

USER MANUAL

MAGELLAN MOUNT



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SECTION I - INTRODUCTION

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PRODUCT OVERVIEW

This manual contains the installation, operation and care instructions and user service information for the CORE[™] Delivery Unit (Magellan Mount).

The unit is intended to be used by trained professional dental care personnel only as an interface device to connect the dental operatory hand instruments to the appropriate supply utility such as air, water, vacuum, drain and electrical. It functions as a system management device that provides a method of operating the hand instruments from a single control input device.

The unit is manufactured to be used with a dental chair that supports a patient in a reclined seated position. Operators will be positioned around the patient's head as required for optimum access for the specific procedure being performed. The delivery unit positions the handpieces for the optimum presentation to the operator.

The unit is designed to provide trouble-free service when installed, operated and cared for according to the procedures set forth in this manual.

To ensure proper installation, carefully read all the instructions contained in this manual, paying close attention to all warnings, cautions, and notes.

Before starting installation procedures, review the illustration to become familiar with the components of the unit (FIGURE 1).

After the unit is installed, review the features, operation procedures, and care guidelines with the doctor's staff.

LEAVE THIS MANUAL IN THE DOCTOR'S OFFICE.

NOTICE Installation by an authorized DENTALEZ[®] dealer service technician is recommended.

For any questions about an order, please contact a DENTALEZ Equipment customer service representative at 866-DTE-INFO.



FIGURE 1. DELIVERY UNIT MAIN COMPONENTS



PRODUCT FEATURES

Designed with simplicity in mind, the CORE product line provides a straightforward, easy-to-use delivery unit with common components, simple integrated holders and an easy-to-read pressure gauge. The left/right Magellan-style mount unit positions Star[®] handpieces and ancillaries within easy, comfortable reach.

STANDARD FEATURES

- Secure tray placement.
- Air gauge for easy pressure monitoring.
- Break release handle.
- Easy access control block and internals for easy maintenance.
- Aluminum flex arm for stability and ease of positioning.
- Built standard with BioFree[®] tubing.

BioFree is a registered trademark of Freeman Manufacturing, Inc.

OPTIONAL FEATURES

- Optional integrated dual access touchpad controls.
- Rear assistant's arm/instrumentation with centrally located solids collector and tubing.



SECTION I - INTRODUCTION

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DIMENSIONS

ТОР



SIDE

OPTIONAL LIGHT POST



FIGURE 2. DENTAL UNIT DIMENSIONS (MAGELLAN MOUNT)

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SPECIFICATIONS

Voltage (AC)	115, 50/60 Hz, as applicable		
Air Pressure	551.6 kPa (80 PSI)(at regulator in USC)		
Water Pressure	275.8 kPa (40 PSI)(at regulator in USC or clean water manifold)		
Clean Water System	Reservoir capacity: 2.0 L		
	CORE traditional delivery head and arms: 24.5 (11.1 kg)		
	Magellan delivery unit post: 13 (5.8 kg)		
Chinging (Deckage) Maight (he)	Magellan delivery unit support: 20 (9 kg)		
Shipping (Package) weight (IDS)	Utility service center (USC): 15 (6.8 kg)		
	Assistant's arm: 16 (7.2 kg)		
	Light post (optional): 15 (6.8 kg)		

RECOMMENDED ENVIRONMENTAL CONDITIONS

TRANSPORTATION AND STORAGE

- Temperature range: -20°F to 165°F (-29°C to 74°C)
- Relative humidity range: 0% to 95%

OPERATION

- Temperature range: 59°F to 80°F (15°C to 27°C)
- Relative humidity range: 0% to 95%
- Atmospheric pressure range: 50 kPa to 105 kPa

SECTION I - INTRODUCTION

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CLASSIFICATIONS



Medical-General Medical Equipment Certified as to electrical shock, fire and mechanical hazards only in accordance with:



IEC: 80601-2-60, ANSI/AAMI: ES60601-1 CSA Std: C22.2 No. 60601-1:14

For the purposes of this user manual, the UL approval is for the unit (head/arm assembly) and power supply. All other regulatory markings are provided in their respective manuals.

- Type of Protection Against Electric Shock: Class 1 Equipment.
- Degree of Protection Against Electric Shock: Type B Applied Parts. The handpiece is considered an applied part.
- Degree of Protection Against Ingress of Water: Ordinary
- Flammable Gases: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Not intended for use in an oxygen-rich environment.
- Mode of Operation: Continuous.

The authorized European representative is: Emergo Europe, Inc. Prinsessegracht 20 The Hague, 2514 The Netherlands Phone: +31 70 345 8570

EXPLANATION OF SYMBOLS & SIGNS



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SAFETY PRECAUTIONS

MWARNING

Before proceeding with electrical installation, all wiring must be in accordance with NEC and local electrical codes.

- To avoid the risk of electrical shock, this equipment must only be connected to a supply mains with protective earth.
- Do not modify this equipment without permission from DENTALEZ. Unauthorized modification
 will void the warranty and could result in serious injury. If this equipment is modified, appropriate
 inspection and testing must be conducted to ensure continued safe use of equipment.
- Property damage and/or personal injury may result if directions are not followed or OEM parts are not used.
- The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced level of safety of the resulting system. Consideration relating to the choice shall include:
 - use of the accessory in the PATIENT VICINITY and evidence that the safety certification of the ACCESSORY has been performed in accordance to the appropriate IEC 60601-1 harmonized standard.
- Always turn off unit and remove power from unit when servicing. (Turn off power at disconnect or service breaker).
- Never leave children unattended when unit is in use.
- ▲ CAUTION To satisfy FCC RF exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during the operation. To ensure compliance, operation at closer that this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTICE

- Some illustrations and instructions in this user manual include installation of optional city water. If optional city water is wanted, purchase kit *PN* 3658-484 for units with a cuspidor or *PN* 3658-485 for units without a cuspidor.
 - Isolating the unit from the supply mains is accomplished by unplugging the unit from the power receptacle.

SECTION I - INTRODUCTION

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SAFETY PRECAUTIONS (CONTINUED)

NOTICE

- Medical electrical equipment needs special precautions regarding electromagnetic (EMC) compatibility and needs to be installed according to EMC information. (See EMC INFORMATION provided in this manual.)
 - In accordance with Part 15 of FCC rules, this equipment was tested and complies with Class A digital device limits. These limits are designed to give equipment reasonable protection against detrimental interference when operated in a commercial environment.
- Mobile radio frequency (RF) communications equipment can affect medical electrical equipment.
- Accessory equipment not complying with the Medical Device Safety standard IEC 60601-1 may contribute to a reduced level of safety of the CORE Delivery Unit. It is necessary for all accessory equipment and attachments to comply with IEC 80601-2-60 Medical Electrical Equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications; however, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on) the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



PACKAGING

<u>A</u>CAUTION To avoid damage to the carton contents, do not use a knife or sharp object to open the packaging.

UNPACKING UNIT CARTONS

The unit components are packaged and shipped according to the carton diagrams shown (FIGURE 3) and (FIGURE 4).

Verify the components packaging contents against the packing list. All parts supplied are necessary for proper installation; DO NOT discard any hardware or components until installation is complete.

NOTE: Cartons may contain empty packing inserts (even if optional components were ordered).

MAGELLAN UNIT CARTON CONTENTS

- Magellan Unit Support*
- Umbilical*
- Clean Water System
- Tray Package
- Utility Service Center (USC)
- Foot Control



FIGURE 3. MAGELLAN UNIT CARTON CONTENTS

UNIT POST CARTON CONTENTS

- Magellan Unit Post
- Installation Hardware:

Pole Pivot Supply Bag	Magellan Light Supply Bag (Optional)
Post Pivot Pin	Spacer
Thrust Bearings (2)	#10-32 × 1" Pan-head Screw
Thrust Washers (4)	#10 Internal Tooth Lock Washers (2)
3/8" × 2¼" Hex-head Bolt	5/6" Heavy-duty Electrical Clamps
.382/.393 ID × .683 OD Washer	#10-32 × 3/8" Pan-head Screw
13/32" ID × 13/16" OD Washer	71/2" Nylon Cable Tie
Socket Set Screw	Light Adapter Cord Assembly
1/4-20 × 3/8" Set Screw	





FIGURE 4. UNIT POST CARTON CONTENTS

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UNIT PLACEMENT

- **MWARNING**
- **DO NOT** position equipment any place where it would interfere with unplugging the power cord from the receptacle.
- The plug cannot be located in a position that requires tools to access.

