

**INSTALLATION, OPERATION & SERVICE  
MANUAL**

**Z2-2017-RL  
Delivery System**

**Model:**  
**P070928**  
**P070931**  
**P070932**  
**P070933**  
**P070937**

 **IMPORTANT**

The instructions contained in this manual should be thoroughly read and understood before installing or operating the equipment. Keep this manual with the equipment, so it can be referred to for future use.

 **IMPORTANT**

When installation is complete. Make sure to check all bolts, screws, and fasteners. Confirm that they are properly fastened.

# Warranty

All products except stools, sold to and installed by authorized Zakton LLC dealers are guaranteed against defects in materials and workmanship for a period of five (5) years after date of purchase. Upholstery is guaranteed for one (1) year after date of purchase. All handpiece illumination systems are guaranteed for six (6) months after date of purchase.

This warranty does not cover light bulbs of any kind. Faulty parts are determined by a dealer service representative, will be repaired or replaced; no claim for a labor or consequential damages will be allowed. Invoices for replacement parts may be subject to adjustment after the manufacturer has inspected the alleged defective parts.

The warranty does not cover normal wear, stains, cuts, or scratches of upholstery surface finishes, or parts sold to O.E.M. customers. This warranty does not cover damage resulting from the use of cleaning, disinfecting, or sterilization chemicals and processes. The warranty does not cover damage from improper installation or maintenance, accident, misuse, or accidents incurred in shipping and handling.

In the event of shipping damage, the purchaser must initiate all claims against the freight carrier in writing twenty-four (24) hours after the damaged items are received. The claim is the responsibility of the customer.

## PRODUCT MODIFICATION

Zakton LLC continually works to offer better products. We reserve the right to make modifications without notice or obligation to modify previously manufactured products.

## DOCUMENT INFORMATION

Zakton LLC does not warrant that this document is completely error free. Zakton LLC shall not be held liable for errors contained in this manual, for any consequential or other damages concerning the furnishings, performance or use of this material.

Zakton LLC does not warrant the content of any kind in this document, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The information of this document is subject to change without notice.

If you find any problems with this document, please report them to us in writing.

## OTHER PRODUCTS & TRADEMARKS

All products or services mentioned in this document that are not Zakton LLC, are covered by the trademarks, service marks, or product names designated by the companies marketing those products. Refer to these respective manuals and instructions for all information regarding these products.

## Intended Use of the Product:

This product is solely used for diagnoses, treatment and relative procedures in dentistry. This equipment must be handled and/or operated by the qualified dentists or by the dental staff directly under the supervision of the dentist.

Patients are not allowed to handle and/or operate this equipment unless he or she is instructed to do so directly under the supervision of the dentist. The dentist and staff for which this equipment is for should instruct and/or assist each patient in the way of approach and leaving from this equipment.

## Operating Environmental Requirements:

Ambient Temperature: 50°F ~ 104°F (10°C ~ 40°C)

Humidity: 30% ~ 75%

Atmospheric Pressure: 10.2psi ~ 15.4psi (700hpa ~ 1060hpa)

## Flammable Gasses:

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.

## CLEANING INFORMATION

### TERMS AND CONDITIONS OF SALE

#### TERMS

50% upon agreement  
50% before delivery.

#### PRICES

All prices are subject to change without notice.

#### FREIGHT

Products are shipped F.O.B. Sheridan, Colorado, U.S.A.

#### RETURNED GOODS

No goods may be returned without prior factory Returned Merchandise Authorization number.

The Returned Merchandise Authorization number must be visible on outside of returned merchandise shipping box.

Shipping boxes received without a Returned Merchandise Authorization number will be refused.

Returned merchandise must be received within 30 days after issuance of Returned Merchandise Authorization number.

Copy of original invoice must be sent along with returned merchandise.

All returned merchandise are subject to a 15% restocking charge.

#### DAMAGED MERCHANDISE

Zakton LLC responsibility for safe delivery ends upon the delivery of the shipment in good condition to the carrier. At the point of pick up by the carrier, the merchandise become the property of the consignee, and the carrier becomes the agent of the consignee. Shipments that arrive with external damage or obvious rough handling should be noted on the delivery receipt as "Received in Damaged Condition". If damage is revealed when merchandise are unpacked, inspection by the carrier should be demanded immediately.

**ALL CLAIMS FOR DAMAGE CAUSED IN SHIPMENT MUST BE MADE TO THE CARRIER.**

#### BARRIER TECHNIQUE

The best way to preserve the finish of your Zakton LLC Equipment is to use the barrier technique whenever possible. The barrier technique will ensure maximum longterm durability of the surfaces and finishes of the equipment.

#### CHEMICAL DISINFECTION

It is imperative that the equipment be thoroughly washed with a mild soap and warm water solution at least once a day regardless of the chemical disinfectant used. This will minimize the harmful effects of chemical disinfectant residue being allowed to build up on the equipment. Always follow the disinfectant manufacturer's directions for use. Disinfectant solutions that are relatively harmless to surfaces at their recommended strengths can be corrosive at higher than recommended dilution ratios. Consult your dental dealer regarding specific chemical disinfecting and cleaning products.

#### UNACCEPTABLE DISINFECTANTS

The following disinfectants will harm the surface finish of Zakton LLC equipment and are NOT RECOMMENDED. Use of these products will void your warranty.

Chemical Composition: Household Bleach at 5.25%, Ethyl Alcohol, Alcohol-Based Phenols/PH3NOL, Household Cleaners, Strong Phenols, Phenol-Alcohol Combinations, and Household Cleaners

Iodine-based products have been known to stain upholstered and painted surfaces.

#### CONDITIONALLY ACCEPTABLE DISINFECTANTS

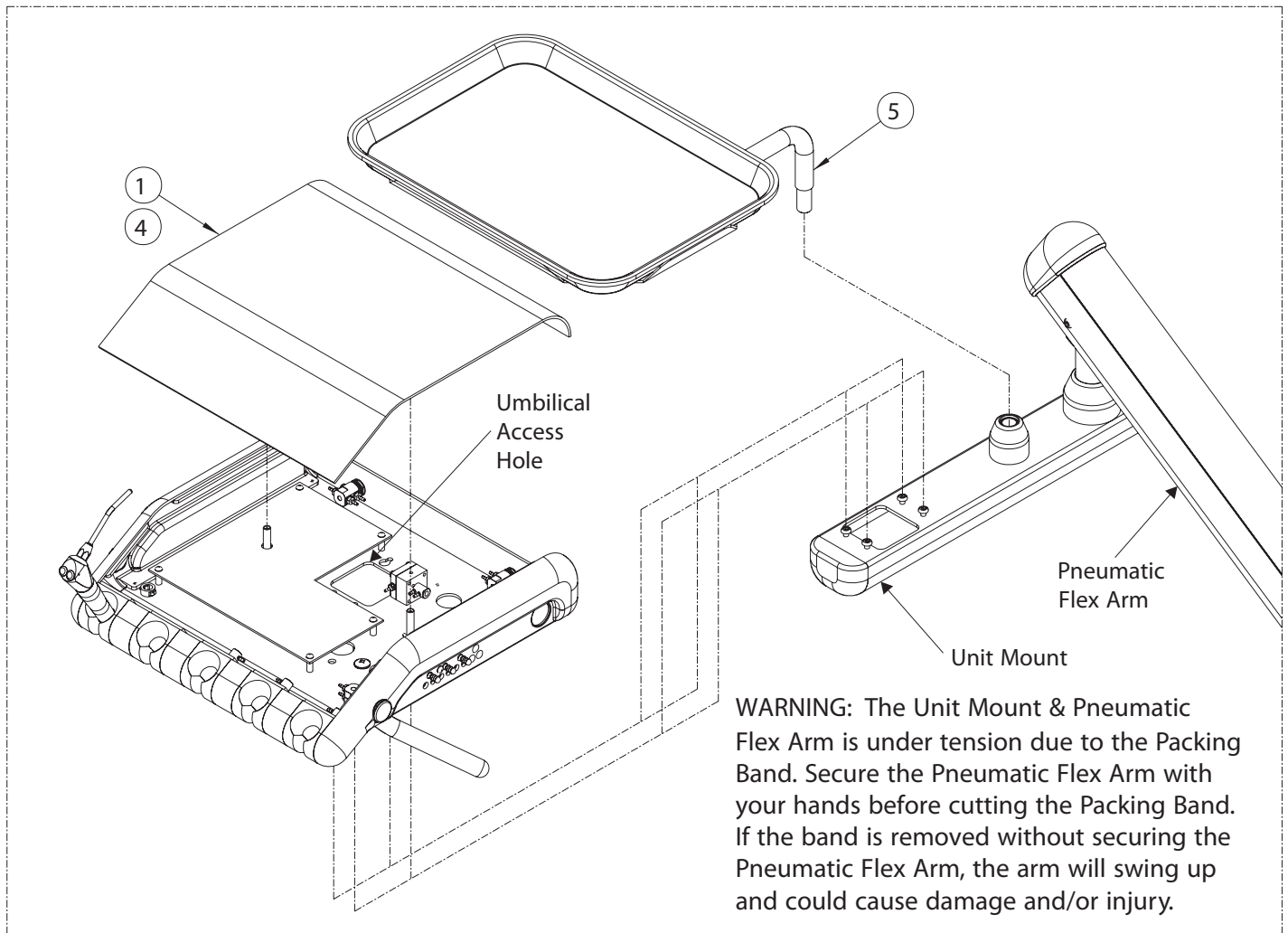
These disinfectants have been found to be LEAST HARMFUL to the equipment surfaces. None of these products are recommended for chair upholstery . Use the barrier technique.

