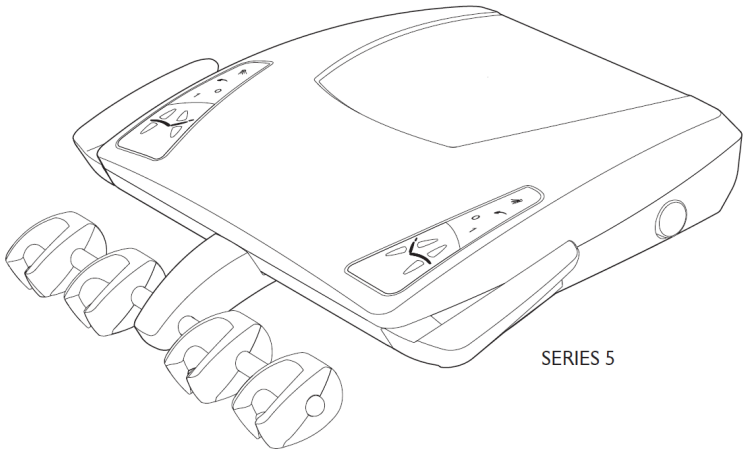
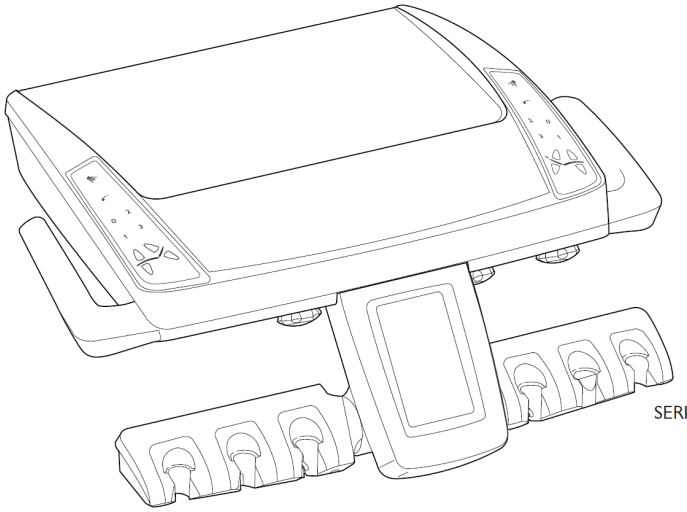
DCI EDGE

Instructions for Use



SERIES 5

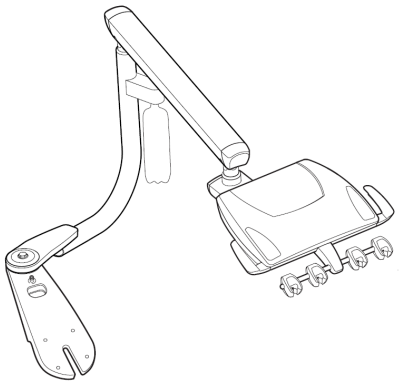


SERIES 5 PLUS

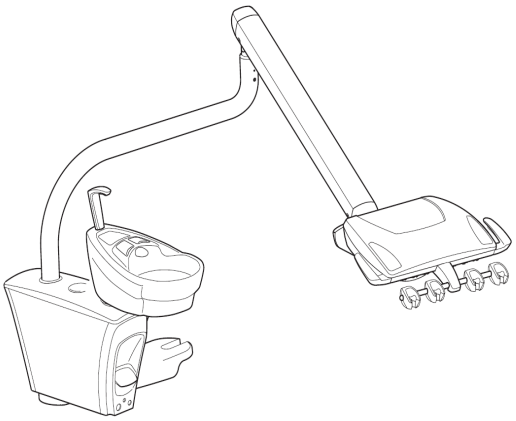
PN# DS5050, DS5050+

SERIES 5 AND 5 PLUS DENTAL DELIVERY SYSTEMS

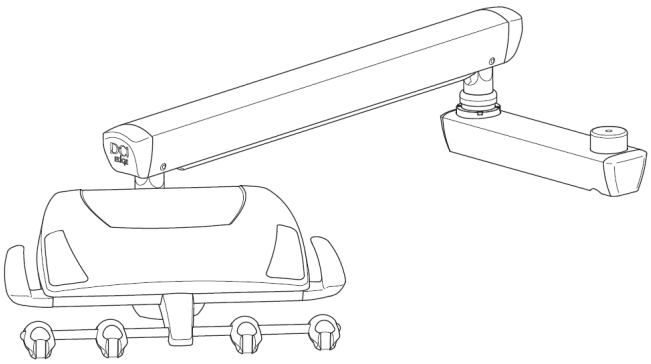
OVERVIEW



Model DS5 & DS5+
SWING MOUNT DELIVERY



Model DO5 &DO5+
PMU MOUNT DELIVERY



Model DW5 & DW5+
PMU MOUNT DELIVERY

Model	P/N	Description
DS5	50185	DS5550 Swing Mount Delivery System for Aspen
DS5	50193	DS5550 Swing Mount Delivery System for Heartland
DS5	DS5050	DCI Edge Swing Mount Pole w/Auto Dental Unit & Light Pole on Non-DCI Chairs, Gray
DS5	DS5051	DCI Edge Swing Mount Pole w/Auto Dental Unit on Non-DCI Chairs, Gray
DS5	DS5550	DCI Edge Swing Mount Pole w/Auto Dental Unit & Light Pole Gray
DS5	DS5551	DCI Edge Swing Mount Pole w/Auto Dental Unit, Gray
DS5	DS5050+	Series 5 Plus Swing Mount Auto Dental Unit and Light Pole for Non-DCI Chairs
DS5	DS5051+	Series 5 Plus Swing Mount Auto Dental Unit for Non-DCI Chairs
DS5	DS5550+	Series 5 Plus Swing Mount Auto Dental Unit and Light Pole
DS5	DS5551+	Series 5 Plus Swing Mount Auto Dental Unit
DO5	DO5050	DCI Edge Over the Patient Auto Dental Unit w/PMU on Non-DCI Chairs, Gray
DO5	DO5150	DCI Edge Over the Patient Auto Dental Unit w/PMU and cuspidor on Non-DCI Chairs, Gray
DO5	DO5152	DCI Edge Post Mount Utilities W/Cuspidor, Gray
DO5	DO5550	DCI Edge Over the Patient Auto Dental Unit w/PMU, Gray
DO5	DO5554	DCI Edge Over the Patient Auto Dental Unit w/Large PMU, Gray
DO5	DO5650	DCI Edge Over the Patient Auto Dental Unit w/PMU and Cuspidor, Gray
DO5	DO5652	DCI Edge Post Mount Utilities with Cuspidor, Gray
DO5	DO5654	DCI Edge Over the Patient Auto Dental Unit w/Large PMU and Cuspidor, Gray
DO5	DO5754	DCI Edge Over the Patient Auto Dental Unit w/Large PMU and PMU Assistant Mount, Gray
DO5	DO5756	DCI Edge Over the Patient Auto Dental Unit w/Large PMU and PMU Assistant Mount, Gray
DO5	DO5854	DCI Edge Over the Patient Auto Dental Unit w/Large PMU, Cuspidor and PMU Assistant, Gray
DO5	DO5050+	Series 5 Plus Over-the-Patient Auto Dental Unit with PMU for Non-DCI Chairs
DO5	DO5150+	Series 5 Plus Over-the-Patient Auto Dental Unit with PMU & Cuspidor for Non-DCI Chairs
DO5	DO5550+	Series 5 Plus Over-the-Patient Auto Dental Unit with PMU
DO5	DO5554+	Series 5 Plus Over the Patient Auto Dental Unit w/Large PMU
DO5	DO5650+	Series 5 Plus Over-the-Patient Auto Dental Unit with Cuspidor & PMU
DO5	DO5654+	Series 5 Plus Over the Patient Auto Dental Unit w/Large PMU and Cuspidor
DO5	DO5754+	Series 5 Plus Over the Patient Auto Dental Unit w/Large PMU and PMU Assistant Mount
DO5	DO5854+	Series 5 Plus Over the Patient Auto Dental Unit with PMU for Non-DCI Chairs
DO5	DW5050	DCI Edge Series 5 Side Delivery Auto Dental Unit, Light Gray, w/o Touch Pads
DO5	DW5550	DCI Edge Series 5 Side Delivery Auto Dental Unit, Light Gray, w/Touch Pads
DO5	DW5050+	Series 5 Plus Side Delivery Auto Dental Unit & Mount w/o Touchpads
DO5	DW5550+	Series 5 Plus Side Delivery Auto Dental Unit w/Touch Pads & Mount