UTILITY SERVICE CENTER (USC)

PARTS INCLUDED

- Utility Service Center (USC)
- USC Cover
- USC Template
- Bag of Supplies

NOTICE

DO NOT DISCARD the USC template after use. Neatly refold it and place it in the back of this user manual.

Set the USC cover aside until all installation and testing of the delivery system is complete.

TOOLS REQUIRED

• Drill

USC SITE PREPARATION

- 1. Remove and unfold the full-size USC template found in the USC carton.
- 2. Position the USC template according to the exact layout indicated, making certain correct distance from base to chair is maintained.
- 3. Using the USC template, drill four corner mounting holes for the USC base. DO NOT secure the base to the floor at this time.

NOTE: For wood or metal floors, drill 5/32" holes. For concrete floors, drill 1/4" holes and install plastic anchors.



UTILITY SERVICE CENTER (USC) (CONTINUED)

PLUMBING CONTRACTOR'S PROCEDURE

MARNING

Before proceeding with plumbing installation, comply with and maintain all applicable utility codes and regulations.

NOTICE

If use of the optional city water system is planned for in the future, it is highly recommended to intall necessary components now.

For reference, a color-coded *TUBING DIAGRAM (PN: 2662-304)* is included with this user manual.

TOOLS REQUIRED

5/8" Open-end Wrench

USC INSTALLATION

- 1. Open the USC bag of supplies.
- 2. Orient the utilities as described in the USC template and stub through the floor. Vacuum and drain fittings are not supplied; refer to the USC template for requirements (FIGURE 5).

NOTE: For wood or metal floors, drill 5/32" holes. For concrete floors, drill 1/4" holes and install plastic anchors.



FIGURE 5. UTILITY SERVICE CENTER WITH OPTIONAL CITY WATER INSTALLATION SHOWN

UTILITY SERVICE CENTER (USC) (CONTINUED)

- 3. Sweat the valve adapters to the air and water stubs*.
- 4. Apply the appropriate thread sealant to the valve adapter(s) and install the stop valve(s).
- 5. Sweat the vacuum elbow to the stub.
- 6. Sweat the hose connector to the elbow as applicable and orient as shown in the template.
- 7. Flush the air and water lines* to remove trash and debris.
- 8. Connect the air fitting assembly to the air stop valve as shown in the template. Using a 5/8" open-end wrench, tighten the nut securely.
- 9. Connect the water actuator valve assembly* to the water stop valve as shown in the template. Using a 5/8" openend wrench, tighten the nut securely.

*Optional components

ELECTRICAL CONTRACTOR'S PROCEDURE

The electrical contractor is to provide a covered 115V AC receptacle that meets all applicable utility codes and regulations. For the recommented location of the 115V AC receptacle, refer to the USC template.

NOTE: Electrical contractor's parts are NOT supplied.

CAUTION Rating of main circuit breakers should be 20 Amps maximum.



MAGELLAN UNIT SUPPORT

PARTS INCLUDED

- Magellan Unit Support (FIGURE 6)
- Leveling Set Screws (3)
- M16 Bolt

NOTE: If support is preinstalled, proceed to step 6.

TOOLS REQUIRED

Phillips-head Screwdriver

ASSEMBLY FOR CORE CHAIR

- 1. Raise the chair base and back to full **UP** position.
- 2. Disconnect the chair from the power supply.



FIGURE 6. MAGELLAN UNIT SUPPORT

3. Take off the chair seat upholstery by removing the five Phillips-head screws from underneath the chair (*FIGURE 7*).



FIGURE 7. REMOVE FIVE PHILLIPS-HEAD SCREWS FROM SEAT UPHOLSTERY

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MAGELLAN UNIT SUPPORT (CONTINUED)

4. Position the Magellan unit support so that the lip of the chair rests underneath the lip of the washer. The mount will hold itself in place (*FIGURE 8*) and (*FIGURE 9*).



FIGURE 8. POSITION THE UNIT SUPPORT UNDER THE CHAIR



FIGURE 9. SLIDE LIP OF WASHER ONTO LIP OF CHAIR

5. Install the M16 bolt loosely into the back of the mount and into the chair.

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MAGELLAN UNIT SUPPORT (CONTINUED)

- 6. If support is preinstalled, loosen (but do not remove) M16 bolt to allow for leveling (*FIGURE 10*).
- 7. Place a level on the Magellan unit support, parallel with and perpendicular to the chair center line, then check the level of the unit support.

NOTE: If leveling is necessary, adjust the 3/16" set screws until the unit support is level.

8. Tighten M16 bolt (55 foot-pounds).

NOTE: If necessary, repeat steps 5, 6 and 7 after unit and light are added to re-level.



FIGURE 10. LOOSEN M16 BOLT TO LEVEL

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MAGELLAN UNIT SUPPORT (CONTINUED)

ASSEMBLY FOR NUSIMPLICITY[™] CHAIR

- 1. Raise the base and back to full **UP** position.
- 2. Disconnect the chair from the power supply.
- 3. Take off the chair's seat by removing the 1/4-20 thumb screw from underneath the seat. Push the seat toward the back of the chair to clear the substrate from the slide bosses, then set the seat aside with all related hardware (*FIGURE 11*).

NOTE: If installing the CORE delivery unit on a DENTALEZ chair that is not pre-tubed, continue with the following instructions. <u>If installing on a pre-tubed chair</u>, **skip steps 4 through 10**.



FIGURE 11. REMOVE THE CHAIR SEAT

- 4. Select the following items from the Magellan unit support hardware package:
 - Three 1/2" × 1½" Bolts
 - Three 1/2" Lock Washers
 - Four 1/2" Flat Washers
 - Four 1/2" Shims
 - Two 3/8" × 1/2" Set Screws
- 5. Determine if the two outside 1/2" threaded hole mounting pads and the Magellan unit support are level. If the mounting pads or unit support are not level, select the necessary amount of 1/2" shims needed to provide a level condition across the two pads.
- 6. Position the Magellan unit support so that the three 1/2" through holes align with the corresponding threaded holes of the chair mount casting.



MAGELLAN UNIT SUPPORT (CONTINUED)

- 7. Install the two outside 1/2" bolts and lock washers and the number of 1/2" shims determined in step 5 through the Magellan unit support and thread into the chair mount casting.
- 8. Tighten both outside 1/2" bolts to allow a 3/16" clearance at the middle 1/2" bolt location.
- 9. Install the middle 3/8" set screws in the bottom of the Magellan unit support.
- 10. Install the middle 1/2" lock washer and 1/2" bolt, but do not fully tighten.
- 11. Place a level on the Magellan unit support, parallel with and perpendicular to the chair center line, then check the level of the unit support.
- NOTE: If leveling is necessary, adjust the 3/8" set screws until the unit support is level (FIGURE 12).



FIGURE 12. ADJUST 3/8" SET SCREWS IF LEVELING IS NECESSARY

12. Tighten all hardware (55 foot-pounds for 1/2" bolt).

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UMBILICAL ASSEMBLY

For tubing connections, see TUBING DIAGRAM (PN: 2662-304) included with this user manual.

PARTS INCLUDED

NOTICE

- Umbilical Assembly
- L-bracket

ASSEMBLY FOR CORE CHAIR

NOTE: Provide sufficient slack in the umbilical assembly to avoid stretching when the chair is in its full **UP** position.

- 1. From the umbilical bag of supplies, select the umbilical assembly with the supplied L-bracket.
- 2. Route the umbilical between the hydraulic pump and the control board, then under the cantilever arm.
- 3. Route the remainder of the umbilical through the pivot and up into the chair casting, using tie wraps to secure.

