



# Ultima 250 Owner's Manual

## Table-Top & Arm Units



[www.UltimaDentalSystems.com](http://www.UltimaDentalSystems.com)

UDS Technical Support: (954) 772-9779



## Ultima 250 Owner's Manual Table-Top & Arm Units

Congratulations on the purchase of your new Ultima 250 air dental delivery unit. Our goal at Ultima Dental Systems is to provide the veterinarian with the finest dental products and the best customer support available in the industry. All of our equipment is built with a close attention to detail and a strong passion for quality. Ultima Dental Systems has specialized in dental air equipment exclusively for veterinarians since 1984 when we introduced the first veterinarian dental unit. We have offered quality products and services for nearly three decades, we are the originators. So you can rest assured that you have purchased the finest veterinary dental Equipment available in the world today.

The Ultima 250 series of dental air delivery units were designed with the veterinarian in mind. Ultima Dental Systems offers the Ultima 250 series in two different models, both models are extremely sleek, compact, and versatile units, built with attention to detail and Ultima's relentless passion for quality. The Ultima 250 Table-top is perfect for small clinics with minimal work space, mobile clinics on the go, and also as a second unit in many practices. The fact that the unit can connect to any air source, whether compressed air or nitrogen not only makes the Ultima 250 series versatile, but very easy to use with quick disconnect fittings. The quick disconnect fittings allows the user to disconnect the unit at a moment's notice. The Ultima 250 Arm units can practically be mounted anywhere, on a wall, fixed to an anesthesia pole, inside cabinets, under wet tables; the different custom possibilities are endless. The Ultima 250 Series line of units is built to withstand the test of time.

\*Your Ultima 250 unit has been set up, tested, and operated by the manufacturer to ensure the highest level of quality.

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Ultima 250 Table-Top Unit



Ultima 250 Arm Unit

## Set-Up and Installation

### Ultima 250 Table-Top

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Under and inside the units' removable top are two male quick disconnect fittings one with shut-off and one without, along with Suction feet for the table-top unit. Un-screw the sliver thumb screw located at the top of the unit. The two suction feet provided are to ensure more stability for the unit on a table top surface, even if the water bottles are empty. To make a more permanent installation in a particular location, simply screw in the unit to a flat surface.

### Ultima 250 Arm Wall/Pole Mount

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#### WALL MOUNT

When installing the wall mount for the Ultima 250 Arm unit, it is best if the wall mount is screwed into and secured to a wall beam. Use a stud finder, which can be found in most hardware stores, to locate a beam in the area the Ultima 250 will be installed. However, if this is not possible a second option is to use Drywall mollys to secure the wall mount, preferably the butterfly type that spring open behind the Drywall for extra holding power. Once the wall mount has been secured, install the extension arm, followed by the unit. Then connect the air source to the unit.



Wall Mount Re-Order # UD-105-018-BS

**Ultima 250 Owner's Manual Table-Top & Arm Units**POLE MOUNT

When installing the pole mount be sure you have the right size pole mount for the pole you are connecting it to. The pole mounts are available in two sizes 1 ¾" and 2". On the pole mount there are two Allen screws, one on either side of the mount. Simply, un-screw the Allen screws to open the pole mount. Place the mount around the pole and Re-attach the other half, tighten the screws on the pole mount until tight and secure. Once the pole mount has been secured, install the extension arm, followed by the unit. Then connect the air source to the unit.



1 ¾ Inch Pole Mount Re-Order # UD-105-126-BS

2 Inch Pole Mount Re-Order # UD-105-051-BS

Both Units include a standard 12" arm attachment. Ultima Dental Systems also has available 6", 8", 10" and 16" arm attachments. The Ultima 250 Arm units make it possible to connect to as many arm attachments as needed to achieve the correct length necessary for any practice environment. To order additional arm attachments contact the local distributor in your area or call The UDS Support team directly at: (954) 772-9779





