



BEAVERSTATE DENTAL SYSTEMS

Service Manual

S-5325

2 HP Automatic 2" dia. Post Mount
Hygiene System with Telescoping Arm

S-5325

Installation

1. Place the shipping carton in the desired location. Remove the unit with arm system and unit/light post (if ordered) from the shipping carton.



NOTE

If the unit/light post has a hole drilled in the side for the umbilical, orient the post so the hole is facing toward the foot of the chair.

2. Mount the post clamp to the post at the desired height.
3. Insert the telescoping arm into the post clamp.
4. If applicable, mount the utility center housing to the floor as per instructions in the Utility Center Template & Guide.
5. If applicable, install master valve assemblies, with filter and regulator, onto the manual shut-off valves. (Pressures are preset at the factory: 80 psi air, 40 psi water).
6. If applicable, feed the supply tubings from the umbilical through the 3/4" hole in the utility center housing. Screw in the spiral tubing to act as a strain relief.
7. Connect the supply tubings as shown in the Utility Center Template & Guide.

Final Adjustments

Check air pressure, adjust to 80 psi if necessary.
Check water pressure, adjust to 40 psi if necessary.
Check vacuum cannister for solids screen
Test handpieces for proper function.
Test syringe for proper pressure and function.

Operation

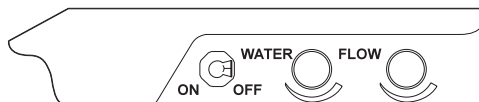
1. Turn on the master switch located on the bottom / left of the control head.
2. The handpiece is automatically activated when lifted from the holder.
3. Depress the foot control to run each handpiece. Pressure is shown on the gauge for the handpiece being used.
4. Individual handpiece pressure adjustments are located on the Handpiece Adjustment Block inside the control head. To adjust the pressure to each handpiece:
 - a. Turn adjustment screw *clockwise* to decrease the handpiece pressure.
 - b. Turn adjustment screw *counter-clockwise* to increase the handpiece pressure



CAUTION

When adjusting the handpiece pressure, do not over-tighten the screws. Damage may result.

5. Activate the water spray to the handpiece by flipping the toggle for the water located on the right side of the control head.
6. Water coolant flow adjustments are located on the right side of the control head.



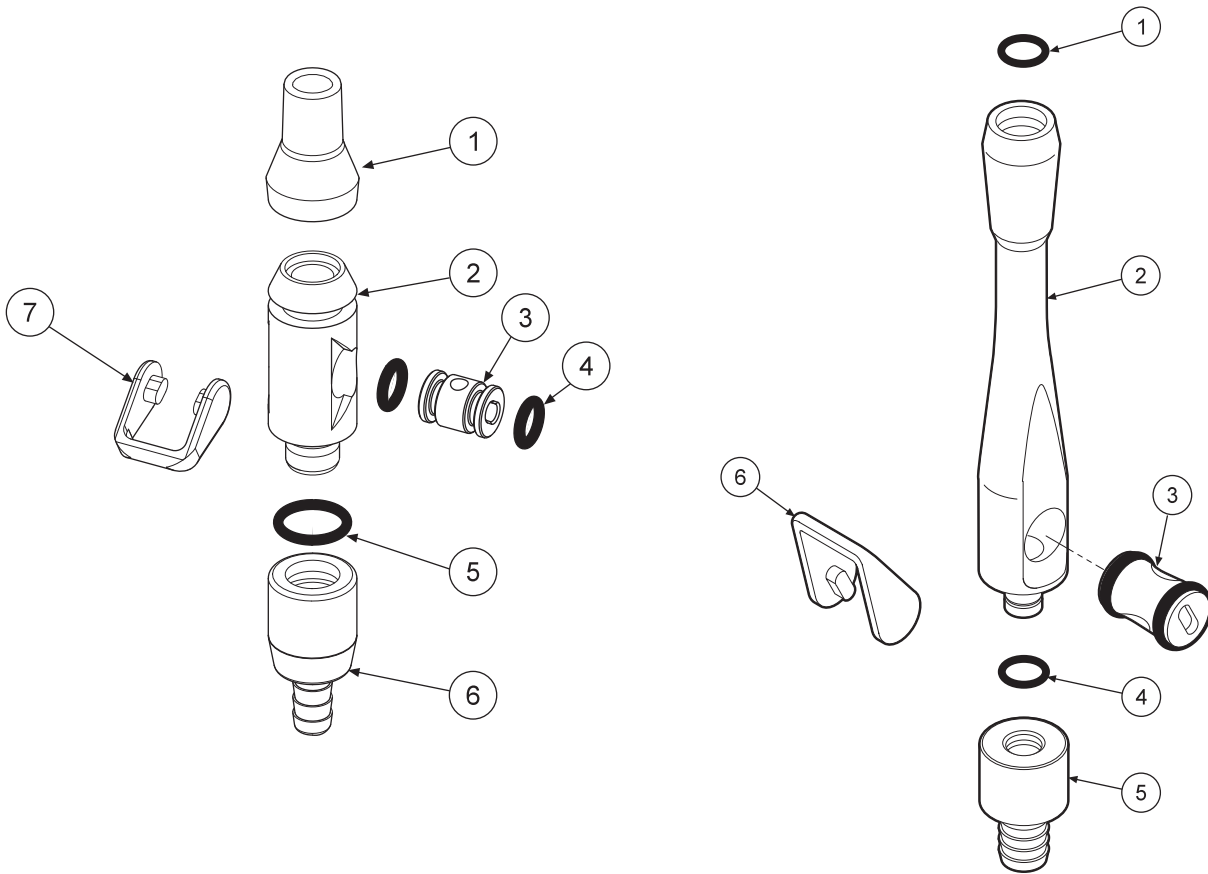
Control Panel S-5325

Autoclavable HVE & S/E Valves

Maintenance Autoclavable vacuum valves may be autoclaved by steam autoclave or a chemical vapor. Due to the tight clearances and hardness of the anodized surfaces, the valve spool can become jammed or seize in the valve if it is sterilized while contaminated with debris.

Valves can be quickly disassembled for cleaning.

1. Pry one side of the lever and flip it off of the valve. For saliva ejector valves, remove the tip also.
2. Push out the valve spool and clean all the disassembled parts in an ultrasonic cleaner daily. *Rinse thoroughly before putting into autoclave.*
3. Lubricate the O-Rings on the spool with a silicone based lubricant before reassembly.



| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|------------------|-------------|-----|
| 1 | Tip..... | 112-174 | 1 |
| 2 | Body..... | 112-276 | 1 |
| 3 | Spool..... | 112-278 | 1 |
| 4 | O-Ring #10..... | 017-110 | 2 |
| 5 | O-Ring, #12..... | 017-012 | 1 |
| 6 | Swivel..... | 112-177 | 1 |
| 7 | Lever..... | 112-181 | 1 |

| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|--------------------|-------------|-----|
| 1 | O-Ring, #13..... | 017-113 | 3 |
| 2 | Body, Chrome..... | 112-272 | 1 |
| 3 | Spool, Chrome..... | 112-268 | 1 |
| 4 | O-Ring, #13..... | 017-013 | 1 |
| 5 | Swivel..... | 112-170 | 1 |
| 6 | Lever..... | 112-169 | 1 |

AUTOCLAVABLE S/E LEVER VALVE, CHROME 112-280 AUTOCLAVABLE UNIVERSAL HVE VALVE 112-263

Troubleshooting

Symptom Handpiece lacks power.

Possible Causes

- A. Improper supply pressure from compressor (80 psi).
- B. Check handpiece pressure adjustment on unit.
- C. Air filter may be plugged.
- D. Pinched supply tubing.
- E. Defective handpiece gasket at connection with tubing.
- F. Defective handpiece.

Symptom Water coolant does not shut off when foot control is released.

Possible Causes

- A. Adjust air pressure to 80 psi—water pressure to 40 psi.
- B. Defective cartridge in wet/dry foot control.
- C. Foot control is not exhausting.

Symptom More than one handpiece is operating.

