

OPERATION AND MAINTENANCE INSTRUCTION MANUAL

AEU-7000-70V & AEU-7000 Implant/Surgery Systems



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P.O. Box 1548 • Woodinville, WA 98072
 8333 216th Street S.E. Woodinville, WA 98072
 International (425) 487-3157 • Toll Free (800) 426-5913
 www.aseptico.com • info@aseptico.com

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INDICATIONS FOR USE:

The AEU-7000-70V & AEU-7000 are drive systems for instruments and tools used in dentistry for surgical and prosthetic implant procedures. The systems include an irrigation supply and a wide range of user controls designed to provide precision drilling during osteotomy preparation and implant placement.



MEDICAL ELECTRIC EQUIPMENT
 WITH RESPECT TO ELECTRIC
 SHOCK, FIRE AND MECHANICAL
 HAZARDS ONLY IN ACCORDANCE
 WITH UL 60601-1 (First Edition) and
 CAN/CSA C22.2 No. 601.1-M90

SPECIFICATIONS:

Console Dimensions: 9.98"W x 9.42"L x 5.10"H
 (25.3 cm x 23.9 cm x 12.9 cm)

Console Weight: 7.3 lbs (3.3kg)

Power: 100-240V ~
 1.1 - 0.5 A
 50-60 HZ

Fuses: 1.6A, 250V, Slo Blow Type

Duty Cycle: 16.7%

NOTE: The appliance inlet is the mains disconnect means.

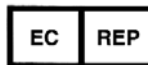
Environmental Conditions:

Operating Temperature 10 to 40°C (50 to 104°F)
 Transportation & Storage Temperature -20 to 60°C (-4 to 140°F)
 Relative Humidity 10 to 90% non-condensing
 Altitude 0 to 3048 meters (0 to 10,000 feet)

CLASSIFICATIONS:

- Class I Equipment
- Type B Equipment
- Ordinary Equipment - degree of protection against ingress of water
- Not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

INFORMATION CONCERNING THE ACCURACY AND PRECISION OF THIS PRODUCT MAY BE OBTAINED UPON REQUEST BY CONTACTING ASEPTICO AT THE ADDRESS SHOWN ON THIS PAGE.



Advena Ltd.
 Hereford, HR4 9DQ, UK

**RX: FEDERAL LAW RESTRICTS THIS DEVICE TO
 SALE BY OR ON THE ORDER OF A DENTIST**

This device has been tested and found to comply with the emissions requirements of IEC 60601-1-2:2001-09. These requirements provide reasonable protection against harmful electromagnetic interference in a typical medical installation. However, high levels of radio-frequency (RF) emissions from electrical devices, such as cellular phones, may disrupt the performance of this device. To mitigate disruptive electromagnetic interference, position this device away from RF transmitters and other sources of electromagnetic energy.

Your new Aseptico AEU-7000-70V & AEU-7000 Implant/Surgery Systems are two of the finest units available to the dental profession. The systems feature a high torque brushless motor with a digital display and self-contained irrigation pump. These features combine to make the perfect surgical motor and irrigation System for implant and other oral surgery applications. The AEU-7000-70V is equipped with a multi-function foot control and the AEU-7000 comes with a basic On/Off foot switch.

Congratulations

This System is engineered to provide many years of reliable service. Please read the instructions provided in this manual to receive the best and longest service from your Aseptico equipment.

Separate manuals may be provided to cover the operation and maintenance of handpieces or other accessories for your unit.

PACKAGE CONTENTS:

- Electronic Control Console, P/N 120330
- AE-230-40 Autoclavable Brushless Micromotor
- Autoclavable Motor Holder, P/N 461561, with Attaching Bracket, P/N 461562
- AE-70V Variable Speed Foot Control (AEU-7000-70V only)
- AE-7PM On/Off Foot Control (AEU-7000 only)
- Dynamometer Adapter, P/N 461558
- AE-23 Autoclavable Irrigation Tubing Set
- AE-23-PUMP Peristaltic Pump Tubing Set (10 Pieces)
- Irrigation Bag Hanger Rod, P/N 461541
- Power Cord
- MC-7000 Memory Card

PURCHASED SEPARATELY:

- AHP-85MB & AHP-85MB-C 20:1 Reduction Contra-Angle Handpieces
- AHP-63 1:1 Contra-Angle Handpiece
- AHP-64 1:1 Straight Handpiece
- AHP-77C 1:2 Speed Increasing Handpiece
- AHP-71TI 1:5 Speed Increasing Contra-Angle Handpieces
- Replacement AE-23 Autoclavable Irrigation Tubing Set
- Replacement AE-23-PUMP Peristaltic Pump Tubing (10 Pieces)
- Replacement AE-23-BOT Autoclavable Irrigation Tubing Set for Bottles

To prevent injury to people and damage to property, please heed relevant warnings and remarks. They are marked as follows:

WARNING: Serious injury or death may result if ignored.

CAUTION: Damage to property or the environment may result if ignored.

NOTE: Important additional information and hints.



SAFETY PRECAUTIONS:

Aseptico accepts no liability for direct or consequential injury or damage resulting from improper use, arising in particular through the non-observance of the operating instructions, or improper preparation and maintenance of this product.

CAUTION: The Systems are supplied Non-Sterile! Before first use, and before each patient use thereafter, sterilize specified components as recommended in the Sterilization and Maintenance section.

WARNING: Use for intended purposes only. Failure to observe the operating instructions may result in the patient or user suffering serious injury or the product being damaged, possibly beyond repair. Before using this product, make sure that you have studied and understood the operating instructions.

CAUTION: Federal law restricts this device to sale by or on the order of a dentist.

CAUTION: Use of other dental accessories or sub-assemblies from third-party manufacturers is the sole responsibility of the user.

CAUTION: All repairs are to be performed by authorized Aseptico service personnel only.

WARNING: Always follow these guidelines when operating the unit:

- Never touch drills, burs, or other handpiece tips when they are still rotating.
- Handpieces should only be attached when the motor has stopped running.

WARNING: Do not install where there is a risk of an explosion. The Systems are not intended for operation in the presence of flammable anesthetics or gases.

WARNING: In order to ensure the accuracy of torque and speed it is recommended that calibration be performed for each change of handpiece used for torque controlled operations, or daily if the same handpiece is used.

WARNING: All handpieces have inherent inefficiencies that can lead to torque variations. It is recommended that torque accuracy be verified with a hand torque wrench.