Chemical Composition: Enhanced Quaternary Ammonia, Mild Phenols, Glutaraldehyde/Phenol Sprays, Synergized Super Quat, Phenol/Water Sprays

#### HP CONTROL WATER LINES AND BOTTLED WATER SYSTEM FLUSH

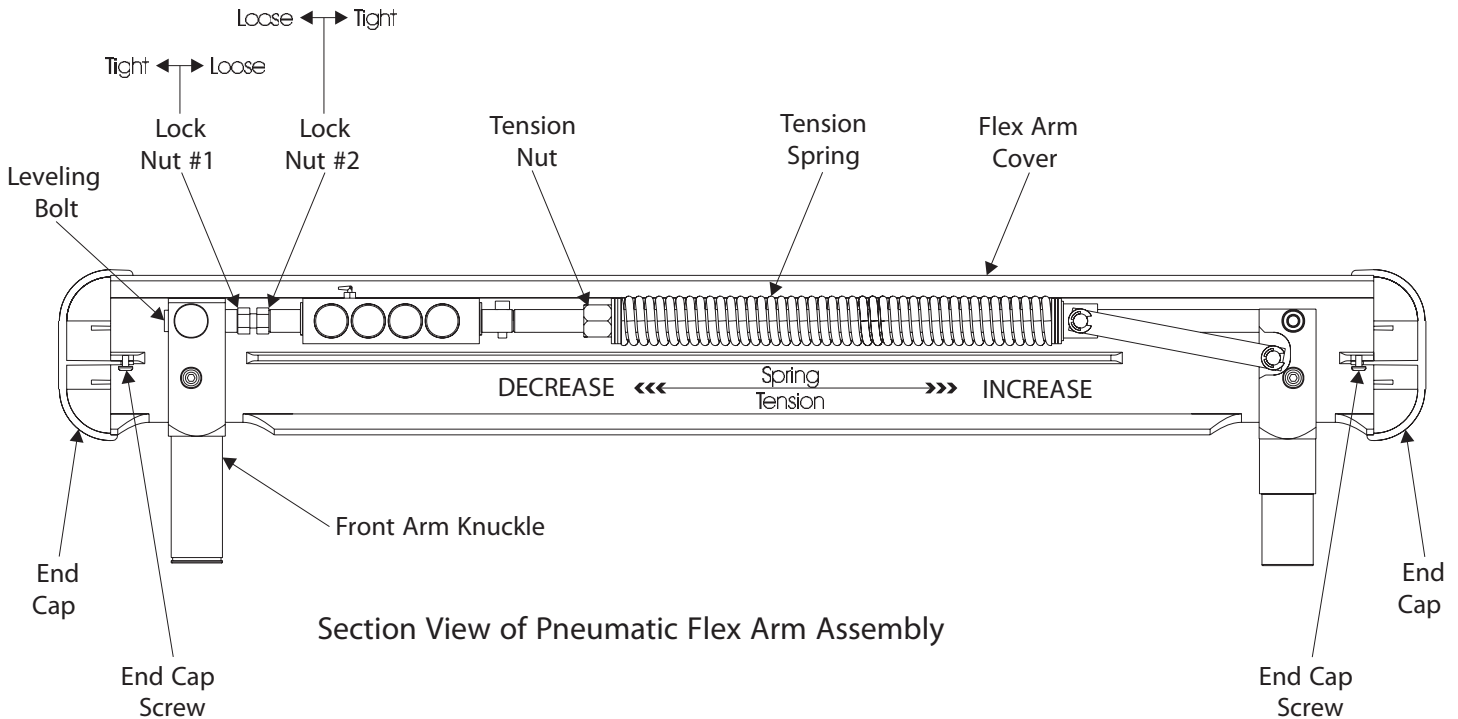
Use care when flushing HP Control water lines and bottled water systems. If using a powdered flushing product with water, be sure that powder is thoroughly dissolved. Improper mixing will cause residual debris in the HP Control water lines and may cause damage and/or malfunction.

## Z2-RL H.P. Control - Installation Instructions



- ① SEE WARNING . Locate the Z2 HP Control that was shipped with the package, and remove its Top Plate Cover.
- ② Route the Umbilical from the Unit Mount through the Umbilical Access Hole located at the base of the HP Control in-between the “4” keyholes. Install the HP Control to the Unit Mount by locking and tightening the “4” mounting screws into the “4” keyholes surrounding the Umbilical Access Hole .
- ③ Using the male and female Quick Disconnects, connect the Umbilical to the HP Control, match the connections regarding style, size, & color and firmly connect the male and female together. Some will require to be firmly twisted together, and others like the Touch Pad Cable (if available) will simply push and lock together.  
EXAMPLE: 1/8" Outside Diameter gray tubing from the Umbilical would connect with 1/8" Outside Diameter gray tubing from the HP Control Exhaust Valve (see tubing diagram under lid for additional information) .
- ④ Install the Top Plate Cover making sure all tubes & wires are not kinked or pinched.
- ⑤ Locate the Tray Holder Assembly and fully insert it into the Unit Mount as shown. The Tray rests on top of the Tray Holder Assembly.

