

**BF158 & BF168 Series**  
**Refrigerated Wall Mount Sensor Operated**  
**And Pushbutton Operated Bottle Filler**

H<sub>2</sub>O  
to go!<sup>™</sup>



**BF158 Series**

H<sub>2</sub>O  
to go!<sup>™</sup>



**BF168 Series**

**NOTE: REFER ALSO TO INSTALLATION DETAILS FOR CHILLER - SEE DRAWING # 7020-900-001**

Please visit [www.murdockmfg.com](http://www.murdockmfg.com)  
for most current specifications.

**TECHNICAL ASSISTANCE TOLL FREE TELEPHONE NUMBER:**  
**1.800.743.8259**

Technical Assistance E-Mail: [Fieldservice@acorneng.com](mailto:Fieldservice@acorneng.com)

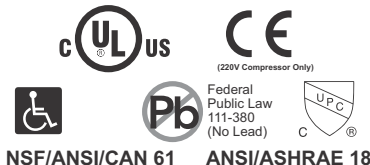
**NOTES TO INSTALLER:**

1. Please leave this documentation with the owner of the fixture when finished.
2. Please read this entire booklet before beginning the installation.
3. Check your installation for compliance with plumbing, electrical and other applicable codes.

For current Warranty click hyperlink [Product Warranty](#) or visit: [www.murdockmfg.com/terms-and-warranty](http://www.murdockmfg.com/terms-and-warranty)

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COMPLIES WITH  
**STANDARDS**



**murdock**<sup>®</sup>  
SINCE 1853

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MORRIS GROUP  
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**IMPORTANT**

This fixture is intended to dispense water that has been lowered in temperature, but otherwise remains unchanged by the materials in the Bottle Filler. It is common for electrical equipment to be grounded to water lines either within a structure or away from it. Every attempt should be made to prevent this kind of grounding from generating electrical feedback into the Bottle Filler creating electrolysis. Electrolysis will cause a metallic taste or cause water metal content to increase.