- WARNING:** Always comply with the surgical handpiece and file manufacturers' instructions regarding maximum speeds, torques, forward and reverse directions, and use of all instrumentation, drills, burs, etc., used in implantology and other oral surgery applications.
- CAUTION:** The irrigation supply System is designed for use with a saline solution or sterile water. Use only suitable irrigants as recommended by the implant manufacturer's instructions.
- CAUTION:** Connect mains power cable to a properly grounded outlet only.
- CAUTION:** The motor is sensitive to shock and may be damaged if dropped or impacted against a hard surface.
- WARNING:** Do not disassemble or alter the System motor, console, or foot switch.
- CAUTION:** Use only appliance cord Type C13, 10A per IEC / EN 60320-1. Note: North America, Denmark, Australia, and New Zealand may require hospital grade plugs. Consult local codes.

SETTING UP THE UNIT:

1. Unpack the Console.
2. The autoclavable Motor Cradle can be attached to either side of the Console or placed flat on any adjacent tabletop surface or tray. To install the Cradle, mount the Cradle Bracket into the holes provided on the bottom of the Chassis with the two screws provided (see Figure 1). Align the slot on the bottom of the Cradle with the mounting rail on the Bracket and snap into place.
3. Attach the remote power cord to the back of the console (see Figure 2) and plug into a hospital-grade grounded electrical receptacle. Confirm that the type of cord plug cap is correct for the country of usage and carries the proper certification markings.
4. Connect the AE-230-40 Motor/Cord Assembly to the receptacle on the lower right front of the console (see Figure 3).

Fig.1 - Motor Cradle Installation

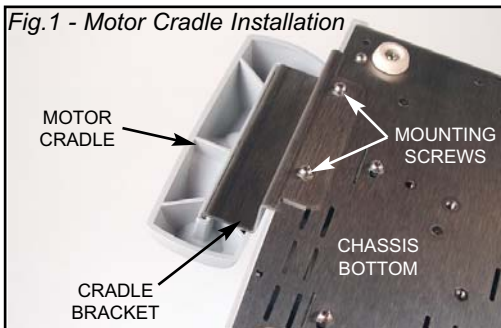


Fig.2 - Console Back

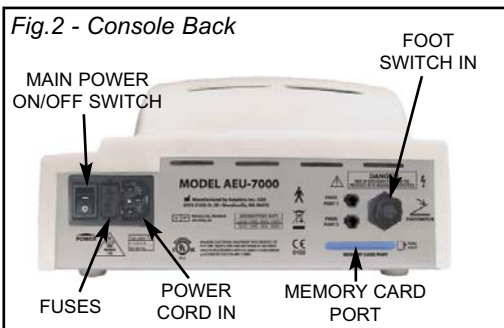
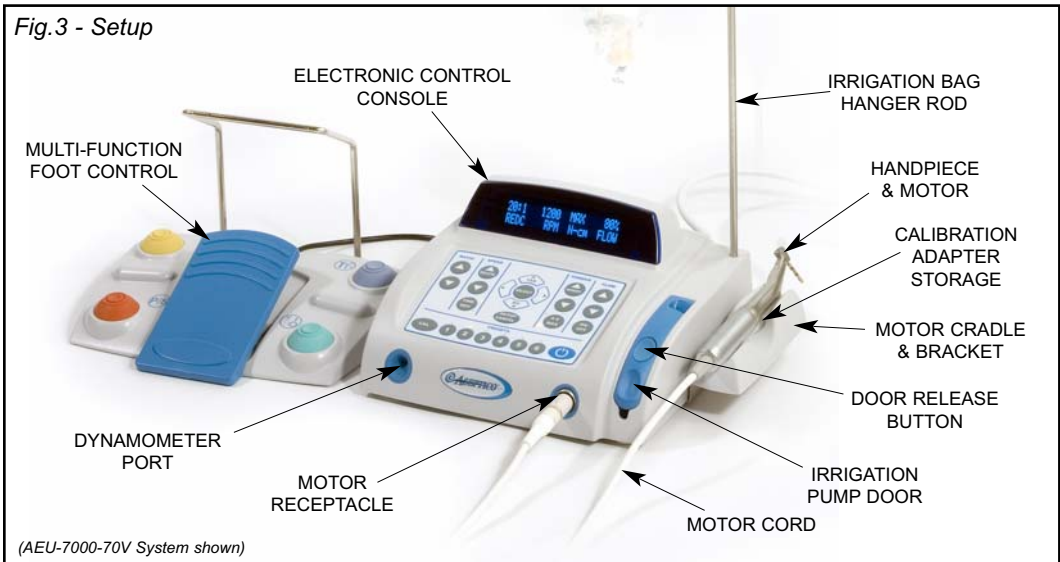
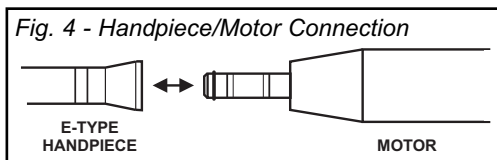


Fig.3 - Setup



(AEU-7000-70V System shown)

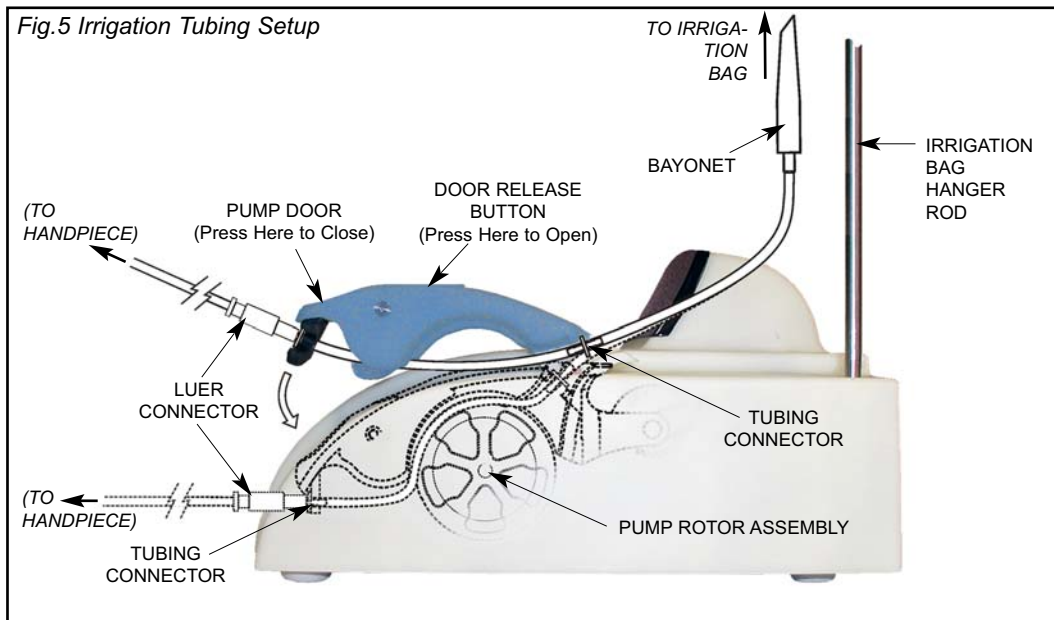
5. Attach the appropriate "E-Type" handpiece to the motor as shown in Figure 4.