INTRODUCTION

SYMBOLS

WARNING	Failure to carefully follow the described procedure may result in serious damage to the equipment, or serious injury or harm to the operator.		
CAUTION	Failure to carefully follow the procedure described may result in damage to the equipment, and/or the operatory.		
NOTE	Take note of additional important information. Not a Caution.		
ELECTRICAL HAZARD	To warn of electricity! Risk of electrical shock present. Ensure that power is disconnected before attempting this procedure.		
℞ ONLY	Federal (USA) law restricts this device to sale by or on the order of a licensed healthcare practitioner.		
CE 2862	The product is in compliance with European Union (EU) health, safety and environmental protection regulations.		
	Indicates the device manufacturer		Indicates the date when the device was manufactured
MD	Indicates the item is a medical device	UDI	Unique Device Identifier
#	Indicates the model number or type number of a product		Indicates the need for the user to consult the instructions for use
Intertek	Electrical Test Laboratory		Waste Electrical and Electronic Equipment
LOT	Indicates the manufacturer's lot number	SN	Indicates the manufacturer's serial number

TABLE OF CONTENTS

	Protective Earh (ground)		Type B applied parts(Protected against electrical shock) Optional Type BF handpieces
	Packaging should be protected from moisture and kept dry		To indicate on the rating plate that the equipment is suitable for alternating current only; to identify relevant terminals.
	Chair Function: Directional movement	0 1	Chair Function: Chair preset position keys 0 and 1
	Light Function: Light ON/OFF toggle		Chair Function: Return to last position key
	Air Flow Control		Cup Fill
	Water Flow Control		Bowl Rinse
	Scaler Control		Master On/Off
	Micro Motor Control		Flush
	Indicates correct orientation for packaging		

GENERAL INFORMATION

INTENDED USE

The dental delivery system is a device intended to support the instruments used by the dental practitioner, delivering those instruments to an accessible position during a dental procedure. This device may control and be the means of delivering compressed air, water, vacuum and low voltage electricity to a variety of instruments commonly used in dental practice.

The intended patient population for dental delivery systems is generally anyone who requires dental care, including children and adults of all ages.

INDICATIONS FOR USE

A dental delivery system is a piece of equipment that is used in dental practices to deliver essential tools and materials to licensed dental professionals during dental procedures. It centralizes instruments such as handpieces, suction devices, water/air syringes, and sometimes integrated lighting or power for additional attachments.

PRODUCT IDENTIFICATION

This device can be identified by the label on the underside of the dental delivery system head. This label states the model number, serial number, electrical specifications, and manufacturing date.

TECHNICAL DOCUMENTATION

The manufacturer will make upon request circuit diagrams, component part lists, descriptions, and calibration instructions to technical personnel responsible for the installation and service of the equipment.
Files these instructions for future reference.
A digital copy and required available languages can be found by scanning the QR Code below.

CLINICAL BENEFITS

Primary benefits of the DCI Dental Delivery System Include:

- Improved clinical workflow and patient management during dental treatment
- Ergonomic instrument positioning benefits clinician’s health, potentially reducing fatigue and musculoskeletal strain.
- Controlled water and air flow delivery to dental instruments

Devices with continuous suction capabilities and prevents gagging or the potential of choking due to excess fluids and/or debris

CONTRADICATIONS

None identified

GENERAL INFORMATION

REGULATORY STATEMENT

℞ Only Federal (USA) law restricts this device to sale by, or on the order of a dentist.

This device complies with Regulation (EU) 2017/745.

The dental delivery system is classified as a Class I device under the FDA rule, a Class IIa medical device under EU/MDR 2017/745 and TGA, and a Class II device under Health Canada regulations.

Declaration of Conformity: Available upon request

DISPOSAL

Dispose of this device in accordance with the Waste Electrical and Electronic Equipment (WEEE) Directive and local environmental regulations.

Contact your local, authorized dealer for disposal of this device to ensure compliance with your local environmental regulations.

ELECTRICAL SPECIFICATIONS

Delivery System

- Rated input: 100-240 VAC 2A 50/60 hz
- Classification: Dental Unit is Type B, Optional Type BF Handpieces, IPX0

Approved Adapters

P.N 9358: AC Adapter, 120/230 VAC 50/60HZ, OUTPUT: 9 VDC 3AMP

ELECTRICAL DEVICE INTEFERENCE

To guarantee the operational safety of electromedical devices, it is recommended that the operation of mobile radio telephones in the medical practice or hospital be prohibited. Strong EMI sources such as electro-surgery dental delivery systems or x-ray dental delivery systems may affect performance. If performance problems occur, move the product to another electrical circuit or physical location.

INCOMPATIBLE DEVICES

For safety reasons, only DCI original devices and accessories approved for this product or accessories from third parties released by DCI may be used.

Refer to DCI Catalogs for the detailed information

ENVIRONMENTAL CONDITIONS

Operating: Temp 67-76 °F, Humidity 20–60%

Storage/Shipping: Temp 68–122 °F, Humidity 10–90%

AIR AND WATER SUPPLY

AIR	WATER
Air Quality: Dry and Clean Pressure: 80-105 psi.	Water Quality: Potable Hardness: 7.2-7.8 pH Pressure: 40-80 psi.

ANCILLARY DEVICES

Refer to the Instructions For Use provided by the ancillary device manufacturer.

GENERAL SAFETY

All known and foreseeable risks have been reduced as far as possible (AFAP) and are acceptable when weighed against the device's clinical benefits.

WARNINGS

This product must be disinfected before use.

Failure to disinfect this device between patients could expose the user and patient to cross-contamination and bioburden/ biocontamination.

Failure to return handpieces to their proper locations could result in alternate or additional handpieces operating without notice.

Do not allow children unsupervised access to the dental delivery system and auxiliary equipment.

Use only the DCI-approved medical adapter supplied with the system. Substituting a non-approved adapter may create shock or fire hazards and void the warranty. Disconnect the adapter from the wall outlet to isolate the unit from mains.

Proper personal protective equipment (PPE) including but not limited to gloves and eye protection must be used when cleaning debris trap.

CAUTIONS

Only authorized service technicians should attempt to service this equipment. Use of unauthorized technicians will void the warranty.

Do not open or modify the external adapter.

NOTES

This product is intended for use by trained dental/medical professionals only.

Device contains no software or network features; therefore, no specific IT-security or hardware requirements apply.

RESIDUAL RISKS

All known and foreseeable risks have been reduced as far as possible (AFAP) and are acceptable when weighed against the device's clinical benefits.

SERIOUS-INCIDENT REPORTING

Report any serious incident to DCI International at 1-800-624-2793 or customerservice@dcionline.com and to the competent authority of your country.

PRE-USE REQUIREMENTS

All operators of this device must read this document in its entirety before use.
Ensure that all installation steps are completed by a trained technician as described in the installation instructions for this device.

Ensure all functions and features as defined in the Operations sections of this manual are operating properly.

Ensure all ancillary devices are connected and functioning properly.

Follow the instructions on dental waterline treatment in the **“Maintenance”** section of this manual before first time use of this device.

Follow the instructions on cleaning, disinfecting, and sterilization in the **“Maintenance”** section of this manual before first time use of this device.

Ensure that all staff responsible for the maintenance, disinfection, and cleaning of this device are fully trained on the information provided in the **“Maintenance”** section of this manual.

INSTALLATION INSTRUCTIONS

Reference Installation Instructions document 50053 included with the documentation package

OPERATION

KEYPADS

Keypads are located on both sides of the Series 5 control head and rear mount assistant head.

LIGHT ON/OFF: Press this key to toggle the light ON or OFF. *
Long press of light button will activate and cancel “No cure” function of the light.

RETURN TO LAST POSITION: Press this key to return the chair to the previous position (last position held for longer than 10 seconds). Press any key to cancel while in motion.