Possible Causes

- A. Handpiece is not all the way in the holder.
- B. Improper adjustment on pilot valve in the handpiece holder.
- C. Defective shuttle valve to gauge.

Symptom Insufficient water coolant.

Possible Causes

- A. Adjust coolant flow valve.
- B. Water filter may be plugged.
- C. Handpiece may be plugged.
- D. Pinched supply tubing.

Symptom Water coolant is running from handpiece while in the holder.

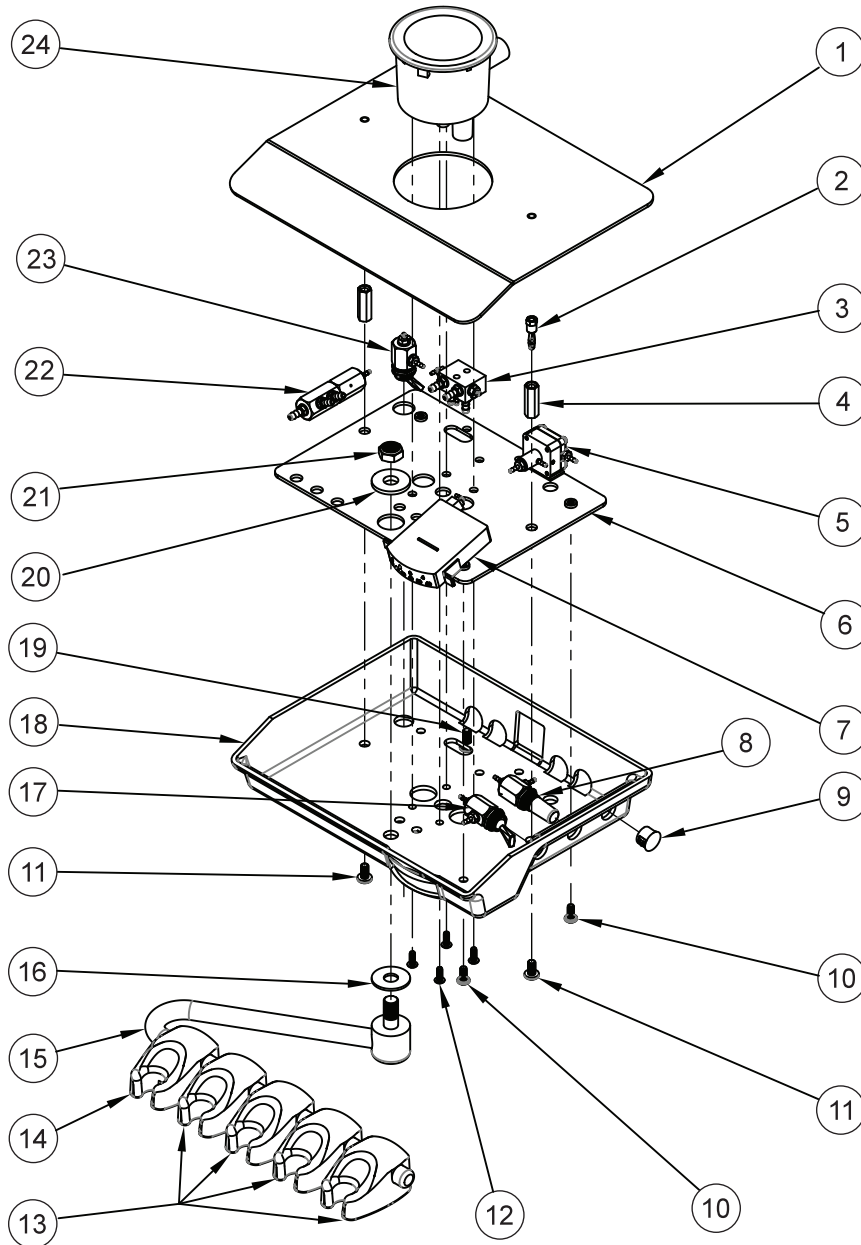
Possible Causes

- A. Water pressure too high.
- B. Air pressure too low.
- C. Handpiece holder out of adjustment.

Symptom Water coolant is running continuously.

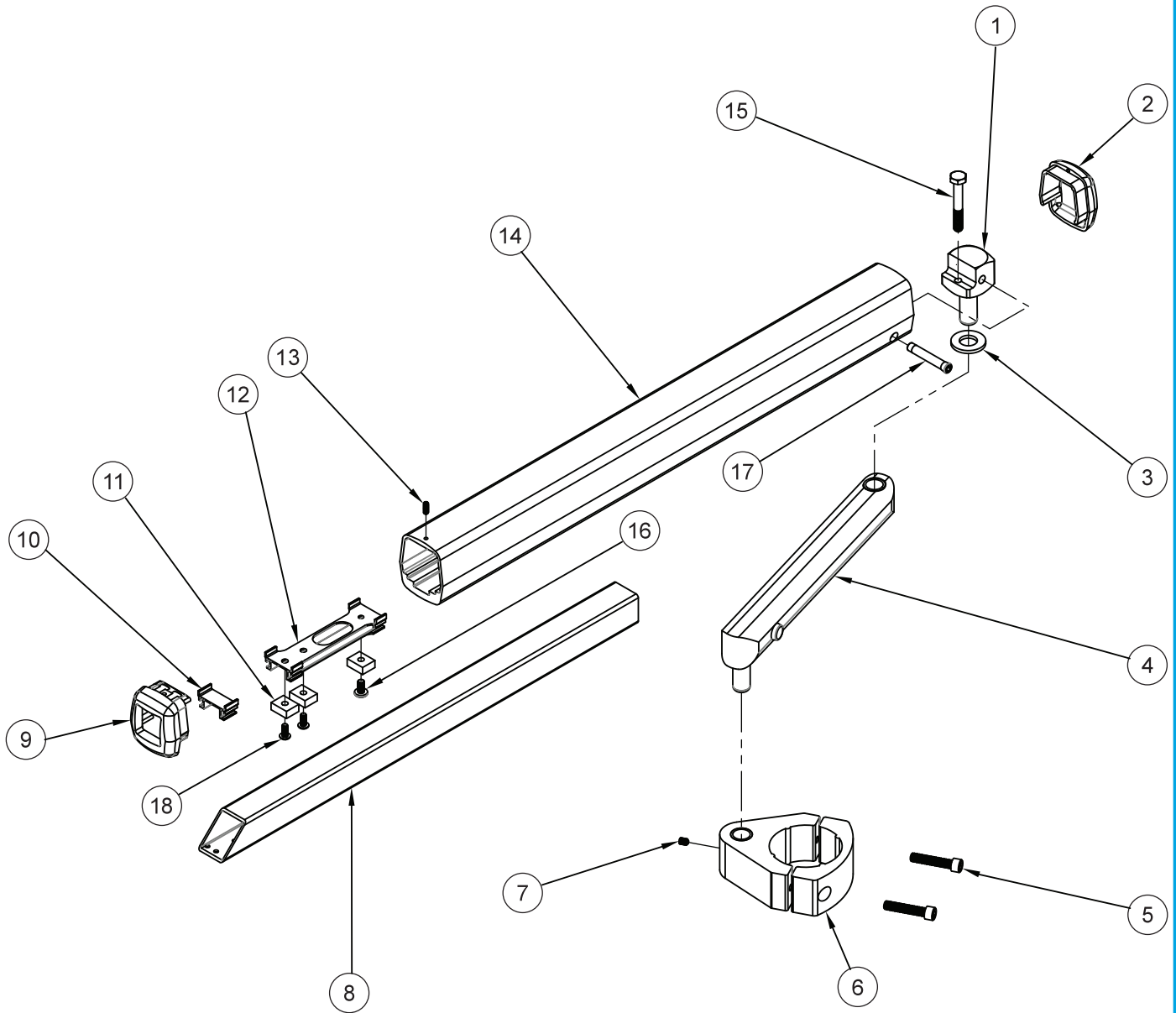
Possible Causes

- A. Purge switch is on (on applicable systems).
- B. On-off signal is not exhausting.
- C. Water pressure too high.
- D. Handpiece holder out of adjustment.