ASSEMBLY FOR NUSIMPLICITY[™] CHAIR

- 1. From the umbilical bag of supplies, select the umbilical assembly with the supplied L-bracket.
- 2. Route the umbilical between the hydraulic pump and the control board, then under the cantilever arm.
- 3. Tie wrap the umbilical to the bracket (FIGURE 13).



FIGURE 13. TIE WRAP UMBILICAL TO L-BRACKET

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CORE[™] DELIVERY UNIT

UMBILICAL ASSEMBLY (CONTINUED)

- 4. Route the umbilical through the brackets on the cantilever and secure using tie wraps (FIGURE 14).
- 5. Route the remainder of the umbilical through the pivot and up into the chair casting using tie wraps to secure *(Figure 15)*.



FIGURE 14. ROUTE UMBILICAL THROUGH CANTILEVER BRACKETS

- 6. Using the two 10-32 screws provided, secure the L-bracket.
- 7. Leave the base cover off until the foot control has been installed.



FIGURE 15. ROUTE REMAINDER OF UMBILICAL THROUGH PIVOT

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FINALIZING USC INSTALLATION

NOTE: The following instructions for finalizing Utility Service Center (USC) connections include optional city water installation. If installing standard clean water system only, omit steps 10* through 14*.

NOTICE Pictures for the following steps are located on the next page (FIGURE 16 - FIGURE 18).

NOTE: Refer to TUBING DIAGRAM (PN: 2662-304) in the literature packet for all connections.

- 1. Select the following hardware items:
 - Six 1/8" Tubing Clamps
 - Three 1/4" Tubing Clamps
- 2. Remove the cable wrap to expose the tubing connections of the umbilical assembly.

NOTE: If the pump cover and the chair's lower cantilever cover are not already removed, take them off now.

- 3. Route the foot control tubing into base of the chair.
- 4. Find the foot control leads of the chair's umbilical assembly numbered 1, 2, 3 and 4 located toward the rear of the chair's pump motor assembly.
- 5. Attach the 1, 2, 3 and 4 leads with the corresponding numbered connectors of the foot control tubing.
- 6. In the USC, attach the hard, red air line to the air valve fitting using the supplied compression fitting (*FIGURE 16, CONNECTION A*).
- 7. Connect the 1/8" red tube from the umbilical to the poppet valve connection opposite the existing barb assembled to the 1/4" red tube (*FIGURE 17, CONNECTION C*).
- 8. Connect the 1/8" yellow tube from the umbilical to the poppet valve connection opposite the existing barb assembled to the 1/8" yellow tube (*FIGURE 17, CONNECTION D*).
- 9. Connect the 1/4" red tube, numbered 1, to the middle barb of the poppet valve in the USC. Then secure the connection using a 1/4" tubing clamp. (This is the drive air line for the foot control) (*FIGURE 17, CONNECTION E*).
- 10. *Attach a 1/4" tubing clamp to the rigid 1/4" green water line of the water regulator.
- 11. *Use soap to lubricate the 1/4" barb, then connect the water line to the water valve actuator (*FIGURE 16, CONNECTION B*).
- 12. *Connect the 1/4" green tube of the umbilical to the connector from the 1/4" green tube of the water regulator (FIGURE 18, CONNECTION F).
- 13. *Attach a 1/8" tubing clamp to the 1/8" yellow air line of the poppet valve.
- 14. *Use soap to lubricate the barb of the water valve actuator. Attach the 1/8" yellow line of the poppet valve to this barb and secure using a 1/8" tubing clamp (*FIGURE 18, CONNECTION G*).
- 15. If a rear assistant's arm is installed, slip the vacuum hose from the chair over the vacuum elbow in the USC (FIGURE 18, CONNECTION H).
- 16. If an optional fiber optic electrical system is installed, attach the electrical leads of the power pack transformer to the adapter harness. Attach the electrical leads to the matching connector on the main harness.
- 17. Route the main harness through the 5' × 1³/₄" corrugated ducting hose to the inside of the chair pump cover (for future connections if necessary).
- 18. In the USC, open the air/water stop valves and check for leaks.

CORE[™] DELIVERY UNIT

FINALIZING USC INSTALLATION (CONTINUED)



FIGURE 16. OPTIONAL CITY WATER LAYOUT



FIGURE 17. TYPICAL INSTALLATION



FIGURE 18. TYPICAL INSTALLATION

866-DTE-INFO dentalez.com PN: 2717-267D

MAGELLAN UNIT POST ASSEMBLY



TOOLS REQUIRED

1/8" Hex Key

ASSEMBLE MAGELLAN UNIT POST

- 1. Select the following hardware package items (*FIGURE 19*):
 - 1/4" × 3/4" Set Screw
 - 1/4" × 3/8" Set Screw
 - 3/8-16" × 2¼" Hex Head Screw
 - 3/8" Flat Washer
 - 3/8" Lock Washer
 - Four Thrust Washers
 - Two Thrust Bearings
 - Pivot Cover
 - Post Pivot Pin
 - Post Stop
- 2. Place a thrust washer on the bearing surface of the post pivot pin.
- 3. Apply lubricant to a thrust bearing and install the bearing, followed by a second thrust washer.
- 4. Insert post pivot pin and bearing stack into unit pole.
- 5. Position a thrust washer onto the flat member of the Magellan unit pole and post pivot pin.



FIGURE 19. MAGELLAN UNIT POST HARDWARE



MAGELLAN UNIT POST ASSEMBLY (CONTINUED)

- 6. Apply lubricant to the second thrust bearing and install followed by a thrust washer.
- 7. Insert the post pivot pin and unit pole with thrust bearing and washers into the unit support.

NOTE: Engagement is a slip fit, provided the Magellan unit post is held in alignment.

ACAUTION To avoid damage to the pivot bushing, do not use force when installing the pivot pin into the Magellan unit post.

- 8. Make sure the pivot pin slot faces the side of the unit support having the tapped hole.
- 9. Seat the pivot mount until its head is in full contact with the bottom and sides of the Magellan unit support.
- 10. Use $3/8-16" \times 2-1/4"$ hex-head screw, lockwasher and flat washer to secure post pivot pin to unit support.
- 11. Locate the $1/4-20 \times 3/4$ " long set screw in the threaded hole on the Magellan unit support, then tighten the set screw to prevent the pivot pin from rotating.
- 12. Place a $1/4-20 \times 3/8$ " long set screw into the threaded hole in the flat member of the Magellan unit post.
- 13. Engage the 1/4-20 × 3/8" set screw with a 1/8" hex key to deform the internal bushing against the pivot mount until a 3-lb force is required to rotate the unit post.
- 14. Install the pivot cover over the bolt head.

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DELIVERY HEAD



TOOLS REQUIRED

5/64" Hex Key

ASSEMBLE DELIVERY HEAD

- 1. Remove the packaging from the delivery head along with the adjustable arm and the umbilical assembly.
- 2. Feed the umbilical assembly into the unit post, ensuring that the leading end of the umbilical assembly (with the protective spiral end) does not catch on the open access slot or weld seam of the unit post's flat joint.
- 3. After the umbilical assembly is completely installed in the unit post, insert flex arm into unit post.
- 4. Secure the bearing arm support with a set screw using 5/64" hex key.
- 5. Match and connect the tubes and wires from the Magellan arm umbilical assembly to the tubes and wires of the chair umbilical assembly. Refer to *TUBING DIAGRAM (PN: 2662-304)*.
- 6. For touchpad control equipped, route harness through chair, connect terminal to main control board, and coil excess harness.

USC BASE ASSEMBLY

- 1. Position the USC base over the four corner holes that were drilled during preinstallation.
- 2. Secure the base using four #10 screws.



If previous utilities interfere with the USC base internal bracing, modification may be necessary.



REAR ASSISTANT (CORE CHAIR)



TOOLS REQUIRED

- 1/4" Hex Key
- 9/16" Socket

NOTE: Remove seat cushion, if necessary.