PRESET POSITIONS: Press a preset number key to activate preset positions. Press any key to cancel while in motion.

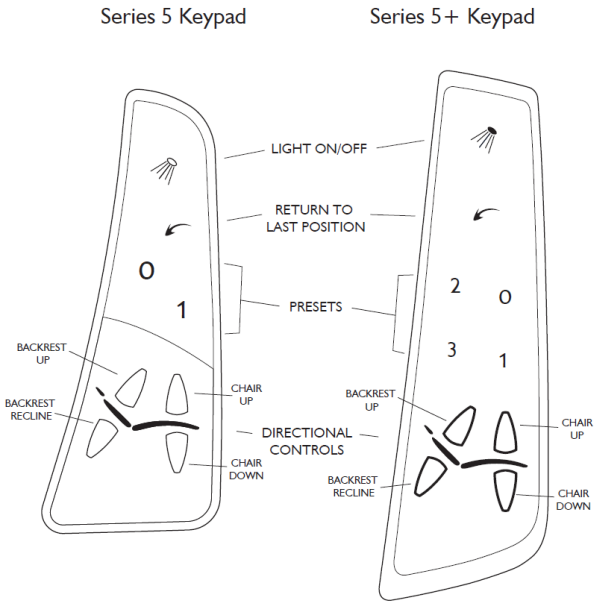
BACKREST INCLINE: Press this key to raise the backrest.

BACKREST RECLINE: Press this key to recline the backrest.

CHAIR UP: Press this key to raise the seat of the chair.

CHAIR DOWN: Press this key to lower the seat of the chair.

DENTAL DELIVERY SYSTEM KEYPAD



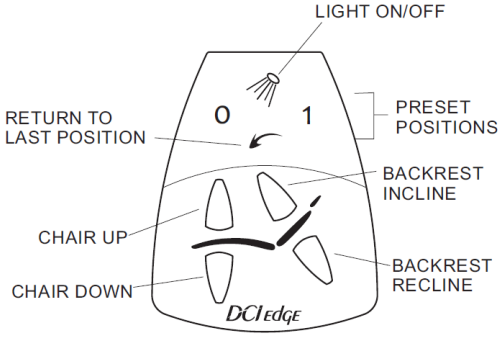
SETTING PRESET POSITIONS

ASSIGN POSITION TO PRESET KEYS

1. Adjust the position of the chair that you want to assign to a preset number key.

2. Press and hold the preset number key for five seconds. A long audible beep will sound to indicate that the assignment is complete.

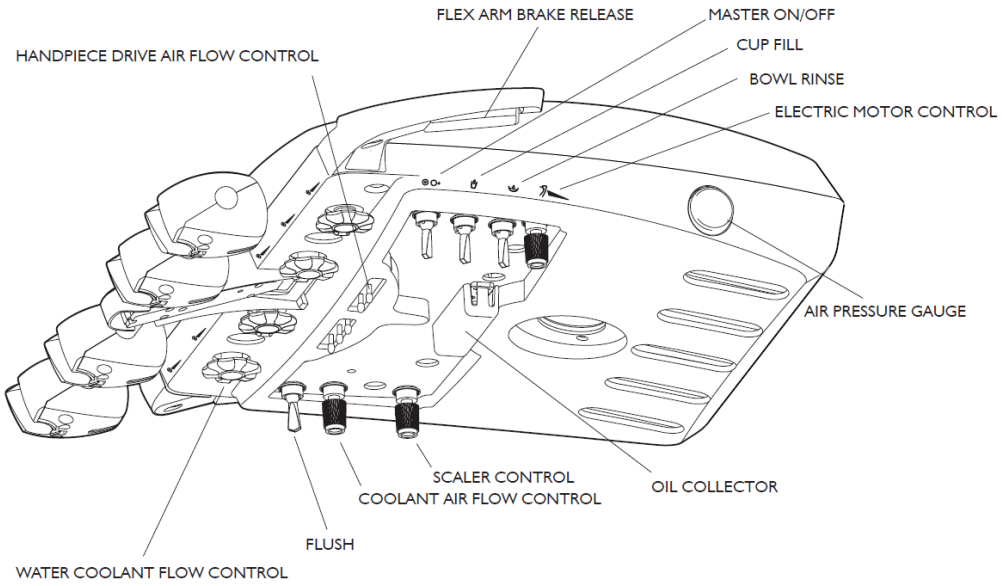
REAR ASSISTANT KEYPAD



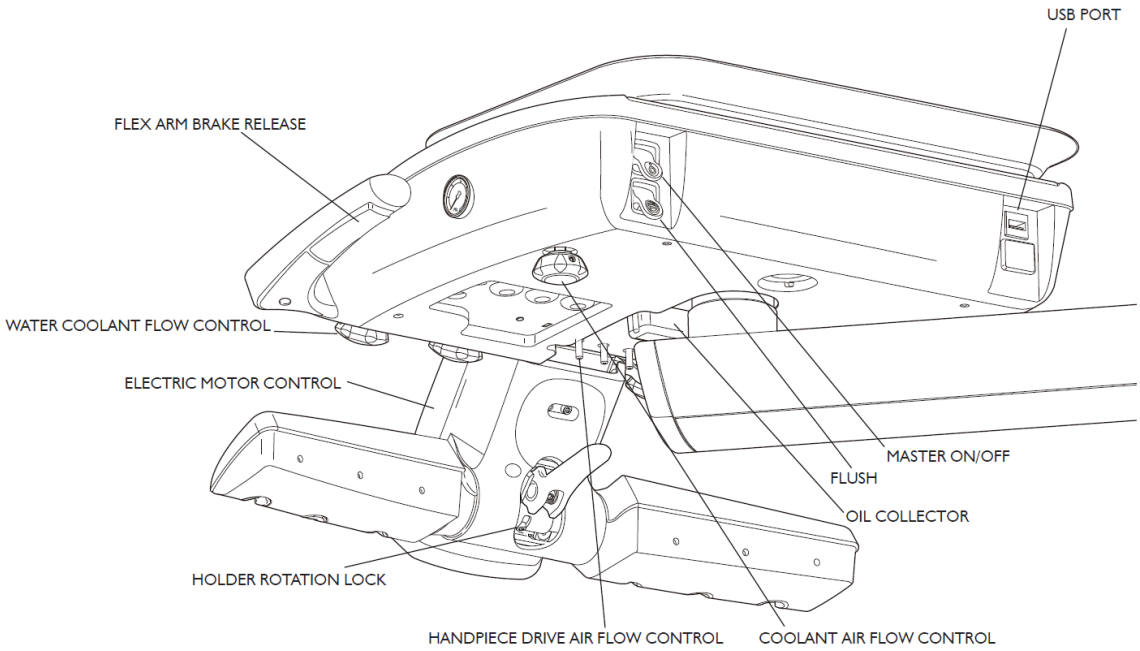
CONTROL HEAD

All of the operating controls are located on the underside or rear of the control head where they are sheltered from most airborne contaminants.

SERIES 5



SERIES 5+



CONTROL FUNCTIONS

CONTROL HEAD: All of the operating controls are located on the underside of the control head where they are sheltered from most airborne contaminants.

MASTER ON/OFF: Located on the left side of the control head towards the front, this toggle switch activates the air and water shut-off valves, which control the air and water supplies to the side dental delivery system.

⚠	**CAUTION:** When not in use, **ALWAYS** turn the Master On/Off switch to the Off position. The master switch is an important safety device that must be utilized in order to prevent accidental flooding.

FLUSH: Located on the left side of the control head (Series 5) or the rear of the control head (Series 5 Plus) this momentary toggle is used to purge the coolant water from the handpiece tubing. Hold the handpiece tubing over a suitable container, then activate and hold the toggle for at least 30 seconds to flush out the handpieces.

AIR BRAKE: Located in the left and right side handles of the control head. Squeeze the handle to release the pneumatic brake in the flex arm.

COOLANT AIR FLOW CONTROL: Located on the right side of the control head, this master control valve adjusts the amount of air coolant flow to all of the handpieces. Rotate counterclockwise to increase flow, clockwise to decrease flow.