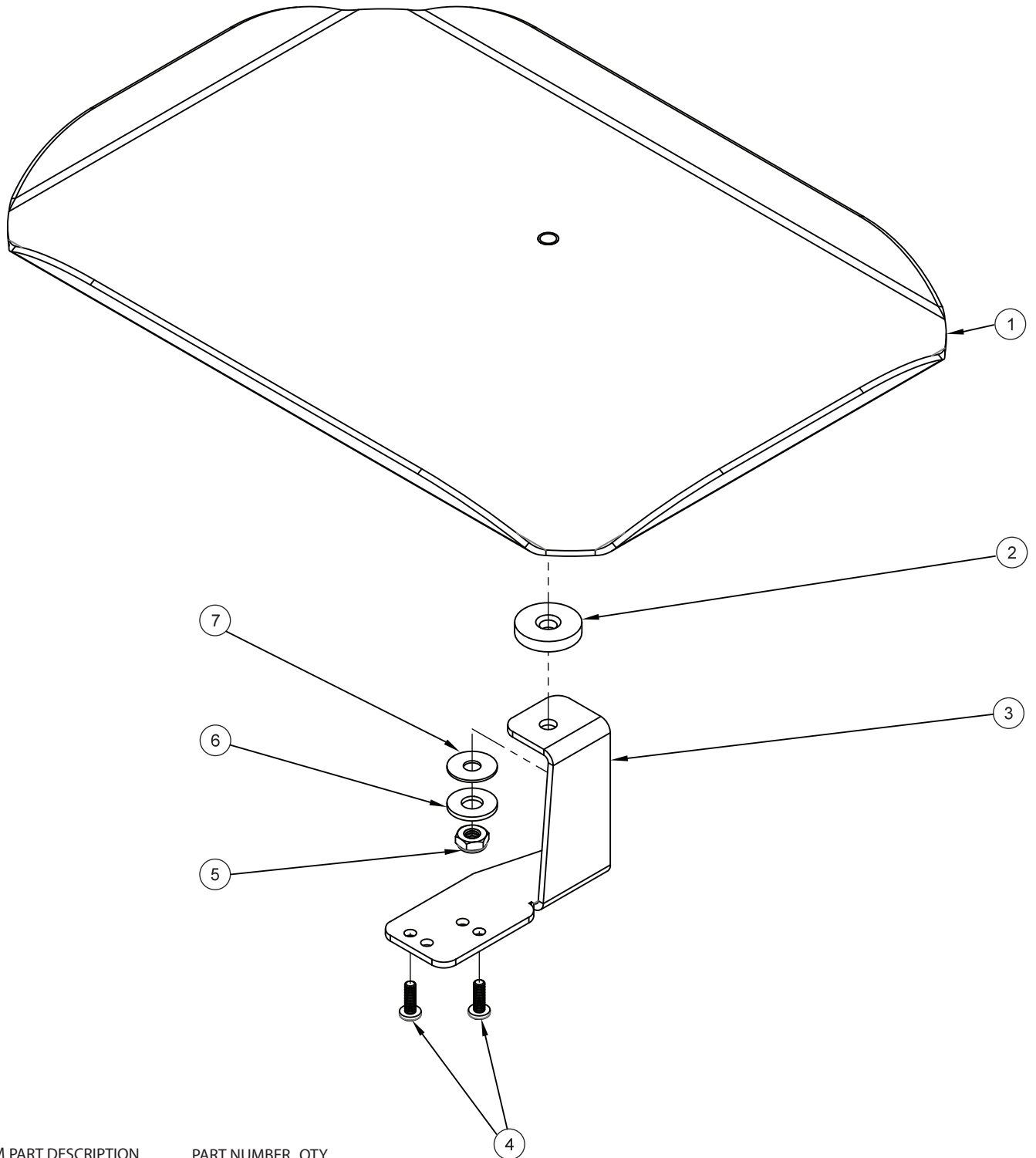


| ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|------------------------|-------------|-----|------|-----------------------------|-------------|-----|------|--------------------------|-------------|-----|
| 1 | Cover..... | 101-086 | 1 | 10 | Screw, 8-32 x .375"..... | 001-151 | 3 | 19 | Screw, 10-32 x 1/2"..... | 001-057 | 1 |
| 2 | Banana Plug 8/32"..... | 023-022 | 2 | 11 | Screw, 10-32 x 3/8"..... | 001-070 | 2 | 20 | Washer..... | 003-013 | 1 |
| 3 | Adjustment Block..... | 113-021 | 1 | 12 | Screw, 6-32 x 3/8"..... | 001-134 | 4 | 21 | Nylon Nut, 3/8"-24..... | 002-002 | 1 |
| 4 | Locator..... | 117-013 | 2 | 13 | Syringe Holders..... | 141-200 | 4 | 22 | Routing Valve..... | 014-007 | 1 |
| 5 | Water Relay Valve..... | 123-000 | 1 | 14 | Auto Holder..... | 122-200 | 1 | 23 | Toggle Valve..... | 120-007 | 1 |
| 6 | Chassis..... | 101-085 | 1 | 15 | 9" Holder Bar Assembly..... | 105-227 | 1 | 24 | CV Canister..... | 131-036 | 1 |
| 7 | Rectangular Gauge..... | 026-003 | 1 | 16 | Washer..... | 003-010 | 1 | | | | |
| 8 | Needle Flow Valve..... | 121-000 | 1 | 17 | Toggle Valve..... | 120-000 | 1 | | | | |
| 9 | 1/2" Heyco Plug..... | 010-013 | 1 | 18 | Base..... | 101-087 | 1 | | | | |