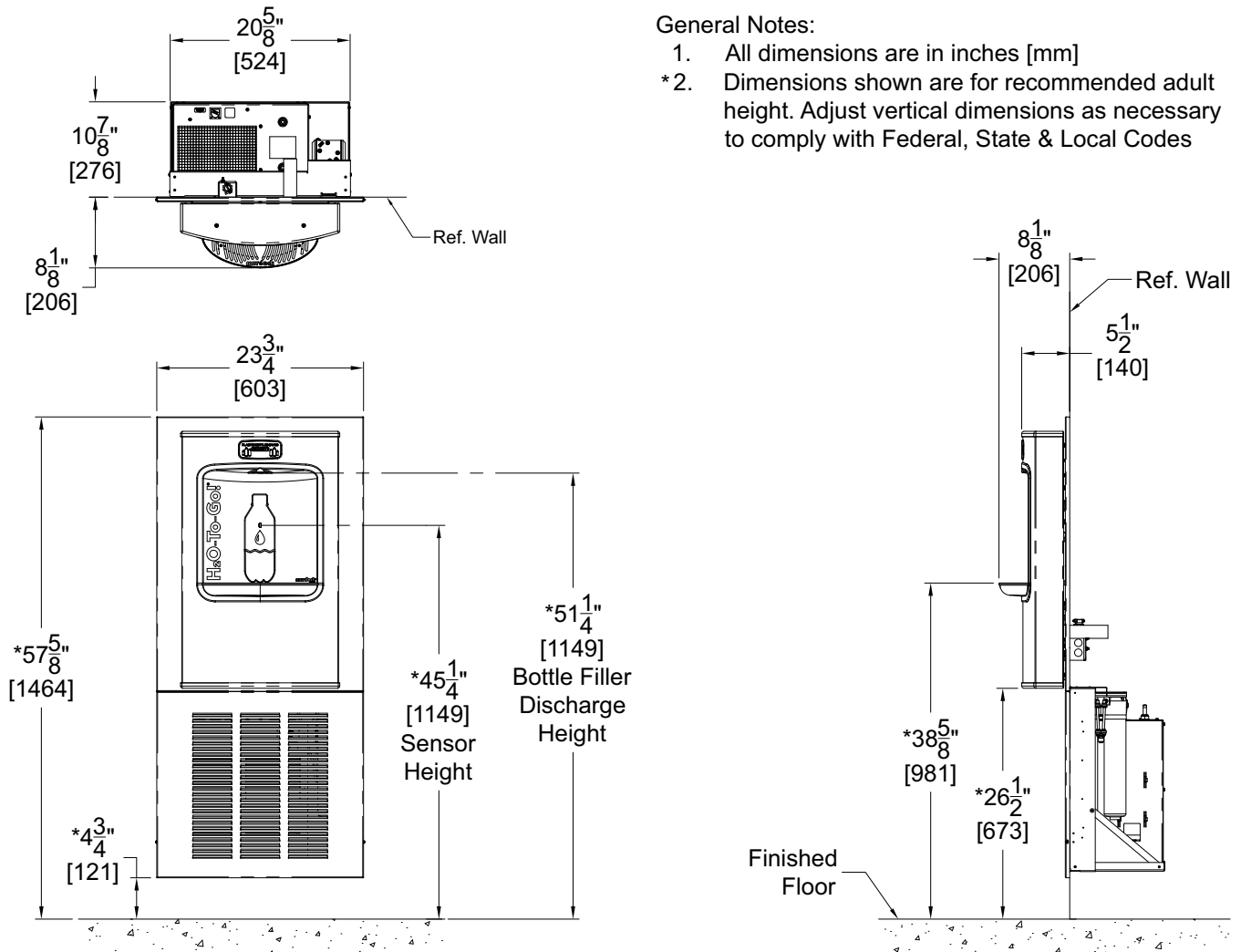
**NOTICE**

A dielectric coupling must be used to connect the Bottle Filler to the water supply. A nonmetallic coupler is furnished with this Bottle Filler to meet this requirement.

**DIMENSIONAL DRAWING**

Prior to roughing in, consult with local, state, and federal codes for proper mounting height.

**BF158/168 Stand-Alone Refrigerated Wall Mount Bottle Filler**



**NOTES:** Dimensions shown for Adult ADA compliant installation. For Child ADA compliant parallel approach installation, decrease height of installation by 3 inches. Provide clear floor space as required. Adjust vertical dimensions as required to comply with federal, state, and local codes.

**IMPORTANT:**

1. Water Supply Service Stop Valve, Water Connections and Electrical Connections to be supplied by others in accordance with local codes.
2. Provide 4" minimum clear space in front of Bottom Trim Panel and above In-Wall Chiller to allow for proper ventilation.
3. Waste is 1-1/4" Outer Diameter. Chiller water inlet is 3/8" Outer Diameter copper tube. Chiller water outlet is 3/8" Outer Diameter copper tube. Drinking Fountain water inlet is 3/8" Outer Diameter copper tube. Bottle Filler water inlet is 3/8" Outer Diameter copper tube. Water line from in-wall chiller to drinking fountain must have adequate insulation, provided by installer.
4. Completely flush supply lines of all foreign debris before connecting to fixture. A dielectric coupler must be used to connect the drinking fountain to the water supply. A non-metallic coupler is furnished with this unit to make this ROP. Water cooler designed to not cause problems with taste, odor, color, or sediment. Optional Water Filter, is available should any of these problems arise from the water supply.
5. Do NOT solder Tubes inserted into the Chiller or Bottle Filler as damage to the O-Rings on the Push-In Fittings may result.
6. All burrs must be removed from outside of cut tubes before inserting into strainer or other components.
7. Power supply must be identical in voltage, cycle and phase to that specified on the chiller data plate. Refer to submittal.
8. This unit must be grounded per the requirements of applicable electrical codes.
9. **WARNING:** Warranty is void if installation is not made following current Murdock Mfg. installation instructions and if components are assembled to the fixture that are not approved by Murdock Mfg.
10. Fixture operates within water pressure range of 25 PSIG (174 kPa) to 105 PSIG (724 kPa). Murdock Mfg. will not warranty chiller damaged when connected to supply lines with flow pressure lower than 25 PSIG (174 kPa) or higher than 105 PSIG (724 kPa). A pressure regulator must be furnished by others on supply line if inlet pressure is greater than 105 PSIG (724 kPa). 40-60 PSI is recommended.
11. Due to cold waste water, Murdock Mfg. recommends that waste piping supplied by installer be insulated appropriately to prevent excessive condensation.
12. *Per UPC 609.10-All building water supply systems in which quick acting valves are installed shall be provided with devices to absorb the hammer caused by high pressure resulting from the quick closing of the valve. These pressure-absorbing devices shall be approved mechanical devices. Water pressure-absorbing devices shall be installed as close as possible to the quick closing valve*