# Ultima Dental Systems

Ultima 250 Owner's Manual Table-Top & Arm Units

## Set-Up and Installation

Air Source

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### COMPRESSED AIR

To begin working with the Ultima 250 dental unit using an air compressor, you will need  $\frac{1}{4}$  outside diameter tubing, this can be purchased at any local hardware store. Cut the  $\frac{1}{4}$ " tubing to the length needed between the compressor and where the unit will be used. Connect the male quick disconnects provided with the unit to the  $\frac{1}{4}$ " tubing, connect the male quick disconnect without shut-off to the compressor. Run the tubing to the unit from the compressor and connect the male quick disconnect with shut off to the female disconnect on the side of the unit labeled Filtered Air In. Set the air pressure from the compressor or nitrogen tank to 65/70 Psi. **NEVER EXCEED 80 Psi GOING INTO THE UNIT!**

Shut Off Valve



Male Quick Disconnect W/Shut off valve  
PART # UD-1070-AS-PW



Male Quick Disconnect Without/Shut off valve  
PART# UD-P1069-PW

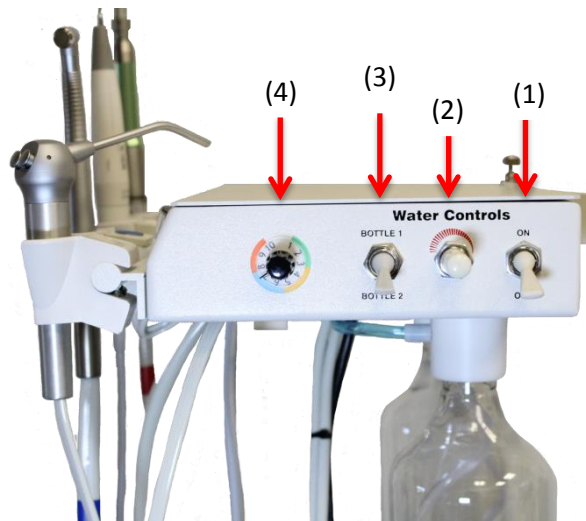
\*If you are using a compressor that is not an Ultima Silent-Surge compressor then additional parts and fittings may be required such as the Female quick disconnect fitting. For additional parts contact your local distributor or UDS Technical Support: (954) 772-9779

### NITROGEN

To begin working with the Ultima 250 dental unit using nitrogen, you will need  $\frac{1}{4}$  outside diameter tubing. Cut the  $\frac{1}{4}$ " tubing to the length needed between the nitrogen source and the location the unit will be used. Connect the male quick disconnects provided with the unit to the  $\frac{1}{4}$ " tubing, connect the male quick disconnect without shut-off to the nitrogen source. Run the tubing to the unit from the nitrogen source and connect the male quick disconnect with shut off to the female disconnect on the side of the unit labeled Filtered Air In. Set the air pressure from the nitrogen source to 70 Psi. **NEVER EXCEED 80 Psi GOING INTO THE UNIT!**

\* If you are using a nitrogen regulator not provided by Ultima Dental Systems then additional hardware may be required to install the unit. Contact your local gas company for Nitrogen E-tanks and refills.

## Ultima 250 Owner's Manual Table-Top & Arm Units Operation



Located on the side of the Ultima 250 Units are the controls.

From right to left:

1. The On/Off Toggle Switch – turn the water on/off to the units hand piece lines.
2. The Volume knob – Allows you to increase/decrease and adjust the water to the handpieces.
3. The bottle Selector Switch – Allows you to change the water source to the handpieces between bottles one and two.\* You may fill one bottle with an antiseptic solution and one with distilled water. (IT IS VERY IMPORTANT TO FLUSH THE HANDPIECE TUBING LINES WITH DISTILLED WATER AFTER USE FOR A MINUTE IF AN ANTISEPTIC SOLUTION IS USED TO NOT ALLOW IT TO DRY WHICH CAN FORM PARTICLES INSIDE THE LINES CAUSING CLOGS AND BLOCKAGES WITHIN THE UNIT).
4. Potentiometer (Power Dial) for the Piezo scaler. If the unit does not have a built in scaler, a white cap will cover a pre-drilled hole for easier install of a built in scaler kit in the future.