ASSEMBLE REAR ASSISTANT

- 1. Place the chair in its full upright position.
- 2. Attach the rear assistant mount to the platform below the chair brake with two shoulder screws. Tighten in place with 1/4" hex key (*FIGURE 20*).

NOTE: Recessed holes must be facing upward.



FIGURE 20. ATTACH REAR ASSISTANT MOUNT TO PLATFORM BELOW CHAIR BRAKE

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REAR ASSISTANT (CORE CHAIR) (CONTINUED)

3. Remove the cap and nut from the shoulder bolt located in the link of the rear assistant's arm (FIGURE 21).



FIGURE 21. REMOVE CAP AND NUT FROM SHOULDER BOLT

- 4. Place the link of the rear assistant's arm on top of the bracket and plastic washer. (Be sure to keep the washer/ spring washers in the same orientation).
- 5. Thread the shoulder bolt into the bracket and **tighten the bolt securely** using 1/4" hex key. Test that the arm rotates without the bolt head turning.
- 6. From the underside of the bracket, install the nut on the shoulder bolt and **tighten securely** with 9/16" socket.
- 7. Replace the cap in the link.
- 8. Pass the tubing and wires from the assistant's arm through the strain relief bushing in the cantilever cover.
- 9. Pass the tubing wires through the wire bracket.
- 10. Connect the 5/8" ID vacuum hose of the rear assistant's arm to the 5/8" ID vacuum hose of the chair by sliding it over the connector of the chair's ducting hose.
- 11. Cut off excess vacuum tubing, if necessary.

ASSISTANT'S ARM (OPTIONAL)



TOOLS REQUIRED

- 1/4" Hex Key
- 9/16" Socket

NOTE: Remove seat cushion, if necessary.

ASSEMBLE REAR ASSISTANT

- 1. Place the chair in its full upright position.
- 2. Remove the cap and nut from the shoulder bolt located in the link of the rear assistant's arm (FIGURE 22).



FIGURE 22. REMOVE CAP AND NUT FROM SHOULDER BOLT

866-DTE-INFO dentalez.com PN: 2717-267D

ASSISTANT'S ARM (OPTIONAL) (CONTINUED)

- 3. Place the link of the rear assistant's arm on top of the bracket and plastic washer. (Be sure to keep the washer/ spring washers in the same orientation).
- 4. Thread the shoulder bolt into the bracket and tighten the bolt securely with 1/4" hex key. Test that the arm rotates without the bolt head turning.
- 5. From the underside of the bracket, install the nut on the shoulder bolt and tighten securely with 9/16" socket.
- 6. Replace the cap in the link.
- 7. Pass the tubing and wires from the assistant's arm through the strain relief bushing in the cantilever cover.
- 8. Pass the tubing and wires through the wire bracket.
- 9. Connect the 5/8" ID vacuum hose of the rear assistant's arm to the 5/8" ID vacuum hose of the chair by sliding it over the connector of the chair's ducting hose.
- 10. Cut off excess vacuum tubing, if necessary.
- 11. Refer to TUBING DIAGRAM (PN: 2662-304) for air/water connections.
- 12. For touchpad control equipped, route harness through chair, connect terminal to main control board, and coil excess harness.



ASSISTANT'S INSTRUMENTATION

SALIVA EJECTOR (SE)

1. Connect the SE valve to the 5/16" OD SE tubing (FIGURE 23).



FIGURE 23. CONNECT SE VALVE AND OD SE TUBING

- 2. Hang the SE valve in the instrument holder.
- 3. Connect the SE tubing to the open 1/4" port under the solids collector in the assistant's arm.

HIGH VOLUME EVACUATOR (HVE)

1. Connect the HVE valve to the 5/8" OD tubing (FIGURE 24).



FIGURE 24. CONNECT HVE VALVE AND OD TUBING

- 2. Hang the HVE valve in the instrument holder.
- 3. Connect the tubing to an open 1/2" port under the solids collector in the assistant's arm.
- 4. If an optional second HVE valve is used, remove plug.

AIR/WATER SYRINGE

NOTE: The syringe for the delivery head is factory installed.

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FIBER OPTIC ELECTRICAL (OPTIONAL)

NOTE: The fiber optic electrical wiring is factory installed.

To complete installation, do the following: Connect the fiber optic wires from the unit head/arm to the fiber optic transformer in the utility service center (USC). Plug in the fiber optic transformer.

FIBER OPTIC TUBING (OPTIONAL)

NOTE: The fiber optic tubing is factory installed.



LIGHT OR MONITOR POST (OPTIONAL)



POST STOP

TOOLS REQUIRED

1/8" Hex Key

ASSEMBLE LIGHT/MONITOR POST

- 1. Select the following hardware package items (FIGURE 25):
 - 1/4" × 3/4" Set Screw
 - 1/4" × 3/8" Set Screw
 - 3/8-16" × 21/4" Hex Head Screw
 - 3/8" Flat Washer
 - 3/8" Lock Washer
 - Four Thrust Washers
 - Two Thrust Bearings
 - Pivot Cover
 - Post Pivot Pin
 - Post Stop
- 2. Raise the chair base to its upper travel limit and disconnect the chair power.
- 3. Apply lubricant to both sides of all thrust washers and thrust bearings.
- 4. Place a thrust washer, bearing and another thrust washer onto the pivot pin. Then insert the pivot pin and bearing stack through the 1¼" brass bushing at the end of the light/monitor post. Place another thrust washer, bearing and thrust washer onto the pin.



FIGURE 25. LIGHT/MONITOR POST HARDWARE

LIGHT OR MONITOR POST (OPTIONAL) (CONTINUED)

5. While holding the bearings and pin in the post, align the machined hole in the pivot pin with the pin in the chair support's bottom counter bore. Then adjust the unit post and pin so the pin will slide into the counter bore.

NOTE: Engagement is a slip fit, provided the Magellan light/monitor post is held in alignment.

<u>A</u>CAUTION To avoid damage to the pivot bushing, do not use force when installing the pivot pin into the Magellan unit post.

- 6. Seat the pivot mount until its head is in full contact with the bottom and sides of the Magellan unit support.
- 7. Make sure the pivot pin slot faces the side of the unit support having the tapped hole.
- 8. While holding the unit post in position, install the 3/8"-16 × 2¼" hex head bolt with 3/8" lock and flat washers through the pin so that it threads into the chair support, then tighten the bolt enough to remove most clearances between the bearings.
- 9. Install the $1/4" \times 3/4"$ set screw into the threaded hole on the Magellan unit support, then tighten the set screws to prevent the pivot pin from rotating.
- 10. Finish tightening the bolt in the pin until all the clearance between the bearings is removed and the post moves freely, then re-tighten the set screw.
- 11. Place a $1/4" \times 3/8"$ set screw into the threaded hole in the flat member of the Magellan unit post.
- 12. Engage the set screw with a 1/8" hex key to deform the internal bushing against the pivot mount until a 3-lb force is required to rotate the unit post.
- 13. Install the pivot cover over the bolt head.



POWER MODULE (OPTIONAL)

ASSEMBLE POWER MODULE

1. Unplug all cords from the receptacle in the USC.

NOTE: See the POWER MODULE SYSTEM WIRING DIAGRAM (PN: 2662-240) provided with this user manual for connections.

2. Connect the main wiring harness to the power module (FIGURE 26).



FIGURE 26. CONNECT MAIN HARNESS TO POWER MODULE

3. A "T" must be spliced into the 1/8" yellow air line near the poppet valve. Then connect the open end of the "T" to the barb of the power module using a section of 1/8" yellow air line and two tubing clamps. If necessary, cut a section of 1/8" yellow air line out of the umbilical to make connection.

POWER MODULE (OPTIONAL) (CONTINUED)

4. After checking all the plug connections, reconnect the power plug and surge protector into the receptacle in the USC.

ACAUTION

To avoid damage to the unit, the surge protector supplied with the power module must be used at all times.

5. Pass the green wire of the main harness through the umbilical and ground it to the power module, USC base or chair (*FIGURE 27*).