**AUTOMATIC HANDPIECE CONTROL
S-5325**

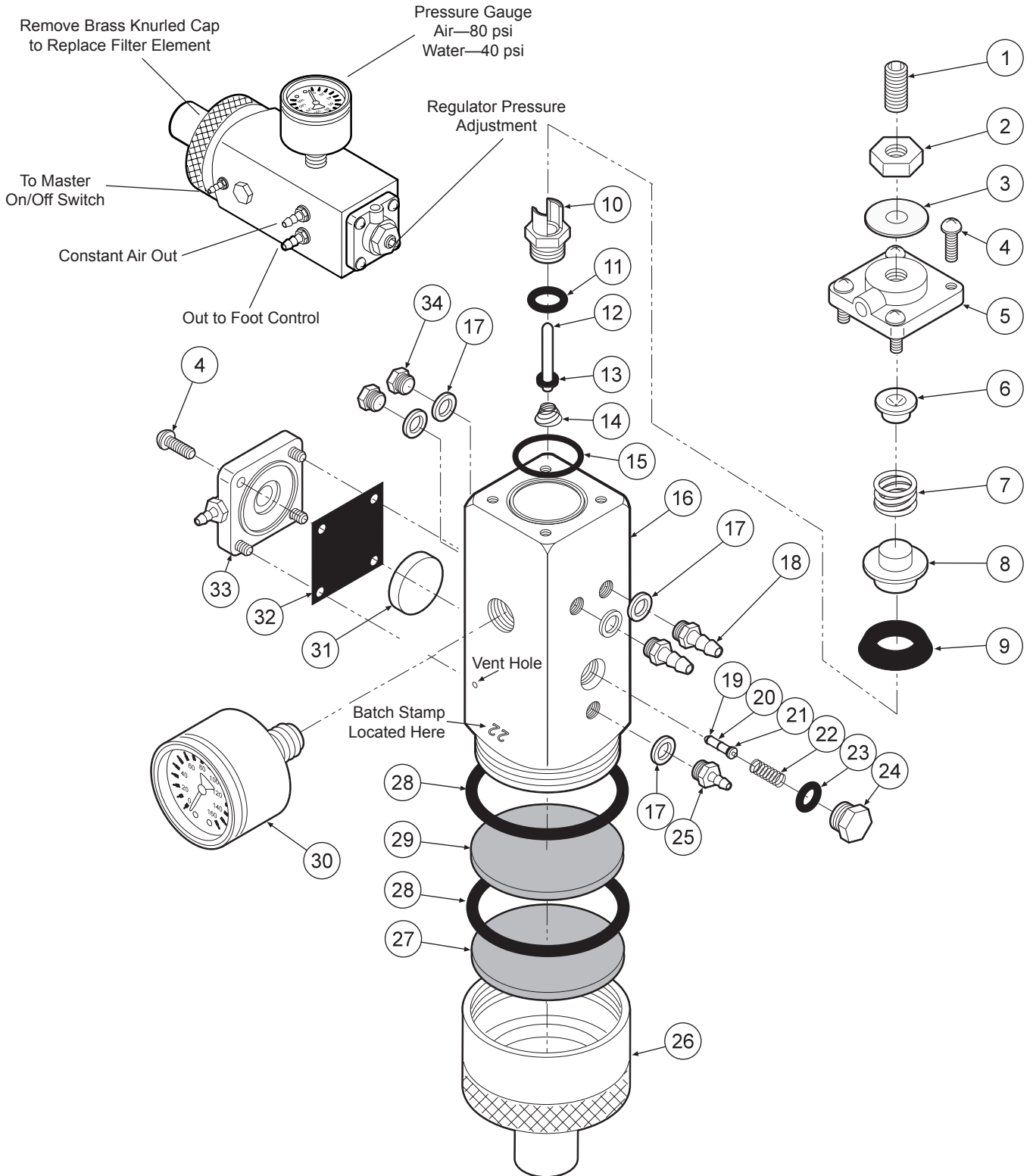


| ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|-------------------------------|-------------|-----|------|-------------------------------------|-------------|-----|
| 1 | Pivot | 105-258 | 1 | 11 | Slider Block | 105-211 | 3 |
| 2 | Endcap | 105-217 | 1 | 12 | Slide..... | 105x215 | 1 |
| 3 | Washer 1/2"..... | 003-006 | 1 | 13 | Set Screw, 6-32 x 3/8"..... | 005-012 | 1 |
| 4 | 8" Horizontal Arm..... | 105-038 | 1 | 14 | Telescoping Arm Housing | 105-212 | 1 |
| 5 | Screw, 1/4-20 x 1.25 | 001-169 | 2 | 15 | Carriage Bolt, 1/4-20 x 1-3/4 | 001-446 | 1 |
| 6 | Post Mount Clamp | 105-051 | 1 | 16 | Screw, 10-32 x 3/8"..... | 001-070 | 1 |
| 7 | Set Screw, 10-32 x 1/4" | 005-026 | 2 | 17 | Mech Flex Housing Pin..... | 009-013 | 1 |
| 8 | Inner Square Tube..... | 105-216 | 1 | 18 | Screw, 8-32 x .375"..... | 001-161 | 2 |
| 9 | End Cap Slotted | 105-218 | 1 | | | | |
| 10 | Front Slide Guide..... | 105-219 | 1 | | | | |



| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|------------------------------------|-------------|-----|
| 1 | Tray Holder (Tray is not included) | 105-097 | 1 |
| 2 | Washer, Tray Mount Spacer | 003-022 | 1 |
| 3 | Bracket | 105-098 | 1 |
| 4 | Screw, 8-32 | 001-152 | 2 |
| 5 | Jam Nut 1/4-20" | 002-023 | 1 |
| 6 | Washer, 1/4" | 003-023 | 1 |
| 7 | Washer, Tray Mount Friction | 105-098 | 1 |

TRAY ASSEMBLY
105-096



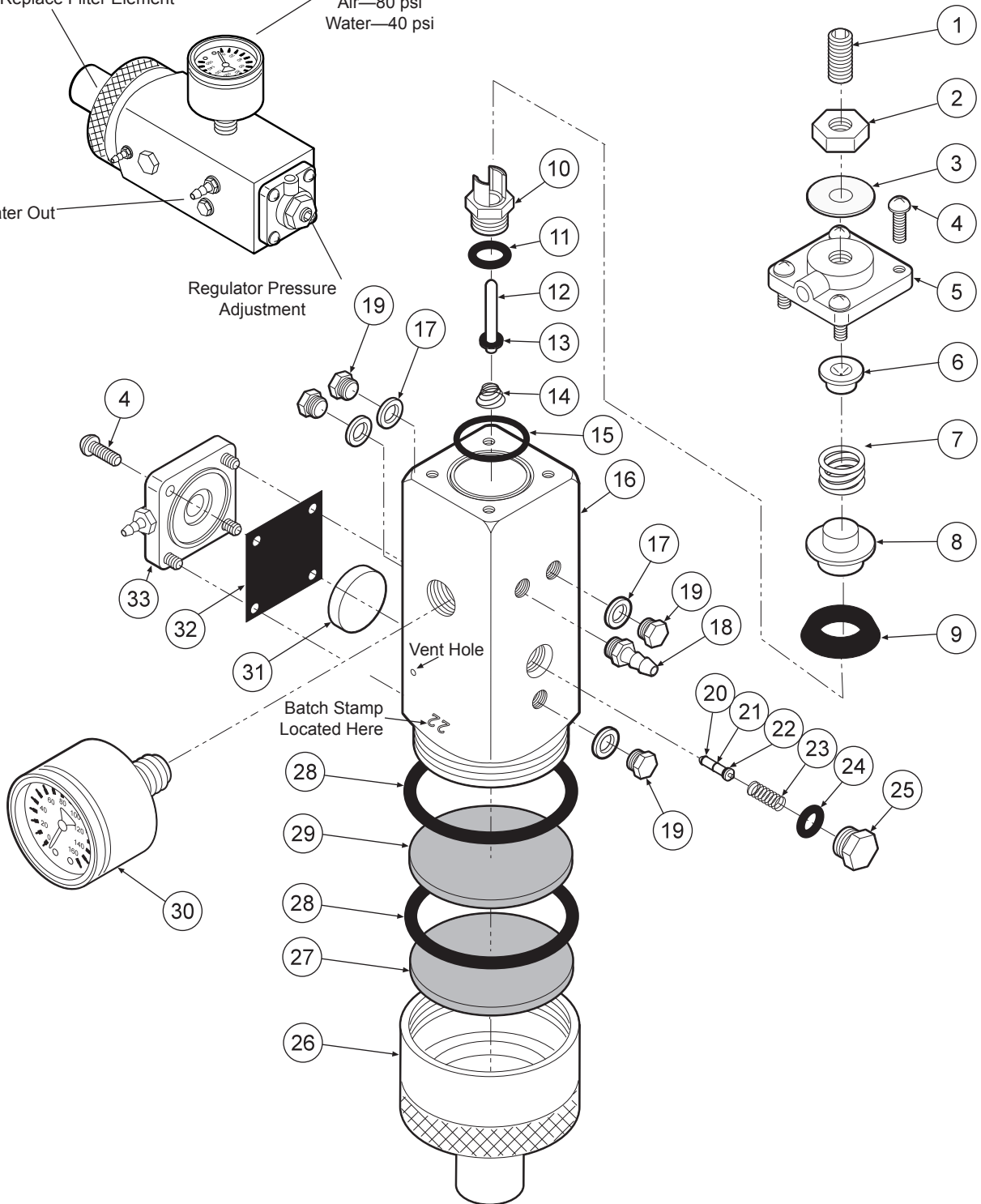
| ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|--------------------------|-------------|-----|------|----------------------|-------------|-----|------|----------------------------|-------------|-----|
| 1 | Set Screw, 1/4-20 x 5/8" | 005-024 | 1 | 13 | O-Ring, 004 | 017-104 | 1 | 24 | Plug | 020-026 | 1 |
| 2 | Jam Nut, 1/4-20 | 002-006 | 1 | 14 | Spring | 008-028 | 1 | 25 | Barb, 10-32 x 1/16" | 022-009 | 1 |
| 3 | Washer | 003-015 | 1 | 15 | O-Ring | 017-018 | 1 | 26 | Cap Inlet | 127-041 | 1 |
| 4 | Screw, 6-32 x 3/8" | 001-041 | 8 | 16 | Body | 127-040 | 1 | 27 | Filter Element, 100 Micron | 119-005 | 1 |
| 5 | Cap | 127-033 | 1 | 17 | Plastic Washer, 1/4" | 003-001 | 5 | 28 | O-Ring, 018 | 017-022 | 2 |
| 6 | Spring Seat | 127-043 | 1 | 18 | Barb, 10-32 x 1/8" | 022-010 | 2 | 29 | Filter Element, 35 Micron | 119-004 | 1 |
| 7 | Spring | 008-008 | 2 | 19 | O-Ring, 001 | 017-501 | 2 | 30 | Gauge | 026-001 | 1 |
| 8 | Cup Seat | 127-044 | 1 | 20 | Stem | 127-045 | 1 | 31 | Piston | 123-014 | 1 |
| 9 | Cup Seal | 017-200 | 4 | 21 | O-Ring, 003 | 017-103 | 1 | 32 | Gasket | 127-031 | 1 |
| 10 | Seat | 127-026 | 3 | 22 | Spring | 008-040 | 1 | 33 | Cap | 123-030 | 1 |
| 11 | O-Ring, 008 | 017-008 | 2 | 23 | O-Ring, 007 | 017-007 | 1 | 34 | Plug | 001-001 | 2 |
| 12 | Stem | 127-024 | 1 | | | | | | | | |