**PRIOR TO INSTALLATION:**

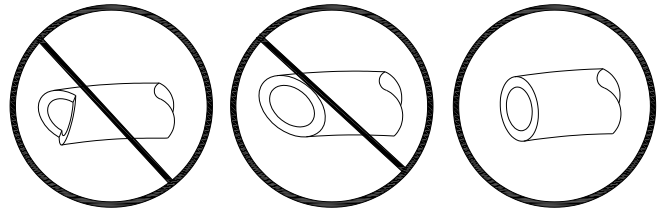
1. Read all installation instructions carefully, before proceeding.
2. Carefully remove all fixture components from packaging, preventing scratching or damage. Inspect fixture and all parts from damages and all parts that are bolted on.
3. Provide mounting surface, adequate to support the fixture and loads on the fixture.
4. Provide rough-ins as shown on the roughing-in and dimensional drawing, including water supply, drain pipe and gravel drain well. (See rough-in details)
5. It is common for electrical equipment to be grounded to water lines either within a structure or away; otherwise, remains unchanged by the materials in the water cooler. Every attempt should be made to prevent this kind of grounding from generating feedback into the water cooler creating electrolysis. Electrolysis will cause a metallic taste or cause water metal content to increase.
6. Electrical Receptacle(s) must be wired to a GFCI protected circuit. Fixture must be earth grounded per NEC (National Electrical Code).
7. Completely flush water supply lines of all foreign debris, before connecting to the fixture.

### PUSH-IN FITTING INSTALLATION

NOTE: FITTINGS AND TUBE SHOULD BE KEPT CLEAN, BAGGED AND UNDAMAGED PRIOR TO INSTALLATION.

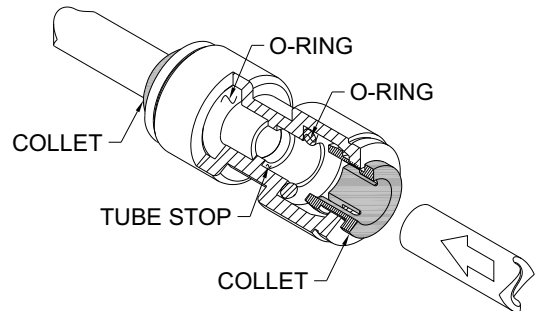
#### TO CUT TUBE:

Cut to fit length of 1/4" PE Tubing and remove any burrs or sharp edges. Ensure that the outside diameter is free from score marks. Tube ends should be square.