NOTE: It may be necessary to remove an existing screw and reinsert the screw with the green ground wire attached.

NOTE: Make sure the air valve in the USC is open.



FIGURE 27. PASS GREEN WIRE OF HARNESS THROUGH UMBILICAL AND GROUND IT TO POWER MODULE

6. At the delivery head, turn master switch to ON and ensure power is available at power module.

NOTICE

For power supply options, the **Power Module** or the **XP Power Supply** must be chosen.

DELIVERY SYSTEM

NOTICE

Before testing the delivery system, make sure the shipping tie wrap is removed from the adjustable arm pivot area at the delivery head.

The air regulator is factory preset to delivery 551.5 kPa (80 PSI). The water regulator is preset to deliver 275.8 kPa (40 PSI).

TOOLS REQUIRED

- Phillips-head Screwdriver
- 1/16" Hex Key
- 1/4" Hex Key

UTILITY SERVICE CENTER

- 1. Turn **ON** all services supplying the USC.
- 2. Open the air and water manual stop valves by turning the knobs counterclockwise.
- 3. Inspect all joints and connections for leaks.
- 4. Plug in any transformers in the USC into an electrical outlet.
- 5. Flip the master switch forward to turn **ON** unit (*FIGURE 28*).



FIGURE 28. TURN MASTER SWITCH TO ON POSITION

6. Inspect for leaks in the service console, cuspidor and delivery head.

DELIVERY SYSTEM (CONTINUED)

AIR AND WATER FILTER/REGULATORS

If the regulators are not set, do the following adjustment process:

- 1. Pull the locking knob.
- 2. Turn the adjustment knob on each regulator until the correct pressure reading is reached (clockwise to increase or counterclockwise to decrease).
- 3. When finished, push the locking knob down.

ADJUSTABLE ARM

To check the maneuverability of the CORE adjustable arm, do the following:

1. Depress and hold the brake release button (FIGURE 29).



FIGURE 29. BRAKE RELEASE BUTTON

- 2. Lift the adjustable arm or lower it into the desired position.
- 3. Release the brake release button.
- 4. To adjust flex arm drift, remove flex arm cap near the post using a Phillips-head screwdriver and 1/16" hex key. With cover removed, push unit in the furthest downward position to gain access to the adjustment screw. Using a 1/4" hex key, adjust drift by rotating this screw. Once adjustment is complete, reassemble flex arm cap.

SECTION IV - TESTING

SYRINGE

If the unit is equipped with a syringe, first depress the air button and then the water button to test the flow.

FOOT CONTROL & HANDPIECES (OPTIONAL)

COOLANT WATER LINES

1. At the foot control, flip the toggle to WET (FIGURE 30).



FIGURE 30. FLIP TOGGLE SWITCH TO WET POSITION

CAUTION Before connecting handpieces, all air must be purged from the coolant water lines to allow the system to function properly.

- 2. Purge air from the coolant water lines on each handpiece as follows:
 - a. Turn the water coolant valve counterclockwise to its full, open position (FIGURE 31).
 - b. Remove the handpiece tubing from holder.



FIGURE 31. WATER ADJUSTMENT VALVES

FOOT CONTROL & HANDPIECES (OPTIONAL) (CONTINUED)

- c. While facing the deliver head, start with the handpiece tubing on the far left, then fully depress the foot control to allow water to flow into a sink or other container.
- d. As the water is flowing, continue the purging operation of the remaining tubings (moving from the left tubing to the right tubing).
- e. Allow water to flow freely from all tubings until all air has escaped.
- 3. Attach the handpieces to the tubing as follows:
 - a. Slide the connector nut down along the tubing to expose the handpiece adapter.
 - b. Carefully align and insert the handpiece swivel base into the adapter.
 - c. Replace and tighten the connector nut to complete installation.

AIR PRESSURE

- 1. Flip the toggle at the foot control to **DRY**.
- 2. To adjust the individual handpiece drive air pressure to the manufacturer's specifications, do the following procedure:
 - a. Remove the handpiece from its holder.
 - b. Insert an air pressure gauge as indicated (FIGURE 32).



FIGURE 32. INSERT AIR PRESSURE GAUGE

c. Hold the handpiece, fully depress the foot control, and observe the amount of air pressure delivered to the handpiece.

FOOT CONTROL & HANDPIECES (OPTIONAL) (CONTINUED)

d. Locate the air pressure adjustment screws on the bottom of the delivery head chassis (FIGURE 33).



FIGURE 33. AIR PRESSURE ADJUSTMENT SCREWS

- e. Turn the air pressure adjustment screw on the control valve of the appropriate handpiece (counterclockwise to increase pressure, clockwise to decrease pressure) until the handpiece manufacturer's correct specification registers on the pressure gauge.
- 3. Repeat step 2 (a-e) to set the pressure for each handpiece.

CHIP AIR FOOT CONTROL (IF EQUIPPED)

If the handpiece utilizes coolant air, a burst of air should be delivered to the handpiece when the chip air valve is depressed.

FLUSH VALVE

- 1. Remove the handpiece from its holder.
- 2. Activate the flush valve (FIGURE 34).



FIGURE 34. FLUSH VALVE

3. Operate each handpiece for 30 seconds into a cuspidor, sink or open vacuum line.

OTHER OPTIONAL FEATURES

FIBER OPTICS

Follow the test procedures outlined in the instructions included in each fiber optic handpiece package.

ASSISTANT'S VACUUM ACCESSORIES

Evacuate one cup of water (8 oz. each) through the saliva ejector and the high-volume evacuator.

NOTICE After all final testing is complete, install the USC cover.

DENTALEZ

DELIVERY HEAD

- To prevent possible injury due to accidental operation, do not leave young children unattended.
 - Do not place objects weighing more than 10 pounds on the delivery head/tray.

MASTER SWITCH CONTROL

The master switch (located on the underside of the delivery unit) controls the **ON/OFF** functions of air, water and electricity to the entire unit. Flip the master switch forward to turn **ON** unit (*FIGURE 35*).



FIGURE 35. FLIP MASTER SWITCH TO ON

NOTICE

IMPORTANT: At the end of each workday and anytime the unit is unattended, make sure the master switch is in **OFF** position.

OIL COLLECTOR/FILTER

The oil collector/filter is designed to collect oil from the handpiece exhaust air. Periodically check the filter for cleaning or replacement by removing the cover and inspecting the filter (*FIGURE 36*).



FIGURE 36. OIL FILTER HOUSING

DELIVERY HEAD (CONTINUED)

DELIVERY HEAD POSITIONING

The horizontal and vertical location of the delivery head can be varied by doing the following:

To vary the horizontal location, push or pull the brake handle (FIGURE 37).

- To raise the delivery head, lift up the brake handle with the brake button pressed.
- To lower the delivery head, make sure the brake is off and pull the head down.
- When positioned correctly, release the brake button.



FIGURE 37. DELIVERY HEAD BRAKE RELEASE

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SECTION V - OPERATION

CORE[™] DELIVERY UNIT

SYRINGE

The syringe is designed to deliver air or water, or a mixture of air and water, as required (FIGURE 38).

- To deliver water only, press the button on the syringe marked with a water drop symbol.
- · For air only, press the button on the syringe with no marking.
- To get a spray mixture of air and water, press both buttons simultaneously.



FIGURE 38. SYRINGE

FOOT CONTROL

The speed of the handpiece is controlled by depressing the disc located on the foot control (FIGURE 39).

- A light pressure on the foot control disc causes a slow speed.
- Full pressure on the disc causes the handpiece to operate at full speed.

NOTE: The optional coolant water spray ON/OFF function is also controlled by using the toggle located on the foot control as described above.



FIGURE 39. FOOT CONTROL DISC

CHIPBLOWER

If the handpiece utilizes coolant air, the chipblower is used to blow debris away from the cutting site by creating an air blast through the handpiece without causing the bur to rotate. To operate the chip blower, depress and hold down the valve on the upper right of the foot control.