Remove Brass Knurled Cap to Replace Filter Element

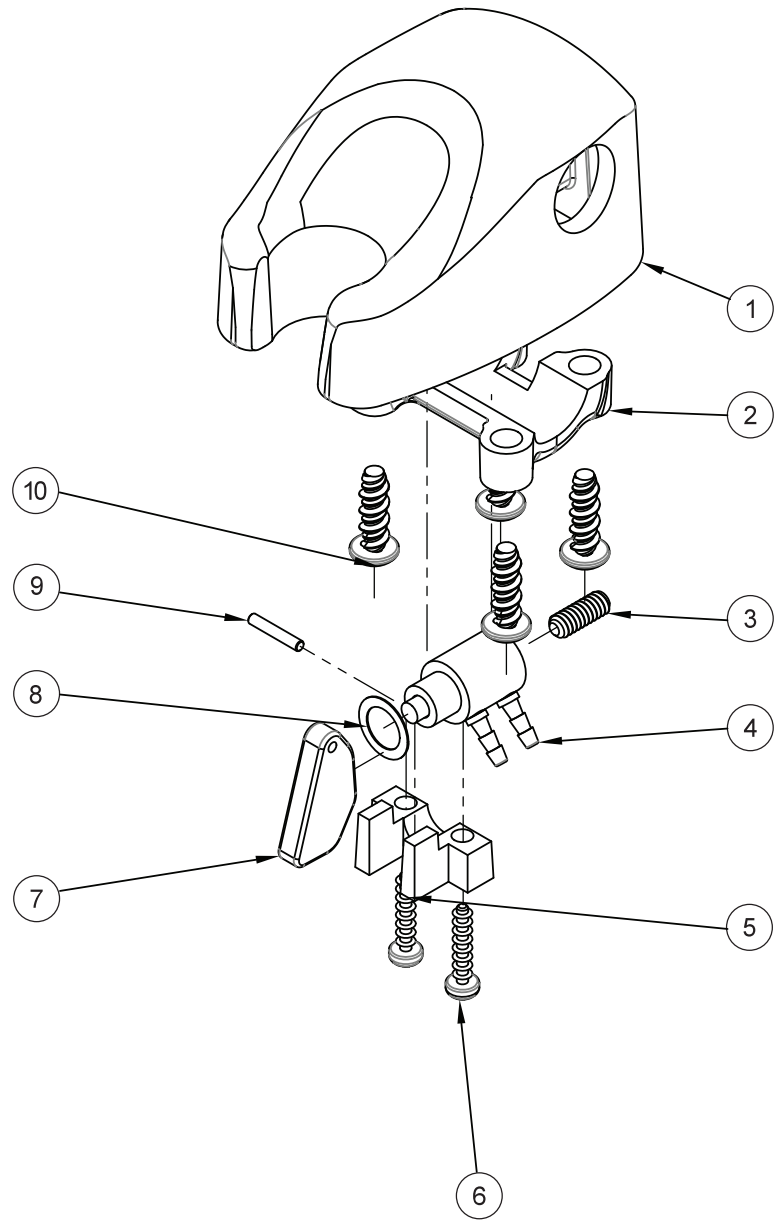
Pressure Gauge
Air—80 psi
Water—40 psi

Water Out

Regulator Pressure Adjustment

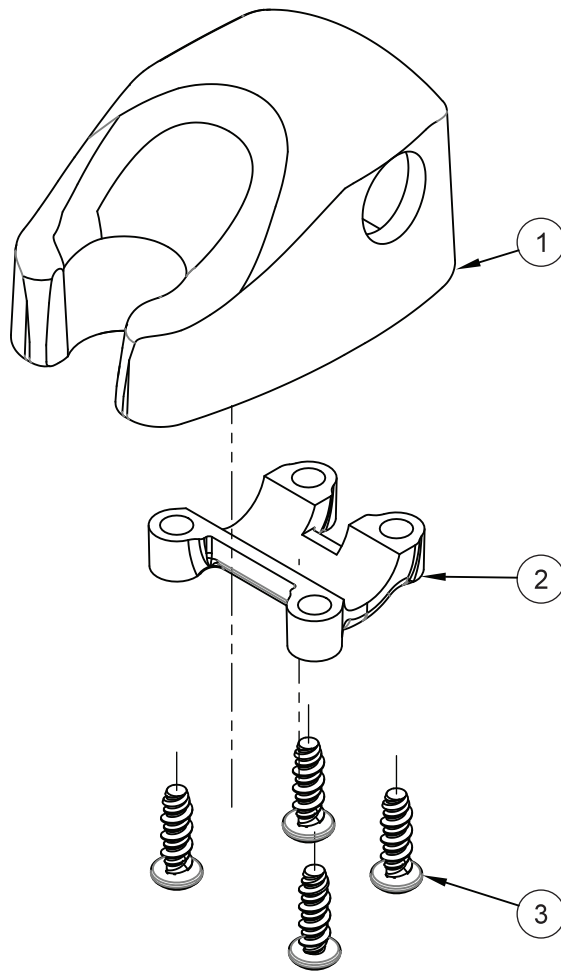


| ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY | ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|---------------------------|-------------|-----|------|----------------------|-------------|-----|------|----------------------------|-------------|-----|
| 1 | Set Screw, 1/4"-20 x 5/8" | 005-024 | 1 | 12 | Stem | 127-024 | 1 | 23 | Spring | 008-040 | 1 |
| 2 | Jam Nut, 1/4"-20 | 002-006 | 1 | 13 | O-Ring, 004 | 017-104 | 1 | 24 | O-Ring, 007 | 017-007 | 1 |
| 3 | Washer | 003-015 | 1 | 14 | Spring | 008-028 | 1 | 25 | Plug | 020-026 | 1 |
| 4 | Screw, 6-32 x 3/8" | 001-041 | 8 | 15 | O-Ring | 017-018 | 1 | 26 | Cap Inlet | 127-041 | 1 |
| 5 | Cap | 127-023 | 1 | 16 | Body | 127-040 | 1 | 27 | Filter Element, 100 Micron | 119-005 | 1 |
| 6 | Spring Seat | 127-043 | 1 | 17 | Plastic Washer, 1/4" | 003-001 | 1 | 28 | O-Ring, 018 | 017-022 | 2 |
| 7 | Spring | 008-008 | 1 | 18 | Barb, 10-32 x 1/8" | 022-010 | 1 | 29 | Filter Element, 35 Micron | 119-004 | 1 |
| 8 | Cup Seat | 127-044 | 1 | 19 | Plug | 001-001 | 4 | 30 | Gauge | 126-001 | 1 |
| 9 | Cup Seal | 017-200 | 1 | 20 | O-Ring, 001 | 017-501 | 2 | 31 | Piston | 123-014 | 1 |
| 10 | Seat | 127-026 | 1 | 21 | Stem | 127-045 | 1 | 32 | Gasket | 127-031 | 1 |
| 11 | O-Ring, 008 | 017-008 | 1 | 22 | O-Ring, 003 | 017-103 | 1 | 33 | Cap | 123-012 | 1 |

