Mirage 2.0 Dental Delivery Unit

Model 2.0 Installation Instructions

2000-2.0 / 2015-2.0

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Parts List is available online (Parts List)

Unpacking and Inventory

Each Mirage delivery unit will contain the following items in each box:

1. Flex Arm Box (largest box)

- Delivery unit flex arm
- Assistance arm
- Light post
- Skid pad
- Cosmetic beauty ring

2. Post Mount Utility Center

- Utility center
- Master controls attached to the umbilical for air and water
- Wet dry foot control
- HEV/SE valves with tubing
- Water bottle (1000 ml)

3. Optional 2000-C Cuspidor

- Cuspidor
- Bowl rinse spout
- Cuspidor bowl strainer

4. Separate Junction Box (for use with chairs that don't have an integrated pump cover/junction box)

- Junction box cover
- Junction box frame

J Box Template for Non TPC chairs. (Here)

J Box Template for TPC chairs. (Here)

Need Help? If at any time you have questions regarding your installation, please don't hesitate to contact TPC toll-free at 800-560-8222 or via email at service@tpcdental.com

Installation Instructions

• Mount **the utility center** onto the **2" chair adaptor cup**.

• Check **for level** in **all directions** (front-to-back and side-to-side) to ensure the utility center is not tilted.

• Once level, **secure the set screws** on the adaptor cup.

• Confirm **alignment**: The utility center should be **parallel** with the **chair armrest** — this ensures functionality and comfort.

• Insert **the Light Post:**

- Place the **light post** into the **center opening** on the **top of the utility center**.
- Make sure the **machined side is facing down** (this ensures a proper fit and secure mounting).

• Tighten **the Set Screws:**

- Locate the **two light post set screws** on the **side of the utility center**.
- Tighten **both set screws** — one on **each side** — to secure the light post in place.

Install the Trim Piece First

- Before anything else, **slide the trim piece** into position.
- This piece is typically decorative or protective and **must be in place** before the arm is mounted.

Route the Tubing

- **First**, pass the tubing **through the support post**.
- **Then**, continue routing the tubing **out of the mounting hub** and into the **utility center**.
- Make sure the tubing is **not pinched or twisted** during this step.

Mount the Unit Arm

- Slide the **unit arm down onto the mounting hub**.
- Once in place, **verify the arm is secure** — it should not wobble or lift off easily.

✅ **Double-Check:**

- Tubing is free and properly routed.
- The trim piece is correctly positioned.
- The arm is stable and secure after mounting.

Route the Wet/Dry Foot Control Tubing

Run the Tubing into the Side Box (as shown in the diagram)

Make sure each tube is correctly identified and routed according to its function:

Tubing Connections and Functions:

1. **Yellow / Grey Tubing (First)**
   - **Yellow Line**:
     → **Supply TO the foot control**
     → Source: **J-Box**
     → Destination: **Foot control**
2. **Yellow / Grey Tubing (Second)**
   - **Yellow Line**:
     → **Supply FROM the foot control**
     → Destination: **Main Block**

     ⚠️ Even though both sets are Yellow/Grey, track them carefully based on their direction and function. They are keyed to connect one way. If the tubing is reversed, air will be purged out of the foot control disc.

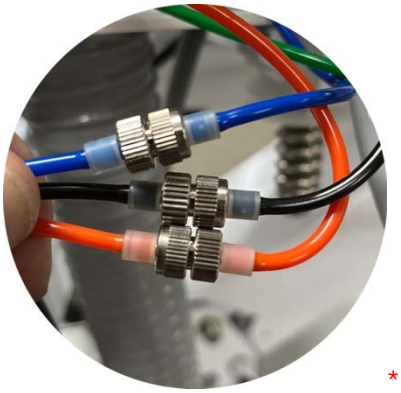
3. **Green / Grey Tubing**
   - **Green Line**:
     → **Signal air TO the water relay**
     → Used to control the water on / off function from the foot control

Connect Tubing (Final Tubing Connections)

Connect the following color-coded tubing **exactly as shown in your diagram**, paying close attention to the tubing colors and their functions:

Tubing Connections and Their Functions:

1. **Blue / Blue Tubing**
   - **Blue Line**:
     → **Water supply from the side box to the unit head**
     → Carries operational water used at the handpiece or utility head
2. **Orange / Orange Tubing**
   - **Orange Line**:
     → **Signal air return from the master switch**
     → This returns the air signal once the master switch is released/off
3. **Black / Black Tubing**
   - **Black Line**:
     → **Signal air supply to the master switch**
     → Delivers the air signal to activate the master switch



* A complete plumbing schematic is at the end of this manual*

Connect & Configure Master Controls

Purge the Supply Lines

- **Before connecting** the master controls, **purge both air and water supply lines** to remove:
  - Debris
  - Dust
  - Any contaminants that could damage valves or clog filters
- You can do this by briefly turning on the supply to flush out each line into a container or drain.

Connect to the Junction Box

- Connect the **air and water master controls** to a **suitable angle stop** (usually found inside the **junction box**).
- Ensure secure, leak-free connections.

Micron Filter

- Note: A **replaceable micron filter** is located **inside the pilot valve body**.
    - This filters fine particles from the air line, protecting sensitive components.
    - Replace this filter periodically as part of regular maintenance.

Set Regulator Pressures

- **Air Master Regulator**:
  → Set to **80 PSI**
- **Water Master Regulator**:
  → Set to **40 PSI**

🔧 **To Adjust the Regulators:**

1. **Loosen** the **lock nut** on the mini regulator.
2. **Turn the adjustment knob**:
    - **Clockwise** = Increase pressure
    - **Counter-clockwise** = Decrease pressure
3. Once the desired pressure is reached:
    - **Tighten the lock nut** to secure the setting.

Set the Water Bottle Pressure

🔧 Procedure:

Open the Side Utility Center Panel

- Locate the **mini regulator** that controls pressure to the **water bottle**.

Adjust the Mini Regulator

- Turn the **adjustment knob** to set the pressure:
  - **Set to 35 PSI**
  - ⚠️ **Do not exceed 40 PSI** — exceeding this may cause leaks or damage the bottle or tubing.

Secure the Setting

- If the regulator has a **lock nut**, tighten it after adjustment to prevent unintentional pressure changes.