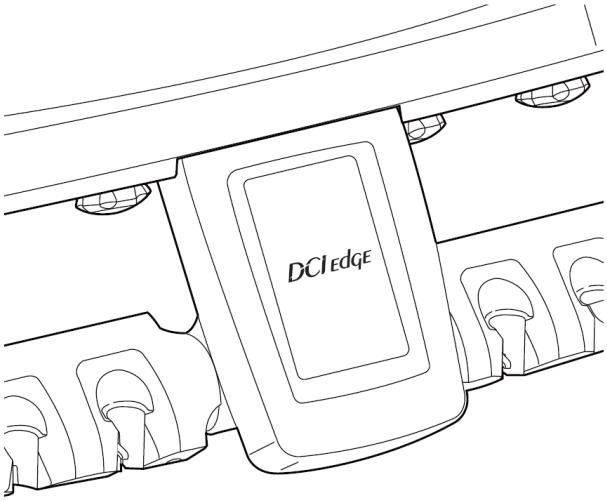
HANDPIECE FLOW CONTROLS: Located at the front of the control head, these individual control valves adjust the amount of water coolant supplied to each corresponding handpiece. Rotating the control valve counterclockwise increases water coolant, rotating the control valve clockwise decreases water coolant.

HANDPIECE HOLDERS: Handpiece selection is automatic. The handpiece auto-holders contain actuator valves that activate each handpiece when lifted from its holder, without the need for manual selection.

TOUCHSCREEN CONTROLS

DCI EDGE Standard Screen

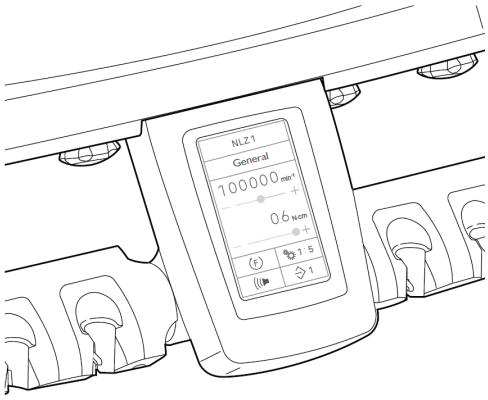
The DCI standard screen ships standard with the Series 5 Plus delivery unit which displays the DCI Edge logo only.



NSK TOUCHSCREEN

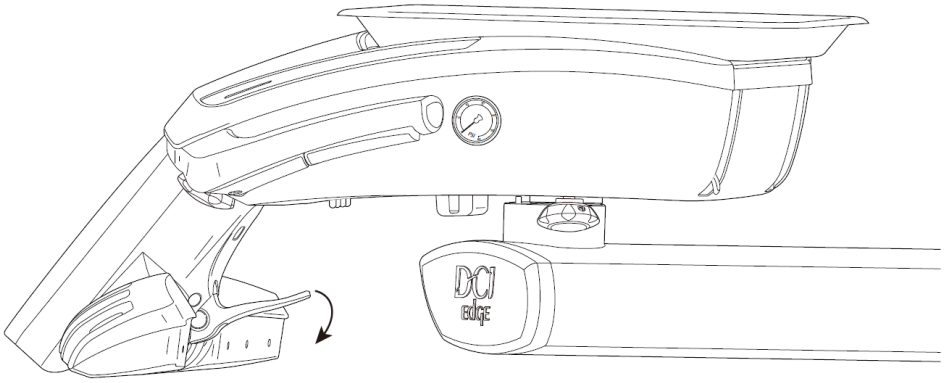
If your delivery system is equipped with the NLZ Pro Electric Micromotor, the NLZ Multipad2 touchscreen is included with this product in place of the standard touchscreen.

Follow the NLZ Pro Instructions for Use included with your purchase to control the NLZ Pro electric micromotor.

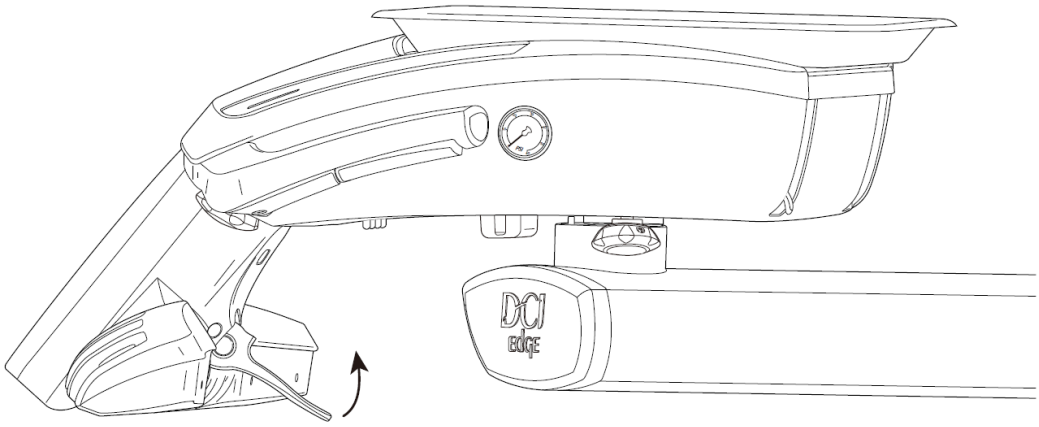


HOLDER ROTATION

UNLOCK AND ROTATE: Rotate the lever on the underside of the display downward to unlock and rotate the holder assembly.



LOCK POSITION: Rotate the lever on the underside of the display upward to lock the position of the holder assembly.



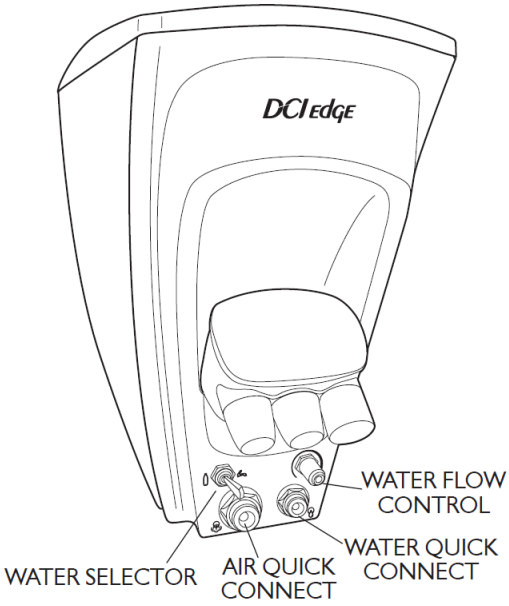
PMU CONTROLS - UTILITIES

AIR QUICK CONNECT: This air output provides 80psi output to run accessories for the user. Accepts a 3/8” male quick connect fitting.

WATER QUICK CONNECT: This water output provides 40psi output to run accessories for the user. Accepts a 1/4” male quick connect fitting.

FLOW CONTROL: This needle valve adjusts the water output from the Water Quick Connect. Rotate counterclockwise to increase output and rotate clockwise to decrease output.

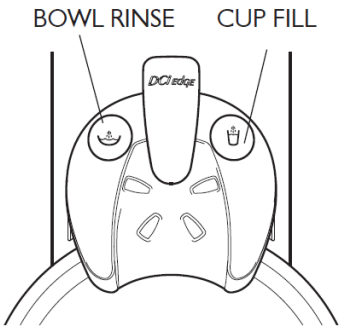
CITY / BOTTLE SELECTOR: This routing valve controls the water system input. With the toggle up in the “City” position, water enters the dental delivery system from the office plumbing. With the toggle down in the “Bottle” position, water enters the dental delivery system from the self-contained water system.



CUSPIDOR BUTTONS

CUP FILL: Place a cup below the spout and depress the cup fill button to fill the cup with water.

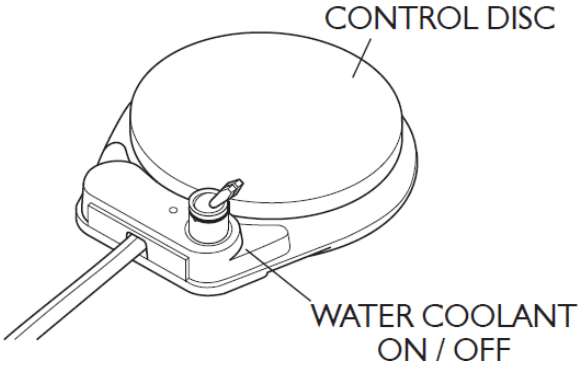
BOWL RINSE: Depress this button to start the flow of water to rinse out the cuspidor bowl.