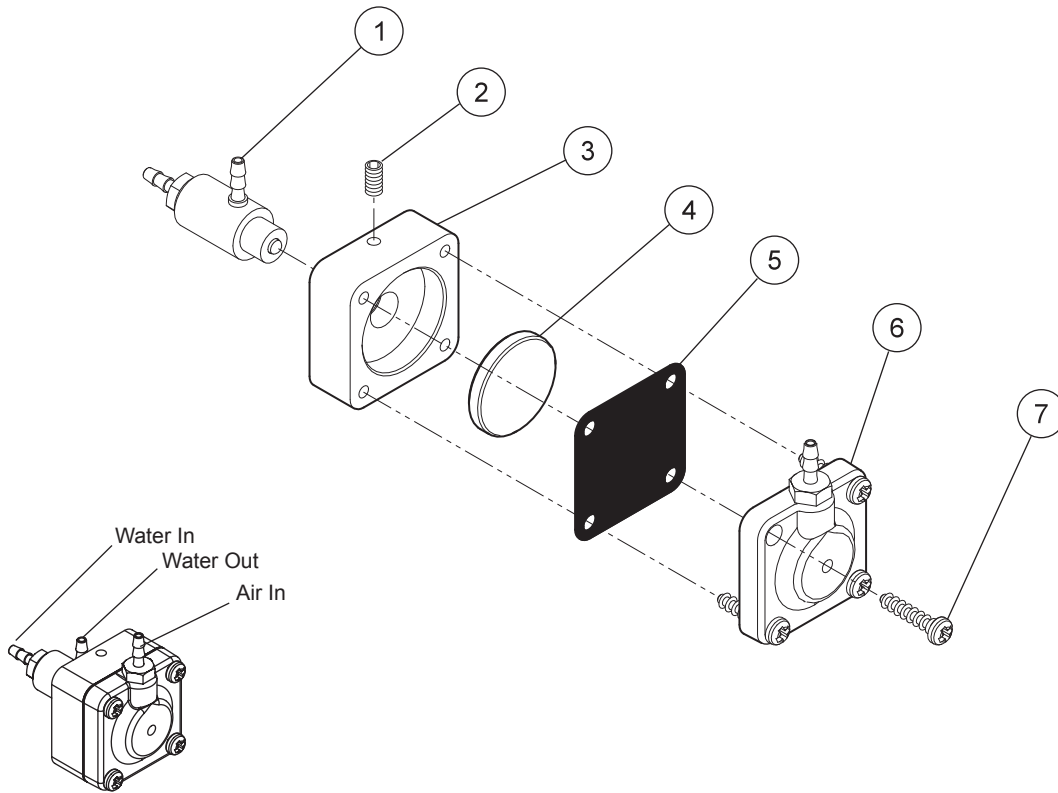
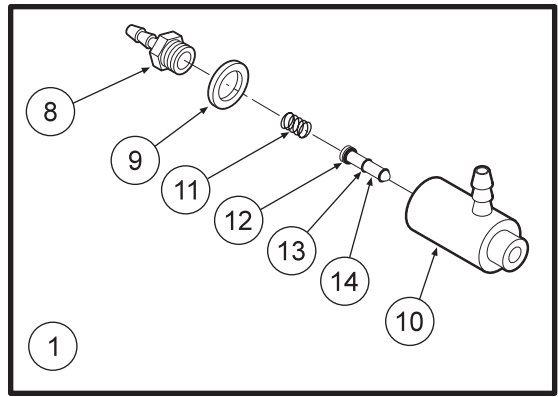


| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|-------------------------------|-------------|-----|
| 1 | Molded Body..... | 122-201 | 1 |
| 2 | Clamp | 122-104 | 1 |
| 3 | Set Screw, 6-32 x 3/8"..... | 005-012 | 1 |
| 4 | Valve Cartridge..... | 122-031 | 1 |
| 5 | Molded Clip..... | 122-102 | 1 |
| 6 | Screw, 4 x 1/2"..... | 001-019 | 2 |
| 7 | Handpiece Actuator Lever..... | 122-103 | 1 |
| 8 | Washer..... | 003-004 | 1 |
| 9 | Pin, 1/16"x3/8" Dowel..... | 009-010 | 1 |
| 10 | Screw, 8-18 x 1/2"..... | 001-267 | 4 |

MOLDED IC AUTOMATIC HOLDER
122-200

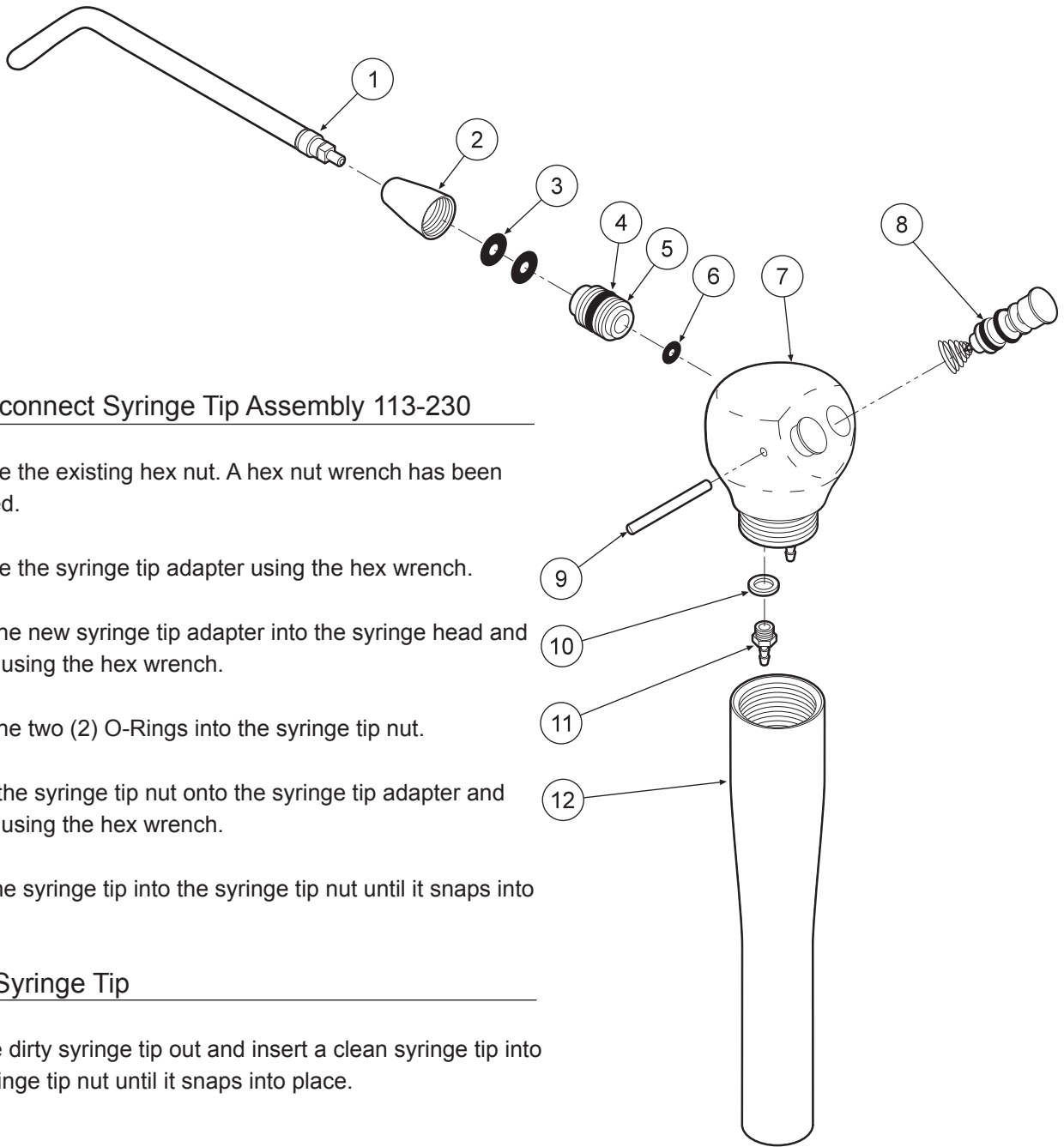


| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|-------------------------|-------------|-----|
| 1 | Molded Body..... | 141-201 | 1 |
| 2 | Clamp | 122-204 | 1 |
| 3 | Screw, 8-32 x 1/2"..... | 001-267 | 4 |