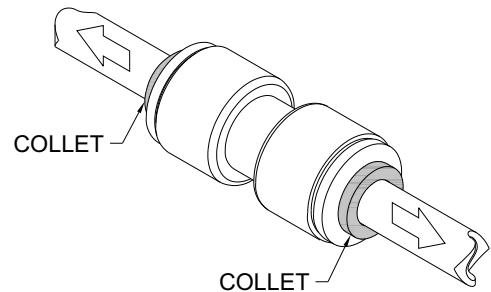


#### INSERTING THE TUBE:

1. Firmly and fully insert the Tubing end into the Push-In Fitting up to the Tube Stop located approximately 1/2" deep.

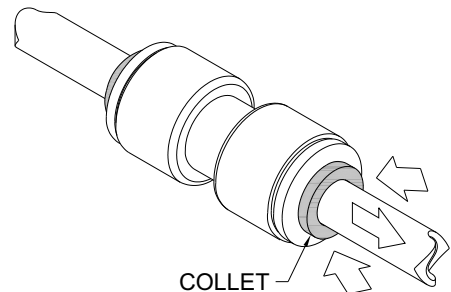


2. Pull on the fitted Tubing to ensure it is secure. Tube should not come free from the Fitting. Water test the connection assembly prior to leaving the site to ensure there are no leaks.



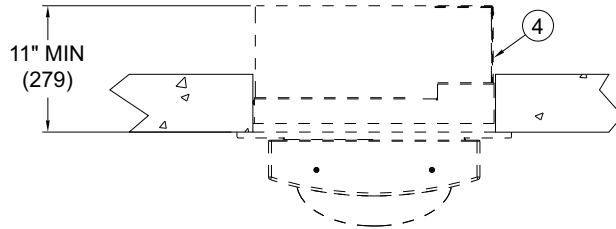
#### DISCONNECTING THE TUBE:

Prior to disconnecting the Tube from the Fitting, ensure that the water line is depressurized. Push Collet Square towards the Push-In Fitting Body and hold. While holding the Collet in, pull on the PE Tubing to remove from the Push-In Fitting.