FOOT CONTROL

DRIVE AIR CONTROL: Side dental delivery systems are equipped with wet-dry, variable speed, disc type foot controls. Foot pressure on any part of the foot control disc controls the flow of air to the active handpiece.

WATER COOLANT ON/OFF: This toggle interrupts the flow of water coolant to the handpieces when performing a procedure that requires dry cutting.



SELF CONTAINED WATER SYSTEM

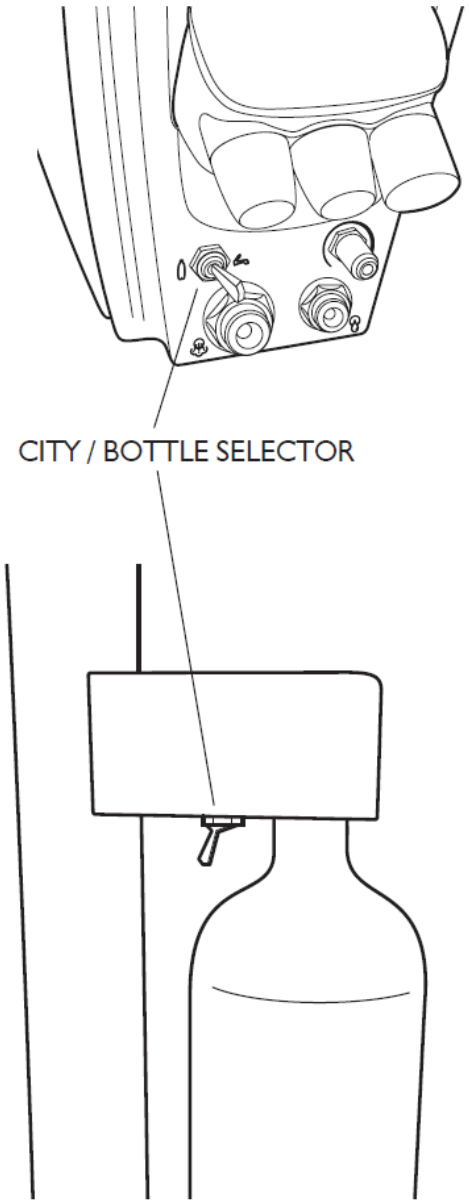
SELF-CONTAINED WATER SYSTEM

The self-contained water system allows you to isolate your practice from the municipal water supply. The self-contained water system uses a pressurized bottle to supply water to the side dental delivery system, giving you full control of the source and quality of the water. A selector valve allows you to select either the city water supply or a bottled water supply of your own choice.

USING WATER BOTTLE

1. Ensure that the dental delivery system Master On/ Off switch is turned OFF. Fill the water bottle to just below the neck, then install to the manifold. Turn the dental delivery system Master On/Off switch to the ON position and check for leakage at the bottle. If air or water leakage is observed, turn the dental delivery system Master On/Off switch OFF to release all pressure before tightening the bottle to stop leakage.
2. Select either city water or bottled water supply source, as desired, using the City/Bottle Selector on the dental delivery system.

SELECTOR ON PMU



REFILLING THE BOTTLE

1. Turn the dental delivery system Master On/Off switch to the OFF position and allow several seconds for air pressure to be released from the bottle. **Never attempt to unscrew the bottle while it is pressurized!**
2. After relieving pressure, remove the empty bottle and install a full bottle.
3. Turn the dental delivery system Master On/Off to the ON position and check for leakage at the bottle as previously described.

CAUTION: Only use water bottles supplied by the manufacturer. Do not use soft drink bottles which are thin walled and may rupture when under pressure.

WARNING: Do not attempt to adjust the water bottle pressure. Bottle pressure is factory pre-set at 40 psi. Pressurizing the water bottle over 60 psi may cause the bottle to rupture.

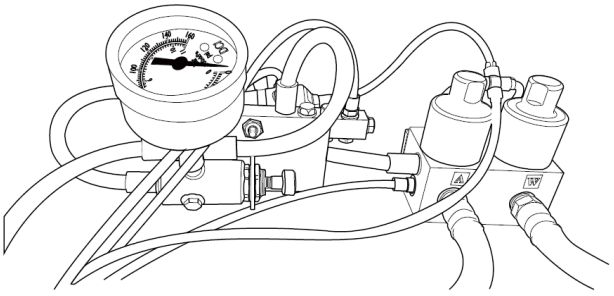
ADJUSTMENTS

UTILITY CENTER

Located in the J-Box, the Utility Center comes factory preset at 40psi for Water pressure and 80psi for Air pressure. All regulator adjustments should be made with the Master On/Off in the ON position

TO INCREASE AIR AND/OR WATER PRESSURE:
Turn the knob clockwise to the desired pressure.

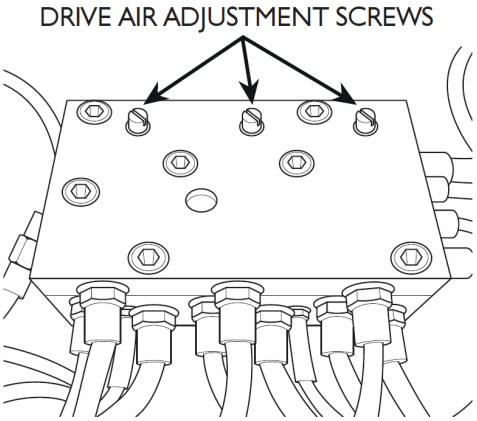
TO DECREASE AIR AND/OR WATER PRESSURE:
Turn the knob counterclockwise to the desired pressure.

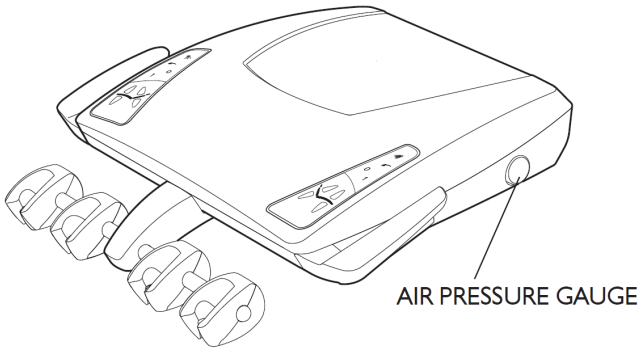


NOTE: When decreasing pressure, pressure must be relieved from the system. This may be achieved by pressing the syringe buttons to attain an accurate measurement from the gauges.

DRIVE AIR

1. Identify the adjustment knobs for controlling drive air on the underside of the control head as shown (right).
2. Install a bur in the handpiece that is to be adjusted. The drive air adjustment screws on the handpiece block correspond with the handpiece positions on the holder bar.
3. Run the handpiece. With the foot control plate fully depressed, turn the corresponding adjustment screw with a small slotted screwdriver. Clockwise to decrease pressure, counterclockwise to increase pressure.





DOCTOR'S SYRINGE

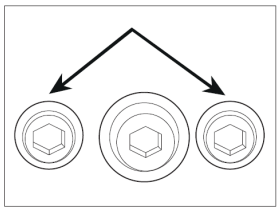
Adjusting screws allow you to control the flow of air and water from the syringe to prevent splashing and to achieve a desirable mist pattern. The adjusting screws are located under the dental delivery system head directly below the syringe control block.

1. Use a 3/32" hex key or the ball driver provided with the dental delivery system to make the syringe flow adjustment. Identify which adjusting screw is for air and which is for water by the color of the tubing connected to the block. Blue is water, yellow is air.

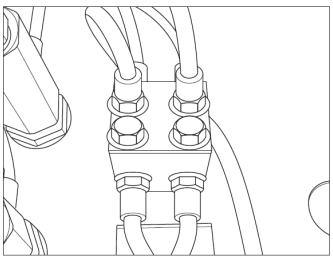
2. Adjust the water first, with the syringe button fully depressed. Turn the screw clockwise to decrease flow or counterclockwise to increase flow.

3. After adjusting the water to the desired flow, press both buttons simultaneously and adjust the air flow to achieve a mist pattern that suits your needs.