Water Relay Valve 123-000

| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|------------------------------|-------------|-----|
| 1 | Cartridge Body Assembly..... | 123-018 | 1 |
| 2 | Set Screw, 4-40 x 5/8"..... | 005-028 | 1 |
| 3 | Body..... | 123-013 | 1 |
| 4 | Piston..... | 123-014 | 1 |
| 5 | Diaphragm..... | 127-031 | 1 |
| 6 | Cap..... | 123-012 | 1 |
| 7 | Screw, #6 x 1/2"..... | 001-267 | 4 |
| 8 | Barb, 10-32 x 1/16"..... | 022-009 | 1 |
| 9 | Plastic Washer, 1/4"..... | 003-001 | 1 |
| 10 | Valve Body..... | 123-017 | 1 |
| 11 | Spring..... | 008-011 | 1 |
| 12 | O-Ring, 002..... | 017-502 | 1 |
| 13 | O-Ring, 001..... | 017-501 | 2 |
| 14 | Stem..... | 123-015 | 1 |



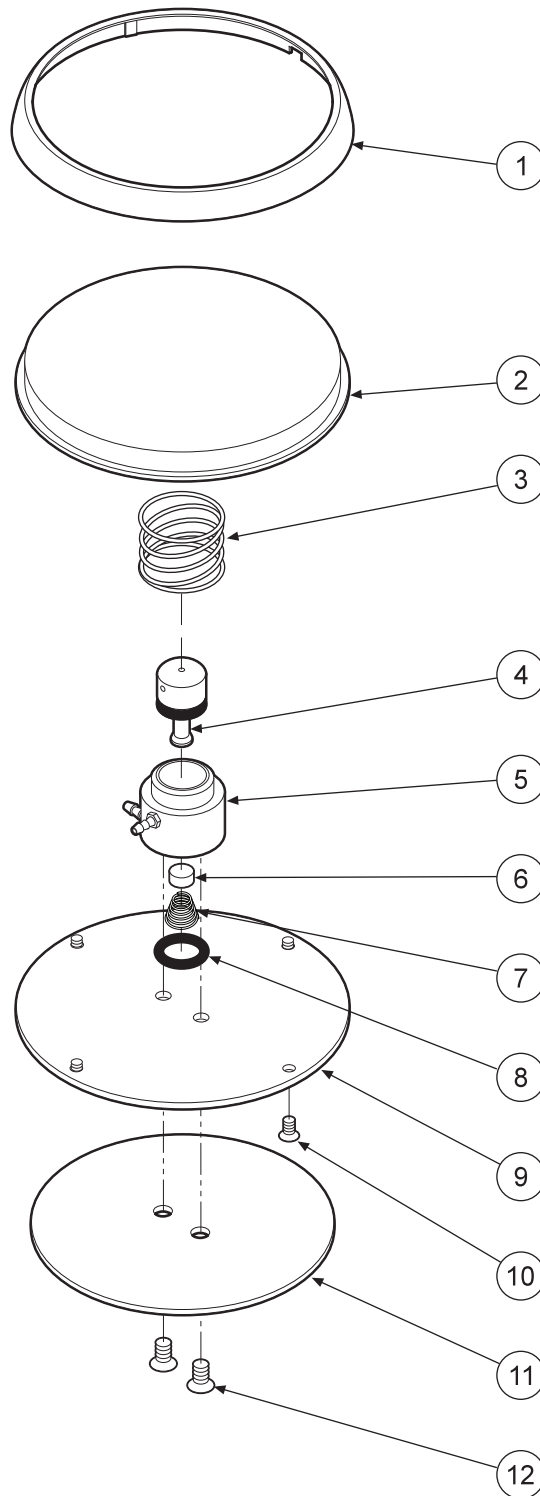
Quick-disconnect Syringe Tip Assembly 113-230

1. Remove the existing hex nut. A hex nut wrench has been provided.
2. Remove the syringe tip adapter using the hex wrench.
3. Insert the new syringe tip adapter into the syringe head and tighten using the hex wrench.
4. Place the two (2) O-Rings into the syringe tip nut.
5. Screw the syringe tip nut onto the syringe tip adapter and tighten using the hex wrench.
6. Push the syringe tip into the syringe tip nut until it snaps into place.