## Pneumatic Flex Arm - Tension and Pitch Adjustment



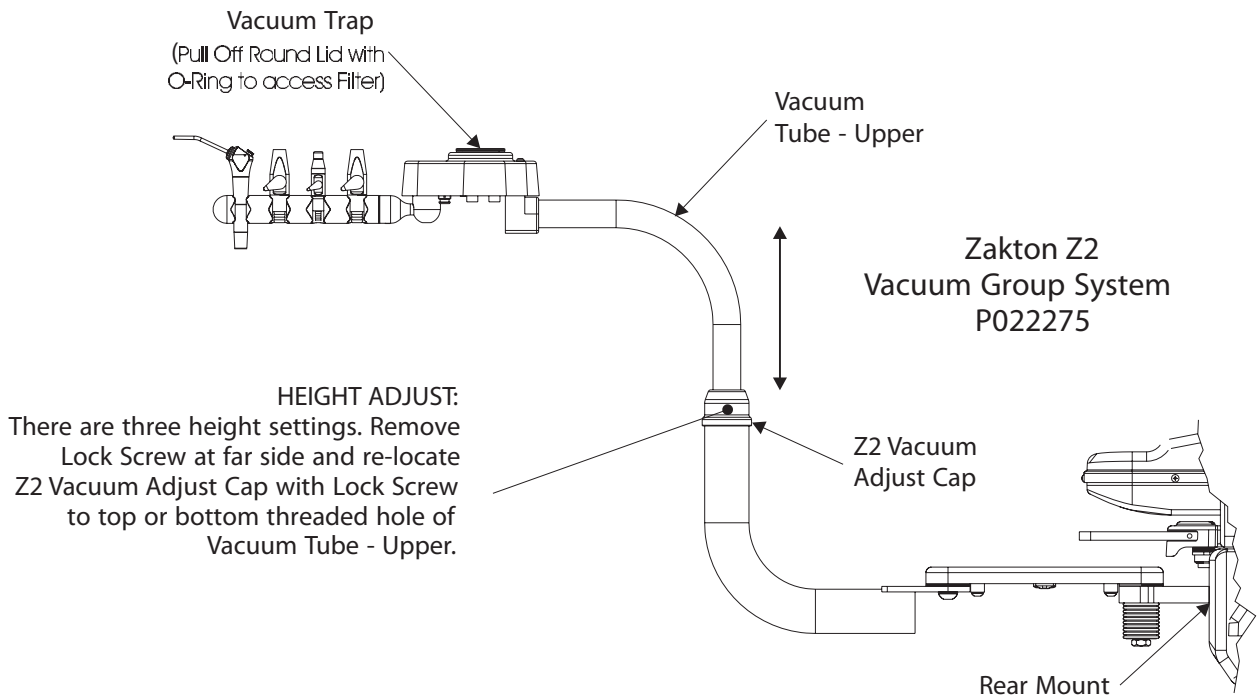
### Spring Tension Adjustment:

1. Remove both End Caps, and Flex Arm Cover by un-installing the "2" End Cap Screws.
2. Use a 3/4" S.A.E. open end wrench for the Tension Nut and rotate it to increase or decrease tension on the Tension Spring. Looking from the Front Arm Knuckle side of the Flex Arm assembly, rotating the Tension Nut clockwise will increase tension and counter-clockwise will decrease tension.
3. With the complete service load of the HP Control and with the pneumatic arm brake off, adjust the spring tension so that the Flex Arm will maintain all of the HP Control's vertical positions when left unattended.
4. Re-install the Flex Arm Cover and both End Caps with the "2" End Cap Screws.

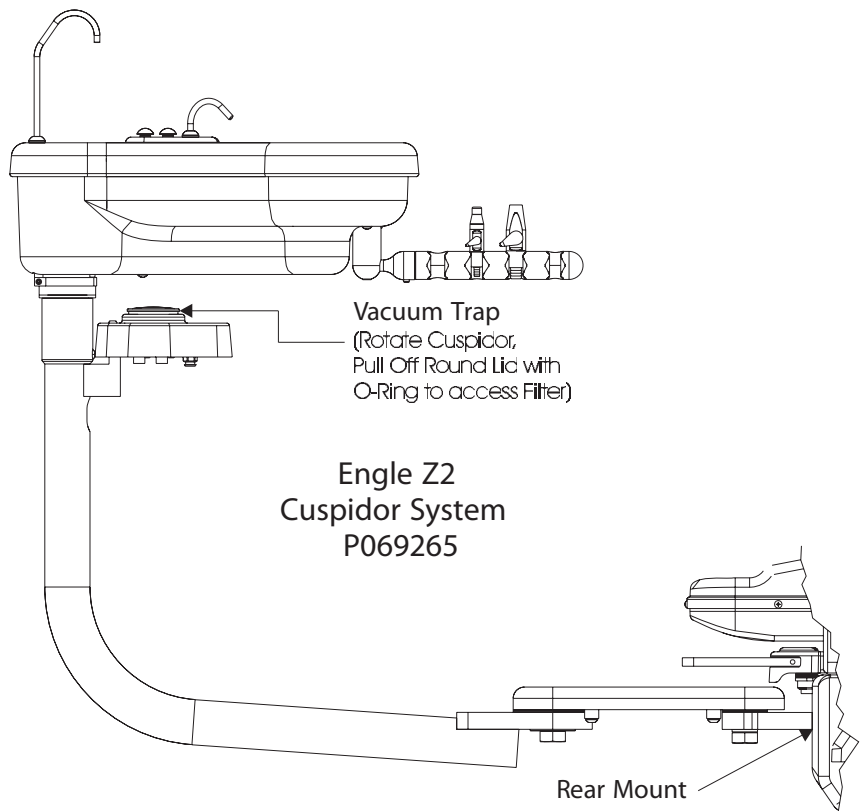
### Front Arm Knuckle Pitch Adjustment:

1. Remove both End Caps, and Flex Arm Cover by un-installing the "2" End Cap Screws.
2. Loosen and back away Lock Nut #1 and Lock Nut #2.
3. Adjust the Leveling Bolt until the desired pitch of the HP Control assembly is achieved.
4. First tighten Lock Nut #2 then Lock Nut #1 as shown.
5. Re-install the Flex Arm Cover and both End Caps with the "2" End Cap Screws.

## Zakton Z2 Vacuum Group & Cuspidor System - Installation Instructions



Remove protective shipping material from the pre-installed Zakton Z2 Vacuum Group System and install all Hand-pieces in their respective locations, as shown. Then adjust vertical height to user preference.



Remove the protective shipping material from the pre-installed Zakton Z2 Cuspidor System and install all Hand-pieces in their respective locations, as shown.

## Large Junction Box/Hidden Umbilical - Installation Instructions

Zakton LLC has simplified the connection of utilities within the Junction Box, it is important that the pre-installation of utilities for the Hidden Umbilical Junction Box relates to the Base Plate location of the dental chair as shown in "Hidden Umbilical Junction Box (P034015) - Installation Diagram" of this manual.

NOTE: Actual size (1:1 SCALE) of "Hidden Umbilical Junction Box (P034015) - Installation Diagram" to be used as a template are available upon request when a new utility layout is required.

- A 1/2" NPT threaded water supply pipe and a 1/2" NPT threaded air supply pipe must be 1" tall maximum, above the finished floor. Using the proper thread sealant, install a supply stop valve (not included) to each 1/2" NPT threaded pipe. Important: After the sealant has set using its manufacturer's directions, use the supply stop valves to purge the water and air supply to remove any debris in the supply line. See Figure 1.
- Supplied Master Shut Off Air & Water Regulator Filter assemblies are PRE-ADJUSTED. Insert the nipple of each assembly into the compression fitting of its designated Supply Stop Valve, "A" for Air & "W" for Water, and tighten. Check for leaks & confirm Air & Water pressure settings on gauge, Air 85psi & Water 40psi . Pull Adjustment knob & turn to adjust push down knob to lock. See Figure 2.
- Place the Junction Box Frame on the floor as shown on the "Hidden Umbilical Junction Box (P034015) - Installation Diagram ". Secure the Frame to the finished floor with the "4" provided screws or equivalent. See Figure 3.
- Insert and secure the Hidden Umbilical from the front of the Zakton Dental Chair into the Umbilical mount of the Frame. See Figure 3.
- Using sealant, connect the 1/2" inside diameter Vacuum Trap Tube from Umbilical to the Office Central Vacuum within the Junction Box and if available the 5/8" inside diameter Cuspidor Drain Tube from Umbilical to the Office Gravity Drain within the Junction Box.
- Connect the "Male" and "Female" Quick Disconnects attached to the tube ends of the Umbilical and both Air and Water Master Shut Off Regulator filter assemblies, match the tubes "Size" and "Color" and SECURELY connect the "Male" and "Female" Quick Disconnects by firmly pushing & twisting them together.
- EXAMPLE: 1/8" outside diameter CLEAR TUBE from the Air Master Shut Off Regulator filter assembly connects with 1/8" outside diameter CLEAR TUBE from the Water Master Shut Off Regulator filter assembly.
- Using "2" provided screws, install the Junction Box Cover to the Junction Box Frame.

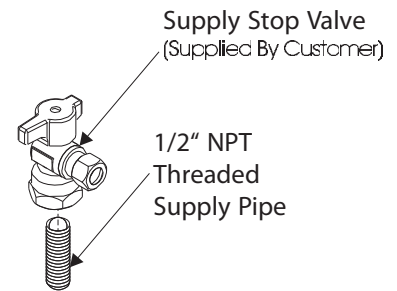


Figure 1.