SYRINGE ADJUSTING SCREWS



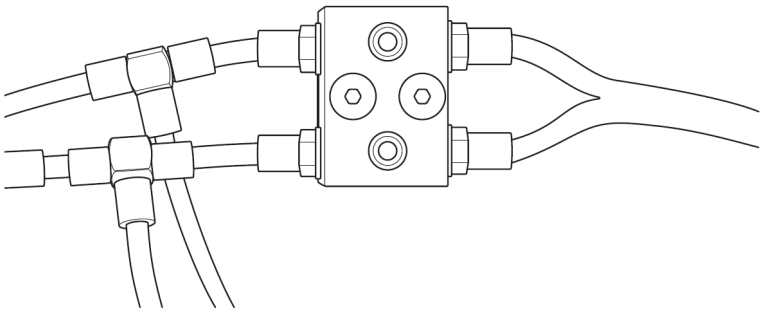
SYRINGE CONTROL BLOCK



ASSISNTANT'S SYRINGE

The Assistant's Syringe Block is located on the back wall inside of the PMU, adjusting screws allow you to control the flow of air and water from the syringe to prevent splashing and to achieve a desirable mist pattern. Follow the steps above for the doctor's syringe block to adjust the assistant's syringe block.

ASSISTANT'S SYRINGE BLOCK



FLEX ARM TENSIONING

NOTE: The Flex Arm is preset at the factory, however it may be necessary to re-adjust tension to the user's needs. After adjusting the spring tension, the dental delivery system head must be leveled (see next page).

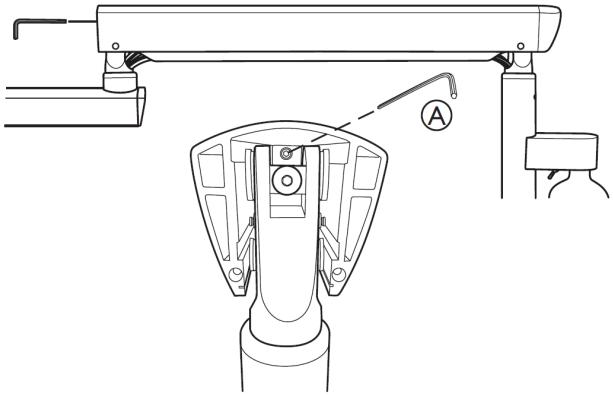
TO INCREASE SPRING TENSION

TO INCREASE SPRING TENSION

1. Remove the end cap at the front of the flex arm and loosen the set screw in the knuckle block which is located above and behind the front knuckle adjustment screw using a 3/32" hex key (A).

2. Remove the end cap at the rear of the flex arm and increase the spring tension by rotating the adjustment screw in the rear knuckle clockwise with a 3/16" hex key. Retighten the knuckle block set screw. Replace the end caps (B).

FRONT KNUCKLE

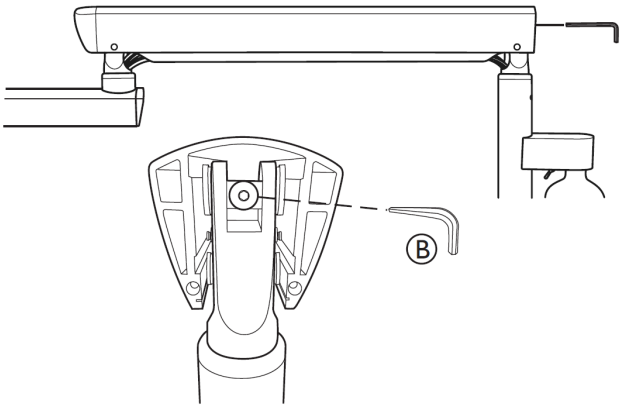


TO DECREASE SPRING TENSION

1. Remove the end cap at the front of the flex arm and loosen the set screw in the knuckle block which is located above and behind the front knuckle adjustment screw using a 3/32" hex key (A).

2. Decrease the spring tension by rotating the **adjustment screw in the front knuckle clockwise** with a 3/16" hex key. Retighten the stop block set screw. Replace the end cap (A).

REAR KNUCKLE



WARNING: Do not attempt to decrease spring tension by rotating the **adjustment screw in the rear knuckle counterclockwise.** This might thread the screw out of the control rod causing the side dental delivery system to drop suddenly, damaging the equipment and the operator.

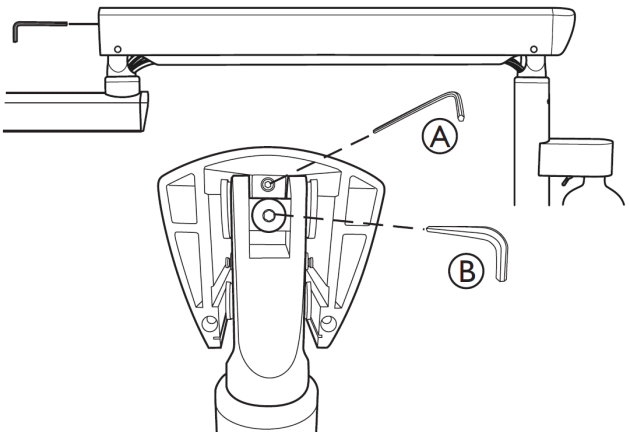
HEAD LEVELING

Leveling of the control head will be necessary when the dental delivery system is first installed and any time

that the flex arm spring tension has been adjusted. Before leveling, ensure that the swing arm assembly or the PMU post is level. For leveling of the swing arm assembly or the PMU post, refer to the installation instructions.

1. Turn off master switch and wait for air to fully bleed off.
2. Remove cap and loosen set screw (for 5-6 full turns) in the stop block located above and behind the front knuckle (A).
3. Place the unit head in line with the flex arm in the approximate working position for the doctor.
4. Place a level on the short rigid arm in front of the knuckle.
5. Adjust the dental delivery system head angle by turning the adjustment screw in the front knuckle (B).
6. When the dental delivery system head is level, retighten the set screw in the stop block to secure the adjustment (A).

FRONT KNUCKLE



SHORT RIGID ARM ROTATION

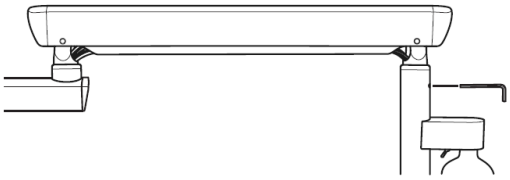
Rotational tension is preset at the factory; however, it may be necessary to increase or decrease tension to suit the user's needs.

1. Remove the rear end cap from the short rigid arm.
2. Using a 3/32" hex key, increase swivel tension by turning the set screw clockwise or decrease by turning counterclockwise.

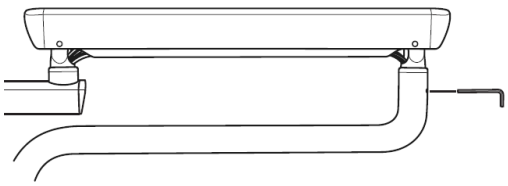
FLEX ARM ROTATION

The rotational tension of the flex arm may be adjusted at the set screw on the post, with a 3/32" hex key, located below the joint where the rear knuckle of the flex arm joins the rigid arm.

SWING MOUNT



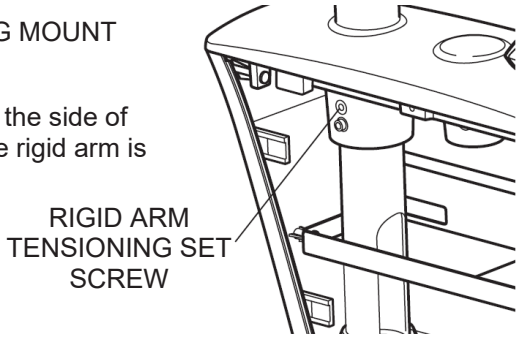
PMU MOUNT



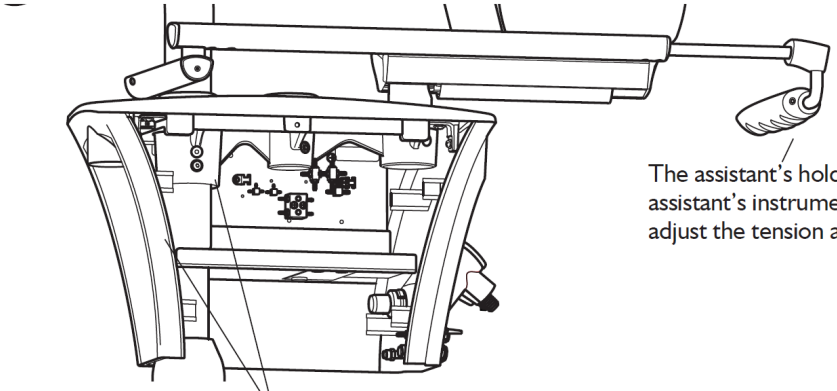
RIGID ARM ROTATION – PMU POST

PMU MOUNT DELIVERY ONLY (NOT APPLICABLE FOR SWING MOUNT DELIVERY)

Access the tensioning set screw by removing the access panel on the side of the PMU. The set screw is located on the side of casting where the rigid arm is attached as shown.