Low Voltage Power Terminal Setup (PMU)

⚡ Power Connection Overview:

- The **Side Utility Center** includes a **low-voltage power terminal strip** designed for:
  - Powering the **unit head**
  - Supporting **24VAC low-voltage devices**
  - Controlling operatory lights (e.g., LED)

🔌 Connect the 24VAC Power Supply

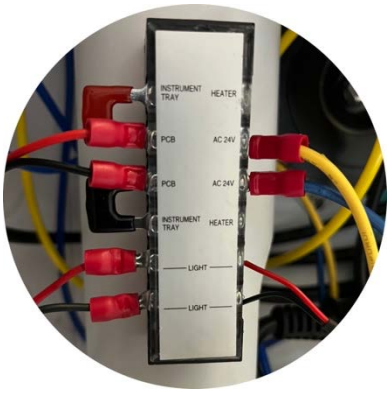
- Locate the **low-voltage terminal strip** inside the utility center.
- Connect your **unit's 24VAC power leads** to the terminal.
- This powers the **unit head** and any attached low-voltage accessories.

💡 Light Port Function

- The **light port** on the utility center allows **on/off control** of an **LED operatory light**.
- This enables hands-free or remote light switching.

🔵 Touchpad Requirement (TP2005)

- To control the light **remotely**, a **TP2005 Touchpad** is required.
  - This touchpad sends signals through the light port to toggle the light on/off.
  - Must be wired correctly into the low-voltage circuit.



Install and connect the Touchpad Harness

Route the Touchpad Harness

- Begin at the **flex arm** (where the touchpad is mounted or located).
- **Route the harness around the unit support post**:
- Ensure a clean path with **no pinching, pulling, or twisting**.
- Use **cable clips or ties** as needed to keep the harness secure and organized.

Connect to the Main PCB

- Locate the **main PCB (Printed Circuit Board)** inside the utility center or control housing.
- Connect the **touchpad harness** securely to its **designated port** on the PCB.
- This connection allows the TP2005 touchpad to control functions like **LED light ON/OFF**, and possibly other programmable features depending on your unit model.

Final Touchpad Harness Connection (Chair Integration)

Locate the Touchpad Harness in the Umbilical

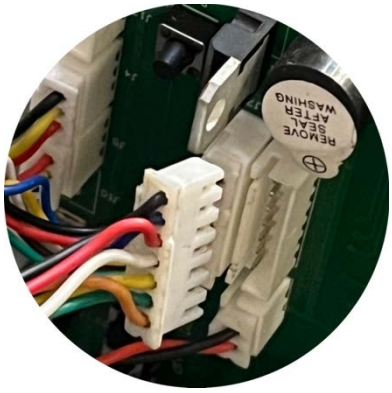
- Identify the **touchpad harness** that runs **through the unit umbilical** — this connects the **dental unit** to the **chair base**.

Connect to the Chair Pump Cover PCB

- Open the **pump cover housing** on the chair — this applies to:
  - **Mirage 1.0**
  - **Mirage 2.0**
  - **Laguna 2.0**
- Inside the pump cover, locate the **chair's main PCB**.

Connect the Harness to the PCB

- Plug the touchpad harness into the **designated port** on the **chair's main PCB**.
- This connection **links the chair PCB to the unit PCB**, enabling:
  - **Touchpad control of chair functions**
  - **Remote activation of LED lights and other features** (depending on model and configuration)



Mirage 1.0 – 2.0

Laguna 2.0

Pressure Switch & Low-Voltage Power Control on Mirage 2.0

🔍 Function of the Pressure Switch:

- The **pressure switch** in the **Mirage 2.0 delivery system** acts as a **safety/control device** for the **low-voltage power supply**.
- **When the master air is OFF**:
  - The **pressure switch disables** the low-voltage power.
  - This means the system **cannot power on** certain low-voltage devices like the unit head or operatory lights.

⚠️ Bypassing the Pressure Switch:

- If you **do not want this automatic power disable feature** (for example, if you want low-voltage power available regardless of air supply), **you can bypass the pressure switch**.
- **Bypassing** involves wiring around the switch so that low-voltage power is always on, regardless of the air pressure state.

🛠️ Refer to the Image for Wiring:

- The image (which you mentioned but I can't see now) likely shows how to **jumper or reroute wiring** to bypass the pressure switch.
- Always ensure **safety and code compliance** when bypassing safety features.
- Consult the manufacturer's wiring diagrams or a qualified technician if unsure.

Adjusting the Flex Arm Tension

Tension Set Screws:

- There are **three tension set screws** located on the **delivery unit flex arm**.
- These screws **control the drag** (resistance) at the arm's **pivot points**.

🛠️ Adjustment Procedure:

1. **Check the Unit Level**
   - Confirm the delivery unit is **properly leveled** first.
   - If the unit **is level but still drifts** or moves unintentionally, proceed to adjust tension.
2. **Adjust the Tension Set Screws**
   - Turn each set screw **slightly** to **increase or decrease drag** on the pivot.
   - **Turn clockwise to tighten** (increase drag)
   - **Turn counterclockwise to loosen** (decrease drag)
3. **Avoid Over-Tightening**
   - Do **not over-tighten** these screws — excessive force can:
     - Damage the arm mechanism
     - Cause stiffness or binding
4. **Test After Adjustment**
   - Move the arm through its range of motion.
   - Check if it holds position without drifting.
5. **If Drift Persists**
   - Re-check and **re-level the delivery unit utility center** — tension adjustment alone won't fix a leveling issue.

✅ Final Tip:

- Adjust **small increments at a time** to find the right balance between smooth movement and holding position.

Unit Arm

Unit Head

Spring Arm

Adjusting the Level of the Instrument Head

🛠️ Adjustment Procedure:

1. **Loosen the 4 Allen Bolts**
    - Locate the **four Allen bolts** securing the instrument head.
    - Use the appropriate Allen wrench to **loosen** these bolts just enough to allow movement.
2. **Adjust the Smaller Allen Set Screws**
    - Find the **smaller Allen set screws** designed for fine adjustment.
    - Turn these screws to **level the instrument head**:
        - Turning one side up or down will tilt the head accordingly.
    - Adjust until the instrument head is perfectly level.
3. **Secure the 4 Allen Bolts**
    - Once level, **tighten the 4 Allen bolts** firmly to lock the instrument head in place.
    - Avoid over-tightening to prevent stripping bolts or damaging components.

✅ Tips:

- Make small adjustments and check the level frequently.
- Use a spirit level or a digital level app for accuracy.
- Ensure no cables or tubing interfere with the adjustment.