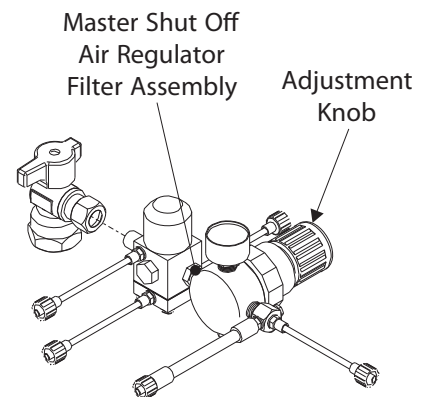


Figure 2.

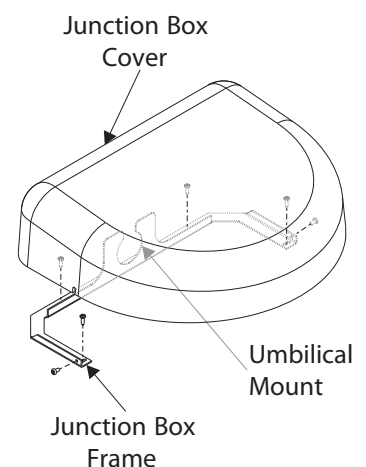
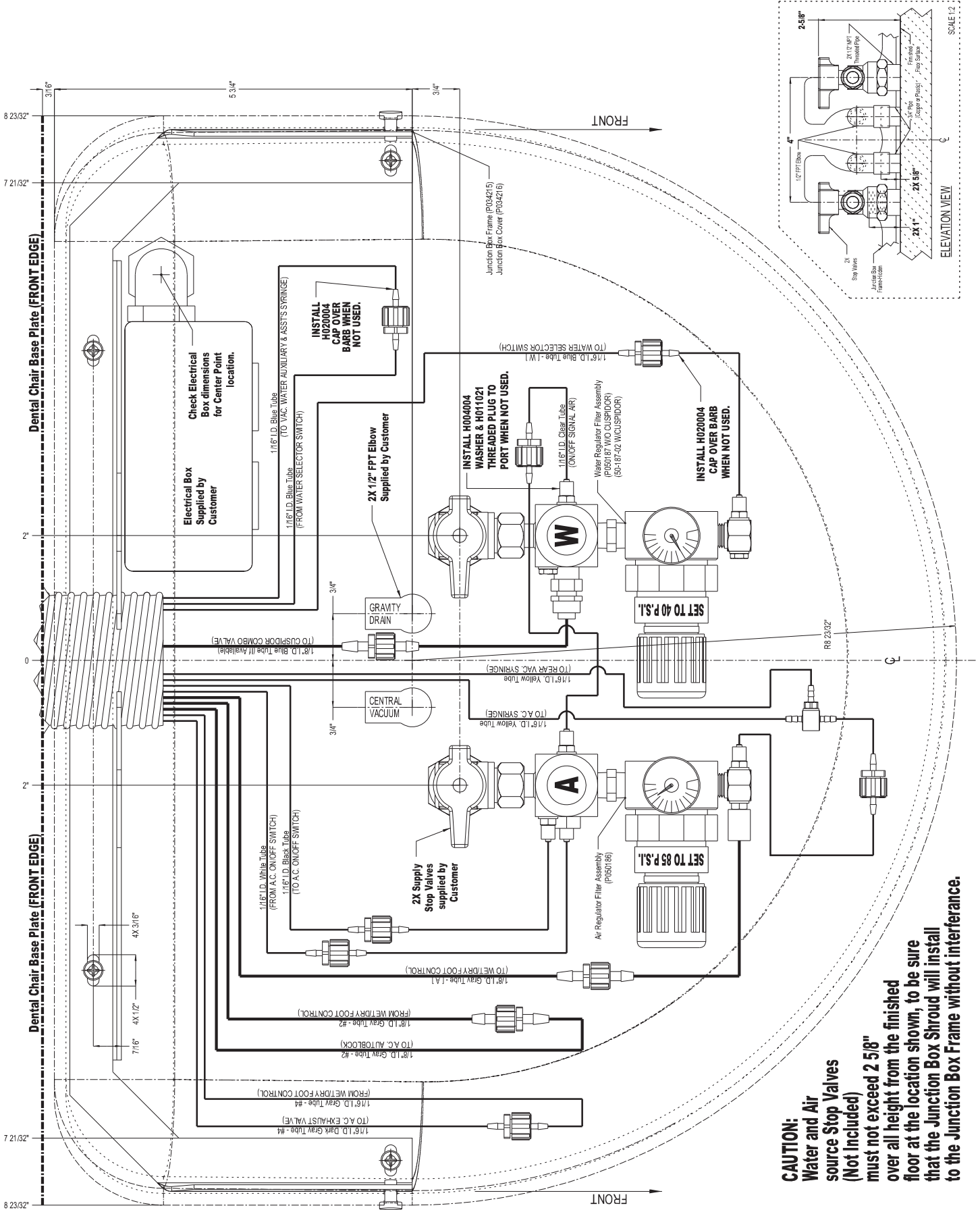


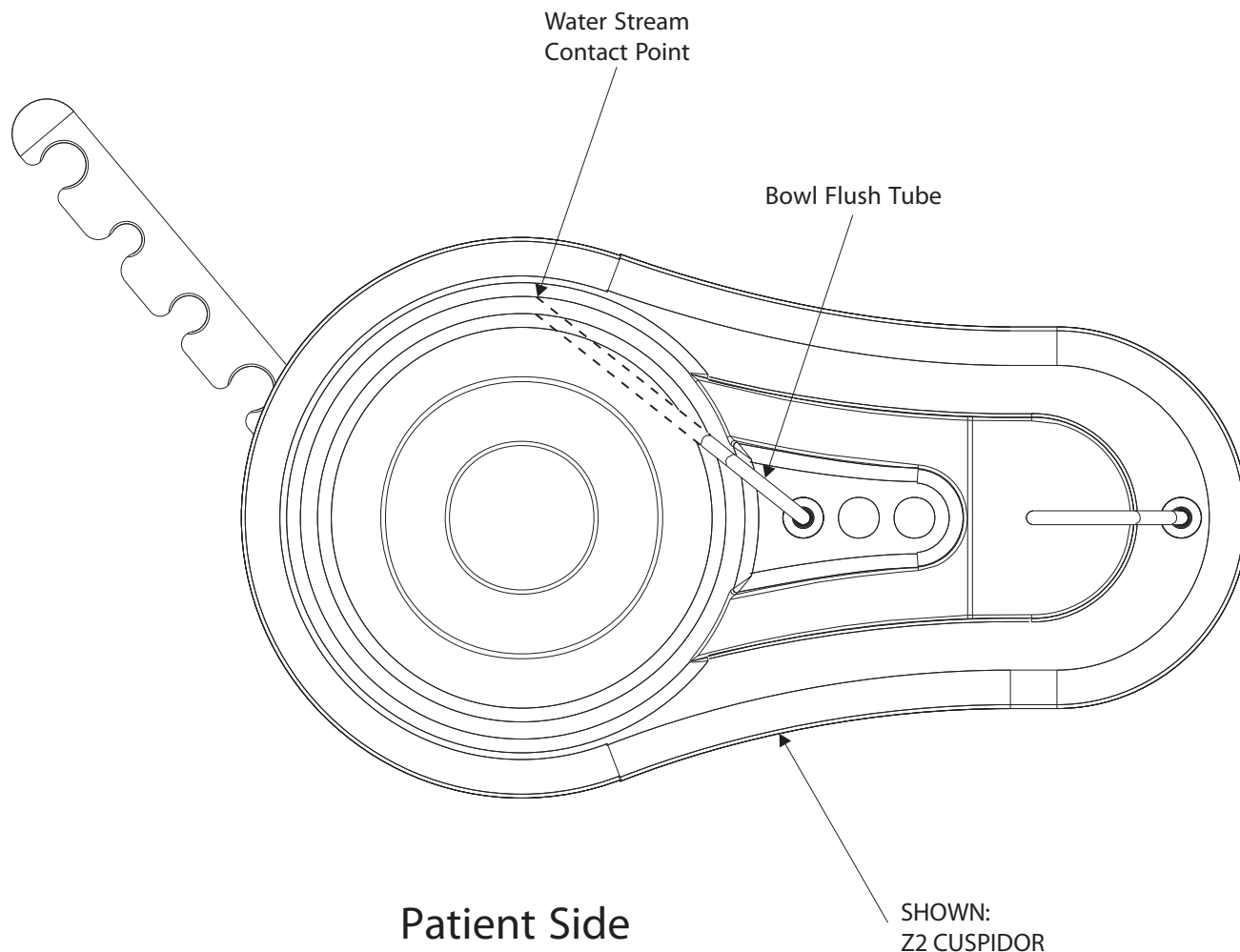
Figure 3.