TELESCOPING ARM



The assistant's holder pivots to provide tilt for the assistant's instruments. Using a 5/32" hex key, adjust the tension at the set screw indicated.

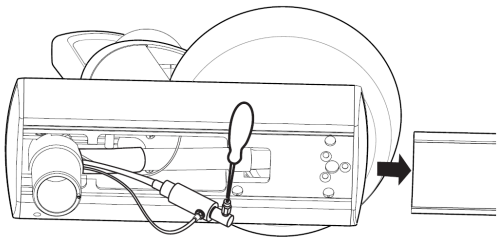
The tension on the pivot points for the telescoping arm can be adjusted. Using a 3/32" hex key, adjust the tension at the set screws (2) as indicated.

BOWL RINSE TIMING

The length of time that the bowl will rinse is controlled by a valve inside the cuspidor assembly.

1. Remove the bottom access cover and find the regulator and timing valve which is tucked to one side of the drain.

2. Adjust the timing screw on the valve with a small, flat head screwdriver. Turn clockwise to shorten time, turn counterclockwise to increase time.

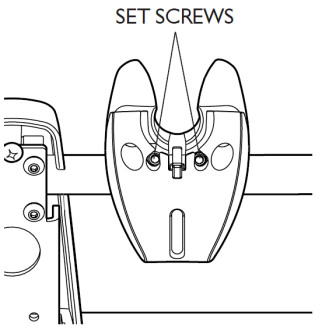


HOLDER

The handpiece holders come pre-spaced and leveled from the factory but may be re-positioned for the user's needs.

1. With a 1/8" hex key, loosen the two set screws located on the bottom of the holder and position

2. Retighten set screws to secure holder in position



MAINTENANCE

PREVENTIVE INSPECTION

To maintain optimal performance and ensure patient safety, the following inspections should be performed regularly:

- Inspect air and water lines for cracks, wear, or leaks. Check all fittings and fasteners for tightness and signs of deterioration.
- Examine joints and tensioning screws to ensure the delivery system maintains proper positioning and movement.
- Refer to the **Adjustments** section of this manual for specific procedures related to alignment, tension, and positioning components.

BARRIER TECHNIQUE

Wherever possible, use disposable barriers and change them between patients. The barrier technique will ensure maximum long-term durability of the surfaces and finishes of the equipment.

WARNING: It is very important that all staff responsible for the maintenance, disinfection, and cleaning of this device are fully trained on the information provided in this section.

CLEANING

Before applying disinfectants, clean the device with a mild detergent and a clean cloth to remove unwanted dirt and debris.

CAUTION: Do not use powdered cleansers, scouring pads or abrasive scrubbers on any of the painted, plastic or metal surfaces of this dental delivery system. To remove dried-on material, use a soft-bristle brush and a solution of mild detergent.

VISUAL INSPECTION AFTER CLEANING

1. Perform a visual inspection of all cleaned surfaces, components, and accessible areas under adequate lighting.
    - Check for residual debris, stains, or discoloration.
    - Inspect for remaining fluid, detergent, or disinfectant residues on surfaces.
    - Verify that all crevices, joints, and connection points are free of buildup.
    - For transparent or polished components, ensure surfaces are clear and streak-free.
2. If any soil, debris, or residue is detected:
    - Repeat the cleaning procedure for the affected areas.

- Use a fresh cleaning solution or disinfectant, as applicable.
- Rinse thoroughly to ensure no chemical residue remains.

3. Do not proceed to disinfection, sterilization, or use of the equipment until the device passes visual inspection.

CHEMICAL DISINFECTION

Follow the instructions below carefully to ensure the longest life for your device.:

The use of an EPA-registered hospital disinfectant is adequate. Only use the acceptable disinfectants listed. Use of unacceptable products may void your warranty.

When applying chemicals with a spray bottle, do not spray on the device directly. Instead, spray a cloth and then wipe the device with the wet cloth.

When using chemical disinfectants, always pay strict attention to the manufacturer's disinfectant directions.

When using concentrated disinfectants, measure the concentrate carefully and mix according to package directions. Disinfectant solutions at higher than recommended dilution ratios are extremely corrosive.

Conditionally Acceptable Disinfectants

Phthalaldehyde

Quaternary Ammonium

Glutaraldehyde

⚠	**CAUTION:** These disinfectants will harm the surface finish of dental equipment and are not recommended.

Strong Phenols/Phenol Alcohol combinations	Citric Acids
Sodium Hypochlorite/Household Bleach	Iodophors
Sodium Bromide	Ammonium Chloride
Strong Alcohol	Accelerated Hydrogen (0.5%)
Household Cleaners (Dental Equipment Only)	

STERILIZATION

Dental delivery systems do not require sterilization.

Dental accessories do. Strictly follow instrument manufacturer's sterilization protocols when reprocessing devices.

❗	**NOTE:** Sterilization of unwrapped devices (flash sterilization) is for devices that are going to be used immediately.

DENTAL DELIVERY SYSTEM WATERLINES MAINTENANCE

Dental delivery system waterlines are prone to contamination by bacteria, fungi, and protozoans, which colonize tubing surfaces and form biofilms—microbial communities resistant to routine cleaning. Biofilms increase microbial output into treatment water, including clinically significant organisms such as *Pseudomonas*, *Legionella*, and *Mycobacterium* spp.

To ensure patient safety, water used during dental procedures must meet microbial standards of ≤ 500 CFU/mL (heterotrophic plate count), per CDC, ADA, and EPA drinking water guidelines.

NOTE: It is very important that all staff responsible for the maintenance, disinfection, and cleaning of this device are fully trained on the information provided in this section.

WATER QUALITY MONITORING PROTOCOL

A: Frequency:
Frequency:

- Upon installation of a new system
- After periods of disuse (e.g., storage or vacation)
- If test results show microbial counts >500 CFU/mL
- As a weekly (or maybe monthly) deep-cleaning protocol

Step-by-Step Procedure:

1. Purge the System with Air:
    - Remove handpieces and syringe tips.
    - Activate air flow through all tubing lines to remove residual water.
2. Flush with Disinfectant:
    a. Turn the Master Switch OFF.
    b. Empty the water bottle and fill it with disinfectant solution per the manufacturer's dilution instructions.
    c. Hold the handpiece tubing and syringe over a cuspidor or basin.
    d. Turn the Master Switch ON, wait a few moments, then activate:
        - Handpiece flush toggle
        - Syringe air/water buttons
        - Foot control

NOTE: Continue until a steady stream of disinfectant flows through all outlets.

3. Disinfectant Contact Time:

NOTE: Carefully follow disinfectant contact time per manufacturer's instruction for use.

4. Purge System with Air Again:
    a. Hold tubing over a collection container.
    b. With Master Switch ON, purge lines with air until no liquid remains.

5. Flush with Clean Water:
   a. Turn Master Switch OFF, remove disinfectant bottle.
   b. Replace with a bottle containing clean water.
   c. Turn Master Switch ON, then flush:
      - Each handpiece line
      - Syringe air/water buttons
      - Quick-disconnects

NOTE: Continue until a steady stream of disinfectant flows through all outlets.

B: Frequency:
At least once per month, or more frequently as required by local regulatory guidance.