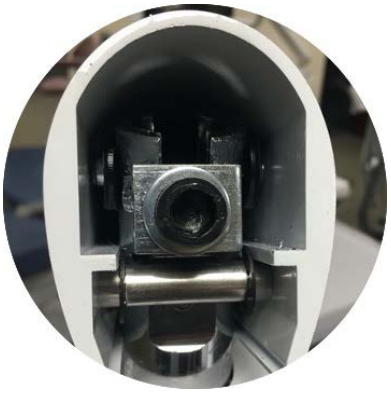
Adjusting Spring Arm Tension Inside the Flex Arm

🛠️ Procedure:

1. **Remove the Back-End Cap**
   - Carefully remove the **back-end cap** of the flex arm to expose the **spring tension adjustment** area.
   - Keep the cap and any fasteners safe for reassembly.
2. **Adjust the Spring Tension Allen Bolt**
   - Locate the **Allen bolt** inside the flex arm spring assembly.
   - Turn the bolt:
     - **Clockwise** to **increase tension** (makes the arm stiffer)
     - **Counterclockwise** to **decrease tension** (makes the arm easier to move)
3. **Find the Ideal Tension**
   - The goal is a **floating, level arm** when the **delivery unit master switch is OFF**.
   - This means the arm should hold position without drifting but also move smoothly when adjusted.
4. **Reinstall the Back-End Cap**
   - Once the tension is set, **replace the back-end cap securely**.

✅ Tips:

- Make **small incremental turns** to avoid over-tensioning.
- Test arm movement frequently during adjustment.
- If unsure, consult manufacturer specs for tension range.



Optional Cuspidor Installation (2000-C-2.0)

🛠️ Steps to Install the Cuspidor:

1. **Remove the Cuspidor Housing Cover**
   - Locate the **cuspidor housing cover** on the unit.
   - Remove the cover carefully to access the mounting area.
2. **Loosen the Locking Screw**
   - Find and **loosen the locking screw** that secures the mounting hub or cuspidor assembly.
3. **Route the Tubing**
   - Guide the necessary **tubing through the mounting hub**.
   - Ensure tubing is not kinked or pinched during routing.
4. **Slide the Cuspidor into Place**
   - Slide the cuspidor assembly firmly into the mounting hub.
   - Make sure it seats properly and aligns with the housing.
5. **Tighten the Fastening Screw**
   - Secure the cuspidor by **tightening the fastening screw**.
   - Check the cuspidor for stability and proper alignment.

✅ Tips:

- Double-check tubing connections to avoid leaks.
- Make sure the cuspidor drain is properly connected and sealed.
- Test the cuspidor function after installation.

Installing Cuspidor Components

1. **Insert the Bowl into the Cuspidor**
    - Take the **cuspidor bowl** and place it firmly into the cuspidor housing.
    - Ensure it sits properly and securely (see Figure 16.1).
2. **Install the Cuspidor Strainer**
    - Place the **cuspidor strainer** inside the bowl opening.
    - Make sure it fits snugly to catch debris and prevent clogging (see Figure 16.2).
3. **Install the Bowl Rinse Spout**
    - Align the **bowl rinse spout** with its designated slot or hole on the cuspidor.
    - **Press the spout firmly into place** until securely seated (see Figure 16.3).

✅ Tips:

- Confirm all components are properly seated to prevent leaks or misalignment.
- Check the rinse spout for firm attachment—loose spouts may cause water spray issues.
- After assembly, test the rinse function to ensure proper water flow.

Figure 16.1

Figure 16.2

Figure 16.3

Connecting Cuspidor Power

1. **Route the Cuspidor Power Harness**
   - Guide the **cuspidor power harness** to the **backside of the PMU** (Power Management Unit).
   - Refer to **Figure 17.1** for the exact routing path.
2. **Connect to the Main PCB**
   - Connect the power harness plug into the **designated port on the main PCB**.
   - See **Figure 17.2** for the PCB location and connector details.
   - Ensure the connector is fully seated and secure.
3. **Replace the Side Cover**
   - Once the connection is complete, **replace the side cover** to close the access panel.
   - Check **Figure 17.3** for proper cover placement.

⚠️ Optional: Deactivating the Motion Sensor

- If you **do not want the cup fill to activate automatically** via the motion sensor:
  - **Do NOT connect the wire** shown in Figure 17.2 (the motion sensor connection).
  - Instead, **activate cup fill manually** using the **button on either touchpad control**.

✅ Tips:

- Double-check all connectors before closing the cover.
- Test both automatic (motion sensor) and manual cup fill functions after installation.
- Keep wiring neat to avoid interference or damage.

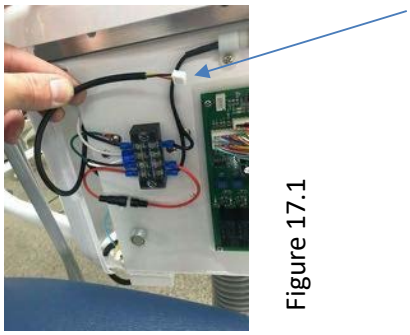


Figure 17.1

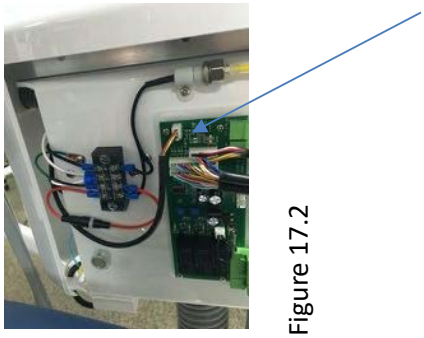


Figure 17.2

Figure 17.3

Cuspidor Plumbing Connections

Connecting Drain and Vent Lines

1. **Prepare the Drain and Vent Lines**
    - Measure and **cut the drain and vent lines to the correct length** so they can reach the Y connector fittings without tension.
2. **Connect Lines to Y Connector Fittings**
    - Insert both the **drain line** and **vent line** into the **quick-connect fittings** on the Y connector.
    - Refer to **Figure 18.1** for the location of the Y connector.
    - **Figure 18.2** shows how to install the tubing securely into the quick-connect fittings.
3. **Ensure Proper Routing**
    - Make sure both lines are routed **without kinks, bends, or binding** to allow free flow of drainage and venting.
    - Proper tubing routing prevents blockages or backflow.

✅ Tips:

- Use a sharp tubing cutter to ensure clean cuts for proper sealing.
- After installation, check for leaks by running water through the cuspidor system.
- Secure tubing with clips or ties as needed to maintain routing and prevent accidental disconnection.