6. Insert bag hanger rod into socket on the top of the unit. Note keyway in slot.
7. Attach the supplied foot control to the connector on the back of unit marked "Footswitch" (see Figure 2). Refer to page 16 for foot control descriptions and operation
8. Install irrigation tubing set into pump door as described below (see Figure 5):

CAUTION: Never connect or disconnect the bag spike to the irrigation bag over the console. Water spilled onto the console can damage the unit.

- a. Open pump door by pressing on door release button.
- b. Install Pump Tubing Assembly into pump door as shown in Figure 5. Install tubing connector into the slot located on the back end of pump door. Then, pull the Luer connector toward the front end of door and slide connector into the slot located on the front of the pump door.
- c. Gently close the pump door until it locks into place. Assure that tube is not pinched.
- d. Route the remaining length of tubing to the handpiece and connect to the irrigation accessory tubing provided with the handpiece. Secure the tubing to the motor cord with clip set provided.
- e. Remove the protective cover from the irrigation bag and insert the bayonet into the I.V. port. Hang the bag from the bag hanger rod.



CONTROL PANEL FUNCTIONS:

1. Main Power Switch:

Located on back of console (see Figure 2). Controls main power On/Off to the console.

2. Control Panel 'Standby' Button:

Turns control panel on and off. Reactivates System from Sleep Mode.



a. Depress the Standby button to turn console key pad and display on or off. When console is turned on, display should light up and show the default startup screen. If the console was turned off using the Standby button, or if the unit has entered Sleep Mode, pressing the Standby button again

will return the System to the last state used.

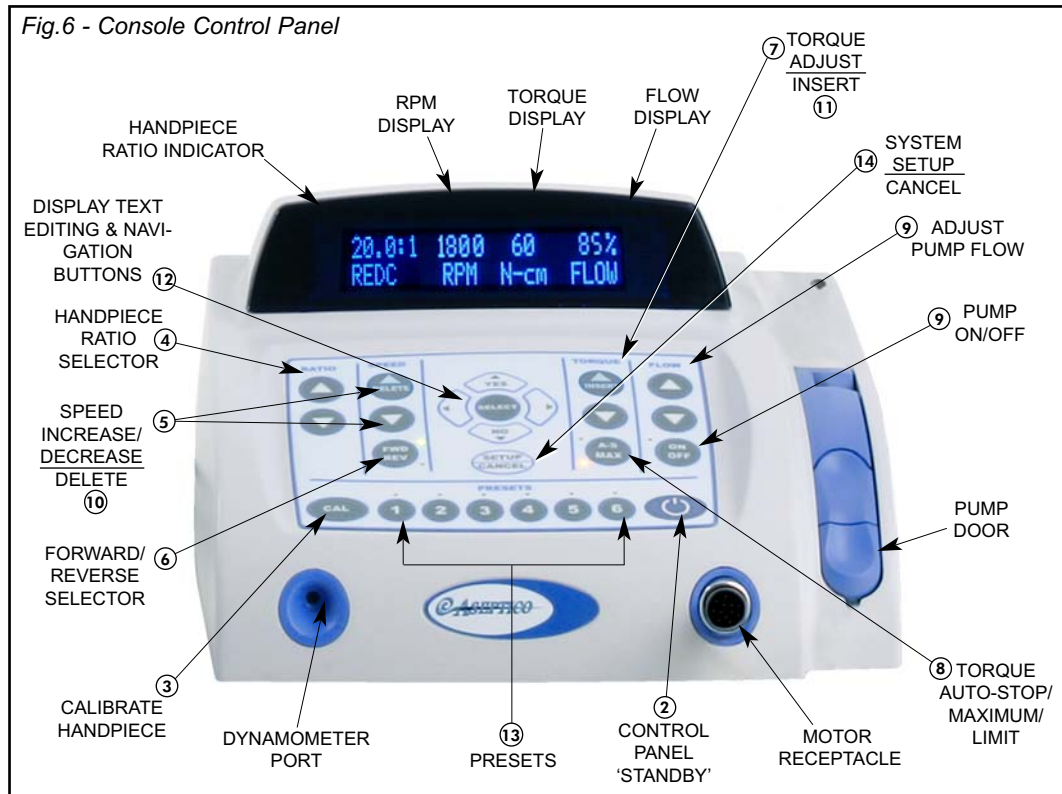
3. Calibration (CAL):

Activates the dynamometer and Integrated Calibration Program. Allows user to calibrate the System to match the characteristics of the handpiece being used.



a. Depress and release CAL button. The System will run the selected handpiece through a series of calibration tests. Follow the prompts provided on the display (refer to paragraph 10, page 11 for complete calibration instructions).

Fig.6 - Console Control Panel



- 4 **Handpiece Ratio Selector:**
Allows user to select ratio of handpiece. Ensures accurate display of speed and torque levels.



a. Depress the handpiece Ratio selector Up/Down buttons until the Handpiece Ratio Indicator matches the ratio indicated on the handpiece being used. The available ratios are 20:1, 1:1, 1:2, and 1:5. The relative speed ranges with a 40K motor are shown in Figure 7.

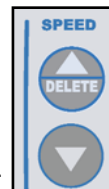
Fig. 7 - Speed Ranges

SPEED RANGES		
20:1	15 - 2,000	RPM
1:1	1,000 - 40,000	RPM
1:2	2,000 - 80,000	RPM
1:5	5,000 - 200,000	RPM

Note: Prior to calibrating a handpiece on the System, the user must preselect the ratio of the handpiece via the Ratio Up/Down buttons. The System can then perform a “Free-Run” Calibration on both increaser and reduction handpieces, then a “Dyno” Calibration on reduction handpieces only, with ratios of 16:1 to 32:1. The “Dyno” Calibration includes a ratio and torque test via the dynamometer. After completing the “Dyno” Calibration on a reduction handpiece, the System will automatically set the precise handpiece ratio found during these calibration measurements. For example, after calibrating a 20:1 handpiece, the display will add a decimal to the ratio indicator (ex: “20:1”, to “20.7:1”), indicating the precise ratio measured. This also serves as an indicator that the handpiece has been calibrated.