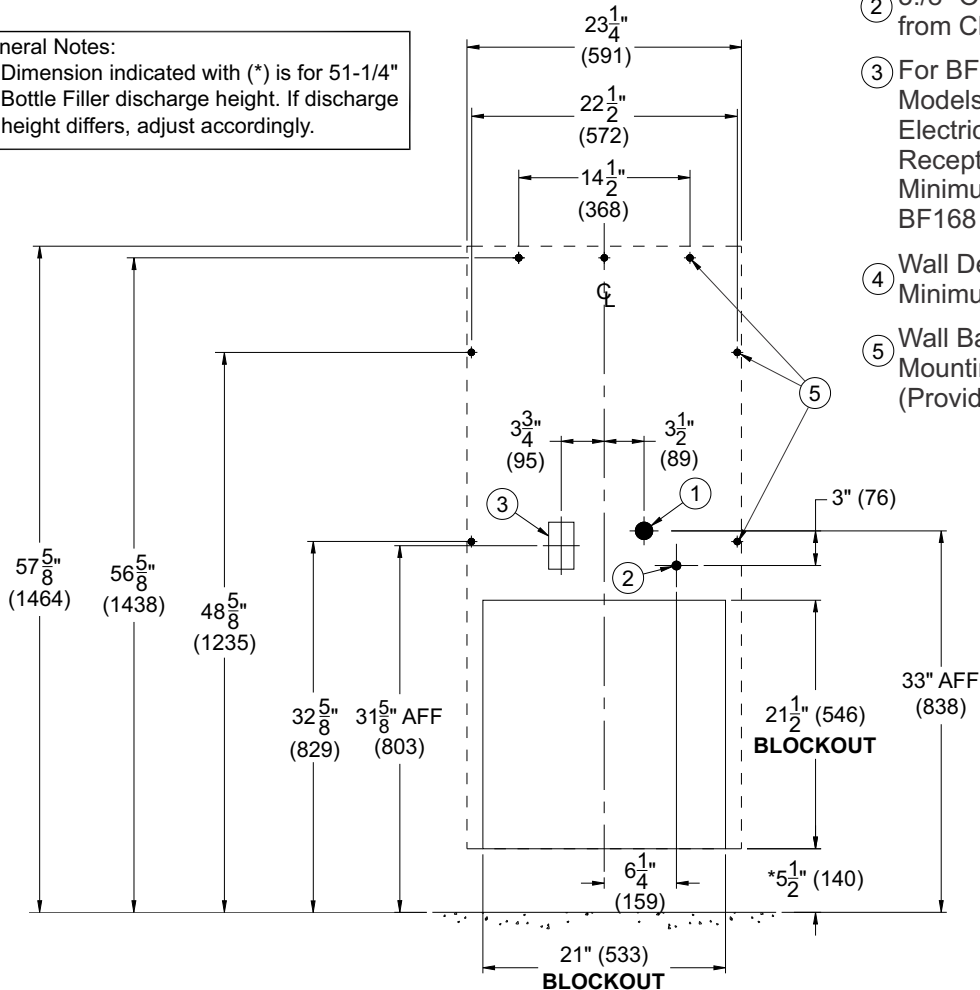
## Pre-Installation

- 1** Provide wall opening as indicated in rough-in detail provided, ensuring to block out and provide structural support to allow Frame to be anchored with installer provided anchoring hardware for Ø1/4" anchoring holes provided.



**General Notes:**

1. Dimension indicated with (\*) is for 51-1/4" Bottle Filler discharge height. If discharge height differs, adjust accordingly.

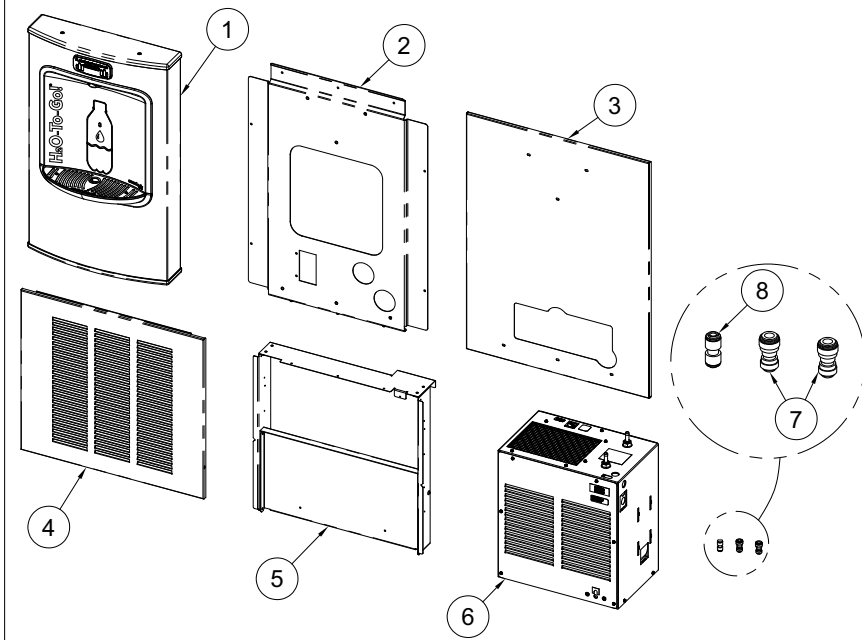


- ① 1-1/4" OD Bottle Filler Waste Outlet
- ② 3/8" OD Copper Supply Inlet from Chiller
- ③ For BF168 Sensor Operated Models Provide: 110VAC Electrical Duplex Receptacle (by others) 1 Amp Minimum Required Per BF168 unit
- ④ Wall Depth For Chiller is 11" Minimum
- ⑤ Wall Backing Required For Mounting Hardware (Provided By Others)

**NOTES:** Dimensions shown for Adult ADA compliant installation. For Child ADA compliant parallel approach installation, decrease height of installation by 3 inches. Provide clear floor space as required. Adjust vertical dimensions as required to comply with federal, state, and local codes.