# Hidden Umbilical Junction Box (P034015) - Installation Diagram



## Cuspidor Bowl Flush Contact point - Adjustment Instructions

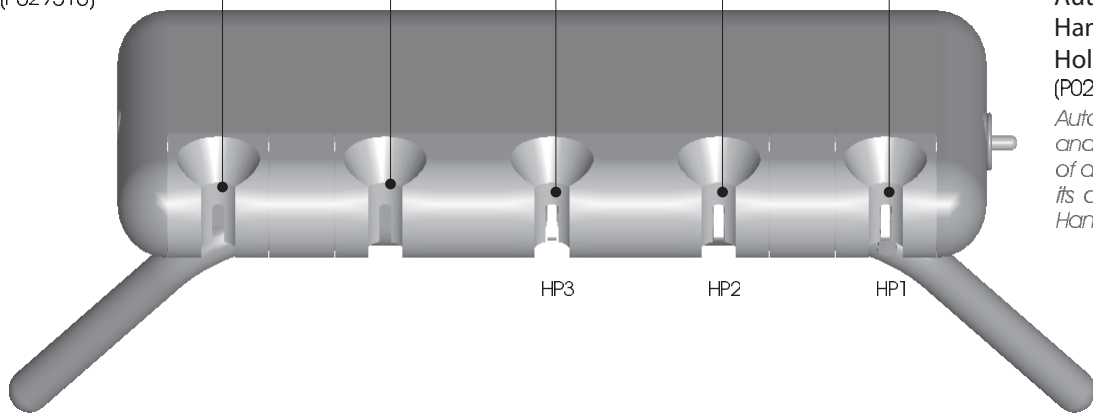


STEP 1. For an efficient bowl flush, position/rotate the Bowl Flush Tube so that the Water Stream makes contact on the Cuspidor bowl inner wall. Precisely adjust it, so the water covers the bottom of the Cuspidor bowl completely before it drains away. Make sure water does not splash out of the Cuspidor bowl.

STEP 2. Ideally the Bowl Flush Tube water stream contact point on the Cuspidor Bowl is located furthest away from the patient sitting in the dental chair.

## Z2 H.P. Control with Brake Switch - Description of Functions

Hand-Piece Holder  
(P029516)



Automatic Hand-Piece Holder  
(P029515)

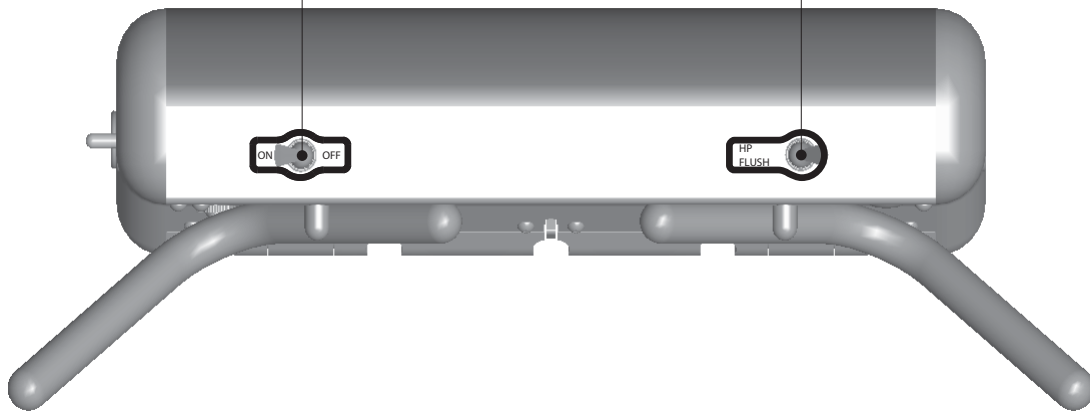
*Automatically stop and release the flow of air and water to its designated Hand-Piece.*

ON/OFF Master Switch  
(H015027)

*Master Air and Water Solenoids On and Off. When not in use, turn this switch to the OFF position.*

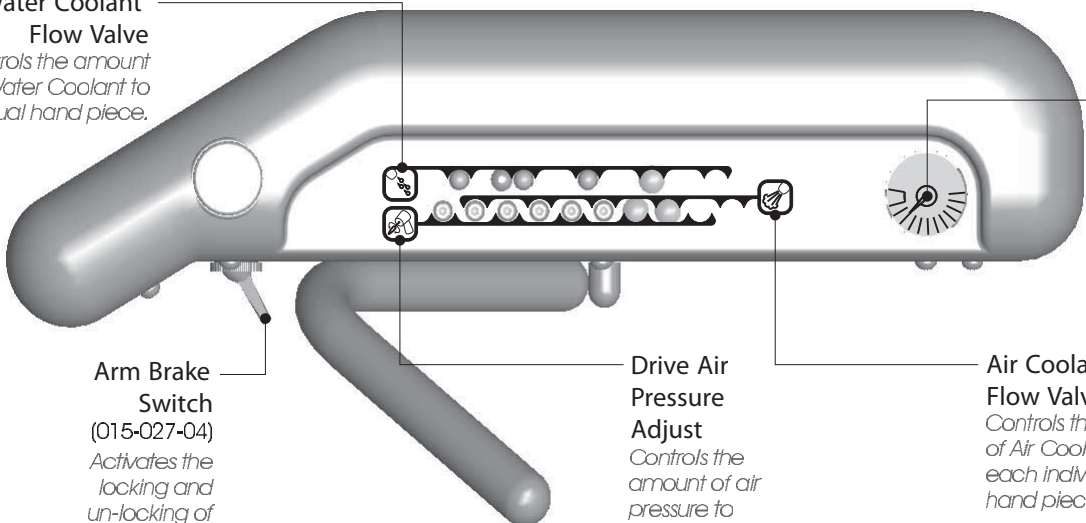
Hand Piece Flush Valve  
(H015016)

*Flushes hand piece in use with water.*



Water Coolant Flow Valve

*Controls the amount of Water Coolant to each individual hand piece.*



Drive Air Pressure Gauge  
(H015085)

*Air pressure reading for the hand piece in use.*

Arm Brake Switch  
(015-027-04)