Figure 18.1

Figure 18.2

Figure 18.3

Connecting Water Lines

1. **Identify the Water Lines and Solenoids**
    - There are two water lines coming from the cuspidor:
        - **Clear water line**
        - **Blue water line**
2. **Locate the Water Solenoids**
    - Inside the **post-mounted utility center**, find the two **water solenoids**.
    - Refer to **Figure 19.1** for their exact location.
3. **Prepare Tubing**
    - **Cut the tubing to the correct length** before connecting to ensure a neat and secure fit.
4. **Connect Water Lines to Solenoids**
    - Connect the **clear water line** to the **solenoid on the left**.
    - Connect the **blue water line** to the **solenoid on the right**.
5. **Secure Connections**
    - Ensure tubing is fully seated into the solenoid fittings to prevent leaks.
    - Avoid kinks or bends in the tubing that could restrict water flow.

✅ Tips:

- Use tubing cutters for clean, straight cuts.
- After installation, test for water flow and leaks.
- Label tubing if necessary to avoid confusion during maintenance.

Adjusting Water Flow

1. **Locate the Adjustment Knobs**
    - Find the **water solenoids** inside the post-mounted utility center.
    - Each solenoid has an **adjustment knob** for regulating water flow.
2. **Adjust Water Flow**
    - **Turn the knob clockwise** to **decrease** water flow.
    - **Turn the knob counterclockwise** to **increase** water flow.
3. **Test and Fine-Tune**
    - Run water through the cup fill and bowl rinse to check flow rates.
    - Adjust gradually to reach the desired flow.

✅ Tips:

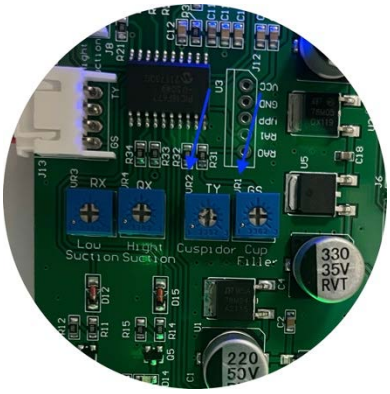
- Make small adjustments to avoid over- or under-flow.
- Monitor for consistent water delivery during use.

Adjusting Water Timing

1. **Locate the Timing Controls**
    - On the **patient side of the PMU box** main PCB board, find the two variable resistors (potentiometers):
        - **VR2** — Controls **Bowl Rinse Timing**
        - **VR1** — Controls **Cup Fill Timing**
2. **Adjust the Timing Settings**
    - To **increase the time**, turn the corresponding VR **clockwise**.
    - To **decrease the time**, turn the VR **counterclockwise**.
3. **Timing Limits**
    - **Max Bowl Rinse Time:** 20 seconds
    - **Max Cup Fill Time:** 10 seconds
4. **Test After Adjustment**
    - Activate bowl rinse and cup fill functions to verify the new timing settings.
    - Fine-tune adjustments as needed.

✅ Tips:

- Use a small screwdriver to turn the VR knobs gently.
- Mark original settings before adjustment to revert if necessary.
- Avoid forcing the potentiometers beyond their physical limits.



Junction Box Connections

Step 21: Clearing Supply Lines

Before making any connections in the junction box, be sure to purge the supply lines. If there is any debris in the air line, it will collect on the micron filter. Verify the line is clear.

Step 22: Connecting Master Controls

Once the lines are verified and cleared, you may connect the master controls. The master controls are similar-looking:

- **Air master control** - Identified by the large yellow tubing that exits the back end of the master control valve
- **Water master control** - Identified by the large blue line that exits the back of the master control valve

Step 23: Setting Pressures

Once the connections are made, you may open the angle stops or equivalent shut-off valve. Once the valve is open, you may check the master control gauges and verify that the pressures are set accordingly: The master on / off switch must be turned to the on position.

- **Air pressure** should read approximately 80 PSI
- **Water pressure** should read 40 PSI

Step 24: Final Adjustments

Once air and water pressure are set, you may now adjust the syringe blocks if necessary. Also, check your handpiece pressure and adjust accordingly.

Post Mount Utility Center Adjustments (PMU)

1. Main Adjustments

Two main adjustments can be made in the PMU:

Assistant's Side Syringe Block Adjustments:

- Turning the screw counterclockwise will increase the air/water pressure
- Turning the screw clockwise will decrease the air/water pressure

Water Bottle Pressure Adjustments:

- Loosen the lock nut, then turn the knob counterclockwise to decrease the air pressure
- Turn the knob clockwise to increase pressure
- **Do not allow more than 40 PSI of air pressure to supply the bottle**

Tension Adjustments

Flex Arm Tension

In a situation where you need to add tension to the delivery unit flex arms, please see the following locations.

Note: Tension adjustments are only a temporary fix for drifting arms. If your arms are drifting, first verify the PMU is level. Check the light post to verify it's plumb. If the light post is not level, make the proper adjustments by re-leveling the unit.

Tension Spring Adjustment

If you need to adjust the tension spring in the flex arm, follow the procedure below:

- Remove the flex arm cap cover
- Use an 8 mm Allen wrench on the adjustment bolt
- Turn clockwise to increase the tension
- Turn counterclockwise to decrease tension
- **Only adjust in half-turn increments**

Delivery Head Leveling and Tilt Adjustments

Leveling and Tilt Procedures

If you need to level the unit head or adjust the tilt, use the following adjustments:

Leveling the Unit Head:

- Loosen the 4 Allen screws that attach the unit head to the short control arm (see image)
- Once the screws are loose, use the two adjustment screws in the center on each side to level the head

Adjusting the Unit Head Tilt:

- Remove the flex arm end cap closest to the delivery unit head
- Loosen the stop nut
- Using an Allen wrench, turn the adjustment screw clockwise to increase the tilt of the delivery unit head
- Turn the adjustment screw counterclockwise to decrease the tilt

*Stop Nut
*Adjustment Screw

Operation Instructions

Master Controls ON/OFF Toggle

- The **master control toggle** switches the **master pilot valves** located inside the **junction box** between the **ON and OFF** positions.
- When toggled **ON**, the pilot valves allow air and water flow to the delivery unit systems.
- When toggled **OFF**, the pilot valves shut off supply lines, disabling system functions for safety or maintenance.

Operating the Brake System Release

1. **Press and Hold the Button**
    - Press and hold the brake release button to **release air pressure** in the brake system.
    - This will allow you to freely move or adjust the arm.
2. **Adjust the Arm Position**
    - While holding the button, move the arm to the **desired position**.
3. **Release the Button to Lock**
    - Once the arm is positioned correctly, **release the button**.
    - The air pressure will re-engage, and the arm will **lock securely** in place.