OPTIONAL FIBER OPTICS

The fiber optics control is automatically activated by operating the handpiece using the foot control.

NOTE: When the foot control is released, the fiber optics light will stay on for approximately ten (10) seconds to allow inspection of the cutting site.



ASSISTANT'S VACUUM ACCESSORIES

MARNING Do not hang any objects weighing more than 5 pounds on the assistant's arm.

The standard instrumentation for an assistant's arm is one high volume evacuator (HVE), one saliva ejector (SE) and a three-way syringe (SECTION V - OPERATION - SYRINGE). Optional features include an additional HVE.

NOTE: The assistant's arm pivots to allow positioning of the instruments for easy access.

HVE AND SE

The flow of vacuum through the HVE and SE is controlled by a lever valve (FIGURE 40).

- Pushing the lever forward toward the tip opens the vacuum.
- Moving the lever toward the hose end decreases the vacuum flow.
- To close the valve, move the lever all the way toward the hose end.



FIGURE 40. HVE AND SE LEVER VALVES

SECTION V - OPERATION

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CLEAN WATER SYSTEM

Operation of the clean water system is as follows:

- Flip the toggle switch to the **ON** position (FIGURE 41).
- If optional city water is in use, flip the toggle switch to change usage from city water to bottle water.
- To remove the bottle, first flip the toggle switch to the **OFF** position, then unscrew it from the assembly.



FIGURE 41. CLEAN WATER SYSTEM



This dental water delivery system is equipped with BioFree tubing containing antimicrobial properties built in to protect it.

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SECTION VI - CARE & MAINTENANCE

CORE[™] DELIVERY UNIT

CLEANING

Do not use abrasive cleaning agents.

The CORE delivery unit should be cleaned as follows:

- Wipe frequently with a damp, lint-free cloth.
- Use a neutral detergent to clean stains.
- At the end of the day, turn the master ON/OFF valve to the OFF position and clean instrumentation.
- Each morning, turn the master valve **ON** and check the air and water systems for proper operation using the three-way syringe.

NOTE: It is recommended that puncture-resistant nitrile gloves be worn for the following procedures.

HIGH-VOLUME EVACUATOR (HVE)

With the high-volume evacuator vacuum valve in the **OFF** position, disconnect the valve. Using a brush, clean the interior of the valve under a faucet, and rinse thoroughly.

SALIVA EJECTOR (SE)

Disconnect the saliva ejector valve from the tubing and repeat the procedure described for the HVE.

NOTE: After cleaning the HVE, SE and solids collector, evacuate two cups of SlugBuster[™] vacuum line cleaning solution (one cup each) through the HVE and SE to sanitize the system.

NOTICE Cleaning brushes and SlugBuster[™] can be ordered through DENTALEZ dealers.

SOLIDS COLLECTOR

To clean the solids collector located at the instrument end of the assistant's arm, do the following:

- 1. Push the lever on the saliva ejector upward to equalize pressure.
- 2. Remove the lid by lifting it straight up.
- 3. Grasp the stem on the basket and lift the basket straight up.
- 4. Throw away and replace with new basket.

CLEAN WATER SYSTEM

Empty the bottle at the end of each day, then before the day's first procedure, fill it with fresh water.

WATER LINES

To prevent contamination, maintain clean water lines and regenerate the BioFree tubing. (Refer to the included packet.)

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CLEANING (CONTINUED)

AIR/WATER PRESSURE REGULATOR FILTER

The filter element in the air pressure regulator is intended to keep moisture out of the unit and the filter element in the water pressure regulator is intended to keep contaminants out of the unit. It is recommended to replace these filters at least once a year. If the filter element is clogged, it will visibly look dirty, causing a pressure and flow drop. In this case, the element should be replaced.

DISINFECTING

- Use extreme caution when selecting the proper chemical disinfectant for the CORE Magellan unit.
- Avoid using disinfectants in spray containers because they may cause premature staining, discoloration and/or damage to the unit.
- Do not use disinfectants that contain:
 - Iodophors
 - Glutaraldehydes
 - Phenols
 - Sodium Hypochlorites
 - Alcohol (on plastic surfaces)

Liquid disinfectants are recommended for use on the delivery system external surfaces and should be applied using a soft, clean cloth. CaviCide[™] is the recommended disinfectant for use on all external surfaces. CaviCide1[™] is not recommended for use.

CaviCide and CaviCide1 are trademarks of Metrex Research, LLC.



SECTION VII - USER SERVICE INFORMATION

TROUBLESHOOTING

MWARNING

Before servicing, always disconnect the external power by unplugging the unit from the power receptacle.

- Exercise extreme caution when troubleshooting the electrical components of the CORE Magellan unit. When testing, always disconnect the external power. When electrical power is required, safety precautions must be followed.
- Do not modify this equipment without authorization from the manufacturer.
- The power module power cord is not replaceable by service personnel.

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NOTICE
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The DENTALEZ Technical Service Department is available to supply service personnel with any additional information or instructions needed to repair or maintain the dental delivery system.

A full color, fold-out TUBING DIAGRAM (PN:2662-304) of the CORE Magellan unit is provided with this manual.

The following charts should be used when troubleshooting CORE Magellan unit problems. If these suggested troubleshooting procedures do not resolve the problem, refer to the *SERVICE INSTRUCTION* that follows.

DELIVERY HEAD

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
	No air to master switch	Open stop valve in floor utility box. Open and adjust air regulator to 80 PSI. Check for pinched red 1/8" tubing in arms.
Unit will not turn on	Faulty master switch	Turn switch on and verify air flow.
	Faulty air pilot valve	Verify on air supply to top fitting of valve. If air is present at top fitting of valve, verify air to foot control tubing. If no air at tubing, valve is defective.
	No building power	Check main circuit supply.
Unit has no electric	Faulty electric switch	Contact electrician.
power	Improper outlet voltage	Verify proper outlet voltage in USC.
	Unit is not turned on	Ensure master toggle valve is in ON position.
	Air stop valve is closed	Turn stop valve on and verify 80 PSI on air gauge.
Unit has no air	Pinched air line	Check for pinched or restricted 1/8" red tubing from floor utility box to the master switch.
	Faulty air pilot valve	Check barbs for blockage. If none, replace valve.
	Water toggle is in OFF position	Place the CMU switch plate toggle in ON position.
	No water in clean water bottle	Fill bottle.
No water (handpiece	Pressure regulator not adjusted	Ensure clean water system guage reads 40 PSI.
and synnye)	No air to bottle water system	Check for pinched or restricted airline.
	Slide clamp is clamping line	Move clamp to allow water flow through line.
Air in coolant water	Unit has not been purged	Purge water lines (SECTION IV - TESTING, FOOT CONTROL AND HANDPIECES)
	Faulty water control valve	If unit was purged, replace water control valve.

SECTION VII - USER SERVICE INFORMATION

Heritage

TROUBLESHOOTING (CONTINUED)

