discard used towel. To disinfect system, generously spray disinfectant on a clean towel and wipe all surfaces. Allow disinfectant solution to air dry. Connect a handpiece to its matching handpiece cable assembly. Hold the handpiece over a sink or drain and flush the water line of the unit as above at maximum water flow for 30 seconds. Place a freshly sterilized tip into the handpiece.

# End of the Day:

Remove all ultrasonic tips and handpiece used, clean and sterilize.

Clean and disinfect the surfaces of the cabinet, Power Cord, Handpiece cable assembly, Foot Control and cable assembly by applying an approved non-immersion type disinfectant solution\* carefully following the instructions provided by the disinfectant solution manufacturer. To clean system, generously spray disinfectant solution on a clean towel and wipe all surfaces. Discard used towel. To disinfect system, generously spray disinfectant on a clean towel and wipe all surfaces. Allow disinfectant solution to air dry.

\*Note: water-based disinfectant solutions are preferred. Some alcohol based disinfectant solutions may be harmful and may discolor plastic materials.

## 6.2 Tip sterilization:

### Cleanings/Disinfecting

If necessary, prior to sterilization, rinse tips under water to remove any gross debris. The use of cleaning and disinfectant solutions, such as ultrasonic cleaning solutions, is not recommended. Sterilization

- Place tip in a paper or paper/plastic steam sterilization pouch. Place the paper side up when using a paper/plastic steam sterilization pouch.
- Place the bagged tip into the steam autoclave. After warm-up is completed, operate at a sterilizing temperature and pressure of 273° F/31 psi (134°C/216 kPa) for 12 minutes, followed by a 20-30 minute drying time.
- To maintain sterility, the insert should remain in the sealed pouch until it is ready for use.

## 6.3 Handpiece sterilization:

### Cleaning:

- Wipe handpiece with a cloth saturated with multi-purpose instrument cleaner/disinfectant.
- Discard cloth.
- Rinse entire handpiece with water.
- Dry handpiece thoroughly with a clean cloth. Discard cloth.

### Sterilizing:

- Detach the handpiece from its connection cord and remove the tip.
- Place the handpiece into the steam autoclave. After warm-up is completed, operate at a sterilizing temperature and pressure of 273° F/31 psi (134°C/216 kPa) for 12 minutes, followed by a 20-30 minute drying time.
- Remove the handpiece from the autoclave as soon as sterilization is complete.
- Carefully dry the electrical contacts of the handpiece and cable connector before connecting them.

### CAUTION:

- DO NOT USE Cold sterilization solution.
- DO NOT USE chemical disinfectant prior to sterilization or rapid deterioration of the materials may occur.
- DO NOT sterilize handpiece cable assembly. .
- To use some water to rinse the connector o-ring can increase o-ring life time before connecting handpiece and cable.

## 6.4 Replacing LED light bulb:

Replacing LED Light Bulb.

- Remove Tip
- Twist off nipple counter clockwise and remove
- Pull off LED Light Bulb Cartridge and reinsert a new bulb
- Make sure LED Light Bulb pins are align

## Section 7: Installation Instructions

### 7.0 General Information

If the installation of your Ultrasonic A850 System is performed by someone other than trained TPC Distributor personnel care should be taken to observe the following requirements and recommendations.

7.1 Select Water Source; add adequate water to on board water bottle with purified water.

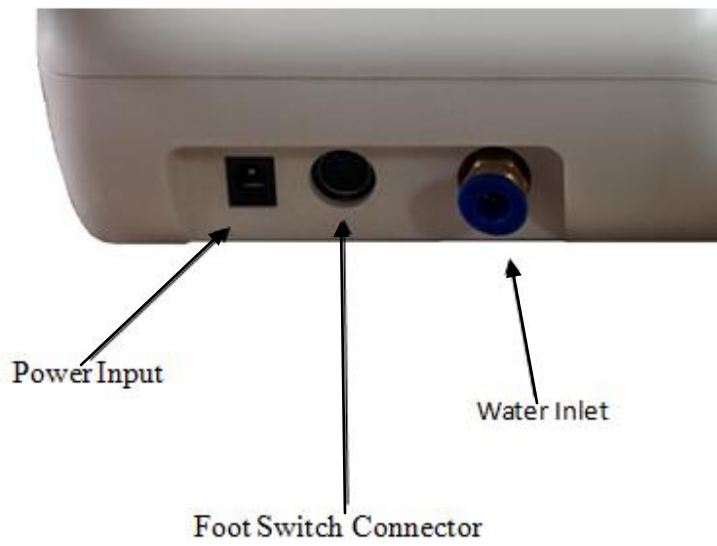
### 7.2 Water Line Requirements

- The System's water supply line is factory installed. Do not disconnect from the System.
- Incoming water supply line pressure to the System must be 1 to 4 bar (14.5 to 58 psi).
- If your dental water system's supply line pressure is above 58 psi, install a water pressure regulator on the water supply line to your Ultrasonic A850 System.
- A manual shut-off valve on the dental water system supply line should be used so that the water can be completely shut-off when the office is unoccupied.
- After the above installations are completed on the dental water supply system, the dental office water line should be thoroughly flushed prior to connection to the System.