Note: Multiple handpieces with different ratios are often required to obtain the various high torque and low speed ranges used in dental surgery procedures.

- 5 **Speed:**
Allows user to select desired speed (RPM) for motor/handpiece.



a. Depress the Speed Up button to increase speed or the Speed Down button to decrease speed.

Note: For display accuracy, the Ratio Selector must exactly match the ratio of the handpiece being used. The System will do this automatically after calibration. In some cases after calibration, the ratio displayed will differ from the handpiece rating, indicating the handpiece’s actual characteristics.

- 6 **Forward/Reverse (FWD/REV):**
Sets the rotational direction of the handpiece.



a. The green LED next to the FWD/REV button illuminates when forward rotation is selected. The amber LED indicates reverse rotation. When the Reverse Tone feature is activated (ref. para. 17, page 15), an audible beep will also indicate reverse rotation.

- 7 **Torque Adjustment:**
Allows the user to select torque limits, in Newton•Centimeter increments.



a. Depress the Torque Adjustment Up/Down buttons until the desired torque level is indicated on the Display. **Note:** This feature is not available when in “MAX” Mode - see paragraph 8 for details.

CONTROL PANEL FUNCTIONS - Cont'd:

8 Torque Modes (A-S / MAX):

Allows the user to select from one of three torque control modes: Auto-Stop, Maximum, or Torque Limiting.



a. Auto-Stop Torque Mode - The user can specify an Auto-Stop torque mode by depressing the Auto Stop ("A-S/MAX") button until the green LED illuminates, then selecting the desired torque level via the Torque Up/Down buttons. The hand-piece will stop operating one second after the Auto-Stop torque limit is reached. During System setup (ref page 14), warning tones can be enabled to sound when the actual torque level reaches 75% and 100% of the specified Auto-Stop limit.

b. MAX Torque Mode - Depressing the MAX ("A-S/MAX") button until the amber LED illuminates will set the torque to its maximum level. The handpiece will only operate up to this specified torque level. No incremental adjustments are allowed when in "MAX" mode. During System setup (ref. page 14), warning tones can be enabled to sound when the actual torque level reaches 75% and 100% of the specified MAX limit.

NOTE: MAX Mode is only available with 1:1 and reduction handpieces. The torque level for a 20:1 or less reduction hand-piece is limited to 60 N•cm, depending on ratio and efficiency.

c. Torque Limit Mode - Depressing the Torque Modes Button (A-S/MAX) until neither LED is lit will limit torque to the value set via the torque Up/Down buttons. The handpiece will stop and then restart once the load is removed. The Torque Limit Mode is the only Mode available for increaser handpieces.

9 Irrigation Pump Controls (FLOW):

Allows user to turn pump On/Off and select Flow rate.

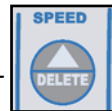


- Depress the pump On/Off button to activate/deactivate the pump. The green LED will illuminate when activated.
- Flow rate can be adjusted in percentages from 10% to 100% by pressing the Flow Up/Down buttons.
- Irrigant will flow when the footswitch is depressed.

Note: The irrigation pump can provide irrigant to the handpiece at a maximum flow rate of 140 ml/min.

10 DELETE:

Allows user to delete specific characters when editing the Preset button settings on the display.



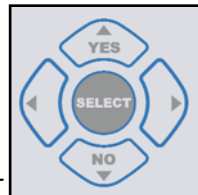
11 INSERT:

Allows user to enter a blank space into characters when editing the Preset button settings on the display.



12 Display Edit & Navigation:

Allows user to navigate through text characters when modifying presets. SELECT button saves reconfigured settings. YES/NO buttons allow user to interact with visual prompts on the display.



13 PRESETS 1 - 6:

Allows the user to store and quickly access up to 6 different implant configurations.

Each preset can be reprogrammed by the user with different handpiece ratio, speed, motor direction, torque, and flow settings. When a preset button is pressed, its "Label" (name and settings) are automatically displayed. Green LEDs indicate which preset is active.

a. Preset buttons 1 - 6 are preprogrammed at the factory with the following default parameters:

Preset 1 -

Site Preparation:

- 1:2 Handpiece
- 60,000 RPM, FWD
- Torque Limit
- Pump On, 100% Flow

(Note: Green LEDs indicate **active** Preset.)



Preset 2 - Pilot Drill:

- 20:1 Handpiece
- 1,200 RPM, FWD
- MAX Torque
- Pump On, 80% Flow



Preset 3 - Finish Drill / Reamer:

- 20:1 Handpiece
- 800 RPM, FWD
- MAX Torque
- Pump On, 80% Flow



Preset 4 - Tap Forward:

- 20:1 Handpiece
- 15 RPM, FWD
- 25 N•cm Torque, Auto-Stop
- Pump On, 30% Flow



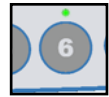
Preset 5 - Reverse Tap:

- 20:1 Handpiece
- 35 RPM, REV
- 35 N•cm Torque, Auto-Stop
- Pump Off



Preset 6 - Install Implant / Abutment:

- 20:1 Handpiece
- 15 RPM, FWD
- 32 N•cm Torque, Auto-Stop
- Pump Off



IMPORTANT: The default Preset Button settings will be restored whenever the unit's factory default settings are recalled or when the unit has been reprogrammed with new software. User defined presets will be lost.

14 SETUP / CANCEL:

SETUP enables the System's setup menu. Allows the user to select/configure setup options via prompts from the display (see "System Setup" Section on page 14 for complete setup instructions).



CANCEL exits the menu item without changing setup settings (= Escape).

OPERATION:

GETTING STARTED: After the unit has been set up and the user has become familiar with the System's control panel functions, there are two different modes that can be used to begin operation:

- **Manual Mode** - By default, the unit is always in manual mode. At any time, the user can adjust the torque, speed, irrigation flow, and other parameters, using the control panel keypad. Refer to Manual Mode instructions on this page.
- **Preset Mode** - The System provides six preset memory locations that can be used to quickly retrieve preferred settings for all operating parameters. Recalling these preset parameters saves time when preparing for different surgical/implant procedures. Refer to Preset Mode instructions on page 12.

Start-Up:

1. Turn the main power switch on the back of console to the 'ON' position. The display on the console will turn on and the default Start-Up Screen will be displayed for a few seconds. The Start-Up Screen displays the current software version of the unit. (This version number will change with each software upgrade.) The System will initialize with Preset 1 active.