*Activates the locking and un-locking of the Flex Arm's vertical movement.*

Drive Air Pressure Adjust

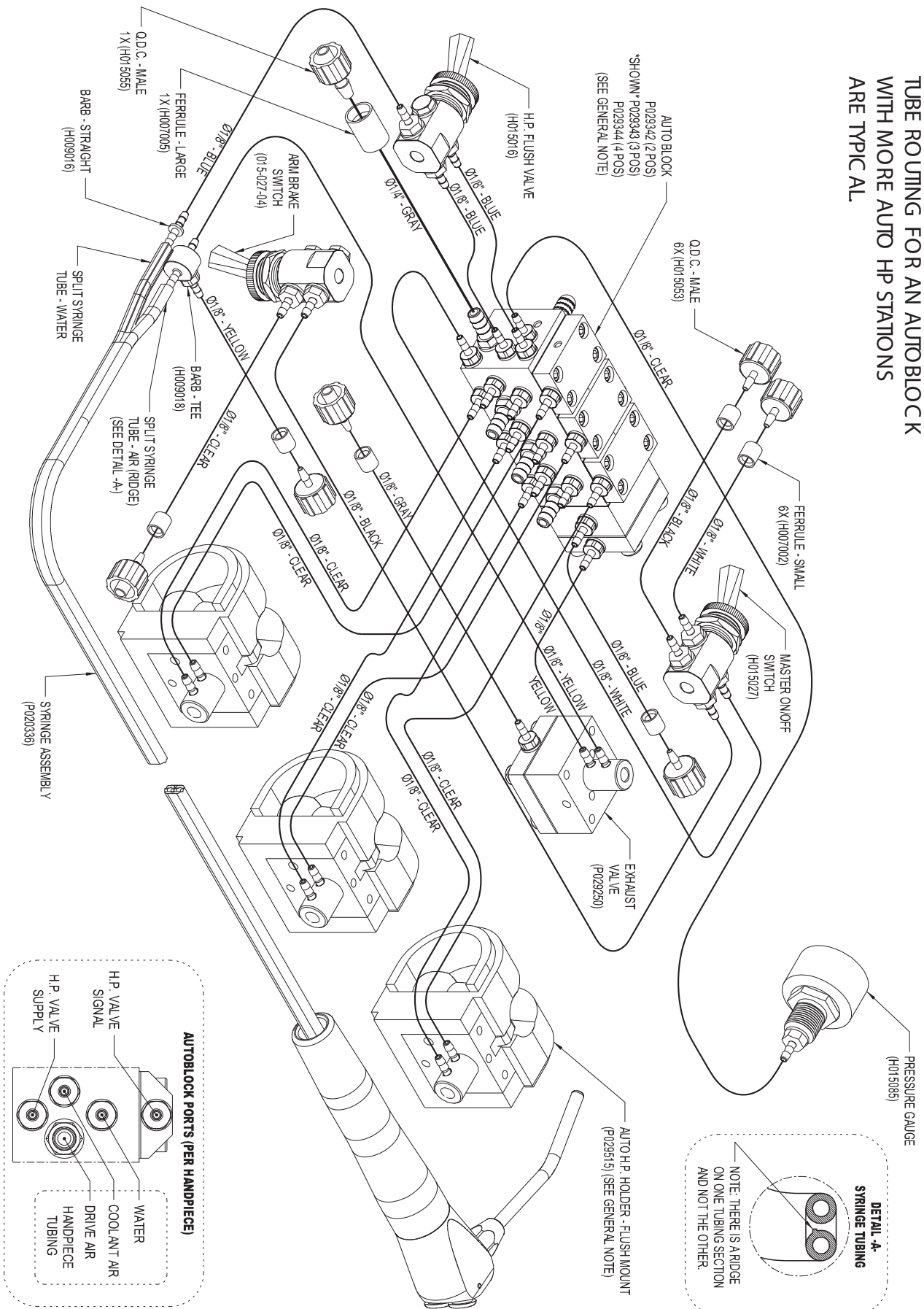
*Controls the amount of air pressure to drive each individual hand piece.*

Air Coolant Flow Valve

*Controls the amount of Air Coolant to each individual hand piece.*

# H.P. Control with Brake Switch - Tubing Diagram

**GENERAL NOTE:**  
 TUBE ROUTING FOR AN AUTOBLOCK  
 WITH MORE AUTO HP STATIONS  
 ARE TYPICAL





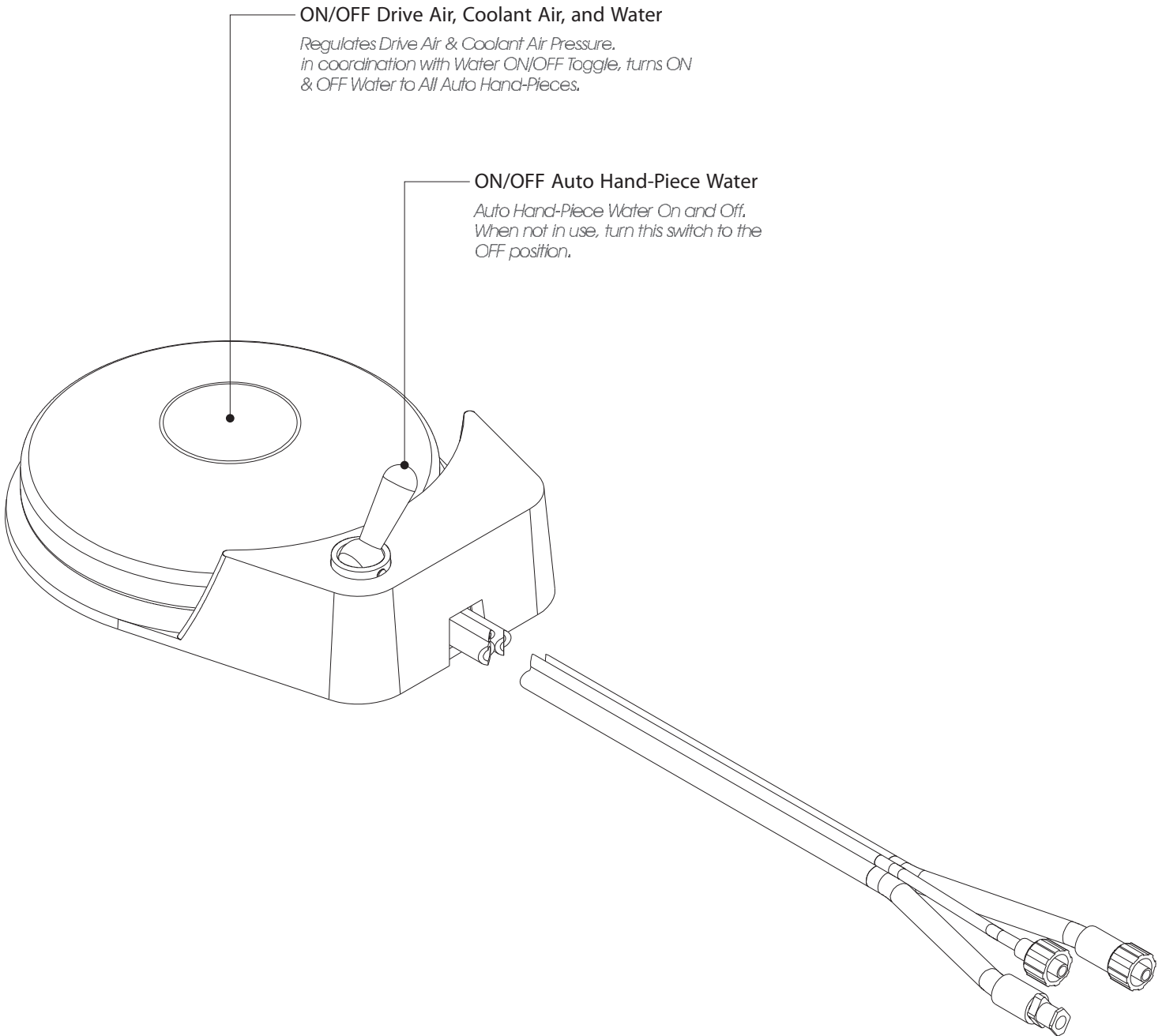
# Foot Control Wet/Dry - Description of Functions