Replace Syringe Tip

1. Pull the dirty syringe tip out and insert a clean syringe tip into the syringe tip nut until it snaps into place.

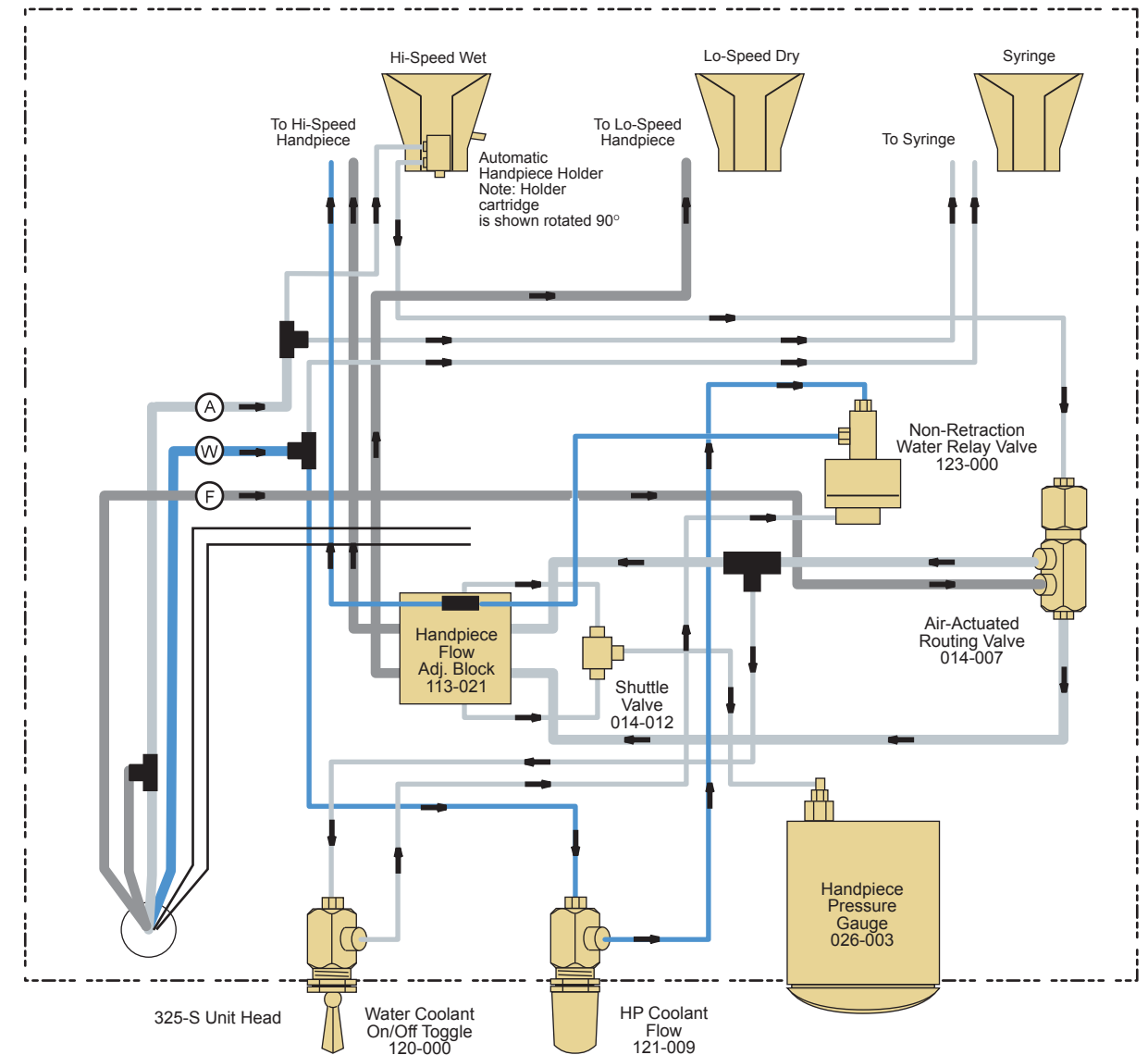
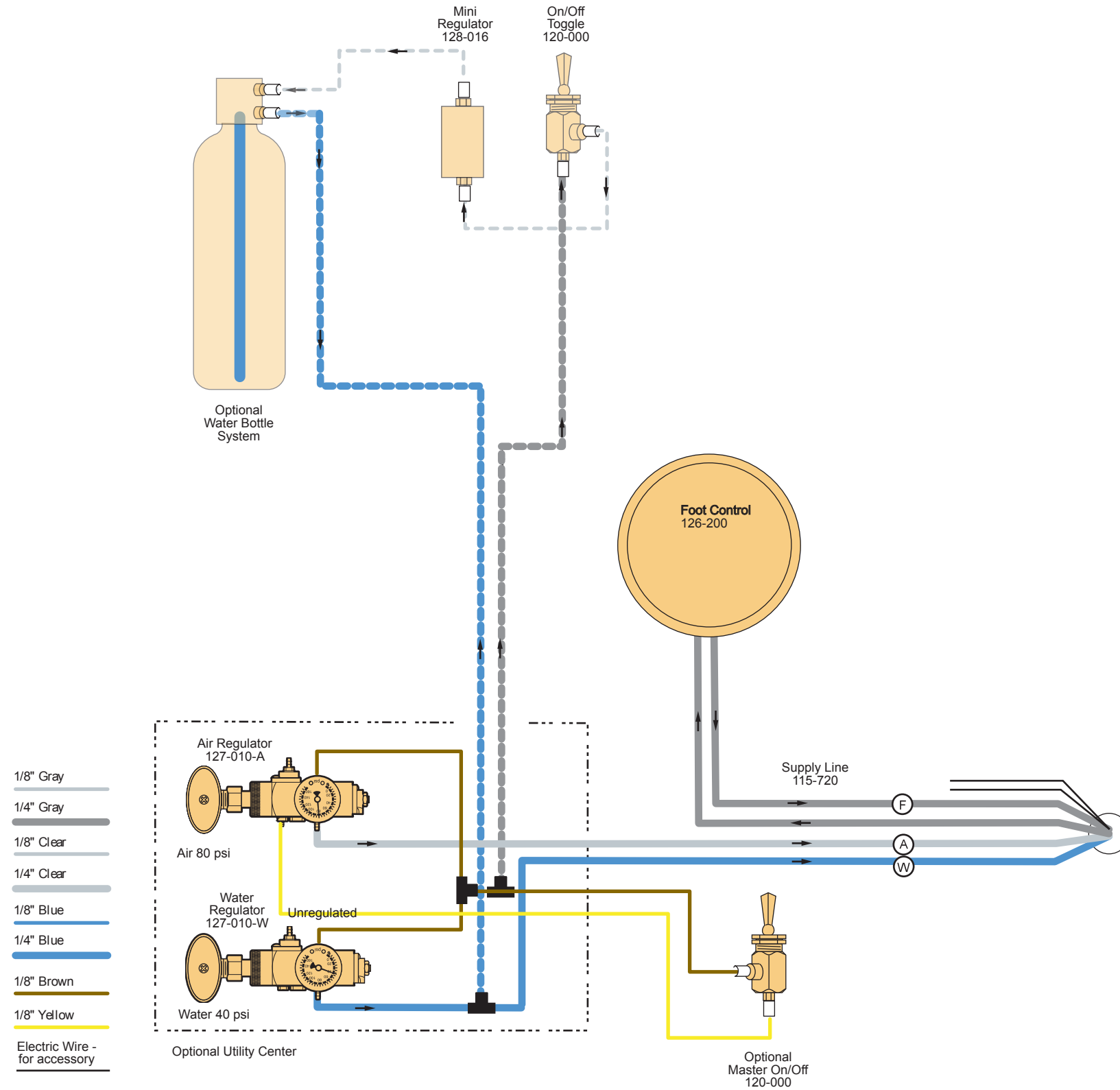
| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|---------------------------------|-------------|-----|
| 1 | Syringe Tip | 113-030 | 1 |
| 2 | Syringe Tip Nut..... | 113-402 | 1 |
| 3 | O-Ring, 006 | 017-006 | 2 |
| 4 | O-Ring, 228-040 | 017-023 | 1 |
| 5 | Syringe Tip Adapter..... | 113-227 | 1 |
| 6 | O-Ring, 003 | 017-003 | 1 |
| 7 | Syringe Head..... | 113-405 | 1 |
| 8 | Syringe Button Repair Kit | 113-403 | 2 |
| 9 | Pin, Syringe Cartridge | 113-008 | 1 |
| 10 | Plastic Washer, 8-32..... | 003-030 | 2 |
| 11 | Barb, 8-32 x 1/16" | 022-040 | 2 |
| 12 | Syringe Handle..... | 113-236 | 1 |



| ITEM | PART DESCRIPTION | PART NUMBER | QTY |
|------|-------------------------------------|-------------|-----|
| 1 | Ring..... | 126-202 | 1 |
| 2 | Cover..... | 126-201 | 1 |
| 3 | Spring..... | 008-005 | 1 |
| 4 | Stem (Includes 017-012 o-ring)..... | 126-005 | 1 |
| 5 | Body..... | 126-004 | 1 |
| 6 | Poppet..... | 126-006 | 1 |
| 7 | Spring..... | 008-006 | 1 |
| 8 | O-Ring, 013..... | 017-013 | 1 |
| 9 | Baseplate..... | 126-003 | 1 |
| 10 | Screw, 4-40 x 1/4"..... | 001-005 | 4 |
| 11 | Rubber Pad..... | 126-007 | 1 |
| 12 | Screw, 6-32 x 1/4"..... | 001-004 | 2 |

FOOT CONTROL
126-200

2 Handpiece Manual Control S-5325



Junction Box
Circled letters indicate connection at Junction Box

(A) 1/4" Clear - Constant Air In

(F) 1/4" Gray - In From Foot Control

(W) 1/4" Blue - Water In

WARRANTY

BDS warrants its product to be free of defects in material and workmanship for SEVEN FULL YEARS from the date of purchase on all units. Auto-blocks and standard foot controls are covered by a LIFETIME warranty when factory installed as part of a complete dental system. Upholstery has a TWO YEAR warranty and does not cover normal wear, stains, cuts or tears. Our LED lights have a FIVE year Warranty and our halogen light has a ONE year Warranty. Operatory chair motors feature a TEN year warranty. All warranty is limited to repair or replacement by BDS. Products returned to the factory and determined to be defective will be repaired or replaced free of charge at discretion of BDS. The warranty does not cover light bulbs, electrical components and trimmed or installed tubing. BDS reserves the right to void all warranties if any product is installed by other than an authorized technician. BDS' warranty does not cover damage to any surface finish, including but not limited to, discoloration or abrasion from cleaners, disinfectants or light sources. No claim for labor or consequential damages will be allowed. Return items must include a copy of the invoice or packing slip as proof of purchase.

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