Depressing the blue Standby button on the keypad will enable/disable the "Standby" mode, which turns the display off/on and places the unit into a temporary "Power Save" mode. Pressing the Standby button a second time will reactivate the display.

When the Sleep Mode timer is enabled (see System Setup Options on Page 15), pressing the Standby button will return the System to the last state used. **NOTE:** The unit is in Sleep Mode when the Preset LEDs blink consecutively.

Manual Mode:

2. Select the handpiece ratio that matches the handpiece being used. *For more information, refer to paragraph 4, page 7.*
3. Calibrate the attached handpiece to ensure exact measurements. *Refer to paragraph 10, page 11 for complete calibration instructions.*
4. Insert a bur or drill into the handpiece.
5. Set the desired speed (RPM) for the handpiece using the "SPEED" control buttons.
6. Set the desired torque for the handpiece using the "TORQUE" control buttons:

a. Auto-Stop Torque Mode - The user can specify an Auto-Stop torque limit by depressing the Auto-Stop ("A-S/MAX") button until the green LED illuminates, then selecting the desired torque level. The handpiece will stop operating one second after the user reaches the Auto-Stop torque limit. The handpiece will resume operation once the foot switch is released and re-applied. Optional warning tones can be enabled during System Setup (ref. setup instructions in paragraph 16, page 14) which warn the user when the handpiece torque level reaches 75% and 100% of the Auto-Stop limit. Auto-Stop is the suggested mode when tapping and threading implants.

b. MAX Torque Mode - Depressing the MAX ("A-S/ MAX") button until the amber LED illuminates will set the torque limit to its maximum level (60 N•cm with a 20:1 handpiece). The handpiece will only operate up to this manufacturer-specified torque level. The handpiece will stop and then restart once the load is removed. Optional warning tones can be enabled during System Setup (refer to setup instructions in paragraph 16, page 15) which warn the user when the handpiece torque level reaches 75% and 100% of the "MAX" limit.

CAUTION: Because of the unrestrained

CAUTION: Because of the unrestrained torque characteristics inherent in MAX Torque Mode operation, it is recommended that MAX Mode be used only for drilling procedures in osteotomy or surgical site preparation. It is also recommended that the user perform a complete calibration of the handpiece before operating in MAX Mode and/or adhere to the torque recommendations of the handpiece manufacturer.

c. Torque Limit Mode - Depressing the Torque Modes ("A-S/MAX") button until neither the green nor amber LED is lit will enable Torque Limiting. In this mode, the handpiece will only operate up to the torque limit set via the Torque Up/Down buttons. The handpiece will stop and then restart once the load is removed. This is the only Torque Mode available for increaser handpieces.

7. Turn irrigation pump 'ON' (green LED illuminates) and select the irrigation flow rate for the handpiece using the "FLOW" Up/Down buttons.
8. Select the desired forward or reverse direction for the handpiece using the "FWD/REV" button (green/amber LED will illuminate).
9. Depress footswitch to activate the motor/handpiece and irrigation pump. Releasing the footswitch will stop the motor/handpiece and pump.
10. **Calibration of Handpiece** - Because variations in handpiece efficiency can cause inaccuracies in torque, it is essential to routinely calibrate the handpiece/motor. This will maintain optimal performance from the System. It is recommended to calibrate the System daily, even if using the same handpiece, or whenever a handpiece is changed.

Handpiece calibration consists of either a one-part or two-part procedure, depending on which type handpiece is used:

Part-1 "Free Run" Calibration - Performed on both increaser and reduction type handpieces.

Part-2 "Dyno" Calibration - Performed only on reduction type handpieces (16:1 to 32:1 ratios). This procedure includes the "Free Run" Calibration above, plus a Ratio and Torque Test performed via the dynamometer.

Calibration - Part 1:

Follow steps **a.** and **b.** below to perform the Part-1 ("Free Run") calibration procedure:

a. Preselect ratio of the handpiece, using the Ratio Up/Down buttons on the console keypad. **IMPORTANT:** This step must be performed prior to calibrating each handpiece. **NOTE:** The System supports reduction handpieces with ratios ranging from 16:1 to 32:1. Prior to calibrating any reduction handpieces within this range, preselect the 20:1 ratio setting.

b. Press and release the Calibration (CAL) button to activate the Integrated Calibration Program. The System will run the handpiece through the "Free Run" test. Follow the prompts on the display:

Add Handpiece To Motor
Press 1> Next 3> Exit

Free Run In Progress
Please Wait ...

The System will automatically perform the "Free Run" Calibration test on either increaser or reduction type handpieces.

NOTE: Pressing Preset Button #3 at any time during the calibration process will exit the procedure, however, no calibration settings will be saved into the System.

OPERATION - Cont'd:

If either type of handpiece fails the "Free Run" test, the following message will be displayed:

Calibration Failed !
Press 1> Retry 3> Exit

NOTE: Repeated failures during this "Free Run" stage of the calibration procedure can indicate a damaged or defective handpiece or motor - Exit test and inspect and/or repair handpiece/motor before next use.

If a 1:1 or increaser handpiece passes the "Free Run" calibration test, the following message will be displayed:

Calibration Successful !
The Result is Saved

NOTE: This concludes Part-1 Calibration testing (1:1 and increaser handpieces only).

Calibration Procedure - Part 2:

If a reduction handpiece passes the "Free Run" calibration test above, the System automatically advances to the Part-2 "Dyno" calibration procedure. The following message will be displayed:

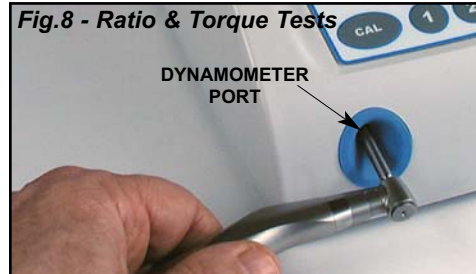
Put Handpiece Into Dyno
Press 1> Next 3> Exit

Follow steps c. through f. to perform Part-2 of the calibration procedure:

c. Insert the calibration adapter into the handpiece as shown in Figure 7. (Adapter installs in same manner as a bur or tool.)



d. Continue to follow the prompts, performing the ratio and torque tests with the handpiece plugged into the dynamometer port as shown in Figure 8.



Ratio Test In Progress
Please Wait ...

Torque Test In Progress
Please Wait ...