## ON/OFF Drive Air, Coolant Air, and Water

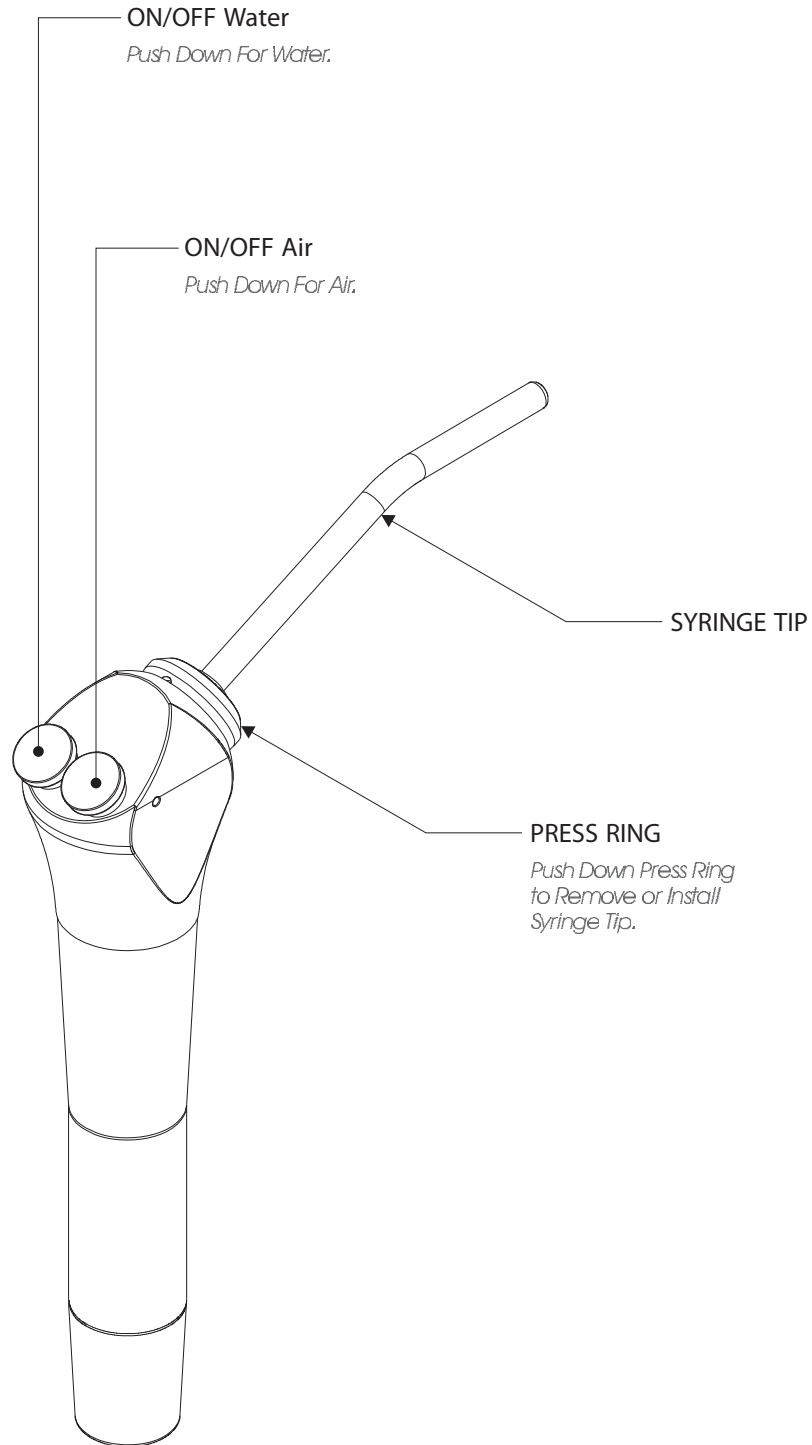
*Regulates Drive Air & Coolant Air Pressure, in coordination with Water ON/OFF Toggle, turns ON & OFF Water to All Auto Hand-Pieces.*

## ON/OFF Auto Hand-Piece Water

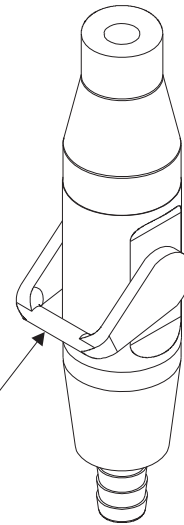
*Auto Hand-Piece Water On and Off. When not in use, turn this switch to the OFF position.*



# Syringe Water/Air - Description of Functions



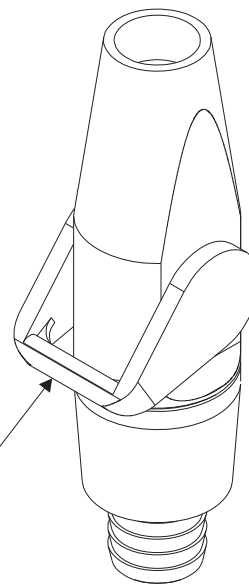
## H.V.E. & Saliva Ejector - Description of Functions



Saliva Ejector

ON/OFF Vacuum

*Pivot Lever UP  
to turn ON Vacuum  
Pivot Lever DOWN  
to turn OFF Vacuum*



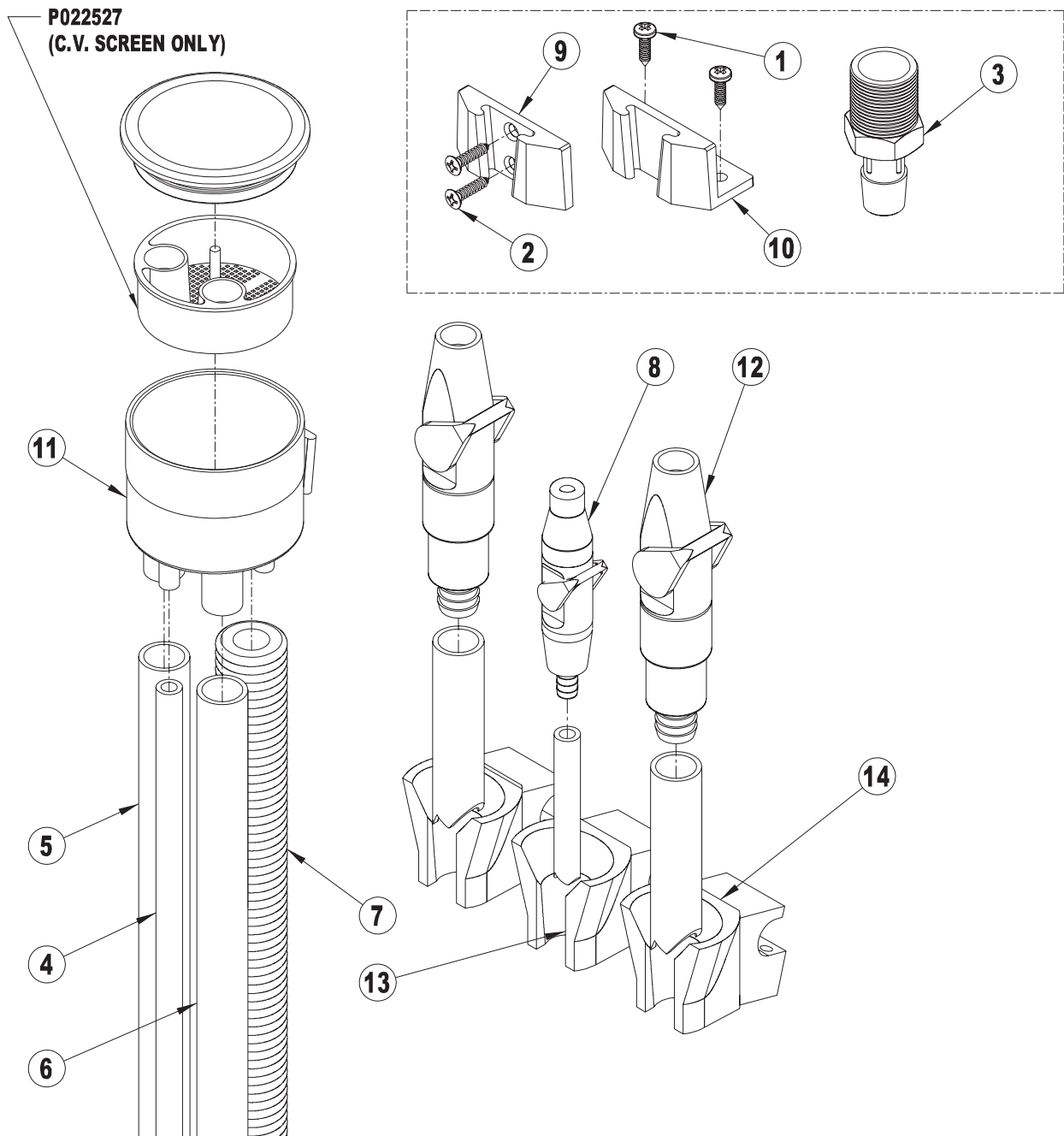
H.V.E.