HANDPIECE

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
No drive air	Drive air flow adjustments on pinch valves are closed	Turn adjustments screw counterclockwise to adjust drive air pressure. Set to manufacturer's recommended pressure.
	Faulty handpiece holder valve	If valve does not release with handpiece out of holder and tubing to holder is not restricted, replace hanger valve.
	Faulty foot control	Depress foot control if no air is present, repair or replace foot control.
	Pinched or restricted tubing	Straighten or replace the 1/4" red tubing.
	Power transformer is not plugged in	Plug transformer into designated receptacle in USC.
	Internal wires in control head and post-mounted console are not connected	Check connections in control head and post-mounted console.
	No signal air to fiber optic lamp control	Check pinched or restricted tubing.
No fiber optic	Faulty transformer	Check output for 22-23 VAC.
light at handpiece	Faulty fiber optic control	Fiber optic controls have a calibration range of 2.5 to 6.0V DC. Check for proper voltage according to the handpiece manufacturer's recommendations.
	Faulty bulb	Replace bulb.
	No signal air to receptacles in the USC	Check for pinched or restricted tubing.
	Coolant water adjustment valve closed	Turn valve counterclockwise to open valve.
	Water toggle on foot control is in the OFF position	Flip toggle to the right for the ON position.
	Water toggle on clean water system is in the OFF position	Flip toggle to the ON position.
No coolant water	Slide clamp is in clamped position	Slide clamp so it moves freely on tubing.
	Water bottle empty	Fill water bottle.
	Pressure too low on clean water system	Verify clean water system pressure gauge reads 40 PSI and adjust accordingly.
	Pinched or restricted tubing	Straighten or replace tubing.
	Faulty handpiece holder	Repair or replace holder.
Water dribbles	Pinched or restricted tubing to holder	Straighten or replace tubing.
while in holder	Pinch valve diaphragm is leaking	Replace diaphragm.
	Low air pressure	Ensure air regulator gauge in floor box reads 80 PSI.
	Low air pressure	Ensure air regulator gauge in floor box reads 80 PSI.
Water dribbles from handpiece after foot control is released	Faulty water control valve	Depress foot control then release. Remove black tubing from water control valve. If dribble continues, replace valve.
	Faulty water relay in foot control	Turn unit off. Open foot control and inspect water relay block. If piston is not damaged and is moving freely, stretch the spring. Reassemble and retry foot control.
	Pinched or restricted tubing from foot control	Straighten or replace tubing.
No coolant air to handpiece	Slide clamp is in clamped position	Reposition slide clamp so it moves freely on tubing.
	Pinched or restricted tubing	Straighten or replace tubing.



TROUBLESHOOTING (CONTINUED)

ARM SYSTEM

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Horizontal arms drift left or right	Unit is not properly leveled	Verify unit is level. Also, verify arms are properly seated. Adjust tension or set screws as needed.
Unit head is not level from front to back	Pivot is not properly adjusted	Remove end cap cover and adjust bolt as necessary.
Adjustable arm does not hold position	Improper adjustment	With nothing on delivery head, adjust bolt at the rear of the flex arm so unit stays in place.
	Faulty brake switch	Make sure air is running through the brake toggle when the brake is on.
	No air to brake switch	Ensure unit master toggle is in ON position.

CUSPIDOR (OPTIONAL)

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
	Stop valve closed	Open stop valve inside USC compartment.
	Pinched or restricted 1/4" green tubing from floor utility box to post-mounted console	Check for restricted or obstructions and free accordingly.
	Water actuator valve in floor utility box is not	Verify unit master switch is turned ON.
		Verify air signal is present at valve on water line.
Bowl rinse has		Verify regulator is open and pressure is at 40 PSI.
no water	Bowl rinse button not working	Verify air signal is present at the bowl rinse poppet valve on the cuspidor when the bowl rinse button is depressed.
	Bowl rinse actuator valve in cuspidor is not opening	Verify air signal is present at actuator valve when button is depressed.
		At actuator valve in cuspidor, check for water supply from floor utility box. Also, ensure water passes through the valve when the rinse button is depressed.
	Water pressure is too high	Set water pressure gauge at 40 PSI.
Bowl rinse runs continuously	Bowl rinse actuator valve is stuck open	Check the valve in the cuspidor for air signal. If air is present, check bowl rinse poppet valve. If air is not present, replace actuator valve.
Bowl does not	Restricted or pinched drain line	Examine drain line and free and obstructions
drain or drains slowly	Restricted or pinched vent line	Examine vent line and free any obstructions.
No water flows from cup to fill	Cup fill button is not working	Check actuator valve in cuspidor for air signal at cup fill actuator valve in post-mounted console when button is depressed.
		Check for pinched airlines.
	Cup fill actuator valve in cuspidor is not open	Verify signal is present at actuator when cup fill button is depressed. If air and water are present, replace valve.

SERVICE INSTRUCTION

If the area of concern is not addressed in this manual, contact DENTALEZ customer service at 866-DTE-INFO. (See *LIMITED WARRANTY*.)

Please have the following product information available. Information may be found on the product model/serial number label on the delivery head (*FIGURE 42*):

Model Name/Number:

Serial Number:

Date of Installation:

Dealer:





FIGURE 42. MODEL/SERIAL NUMBER LABEL ON DELIVERY HEAD

DISPOSAL OF EQUIPMENT

DISPOSAL AND DECOMMISSIONING OF DENTALEZ PRODUCTS

- **NOTE:** All local regulatory requirements for disposal and decommissioning of equipment apply.
- ELECTRICAL SALVAGE: Remove all circuit board and electrical cabling for recycle as electrical salvage.
- *METAL SALVAGE:* Remove all aluminum and steel components for recycle as metal salvage.
- *PLASTIC SALVAGE:* Remove all plastic components for recycle as plastic salvage.
- BIOLOGICALLY CONTAMINATED SALVAGE: Cuspidor, waste lines from the cuspidor, and the oral extraction lines should be handled with precaution and disposed of appropriately.
- NON-SALVAGE COMPONENTS: All other material unsuitable for recycling should be disposed of properly.

For specific questions regarding material type, contact DENTALEZ customer service. For decommissioning information on associated equipment from other manufacturers, refer to the documentation from the manufacturer.



CORE[™] DELIVERY UNIT

REPLACEMENT PARTS

UTILITY SERVICE CENTER

#	Part/Kit Name	Part/Kit No.
1*	Water Actuator Valve	3801-637
2	Stop Valve	3800-960
3	Air Regulator	3801-638
4	Air Regulator Gauge Repl. Kit, Watts	3802-266
5*	Water Regulator Gauge Repl. Kit, Watts	3802-269
6*	Water Pressure Gauge	3800-533
7	Air Regulator Bowl, Watts	3802-267
8*	Water Regulator Bowl, Watts	3802-268
9*	Water & Air Regulator Repair Kit, Watts	3802-273
10*	Water Regulator Filter, Watts	3802-270
11	Air Regulator Filter, Watts	3802-271
12	Regulator Retainer, Watts	3802-272
13	Poppet Valve	3801-649
*Onti	ional Equipmont	

Optional Equipment









PIVOT/MOUNTING HARDWARE

#	Part/Kit Name	Part/Kit No.
14	Pivot Hardware Kit, Unit or Light Pole	3801-866



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SECTION VIII - PARTS LIST

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REPLACEMENT PARTS (CONTINUED)

CORE ASSISTANT'S ARM (OPTIONAL)

#	Part/Kit Name	Part/Kit No.
1	CORE Rear Assist Solids Cap	3802-556
2	O-Ring	3801-720
3	CORE Rear Assist HVE Insert	3802-557
4	CORE Rear Assist SE Insert	3802-558
5	CORE Rear Assist Solids Bowl	3802-559
6	CORE Rear Assist Pivot Pin	3802-560
7	CORE Rear Assist BTM Cover	3802-561
8	CORE Rear Assist TP, Blank	3802-562
9	CORE Rear Assist TP, CORE Chair	3802-563
10	CORE Rear Assist TP, NuSimplicity™ Chair	3802-564
11	Solids Collector Plug	3802-565
12	Solids Collector Basket	3625-927







REPLACEMENT PARTS (CONTINUED)

CORE DELIVERY HEAD

#	Part/Kit Name	Part/Kit No.
1	CORE Rigid Arm Cap	3802-553
2	CORE Flex Arm Cap	3802-554
3	CORE Flex Arm Cover	3802-555
4	Master ON/OFF Toggle	3802-063
5	Flush Toggle	3802-064
6	Air Pressure Gauge	3801-695
7	Repair Kit for Control Block	3802-386
8	Water Retraction Valve	3800-417
9	Brake Handle and Valve	3802-249
10	Lid Screw	3802-387
11	CORE Unit Oil Collector	3802-550



REPLACEMENT PARTS (CONTINUED)

CORE DELIVERY HEAD (CONTINUED)