Note: If the handpiece is not properly connected to the dynamometer, the screen will display the following message:

Dynamometer Error !
Press: 1> Retry 3> Exit

e. After a successful calibration of a reduction handpiece, the screen will display the following example message:

Ratio = 20.07 Eff = 86%
Press 2> Save 3> Exit

f. Press '2' to save results. The AEU-7000 will save the exact ratio found by the calibration measurements into the settings for that reduction handpiece.

Preset Mode:

11. The six preset memory buttons are preprogrammed at the factory with the default presets shown in Figure 9.

12. Press the preset number button desired and the display will indicate the “Label” (name) and preset number as shown in the example below:

SITE PREPARATION
Preset 1

The display will then show the System operating settings for that preset. The LED located above the preset button will illuminate, indicating which preset is activated.

Note: If a preset is activated and its settings are changed in any way, the preset’s LED will turn off, signifying that the unit has switched back to the Manual Mode of operation.

13. **Editing Presets** - All six preset memory buttons can be edited by the user with new settings, at any time. These new settings will overwrite the existing settings, including factory defaults. In addition, the “Labels” (names) for each of the presets can be edited by the user for easy identification of the new preset.

Note: At any time during the following editing process, the CANCEL button can be pressed to return to the operation screen.

Step 1:

Adjust each of the Ratio, Speed, Torque, Flow, Rotation Direction, and Pump On/Off settings to the desired values via the control panel buttons (refer to descriptions on pages 6 - 8).

Step 2:

Press and hold any of the Preset buttons 1 through 6, to save the new, modified settings into that particular button.

Step 3:

A display prompt then asks the user:

Preset - (X)
Save Settings? YES/NO

Press the ‘Yes’ Button on the Display to confirm the save.



The prompt then displays the message:

Preset - (X)
SETTING SAVED

Step 4:

A display prompt then asks the user:

(Label Name)
EDIT LABEL? YES/NO

Press the ‘Yes’ Button on the Display to confirm that the Label needs to be edited and the new Preset renamed.



FIG 9 - Factory Presets

PRESET	NAME (Label)	RATIO	SPEED	DIRECTION	TORQUE	FLOW
1	Site Preparation	1:2	60,000	FWD	0.36 N•cm	100%
2	Pilot Drill	20:1	1,200	FWD	MAX	80%
3	Finish Drill / Reamer	20:1	800	FWD	MAX	80%
4	Tap Forward	20:1	15	FWD	25 N•cm	30%
5	Tap Reverse	20:1	35	REV	35 N•cm	Off
6	Install Implant / Abutment	20:1	15	FWD	32 N•cm	Off

OPERATION - Cont'd:

An editing "Help" message displays briefly:

EDIT LABEL WITH ARROWS

Step 5:

Use the Left or Right arrow buttons to move the display cursor left/right under the top line of text characters.



Position the cursor under the specific character that needs to be changed.

"NAME X"

Step 6:

Use the Up or Down ("Yes" or "No") arrow buttons to change the character to the desired letter, symbol, or numerical value.

"NAME Y"



Repeat Steps 6 & 7 above for all remaining text characters that require edits.

Note: To enter a blank space into the text line, place the cursor under the character and press the INSERT button.



Note: To delete a character in the text line, place the cursor under the character and press the DELETE button.



Step 7:

A "Help" screen will display:

SAVE WITH SELECT KEY

Press SELECT button to save Label name.

The display will confirm saving the Label:

**(Label Name)
PRESET (X) - LABEL SAVED**



Step 8:

Check new settings for accuracy. Press the new Preset button to confirm its settings on the Display.

Important: When the factory default settings are restored or recalled, or when the unit has been reprogrammed with new software, any previous user-defined settings will be overwritten.

System Setup:

14. To enter the System Setup menu, press and hold the "SETUP" button for 1 second.

15. The following prompt will be displayed:

Recall Factory Setup?
Press: Yes / No / Cancel

a. Press "Yes" to recall the factory setup menu. The following prompt will display:

Are You Sure?
Press: Yes / No / Cancel

b. To return the System preset buttons to their factory default settings, press YES.

Important: Any customized presets will be lost when factory settings are recalled.

c. To continue with System Setup (and keep all customized settings), press NO.

16. The user will then be prompted to enable the Warning Tone feature. This feature warns the user with a different audible signal when each of the two major torque thresholds are reached:

- 1.) 75% of Maximum Torque Limit - Emits a fast beeping signal.
- 2.) Maximum Torque Limit (when motor stops) - Emits a slow beeping signal.

Torque Warning Tone?
Press: Yes / No / Cancel

- a. To enable the Warning Tone, press Yes.
- b. To disable the Warning Tone, press No.

17. The next prompt offers the user a Reverse Warning Tone that alerts the user whenever the handpiece is rotating in the reverse direction:

Reverse Warning Tone?
Press: Yes / No / Cancel

- a. To enable the Reverse Tone, press Yes.
- b. To disable the Reverse Tone, press No.

NOTE: The Reverse Warning Tone emits a beeping signal with a 1/2-second cadence that is easily distinguishable from the two Torque Warning Tones in Step #16 above.

IMPORTANT: If both Torque and Reverse Warning Tone options are enabled and activated at the same time (e.g., user reaches 75% of torque while running in reverse), the Torque warning tones will override the Reverse warning — only the Torque signal will be heard.

18. The next prompt offers a choice of two different time delays before the System enters Sleep Mode, wherein the Display and Keypad time out and become inactive:

Sleep Mode
1=15 2=30 3=Off / Cancel

- a. To enable a 15-minute delay, press '1'.
- b. To enable a 30-minute delay, press '2'.
- c. To disable Sleep Mode (Display stays on), press '3'.

19. This prompt allows the user to choose whether the Variable Speed Foot Control operates in "Variable" Mode ('0' to 'set' speed), or in "On/Off" Mode (runs only at 'set' speed):

Variable Pedal Mode
1=Var 2=On/Off / Cancel

- a. To enable "Variable Mode, press '1'.
- b. To enable "On/Off" Mode, press '2'.

20. This final prompt asks the user if they want to save their new settings:

Save Your Settings ?
Press: Yes / No

- a. To save new settings, press Yes.
- b. To discard your new settings and keep the previous settings, press No.

NOTE: The System will automatically Exit the "SETUP" menu at the completion of this Step.