ON/OFF Vacuum

*Pivot Lever UP  
to turn ON Vacuum  
Pivot Lever DOWN  
to turn OFF Vacuum*



## Vacuum Group - Replacement Parts (22-500-02)

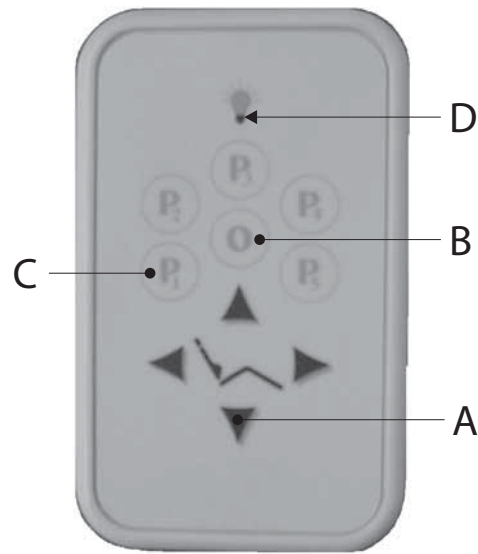


NO.	PART NO.	DESCRIPTION	QTY.
1	H002004	SCREW - ANGLE BRACKET (IF APPLICABLE)	2
2	H002013	SCREW - WALL BRACKET (IF APPLICABLE)	2
3	H009033	BARB THREADED - VACUUM DRAIN	1
4	H012009	TUBE - S.E.	SEE NOTE 1
5	H012010	TUBE - H.V.E.	SEE NOTE 1
6	H012010	TUBE - H.V.E.	SEE NOTE 1
7	H012048	TUBE - C.V. DRAIN	SEE NOTE 1
8	P022299	SALIVA EJECTOR	1

**NOTE 1: ORDER YOUR QTY IN FEET.**

NO.	PART NO.	DESCRIPTION	QTY.
9	P022528	MOUNTING BRACKET - WALL (IF APPLICABLE)	1
10	P022529	MOUNTING BRACKET - ANGLE (IF APPLICABLE)	1
11	P022535	C.V. CAN ASSY (C.V. SCREEN INCLUDED)	1
12	P022751M	H.V.E.	2
13	P029508	H.P. HOLDER - UNIVERSAL (IF APPLICABLE)	1
14	P029518	H.V.E. HOLDER (IF APPLICABLE)	2

## Touch Pad - Description of Functions



### GREEN ARROW Buttons (Manual Positioning Buttons)

These arrow buttons manually operate the chair in the direction indicated.

**A**

### "O" Button (Programmable EXIT position)

This button is generally used to automatically and consistently return the chair to a desired preset " Patient Exit " position.

Programming an exit position:

Manually position the chair using the green arrows. Once you have finished positioning the chair, press and hold the "O" button. Once the chair beeps, release the button. The chair will now return to that exit position any time that button is briefly pressed and released.

**B**

### " P1" thru "P5 " Buttons (Programmable POSITION buttons)

These buttons are used to automatically and consistently position the chair to its pre-programmed position. One pre-programmed position is allowed per button.

Programming a position:

Manually position the chair using the green arrows. Once you have finished positioning the chair, press and hold the "P" button of your choice. Once the chair beeps, release the button. The chair will now return to that programmed position any time that button is briefly pressed and released.

**C**

### LIGHT BULB Button (Dental Light ON/OFF)

With the Dental Light Toggle Switch in the High or Low ON setting, this button controls the Dental Light ON and OFF by controlling the Zakton Dental Chair's #8 Female Power Cord located at the Hydraulic Power Pack.

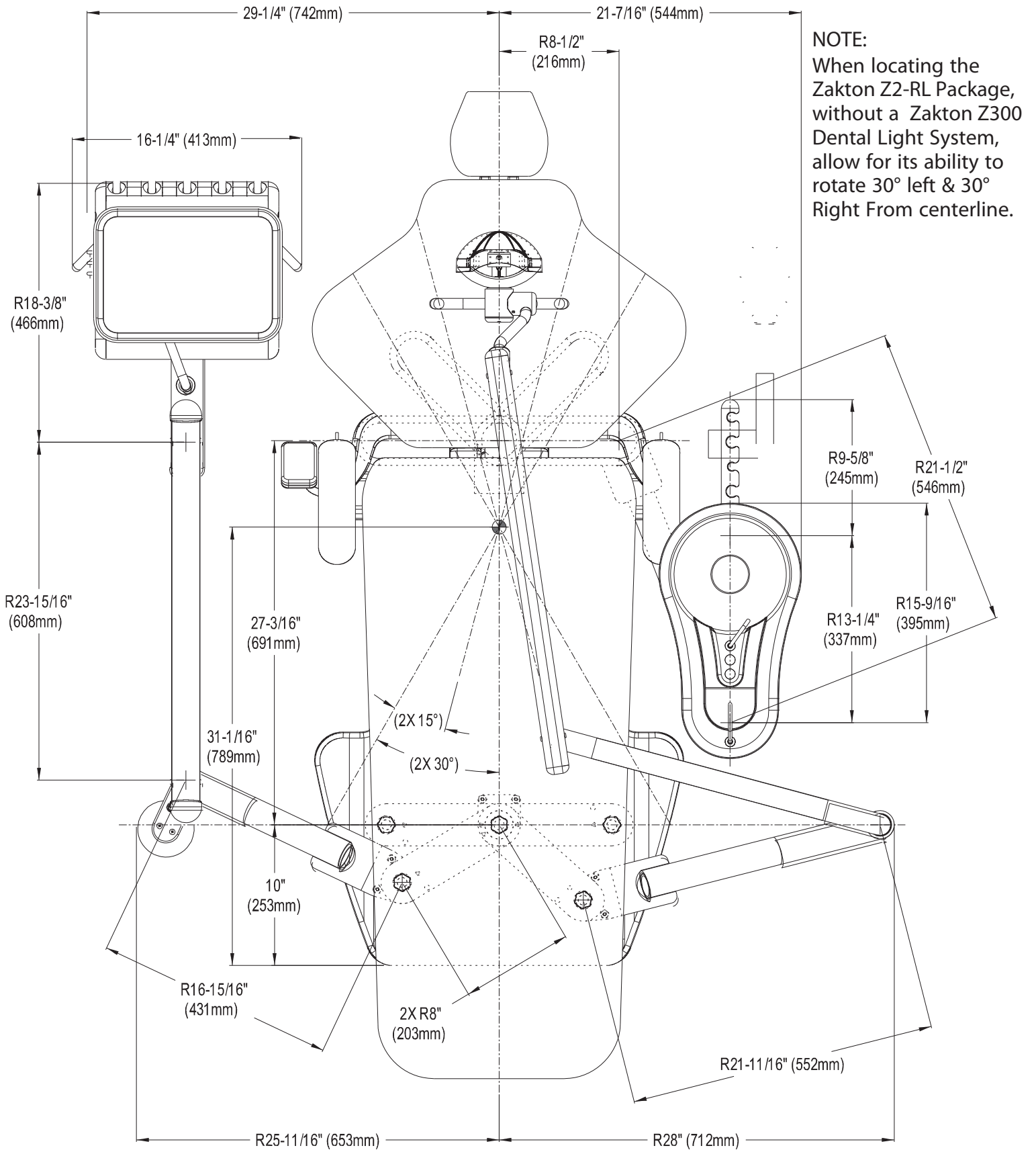
**D**

### "O" and " P1" thru "P5 " (Programmed Buttons)

Returning to a preset position:

After you have programmed a position into "O" or a "P" button, you can automatically and consistently return to that position at any time by briefly pressing and releasing the designated button. The chair will remember your programmed positions even after loss of power and/or unplugging the chair from its electrical source.

## General Dimensions - Zakton Z2-RL Delivery System



**Manufacturer / Distributor**



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