You will also find the Ultima 250 units to be extremely user/repair friendly. On the top of the unit there is an easy to remove lid secured by a silver thumb screw. To gain access to the U250 components simply un-do the silver thumb screw.

## Operation

The Ultima 250 series dental units feature automatically activated handpieces, having no need to flip toggle switches to make them function, simply pick up the desired handpiece and step on the foot control pedal. The handpieces become activated when removed from their assigned holder. The handpiece must be placed in the same holder to de-activate the handpiece in order to allow another handpiece to function properly. The holders and handpiece tubing have been color coded for your convenience.

Red is the lowspeed handpiece (Polisher), White is the accessories line or Piezo line if the unit is equip with one, and Blue is for the highspeed drill. The handpiece pressures have been preset at the factory.



Handpiece Pressures: HP 1 the Red line (Polisher) should be set to 40 – 50 Psi. HP 2 the White line is an accessories line and has not set if you purchased a base model. HP 3 the Blue line (Highspeed drill) should be set to 32 Psi. If you operate the highspeed drill at a speed higher than 35 Psi you will cause premature wear and damage to the drills' turbine. To change individual handpiece pressure settings look on the back of the unit under the captions HP 1, HP 2, HP 3, inside the holes are small adjustment screws. To decrease individual airline pressure turn adjustment screw clockwise. To increase individual airline pressure turn counter clockwise.





## Ultima 250 Owner's Manual Table-Top & Arm Units

To install handpieces simply mate the rear end of the handpiece with the handpiece tubing connector.

1. The UDS low speed handpiece (Polisher) is a 4:1 E-style hand piece with a 20,000 Rpm motor. Meaning the motor is powerful enough for a 1:1 nose cone or contra angle, making it useful on procedures for small animals such as rabbits.
2. If your unit is equip with a Piezo Scaler built into the unit, do not worry about the pressure setting. It will always jump to 60 Psi because it is an electric Scaler and only uses air to turn a switch on and off. Do not adjust the pressure for HP 2, if you turn down the pressure for HP 2 to zero, the Piezo scaler will not vibrate and work.
3. If your unit is equip with a fiber optic highspeed drill note that it has an eighteen second delay. This is a great feature; the eighteen second time delay on the handpiece allows you to use the drill as a light wand. If you have and L.E.D highspeed drill, the light will turn off when the foot control is released.
4. The three way syringe is used by depressing the right button for a burst of air, the left button for a stream of water, both buttons depressed will produce a mist.

To refill water bottles it is not necessary to disconnect the Ultima 250 unit from the air source. To refill the water bottles, simply un-screw the bottles slowly releasing the pressure slowly allowing the air the escape, wait a few seconds, check to see if the bottles are soft, then un-screw the bottle the rest of the way off the pressure head. Refill the bottles with distilled water and then re-attach.

### Basic Maintenance

The Ultima 250 units require very little maintenance at all.

1. Always keep handpieces oiled with liquid handpiece oil.
2. Disconnect air source going into the unit each night and un-screw the water bottles to allow the unit to vent.
3. Always remember to flush out the tubing lines with distilled water when using an antiseptic solution.
4. Always use distilled water.
5. Wipe down unit with any disinfectant after use.

The Ultima 250 units are guaranteed for five years against any manufacturing defects.



### Ultima 250 Owner's Manual Table-Top & Arm Units

If you have any questions or require any additional assistance please do not hesitate to contact the UDS Technical Support Team: (954) 772-9779

## Trouble Shooting Guide

### No Water (Highspeed Drill - Scaler)

1. Check the water on/off toggle switch and make sure it is in the on position. Check switch for any damage.
2. Check the water increase/decrease knob and make sure it is turned up. Check the knob for damage.
3. Go around to the rear of the unit, inspect the water bottles. Check for air leaks around the water bottles, make sure their secured tightly on the pressure heads. Squeeze the bottles to check the pressure; the bottles should be rock hard.
4. Unscrew the highspeed drill from the tubing. Make sure the water switch is on and the water volume knob turned on high. Press on the foot control and see if water comes out of the handpiece tubing. (1) If water comes out of the handpiece tubing; the problem is with the handpiece, not with the dental unit.
5. Grab the three way syringe and check to see if you get water from the handpiece. If you have water flowing through the three way syringe handpiece, this means water is flowing to the distribution block.
6. If water does not come out of the handpiece tubing the issue could involve the blockage, failure, or damage of the water relay, control block, and the control block diaphragm. We recommend you contact technical support at [www.UltimaDentalSystems.com](http://www.UltimaDentalSystems.com)