Part/Kit Name	Part/Kit No.
CORE HP Holder w/o Valve	3802-545
CORE HP Holder w/ Valve	3802-546
CORE HP Blank	3802-547
CORE Unit Cover	3802-548
CORE Unit Water Adjustment Valve	3802-549
CORE Head to Flex Arm Cap	3802-551
CORE Head to Flex Arm Key	3802-552
	Part/Kit NameCORE HP Holder w/o ValveCORE HP Holder w/ ValveCORE HP BlankCORE Unit CoverCORE Unit Water Adjustment ValveCORE Head to Flex Arm CapCORE Head to Flex Arm Key

TOUCH PADS

#	Part/Kit Name	Part/Kit No.
19	CORE Chair	3802-573
20	NuSimplicity™ Chair	3802-580



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CORE[™] DELIVERY UNIT

REPLACEMENT PARTS (CONTINUED)

CLEAN WATER SYSTEM

000 040
802-349
802-116
802-117
802-118
802-342
625-763
3

*Optional Equipment

FOOT CONTROL

#	Part/Kit Name	Part/Kit No.
6	Drive Air Repair Kit	3802-417
7	Wet/Dry Toggle Valve	3802-418
8	Chip Air Valve	3802-419
9	Shuttle Valve Kit	3801-585
10	Kit, Ring - Foot Control XC	3802-484
	Foot Control Complete	3625-498





SECTION VIII - PARTS LIST

Heritage

REPLACEMENT PARTS (CONTINUED)

AIR/WATER SYRINGE

#	Part/Kit Name	Part/Kit No.
1	Cartridges	3802-203
2	Syringe Tip Kit	3802-205
3	O-Rings (Complete Set)	3658-420



HVE NOZZLE		SALIVE EJECTOR NOZZLE			
#	Part/Kit Name	Part/Kit No.	#	Part/Kit Name	Part/Kit No.
	HVE Repair Kit	3802-154		SE Repair Kit	3802-153
	Full Replacement Parts Kit	3801-927		Full Replacement Parts Kit	3801-926

DENTALEZ PARTS ONLINE

To view parts online, visit DENTALEZPARTS.COM or scan QR code with a smart phone.



MARNING

- Use only replacement cable listed in SECTION VIII PARTS LIST. Other cables and accessories may negatively affect EMC performance.
- When the unit is used adjacent to other equipment, observe the chair to verify normal operation.

GUIDANCE AND MANUFACTURER'S DECLARATION - ELECTROMAGNETIC EMISSIONS

The unit is intended for use in the electromagnetic environment specified below. The customer or the user of the unit should assure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment Guidance	
RF Emissions CISPR 11 Group 1 The unit uses RF energy only for i are not likely to cause any interference		The unit uses RF energy only for its internal function; therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.	
RF Emissions CISPR 11	Class A	The unit is suitable for use in all establishments, other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.	
Harmonic Emissions IEC 61000-3-2	Class A	Not applicable	
Voltage Fluctuations/ Flicker Emissions	Class A	Not applicable	
IEC 61000-3-3			

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY ALL ME EQUIPMENT AND ME SYSTEMS

The unit is intended for use in the electromagnetic environment specified below. The customer or the end user of the unit should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment Guidance		
Electrostatic Discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.		
Electrical Fast Transient/ Burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	± 2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.		
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.		
Voltage Dips, Short Interruptions and Voltage Variations on Power Supply Input lines IEC 61000-4-11	<5% Ut (>95% dip in Ut) for 0.5 cycle 40% Ut (60% dip in Ut) for 5 cycles 70% Ut (30% dip in Ut) for 25 cycles <5% Ut (>95% dip in Ut) for 5 sec	<5% Ut (>95% dip in Ut) for 0.5 cycle 40% Ut (60% dip in Ut) for 5 cycles 70% Ut (30% dip in Ut) for 25 cycles <5% Ut (>95% dip in Ut) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the unit requires continued operation during power mains interruptions, it is recommended that the unit be powered from an uninterruptible power supply or a battery.		
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.		
NOTE: Ut is the AC mains voltage prior to application of the test level.					

EMC INFORMATION

Heritage

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY ALL ME EQUIPMENT AND ME SYSTEMS

The unit is intended for use in the electromagnetic environment specified below. The customer or the user of the unit should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment Guidance	
	3 V/m	3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the equipment, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.	
Radiated RF IEC 61000-4-3	80MHz to 2.5 GHz		d = 1.7 √P 80 MHz to 800 MHz	
			d = 2.3 √P 800 MHz to 2.5 GHz	
Conducted RF IEC 61000-4-6	150 kHz to 80 MHz	3 Vrms	d = [3.5/V1] √P	
			where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).	
			Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b	
			Interference may occur in the vicinity of equipment marked with the following symbol: $(())$	

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the unit is used exceeds the applicable RF compliance level above, the unit should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the unit.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

RECOMMENDED SEPARATION DISTANCE BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE MODEL @ 3VRMS

The unit is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the unit can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the unit as recommended below, according to the maximum output power of the communications equipment.

	Separation distance according to frequency of transmitter m				
Rated maximum output power	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz		
of transmitter W	$d = \left[\frac{3.5}{v_1}\right]\sqrt{P}$	$d = \left[\frac{3.5}{E_1}\right]\sqrt{P}$	$d = \left[\frac{7}{E_1}\right]\sqrt{P}$		
0.01	0.12	0.12	0.23		
0.1	0.34	0.34	0.74		
1	1.7	1.7	2.3		
10	3.7	3.7	7.4		
100	11.7	11.7	23.3		

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

CORE[™] DELIVERY UNIT

NOTES:

CORE[™] DELIVERY UNIT (MAGELLAN MOUNT)

DENTALEZ[®] and its employees are proud of the products we provide to the dental community. We stand behind these products with a warranty against defects in material and workmanship as provided below.

In the event that you experience difficulty with the application or operation of any of our products, please contact our technical service department at our expense at (866) DTE-INFO.

If we cannot resolve the issue by telephone, we will arrange for a representative to contact you or suggest that the product be repaired by a dealer service technician.

If product return or repair is required, we will provide you with a **Return Authorization** number and shipping instructions to return the product to the proper facility. If the product is under warranty, we will ask you to provide proof of purchase such as a copy of your invoice. Please be sure to include the **Return Authorization** number on the package you are returning. **Products returned without a return authorization number cannot be repaired**.

Freight costs for product returns are the responsibility of the customer. Products under warranty will be repaired or replaced, at our sole discretion, and returned at our expense. Products outside the warranty limits will be repaired and returned with costs invoiced to the customer. We are not responsible for shipping damages. We will, however, help you file a claim with the freight carrier. Written repair estimates are available.

DENTALEZ warrants all equipment and parts to be free of defects in material and workmanship, under normal usage under the following terms:

D	ENTALEZ Heritage	Limited Warranty Period*		
•	Tubings and Fittings	•	Handpiece Tubings	5 Years from date of installation
•	Wiring	•	Cup Fill and Bowl Rinse Spouts	
•	Syringe	•	High-Volume Evacuator Valves and Saliva	
•	Instrument Holder Insert		Ejector Valves	

Please note the following additional terms of our warranty and return policy:

- This warranty covers manufacturing defects only and does not cover defects resulting from abuse, accidents, misuse, improper handling, cleaning, care or maintenance. Damage resulting from the use of chemicals, cleaners, disinfectants or sterilization is not covered under this warranty nor is normal wear and tear. Failure to follow or observe our operating/use, maintenance and/or installation instructions voids this warranty as does the use of non-authorized parts and repairs made by an unauthorized repair facility.
- Liability is limited to repair or replacement of the defective part(s) or products at our sole discretion. All other liabilities, in
 particular liability for damages, including, without limitation, special, exemplary, consequential or incidental damages are
 excluded.
- THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, REPRESENTATIVE OR DEALER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

WARRANTY REPAIRS

Parts repaired or replaced on a product that is in warranty will be warranted for the duration of that product's original warranty.

PRODUCT RETURN: Opened products or product returns more than a year old cannot be returned for credit. There will be a 15% (\$25.00 minimum) restocking charge on all items authorized for return.

NOTES:

*See individual Product Manuals for complete warranty details. Provided conditions defined in instruction manual are met.

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February, 2017

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