Step-by-Step Procedure:

1. Use an approved test kit. Follow the test kit manufacturer's instructions precisely for sample collection and incubation.
2. Collect water samples from:
   - Air/water syringe
   - High-speed handpiece line
   - Ultrasonic scaler line (if applicable)
3. Test water samples per test kit manufacturer’s instructions
4. If the result exceeds 500 CFU/mL, immediately initiate a shock treatment.

C: Frequency:
Daily, or continuously if using in-line cartridge systems (e.g., DentaPure™)

Step-by-Step Procedure:
1. Use a continuous-treatment solution or cartridge system validated for dental waterlines.
2. Ensure the treatment solution is used at the recommended concentration
3. If using chemical treatment (not a cartridge):
   - Add solution to the reservoir daily before first use
     - Run through all lines before seeing patients

NOTE: Do not mix treatment products from different manufacturers. Flush the system before switching chemicals and perform water line shock treatment as necessary. Follow manufacturer’s recommendations.

DAILY AND BETWEEN-PATIENT FLUSHING

Daily Purging (Start and End of Day)
- Flush all water-bearing lines for at least 2 minutes:
  - Syringe lines
  - Handpiece lines
  - Quick-disconnects
- After flushing, invert and air-dry the bottle (end of day).

Post-Procedure Purging (After Each Patient)

- Keep devices connected.
- Activate both air and water lines.
- Purge for 20 seconds to remove fluids and contaminants.
- After purging, remove used devices for cleaning/sterilization.

WARNING: Accessories must be disinfected or sterilized after every patient. Follow handpiece-specific IFUs.

Effective agents include:

- Chlorhexidine-based solutions
- Iodophor compounds
- Hydrogen peroxide
- Silver

DCI Validated commercial products:

Product Name	Type	Manufacturer
DentaPure™	Iodine-based cartridge system	Crosstex
Liquid Ultra™	Two-part hydrogen peroxide liquid	Crosstex

WARNING: Always follow the manufacturer's instructions for concentration, contact time, and flushing to ensure effective disinfection.

ASSISTANT VACUUM INSTRUMENTS

AFTER EACH PATIENT:

Draw clear water through each valve, while opening and closing it several times. Leave the valve open for several seconds to allow all of the water to clear the hoses. The HVE and Saliva Ejector tips should always be replaced with sterile ones before each patient.

NOTE: See HVE and SE IFU 92199 for instructions for cleaning and disinfecting HVE and Saliva Ejectors.

END OF EACH DAY

We recommend that you draw a vacuum system sanitizing solution through each valve, while opening and closing it. DCI's EcoVac solution is an effective vacuum system cleaner that is non-toxic and environmentally safe. PNs 5835 1-pint bottle, 5837 1/2 Gallon Bottle, or 5836 case of 12 1-pint bottles are available.

DISINFECTING THE BOTTLE

Fill the bottle with the 100 ml disinfectant solution, shake vigorously, and let it settle for 10 minutes. Shake again, then rinse twice with water.

It is recommended that 100 ml of disinfectant solution be mixed for each weekly bottle disinfecting procedure. Always use a fresh mixture every week.

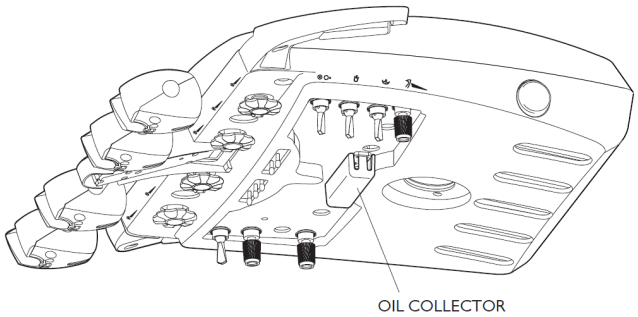
The Disinfectant Solution:

- 9 parts (90 ml) Tap water
- 1 part (10 ml) 5.25% Sodium hypochlorite (household bleach)

WARNING: Disinfect the new water bottle prior to the first use.

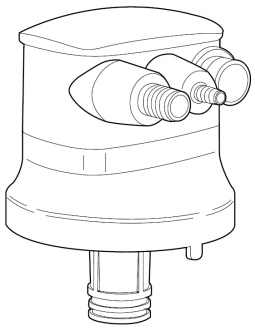
HANDPIECE OIL COLLECTOR

Service the oil collector once a week. Remove the oil collector from unit chassis by firmly gripping it and pull away from chassis, discard the old gauze. Fold a new 2 in x 2 in gauze into quartets and place inside the collector. Re-install the oil collector on unit chassis.



SOLID COLLECTOR

Turn off the vacuum pump. Remove the solids collector cap and lift out and dispose of the screen. If you find an excessive amount of material in the screen, more frequent cleaning is necessary.



ACCESSORIES – CLEANING, DISINFECTION AND STERILIZATION

Refer to the chosen accessory “Instruction for Use” for the detailed instructions regarding cleaning, disinfection, and sterilization of the product.

TROUBLESHOOTING

Symptom	Likely Cause	Recommended Remedy
Delivery system drifts vertically	Brake toggle valve has failed Insufficient flex arm tension	Replace flex arm toggle Adjust flex arm tension
Delivery system drifts sideways	Insufficient mounting arm tension	Inspect pivoting joints of flex arm, locate tensioning set screws and adjust as necessary.
Control head is not leveled	Worn out joints or loose locking set screws	Inspect joints and adjust set screws to desired tension
Insufficient or excessive cuspidor bowl rinse or cup fill timing,	Timing valve not properly set Failed timing valve	Access timing valve under cuspidor assembly (or in junction box) and adjust Replace timing valve
Uneven or loose instrument holders	Incorrect leveling of holders or locking set screws have become loose.	Adjust locking set screws under holder as necessary
Low handpiece speed	Drive-air pressure is low.	Adjust the drive-air set screw; verify that the supply pressure is 80 psi at the regulator.
No water coolant or handpiece overheats	Incorrect valve setting Defective valve Empty water bottle	Adjust valve flow control or replace if necessary Refill water bottle if necessary
Handpiece sprays water or operates while in holder	Handpiece not properly seated. Damaged/defective handpiece holder.	Properly seat handpiece in holder Replace holder
Water leak	Loose tubing or fitting	Inspect all lines and tighten or replace any loose or damaged fittings.
Syringe drips after release.	Debris in the syringe valve	Disassemble valve cartridge; clean or replace as required.
Insufficient or excessive air/water flow on syringes	Incorrect flow adjustment in syringe block	Adjust air or water flow as necessary. See syringe operation.
Low drive pressure on the gauge	Regulator mis-set or inlet filter clogged	Reset the regulator; clean or replace the filter.
Water drips after the foot control release.	Coolant valve contaminated	Flush valve: replace O-ring if needed.

REPLACEMENT COMPONENTS

Additional parts can be found at the DCI Catalog at https://www.dcionline.com/en/content/browse-literature

WARRANTY

DCI warrants this product against defects in materials and workmanship for 1 year from the date of installation. Refer to the DCI Catalog at www.dcionline.com/en/content/browse-literature for terms

ELECTROMAGNETIC COMPATIBILITY

DEVICE COMPATIBILITY

ELECTRICAL MEDICAL

Electrical medical devices are subject to special EMC safety measurements and as a result the equipment must be installed according to the installation instruction manual.

PORTABLE ELECTRONIC DEVICES

Portable and mobile high frequency electronic communications equipment may interfere with electronic medical devices.

STATIC SENSITIVE DEVICES

Where labeled this equipment contains static sensitive devices that require special precautions when handling.

At a minimum, a grounded wrist strap that is connected to a ground stud should be worn to reduce the possibility of damage.

ACCESSORY USE

Using accessory devices not specified by DCI for use with their equipment may result in an increase of electromagnetic emissions and/or a decrease in electromagnetic immunity of the system.

INTERFERENCE FROM OTHER EQUIPMENT

If other equipment is used adjacent to or stacked with the DCI Edge equipment, the system must be observed to verify normal operation.

DCI EDGE EQUIPMENT COMPLIANCE

This equipment has been tested and found to comply with the limits for medical devices in IEC 60601-1-2. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. In the event of interference, power the devices from separate mains supplies and/or increase the physical distance between devices. Contact Customer Service if you have any questions.

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