To determine the exact cause of the issue and to schedule an in office visit by a certified technician Call Pro Repair Service: 1-800-645-6594 Option 2 (Please use this number for service within the U.S.A, Excluding the South Florida region). For all other general questions and to schedule an in office visit by a certified technician in the South Florida region call UDS Technical Support: (954) 772-9779. Please check with the local Dental Repair Service or Equipment distributor in your area if you wish to schedule an in office visit outside of the U.S.A.

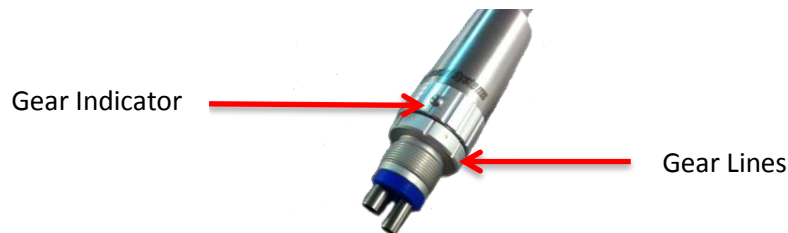


### Trouble shooting Guide

#### Polisher

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1. When stepping on the foot control, motor runs, but prophy angle does not spin.
  - Check the gear dial on the bottom of the polisher below the Ultima Dental Systems logo. The three lines are the gears, the left line is reverse, the middle line is neutral, and the right line is forward. (1) Make sure the motor is not set to neutral.



2. Motor does not run, and the gear is not on neutral.
  - Oil the polisher to ensure the inside components are lubricated. If the polisher is not lubricated the gears will not spin. To oil the polisher disconnect the handpiece from the tubing, you will notice four metal barbs on the bottom of the polisher – two small barbs and two big one's - place two to three drops of hand piece oil into the smaller of the two larger barbs.

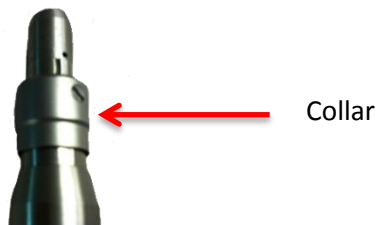


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## Ultima 250 Owner's Manual Table-Top & Arm Units

Re-connect the handpiece and run it upside down for thirty seconds to allow the oil to travel through the polisher. It is important that the polisher be run upside to avoid the thin handpiece oil from sliding back down the handpiece tubing and not lubricating the polisher.

3. Motor runs, but prophy cup does not spin.
  - Turn the collar clockwise to lock down the prophy angle and counter clockwise to unlock the prophy angle, make sure the prophy angle is tightly secure. If you are using disposable prophy angles, check to see if the prophy angles fits properly onto the polisher nose cone, the plastic stems from the disposable prophy angle sometimes break inside the nose cone. If you are using a metal prophy angle, test the polisher with another prophy angle head, the gears inside the metal prophy angle may be worn or damaged.



4. The prophy angle is tightly secured, the whole nose cone spins, regardless of whether or not the collar is locked or unlocked.
  - If the whole nose cone spins with the collar locked or unlocked, the nose cone shaft is damaged and needs to be replaced. Part# UD-GNC For the 4:1 reduction green nose cone and UD-BLNC For the 1:1 reduction Blue nose cone.
5. Polisher pressure should be between 40-50 Psi. Adjust gold screw the reads HP 1 on the rear of the dental unit if needed. When adjusting the pressure turn the screw slowly to avoid damaging the control block diaphragm.