### 7.3 Unpacking the System

Carefully unpack your Ultrasonic A850 System and verify that all components and accessories are included:

1. Ultrasonic A850 System with water supply line and handpiece with cable.
2. Detachable Power Supply with power Cord.
3. Footswitch with cable.
4. Autoclave handpiece
5. Ultrasonic Tip
6. Flexible tube (1.8mm long ) for connection onto the water supply.
7. Water Bottle



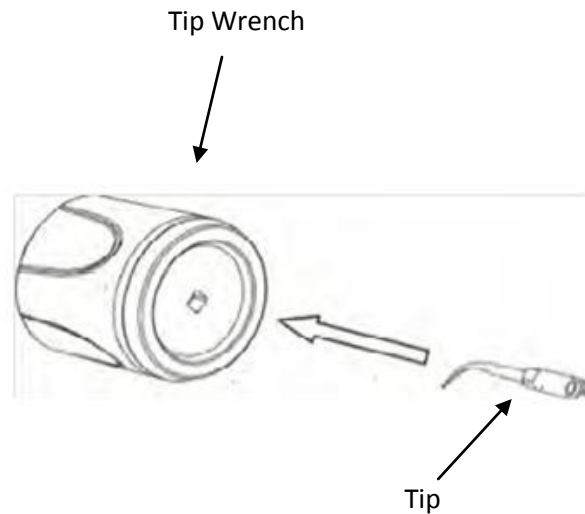
dentalshop.jp

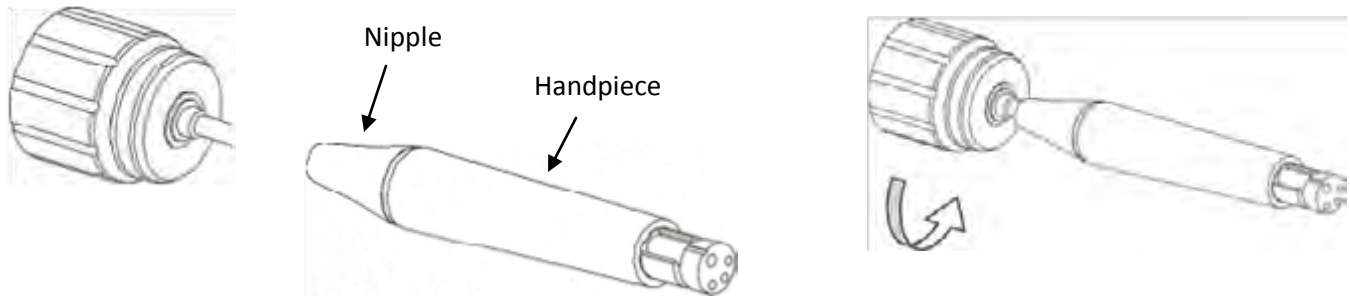


## Section 8: System Control

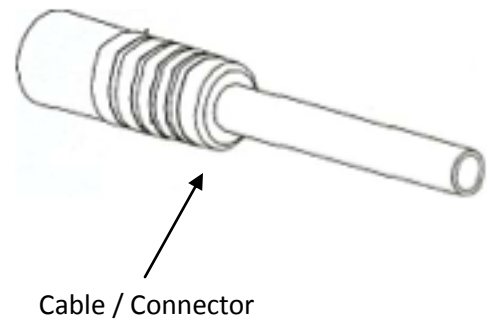
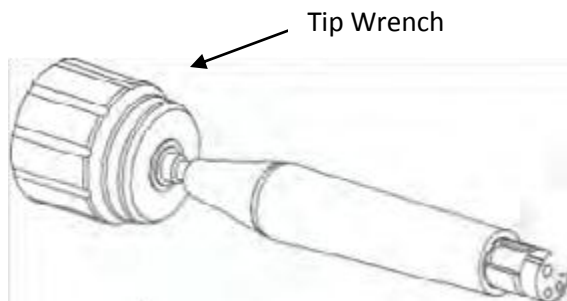


The TPC A850 handpiece is a high Technology instrument requiring precautions for use. The tip must be screwed and moderately tightened by means of the corresponding wrench.

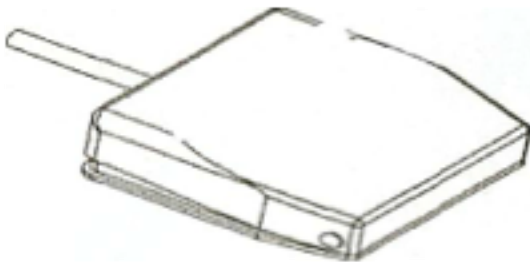




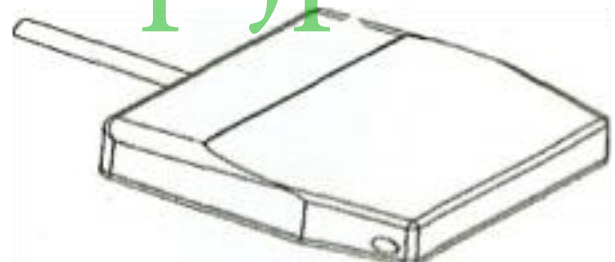
### Handpiece disassembly



### 8.3 Foot Switch



Foot Switch Released... Both ultrasonic activation and irrigating flow stop.



Foot Switch fully depressed the ultrasonic tip is activated and irrigating water flows.

## Section 9: Accessories

1. Switching power supply with power cord
2. Tip and Tip wrench
3. Foot switch
4. Sterilizable Box
5. water tubing with connector
6. Handpiece
7. User manual
8. Bottle Water