Adjusting the Air Coolant Spray Pattern

1. **Ensure the Air Coolant Valve is Open**
    - Make sure the **air coolant valve** is open to allow airflow.
2. **Activate the High-Speed Handpiece**
    - Run the **high-speed handpiece** with the **water turned on**.
3. **Observe the Spray Pattern**
    - You should see a **spray pattern** of air and water cooling the handpiece.
4. **Adjust the Valve**
    - **Open** the air coolant valve more to **increase** the spray intensity.
    - **Close** the valve partially to **decrease** the spray.

Flush Valve Operation

1. **Toggle the Flush Valve**
   - Press or toggle the flush valve button to **flush water through all three handpiece tubing** at the same time.
2. **Catch the Water**
   - Place all handpiece tubing ends into a **capture basin** or suitable container to collect the flushed water.
3. **Stop Flushing**
   - **Release the button** to stop the water flow through the handpieces.

✅ Tips:

- Use this flushing process to clear debris or stagnant water from handpiece lines.
- Regular flushing helps maintain hygiene and equipment performance.

Filling and securing the water bottle

1. **Use Only Distilled Water**
    - Fill the bottle **only with distilled water** to prevent mineral buildup and ensure equipment longevity.
2. **Fill the Bottle**
    - Fill the bottle to the recommended level.
3. **Secure the Bottle to the Cap**
    - Turn the bottle **clockwise** to screw it onto the bottle cap securely.
    - **Do not over-tighten**, as this can damage the bottle cap threads or gasket.

✅ Tips:

- Check the gasket regularly for wear or damage.
- Proper sealing prevents leaks and maintains system pressure.

Activating Bottle Pressure

- This control **turns the pressure supply on to the bottle water system**, enabling water flow from the bottle.
- Ensure the bottle is properly installed and the pressure regulator is set before turning on.

Selecting the Water Source

- Choose between **City Water** or **Bottle Water** as the water supply source.
- Ensure the selector valve or switch is set to the desired source before operating the system.

✅ Tips:

- Use **bottle water** when city water quality is uncertain or as recommended.
- Confirm the correct setting during setup and maintenance.

Adjusting Water Flow to Handpiece Tubing

- Each **handpiece** has its own **water adjustment knob**.
- To **decrease water flow**, turn the knob **clockwise**.
- To **increase water flow**, turn the knob **counterclockwise**.

✅ Tips:

- Adjust flow gradually for optimal cooling and patient comfort.
- Check each handpiece separately to ensure proper water delivery.

Adjusting Handpiece Drive Air Pressure

1. **Loosen the Stop Nut**
   - Before adjusting, **loosen the stop (lock) nut** on the adjustment knob to allow movement.
2. **Adjust the Drive Air Pressure**
   - Turn the **HP adjustment knob counterclockwise** to **increase** the drive air pressure.
   - Turn the knob **clockwise** to **decrease** the drive air pressure.
3. **Secure the Lock Nut**
   - After achieving the desired pressure, **tighten the stop nut** to lock the adjustment knob in place.

Handpiece Pressure Gauge

- The **HP (Handpiece) pressure gauge** is located on the **lower left side** of the instrument head.
- To get a **pressure reading**, both the **foot control** must be engaged, and an **active handpiece** must be in use.
- Without these, the gauge will not display the pressure.

✅ Tips:

- Use the gauge to monitor and adjust handpiece drive air pressure for optimal performance.
- Ensure the foot control and handpiece are functioning properly to get accurate readings.

Handpiece Exhaust Particulate Collector

- This component **collects all exhausted particulates** coming from the **handpiece tubing exhaust line**.
- It helps maintain cleanliness and prevents debris from contaminating the surrounding area or equipment.

Operating the Operatory Light

1. **Activate Light Using Touchpad**
   - Press the **light button** on the touchpad to turn the operatory light **ON** or **OFF**.
2. **Initial Toggle Switch (If Needed)**
   - In some setups, you must first **toggle the main light switch ON** before the touchpad can control the LED operatory light.

✅ Tips:

- Confirm the main light switch position if the touchpad light button doesn't respond.
- Use the touchpad for convenient remote light control during procedures.

Operating Foot Control and Wet/Dry Switch

1. **Activate Air Pressure**
   - **Press down on the foot control disc** to supply **air pressure to the main block**.
   - This engages the air drive for the handpiece.
2. **Turn On Water Supply**
   - Toggle the **wet/dry switch to the right** to **turn on the water supply** to the handpiece tubing.
   - This enables water flow for cooling and irrigation.

Water Quick Connect Location

- For **standard units**, the **water quick connect** is located on the **bottom of the side utility center**, next to the **2” unit umbilical**.
- For **swing mount units**, this quick connect is found **under the rear swing mount 4-position suction holder**.

✅ Tips:

- Use the quick connect for easy water line attachment or detachment during installation or maintenance.
- Check both locations based on your unit type to locate the quick connect.

Activating Cup Fill and Bowl Rinse

- **Press the blue button** to **activate the cup fill** function.
- **Press the green button** to **activate the bowl rinse** function.

✅ Tips:

- Use these buttons to manually control water flow for patient convenience and hygiene.
- Make sure the water supply is turned on before activating these functions.

Activating Bowl Rinse and Cup Fill (Touchpad)

- **Press the bowl rinse button** to start the **bowl rinse** function.
- **Press the cup fill button** to start the **cup fill** function.

✅ Tips:

- Ensure water supply is active before pressing the buttons.
- Use these controls to provide water flow as needed during patient treatment.

Cuspidor Water Flow Adjustment Valves

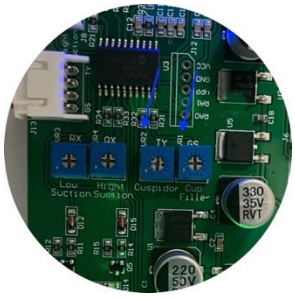
- Located in the **side utility center**, there are two water flow adjustment knobs for the cuspidor:
  - **Left knob:** Controls the **cuspidor cup fill flow**
  - **Right knob:** Controls the **cuspidor bowl rinse flow**

✅ Tips:

- Turn knobs clockwise to decrease flow and counterclockwise to increase flow.