### Trouble Shooting Guide

#### Highspeed Drill

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1. The drill will not spin when stepping on the foot control.
  - First disconnect the hand piece from the tubing. Step on the foot control to see if you get air coming from the tubing, if so the problem is with the handpiece.
  - Next, spin the bur with your fingers, the bur should spin freely. If this is not the case, oil the handpiece to make sure the turbine is lubricated. To oil the drill simply turn it upside down. On the bottom of the drill there are four metal barbs, two small barbs and two big ones. Add two to three drops of hand piece oil to the smaller of the two larger barbs located on the bottom of the drill. Re-attach the handpiece to the tubing and run the drill upside down for thirty second to a minute to allow the oil to circulate through the drill.



Smaller Hole

\*If this does not resolve the issue of the drill not spinning, a new turbine may be required. For a push button drill use part # UD-TBAKSPB. For a standard non push button drill use part # UD-TBAKSSD-MD



Standard Turbine



Push Button Turbine



### Trouble Shooting Guide

#### Highspeed Drill

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2. If the bur (drill bit) is stuck inside the drill and will not come out.

- The turbine inside the drill is most likely damaged and needs to be replaced. To double check the turbine, un-screw and remove the end cap located on the back of the drill head



End Cap →



Push Button Turbine

Check for debris, this is a sign that parts inside the turbine may have come loose. Remove the turbine and try to manual remove the bur, if the bur is lodged in there and can't be removed replace the turbine. For a push button drill use part # UD-TBAKSPB For a standard non push button drill use part # UD-TBAKSSD-MD

3. You feel air coming from the bottom of the hand piece.

- Disconnect the handpiece and inspect the gasket on the bottom of the handpiece for any damage.



Handpiece Gasket

The highspeed Drill pressure should be set to 32 Psi.\* Adjust gold screw the reads HP 3 on the rear of the dental unit if needed. When adjusting the pressure turn the screw slowly to avoid damaging the control block diaphragm.



## Ultima 250 Owner's Manual Table-Top & Arm Units

### Trouble Shooting Guide

#### Satelec Piezo Scaler



Standard Satelec Piezo HP  
Re-Order # UD-F12281-S




L.E.D Satelec Piezo HP  
Re-Order # UD-F12609

| <b>Fault Detected</b>                             | <b>Possible Causes</b>  | <b>Solutions</b>  |
|---|---|---|
| <b>Handpiece does not operate</b>                 | <ol style="list-style-type: none"> <li>1. Faulty cord or hand piece connector electrical contacts.</li> <li>2. Scaler cord wire cut</li> <li>3. Hand piece damaged</li> </ol> | <ol style="list-style-type: none"> <li>1. If the power is connected to the Scaler and if you move, and tug on the hand piece tubing the Scaler works on/off then the hand piece tubing is most likely damaged.</li> <li>2. For all other electrical issue please contact the UDS Technical support team for further assistance at (954) 772-9779</li> </ol> |
| <b>Weak Vibration</b>                             | <ol style="list-style-type: none"> <li>1. Tip worn or distorted</li> <li>2. Incorrect tip</li> <li>3. Moisture in cord</li> </ol>   | <ol style="list-style-type: none"> <li>1. Replace the tip/Verify with tip chart</li> <li>2. Tighten the tip using the tip wrench</li> <li>3. Dry electrical contacts</li> </ol>   |
| <b>Fluid leakage between handpiece &amp; cord</b> | <ol style="list-style-type: none"> <li>1. Worn hand piece seal</li> </ol>   | <ol style="list-style-type: none"> <li>1. Replace the seal</li> </ol>   |
| <b>No light (L.E.D Model only)</b>                | <ol style="list-style-type: none"> <li>1. Faulty L.E.D ring</li> <li>2. Faulty hand piece / cord connector contacts</li> </ol>  | <ol style="list-style-type: none"> <li>1. Clean the L.E.D ring contacts/<br/>Replace L.E.D ring</li> <li>2. Clean the hand piece / cord connector contacts</li> <li>3. For further assistance call the UDS Technical support team: (954) 772-9779</li> </ol>  |


For question regarding repairs or replacement parts contact your local distributor or call UDS Technical Support: (954) 772-9779



## Ultima 250 Owner's Manual Table-Top & Arm Units




**1 - Supra-gingival scaling**

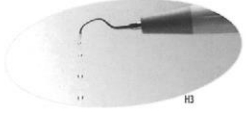


**10Z - Sub-gingival scaling (pockets <3-4mm)**

- Use the instrument laterally (never use the end of the tip on tooth surface).
- Use light pressure only: never exert force.