VARIABLE-SPEED FOOT CONTROL OPERATION

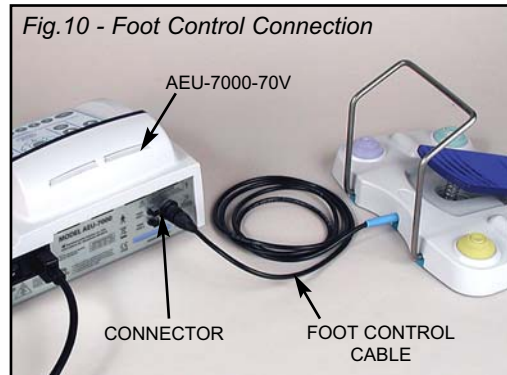
The AE-70V Multi-Function Foot Control comes as standard equipment on the AEU-7000-70V System, and as an option on the AEU-7000 System. The AE-70V can control motor speed, direction, torque, select presets, and turn the pump On/Off.

Installation:

1. Attach the Foot Control cable to the connector on the back of the Console (see Figure 10). Note keyway on connector. Turn locking sleeve clockwise to secure cable to connector. The AEU-7000-70V will automatically sense the Foot Control and invoke the proper control software, which allows dual functionality, through either the key pad or foot switch.

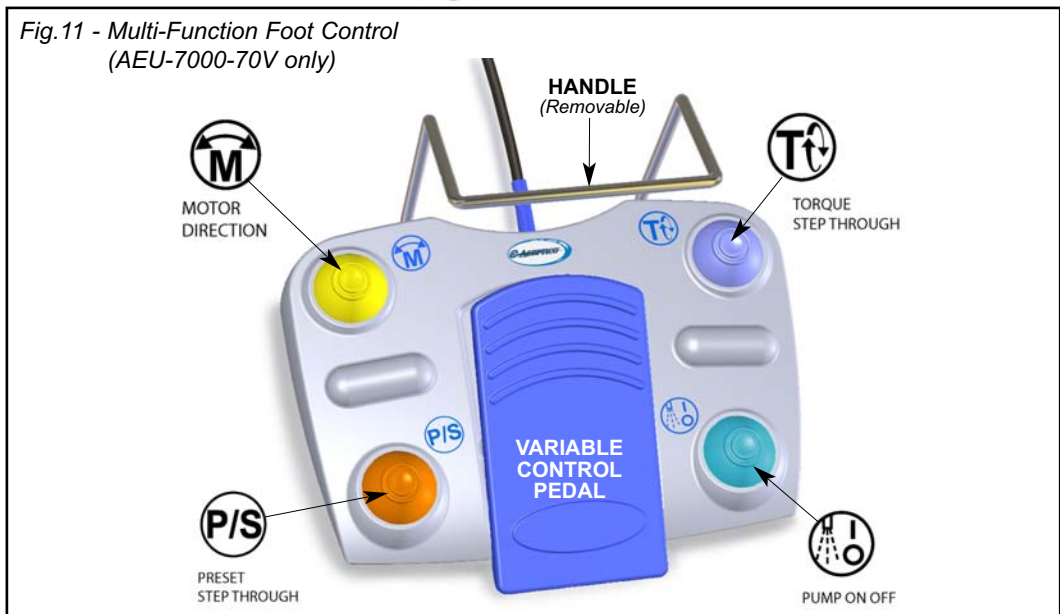
Foot Pad Functions (See Figure 11):




2. The 'M' pad (Upper left - Yellow) performs the same function as



the Motor direction button on the console. Each press of the pad reverses the direction of Motor rotation. When the Motor is in reverse, the reverse warning tone will sound if this option is selected in the SETUP options.

Fig.11 - Multi-Function Foot Control (AEU-7000-70V only)

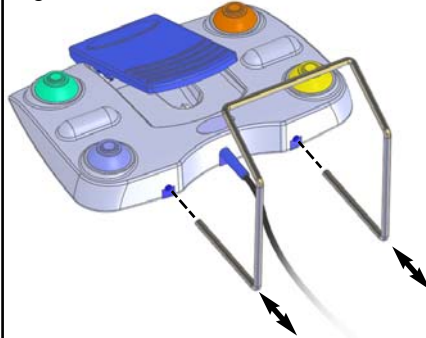


3. The 'T' pad (Upper right - Lavender) increases the torque setting by 2 N•cm each time the pad is pressed, up to a maximum increase of 10 N•cm's. Once the total increase in torque reaches this 10 N•cm threshold, the unit will cycle the next torque setting back down to its initial (lowest) setting. For example, repeated pressing of the pad will increase the torque by 2/4/6/8/10 N•cm, then automatically recycle back to 2/4/..etc. 
4. The 'P/S' pad (Lower left – Orange) cycles through System Presets 1 - 6. Each press of the pad selects the next preset. 
5. The **Pump On/Off** pad (Lower right – Teal) turns pump On and Off, just like the console button. 
6. The center **Variable Pedal** can be operated in either the 'Variable' or 'On/Off' modes, depending on which option is selected during Setup.
 - a. **Variable Mode** - Motor speed is proportional to how far the pedal is depressed. Depress to gradually increase speed; release to decrease speed.
 - b. **ON/OFF Mode** - Foot pedal will switch the Motor 'On/Off' when depressed/ released approximately halfway.

Handle Installation/Removal:

7. The Foot Switch Handle may be installed to allow the user to reposition or move the Foot Control more easily.
 - a. Grasp vertical guide rods and carefully push handle straight into Switch base (see Figure 12). To remove, pull rods straight out.

Fig. 12 - Handle Installation/Removal



AE-7PM FOOT CONTROL

(AEU-7000 only)

Fig. 13

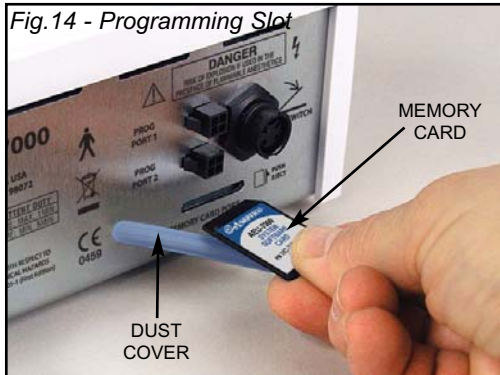


The AE-7PM Foot Control is provided as standard equipment on the AEU-7000 System. The AE-7PM is used to turn the motor and pump (when activated) On/Off. The AE-70V Multi-Function Foot Control is available on the AEU-7000 System as an option.

AE-7PM Installation:

Attach the Foot Control cable to the connector on the back of the Console. Note keyway on connector. Turn locking sleeve clockwise to secure cable to connector.