Adjusting Bowl Rinse and Cup Fill Timing

- Located on the **patient side of the PMU box Main PCB board**, there are two variable resistors (VRs):
  - **VR2:** Controls **Bowl Rinse timing**
  - **VR1:** Controls **Cup Fill timing**
- **Adjust timing by turning:**
  - **Clockwise** to **increase** the time
  - **Counterclockwise** to **decrease** the time
- **Maximum timing limits:**
  - Bowl Rinse: **20 seconds**
  - Cup Fill: **10 seconds**



Adjusting the Water Bottle Regulator

1. **Locate the Regulator**
   - The **water bottle regulator** is located inside the **side utility center**.
2. **Release the Stop Nut**
   - Before adjusting, **loosen the stop nut** on the adjustment knob to allow movement.
3. **Adjust the Pressure**
   - Turn the knob **clockwise** to **increase** water bottle pressure.
   - Turn the knob **counterclockwise** to **decrease** pressure.
4. **Pressure Limit**
   - **Do not exceed 40 PSI** on the water bottle system to avoid damage.
5. **Secure the Stop Nut**
   - After adjustment, **tighten the stop nut** to lock the knob in place.

✅ Tips:

- Use a pressure gauge if available to monitor settings accurately.
- Adjust gradually and test water flow after changes.

Warning: Do not exceed 35 PSI or damage to the bottle may occur.

Syringe Pressure Adjustments

Assistant's Side Syringe

- Located in the **side utility center**.
- Use a **flat-head screwdriver** to adjust pressures:
  - **Turn clockwise** to **decrease** pressure
  - **Turn counterclockwise** to **increase** pressure
- **Line colors:**
  - **Blue line side:** Water pressure
  - **Clear or yellow line side:** Air pressure

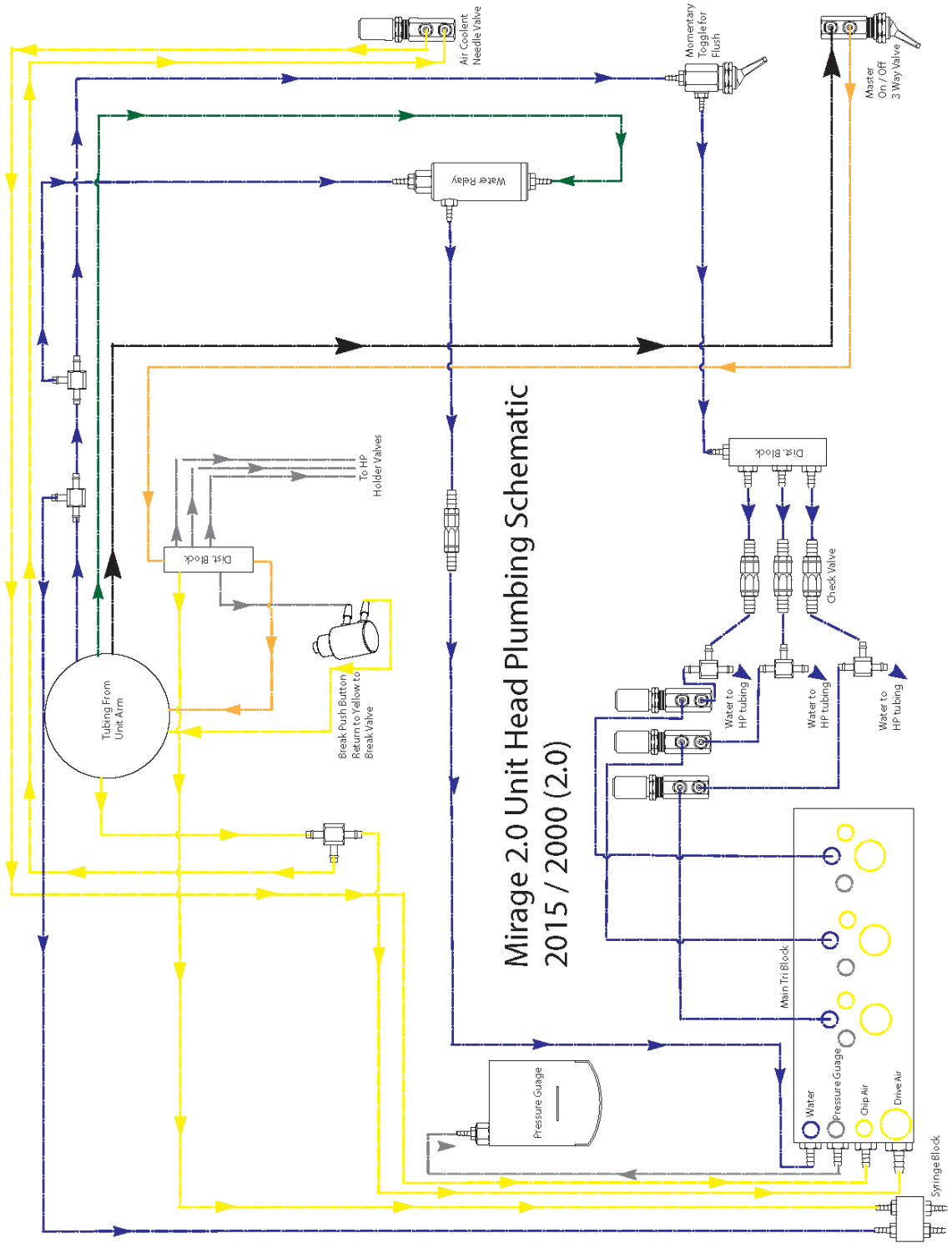
Doctor's Side Syringe

- Located **under the instrument head**.
- Two adjustment knobs:
  - **Right side:** Water pressure
  - **Left side:** Air pressure
- Adjust with a screwdriver, turning clockwise to decrease and counterclockwise to increase pressure.