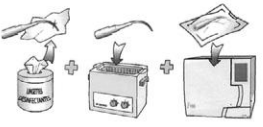




**H3 - Pocket debridement (pockets ≥4mm)**



|   | n°1<br><small>Ref. F00246</small> | n°10Z<br><small>Ref. F00248</small> | H3<br><small>Ref. F00369</small> |
|---|-----------------------------------|-------------------------------------|----------------------------------|
| P-Max Newtron XS  | 14-15                             | 12-14                               | 1-2                              |
| P5 Newtron - P5 Newtron LED / P5 Newtron XS - P5 Newtron XS LED | 14-15                             | 12-14                               | 1-2                              |
| P-Max Newtron/Lux<br>Prophy Max Newtron/Lux                     | 8-10                              | 6-8                                 | 1-5                              |
| P5 Booster  | 7-9                               | 7-8                                 | 1-4                              |
| Module SP Newtron LED<br>Module SP Newtron/Lux                  | 7-8                               | 6-7                                 | 1-2                              |
| Suprasson P-Max/Lux<br>Prophy Max/Lux                           | 5-9 <sup>S</sup>                  | 1-4 <sup>S</sup>                    | 5-10 <sup>P</sup>                |
| Module SP4055*/Lux*   | 5-9 <sup>S</sup>                  | 1-5 <sup>S</sup>                    | 1-5 <sup>P</sup>                 |
| Module SP3055*/B*   | 5-9 <sup>S</sup>                  | 1-4 <sup>S</sup>                    | 1-3 <sup>P</sup>                 |

(S): Mode Détartrage / Scaling Switch - (P): Mode Perio / Perio Switch

## Tips On Your First Piezo Experience

Most likely, you are coming from years of working with a Cavitron or similar magnetostrictive type unit. You are in for a very pleasant surprise...

### Water Flow -

Cavitron users are accustomed to heavy water spray. With Piezo, the handpiece doesn't heat up (only the tip requires cooling) so water spray is reduced tremendously:

- Insert Tip #1 (universal supra-gingival scaling tip) into the handpiece.
- Turn the power control down to its lowest setting.
- Taking the water from the off position, start to "inch" it up a bit until you get a drop rate of about 2 - 3 drops of water per second.
- Turn the power of the unit up to its intended operating range (Blue Mode)

You will be pleasantly surprised to find that 2-3 drops of water is a very fine mist creating a "halo" effect around the tip providing improved visibility and increased patient comfort.

### Technique -

Cavitron users are accustomed to utilizing magnetostrictive tips differently from the way a SATELEC tip should be used. With the elliptical motion a Cavitron provides, you are accustomed to using the front, side or back of the tip to bang the tooth to remove calculus. This often causes patient discomfort and can embed calculus into the surface of the root preventing reattachment. With Piezo the process is different:

- The tip vibrates on the same plane as the handpiece. The tip moves forward and back, making the lateral sides of the tip extremely efficient for shaving the calculus.
- This stroke is a mirror image of hand instrumentation (with extraordinary results achieved), requiring only very little pressure resulting in no hand fatigue.
- The easiest way for you to understand the concept is for you to try to scale without activating the foot control. Most likely, you will automatically scale with the side of the tip. The H3 (which is in the Intro Scaling Kit) is a wonderful tip for conveying this concept since it looks like a hand instrument curette.

For question regarding repairs or replacement parts contact your local distributor or call UDS Technical Support: (954) 772-9779.





# *Ultima Dental Systems*

**Ultima 250 Owner's Manual Table-Top & Arm Units**

## **Warranty**

All Ultima 250 series units are covered by our exclusive all inclusive 5 year defective parts and technical support warranty. The unit and the compressor (if bought from us) are covered for all parts excluding handpieces and Piezo scaler. Labor is included if unit is shipped back to the factory for repair: Shipping is not included