REPROGRAMMING THE UNIT



The System has the ability to load software updates and enhance the functionality of the System, should this be desired. A card slot, labeled "Memory Card Port", is provided on the back of the unit (see Figure 14). This Port accepts memory cards very similar to those used in common consumer devices. These cards, available from Aseptico, enable a user to update software or replace existing software that might have been accidentally erased or corrupted. Contact Aseptico for more information on card usage and availability. To reprogram a unit, follow the Steps below:

Programming Steps:

1. Turn 'Off' the Main Power Switch on the back panel.
2. Grasp the right-hand end of the rubber dust cover for the Memory Card Port and pry open the cover to expose the card slot.
3. Insert the new memory card in the slot with label facing upward (card terminals should face downward). Carefully and slowly press card inward until a 'click' is felt. Release card.
4. Turn the Main Power Switch (on the back panel) 'On'.
5. The Display will show the following message:

**Memory Card Detected.
Re-program? (Yes / No)**

 - Press the 'Yes' key on the Control Panel.
6. The Display will then show the following message:

**Presets will be erased!
Continue? (Yes / No)**

 - Press the 'Yes' key on the Control Panel.
7. The Display will show the following message:

Programming...

 - A status bar will indicate the progress of the programming.
8. When the programming is complete, the Display will show the following message:

**Programming successful.
Eject card.**

 - Press the card inward slightly, then release it to eject it. When the card is ejected, the System will reset with normal power-up screen displayed.
9. Remove the memory card and store it in a safe place. Close the rubber dust cover on the Memory Card Port.

In the event that the programming procedure is interrupted, the unit will display the following message:

Programming Failed

Then:

**Console Software Error.
Re-program unit.**

Re-start the programming procedure from Step #1 (Remember to turn main power 'Off' before reprogramming).

STERILIZATION & MAINTENANCE:

HANDPIECES - Thorough cleaning and lubrication of handpieces after each use and before sterilization is very important to ensure proper operation and service life of the handpiece. Follow the instructions provided with the handpiece for complete maintenance instructions.

IMPORTANT! Protect motor from excess oil draining from handpiece. After lubricating and before autoclaving, stand handpiece by its base on a paper towel and allow excess oil to drain (Figure 15).



MOTOR & CORD ASSEMBLY

- The entire AE-230-40 motor and cord assembly is fully autoclavable. Before autoclaving the assembly, remove the handpiece from motor and install autoclaving plug into end of motor as shown in Figure 16. A plug with sealing O-rings is supplied with the motor. Steam autoclave motor/cord assembly at 132° C (270° F) for five minutes. Loosely coil the motor cord when autoclaving. Avoid sharply bending the cord when autoclaving. Wipe down motor cord with disinfecting solution. We recommend also sleeving the cord between each patient.

The included motor/handpiece holding cradle is also fully autoclavable.

CONSOLE - The exterior of the console may be cleaned by wiping with a soft cloth moistened with mild detergent or disinfecting solution.

SILICONE WATER LINES - The silicone water lines (Item AE-23) used for the pump are fully autoclavable. Sterilize at 132° C (270° F) for 10 minutes.

Fig. 16 **MOTOR & CORD STERILIZATION**



WARNING

- Do not attempt to disassemble the motor or motor connector.
- Do not oil or lubricate the motor.
- Do not attach a handpiece to the motor while the motor is running.
- Do not bend motor cord sharply.

Failure to comply with any of the above instructions may void your warranty

CAUTION:

The System Motor is sensitive to shock. Do not drop or impact motor against a hard surface

CAUTION FOR ALL STERILIZATION:


- Do not exceed 135° C or 275° F
- Do not submerge in any solutions
- Do not use ultrasonic cleaners

FOOT CONTROLS - The exterior of the foot controls may be cleaned by wiping with a soft cloth moistened with mild detergent or disinfecting solution. When cleaning the AE-70V Variable Foot Control, remove handle from Switch and wipe clean with disinfectant, then reinstall.


TROUBLESHOOTING:

Problem:	Correction:
Console does not light when turned on:	<ul style="list-style-type: none"> • Check console to power connection. • Check fuse. If blown, replace with 1.6A/250V slo-blow fuse.
Console lights when turned on, but handpiece does not turn:	<ul style="list-style-type: none"> • Check motor plug connection. • Check foot switch connection. • Depress foot switch. • Increase RPM. • Increase Torque setting • Check that bur/drill is properly seated in the handpiece and the collet is closed.
No water flow from pump to handpiece:	<ul style="list-style-type: none"> • Check that pump is on and flow level is sufficient. • Check that water container seal is completely punctured. • Make sure the irrigation tubing is properly installed in pump door and flow is in the correct direction.

CHANGING THE FUSE:



WARNING



Turn the power off and unplug the unit before following the steps below.

NOTE: The AEU-7000 & AEU-7000-70V feature auto-sensing, global voltage compatibility. The fuse indicated is correct for 100V-250V 50/60 Hz line voltage.


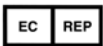














1. Remove the Fuse Holder from the Power Inlet connector (see Figure 17).
2. Replace the fuses in the Fuse holder.

Replacement Fuses:
1.6A, 250V slo-blow fuse
(Fuse size: 5 x 20mm)

3. Reinstall the Fuse Holder.



SYMBOL DEFINITIONS:

	Attention, consult accompanying documents		Authorized European Representative
	Type B Equipment		Standby Switch
	Footswitch		Dangerous Voltage
	WEEE Compliant		Alternating current
	Manufacturer		Protection Against Dripping Water
	Fuse Rating		Protective Earth (Ground)
	Motor Direction		Preset Step Through
	Torque Step Through		Pump On/Off

WARRANTY

Aseptico warrants these products against defects in material or workmanship for a period of one (1) year, from date of original invoice. Some handpieces are warranted for one year under the same conditions. Other handpieces and expendable components, such as air turbines and light bulbs, are covered by shorter warranty periods, or have no warranty. Aseptico's sole obligation under product warranty is (at its sole option and discretion) to repair or replace any defective component or product in part or whole. Aseptico shall be the sole arbiter of such action.

In the event of alleged defect under warranty, the purchaser is to notify Aseptico's Customer Service Department promptly. Customer Service will provide instructions, usually directing that the product be returned for service. Shipment to Aseptico and the cost thereof is always the responsibility of the purchaser.

Accidental misuse, inappropriate installation, or failure to perform directed maintenance voids the warranty.

Aseptico does not assume, under this warranty, any risks or liabilities arising from the clinical use of its products, whether or not such use involves coincidental utilization of products manufactured by others.

NOTE: In the interest of serving our customers more efficiently, customers receiving service on non-warranted repairs are expected to accept charges that are less than \$250.00 without further notification.