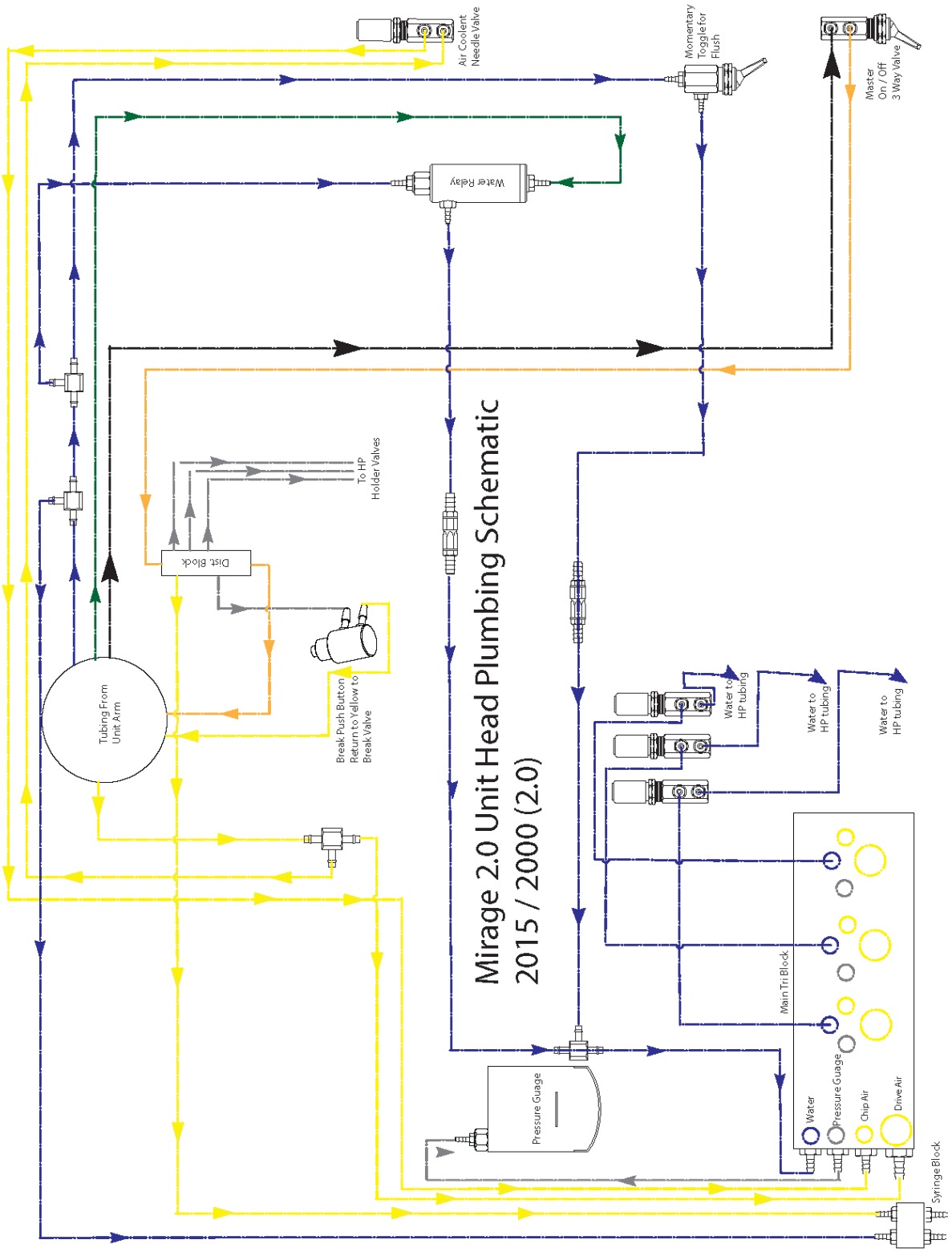
✅ Tips:

- Adjust pressures gradually and test syringe function after changes.
- Proper syringe pressure ensures effective air and water delivery.

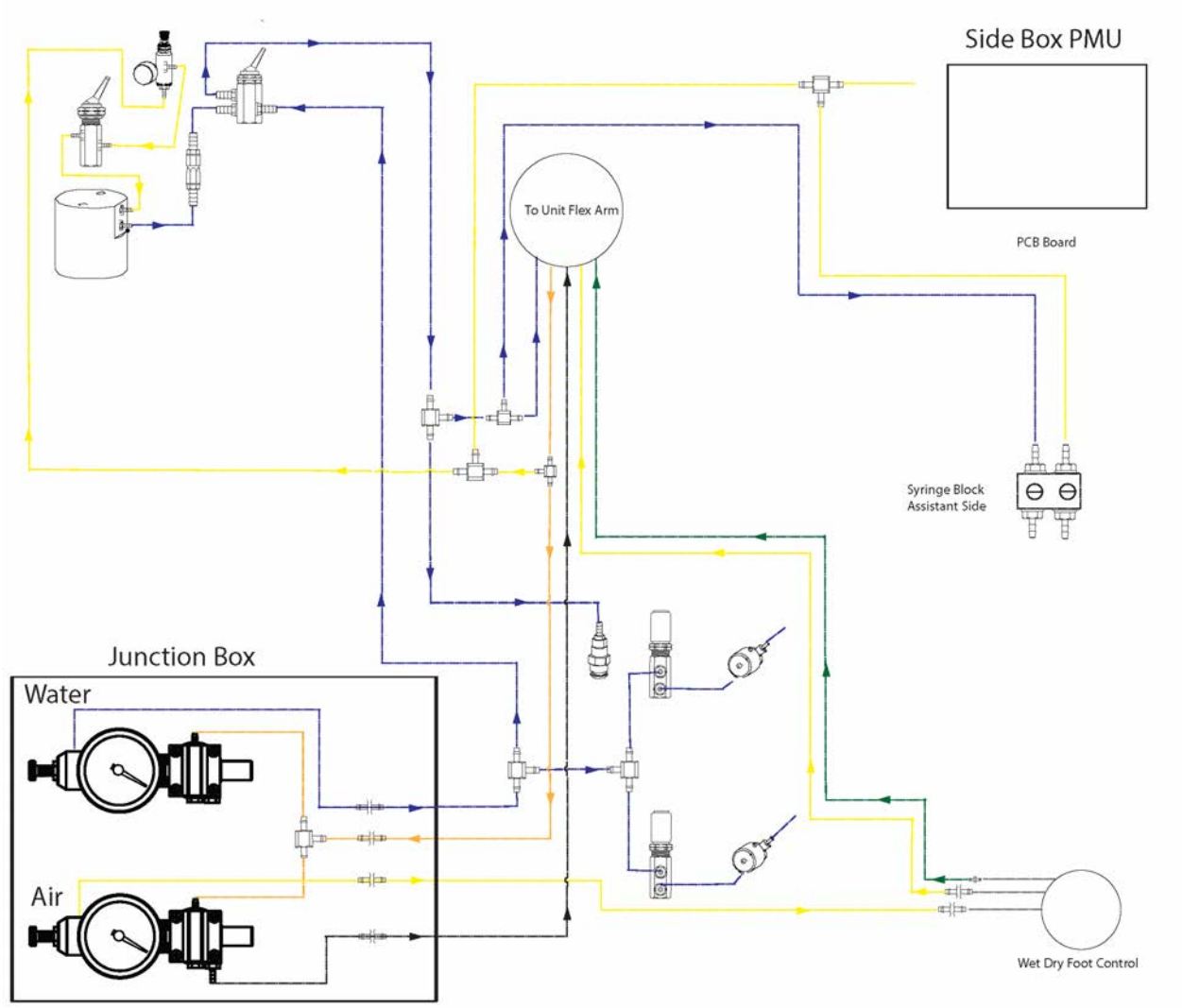
Tubing Diagram Unit Head (OEM)



Tubing Diagram Unit Head (Flush Bypass)



Tubing Diagram PMU Side Box



Tubing and Connections

Junction Box

1. Yellow 6 × 4 - Air supply line to foot control
2. Blue 6 × 4 - Water supply line
3. Black - Master switch supply
4. Orange - Master switch return

Post Mount Utility Center (from umbilical to delivery unit arm)

1. Yellow 6 × 4 Supply line to unit head tri block
2. Small Black Master switch supply
3. Small Orange Master switch return
4. Small blue Small blue - Water supply line
5. Small green Signal air to water relay from the foot control

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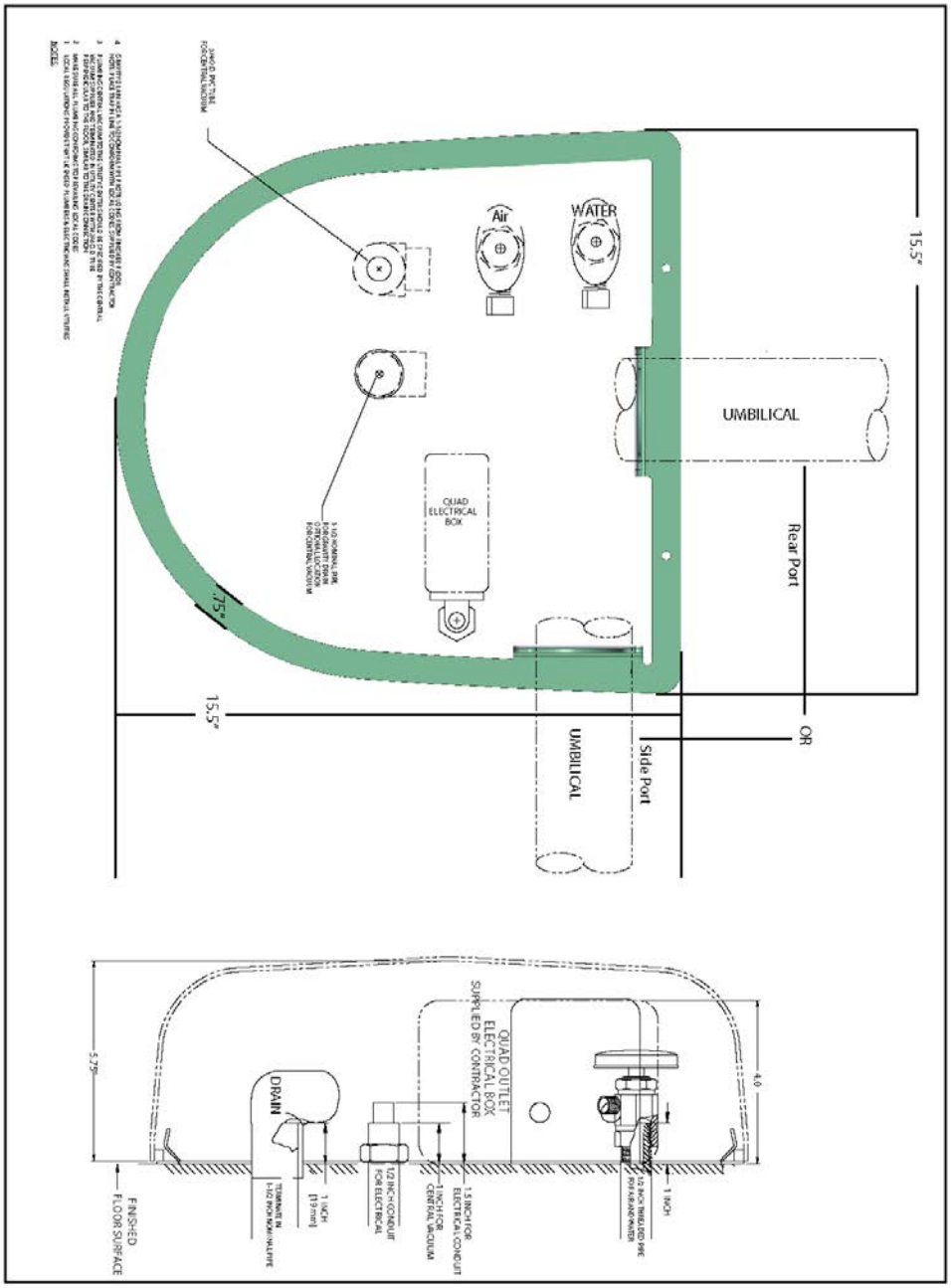
Junction Box Template



WARRANTY INFORMATION

TPC 5 Year Limited Warranty

All TPC products sold are guaranteed to be free from defects in workmanship and materials under the following terms:

Coverage Periods

5 Year Warranty Coverage:

- Main Block
- Metal arms/bearing assemblies/holder bars
- Transformers
- Electrical wiring
- Internal delivery unit tubing's
- Major cast components
- Brake assemblies
- All internal valving

1 Year Warranty Coverage:

- Upholstery
- Armrests
- Plastic components, Covers, HP holders
- Handpiece Tubing / Syringe Tubing
- All other parts and components
- Cuspidor bowl

What is Covered

TPC will repair or replace any defective part at no charge during the applicable warranty period. All parts must be returned to TPC for inspection and warranty verification.

What is NOT Covered

This guarantee does not cover:

- Normal wear or stains on surface finishes
- Damage resulting from improper installation
- Damage from misuse or accidents
- Damage incurred during shipping and handling
- Labor charges for installation or removal
- Shipping charges to/from the TPC facility

Shipping Damage Claims

All claims against the freight carrier must be initiated at the time damaged items are received. Filing the claim is the responsibility of the customer.

Service Requirements

⚠ **IMPORTANT:** Only authorized service technicians should attempt to service TPC equipment. Service performed by unauthorized technicians may result in a voided warranty.

Product Modifications

TPC continuously improves its products and reserves the right to make modifications without prior notification. TPC is not obliged to modify previously manufactured items.

Contact Information

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