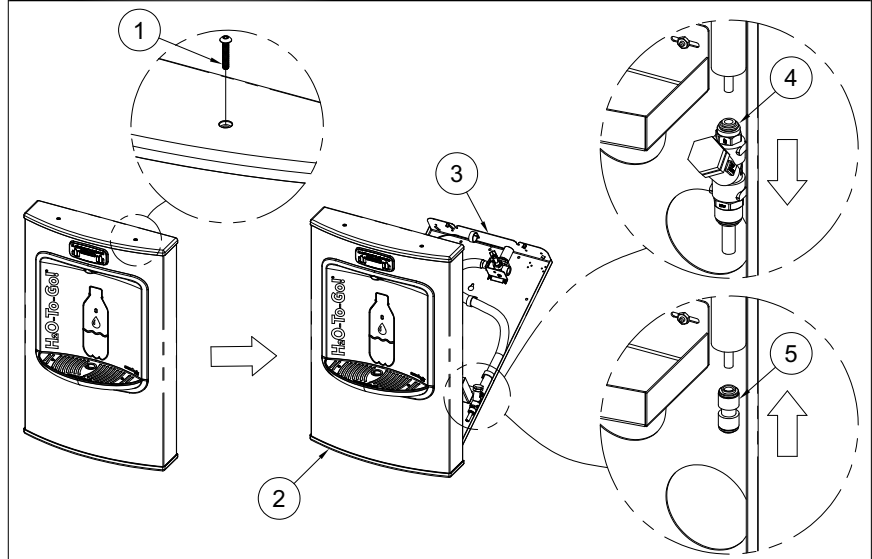
## Pre-Installation (Continued)

- 2** Remove Bi-Level Mounting Frame, Chiller Mounting Frame, Panels, Anchoring Clips and Screws from packaging, careful to avoid damage to fixture and fixture sub assemblies.



- 1 BF15/BF16 Bottle Filler
- 2 Bottle Filler Mounting Panel
- 3 Upper Trim Panel
- 4 Bottom Trim Panel
- 5 Chiller Mounting Frame Assembly
- 6 8 GPH Chiller Assembly
- 7 1/4" x 3/8" OD Tube Union Push-In
- 8 1/4" OD Tube Union Connector

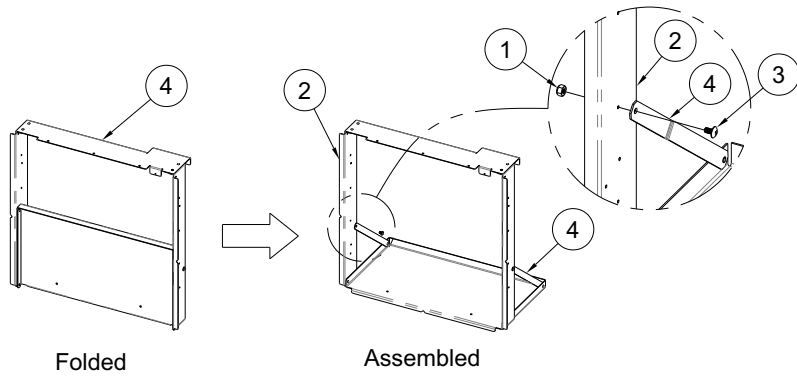
- 3** Retrieve Bottle Filler Assembly and place unit onto a horizontal surface. Unscrew Top Screws with 1/8" Allen Wrench (not included) and place in a secure location for later use. Open unit by swinging Mounting Panel down. With unit open, remove and replace Y-Strainer with 1/4" ID Union Connector. Once completed, place Bottle Filler and Y-Strainer in a secure location for future use in installation manual.



- 1 #10-32 x 1" Allen Button Head Screw
- 2 Bottle Filler Housing
- 3 Mounting Panel
- 4 Y-Strainer
- 5 1/4" ID Union Connector

## Frame Installation

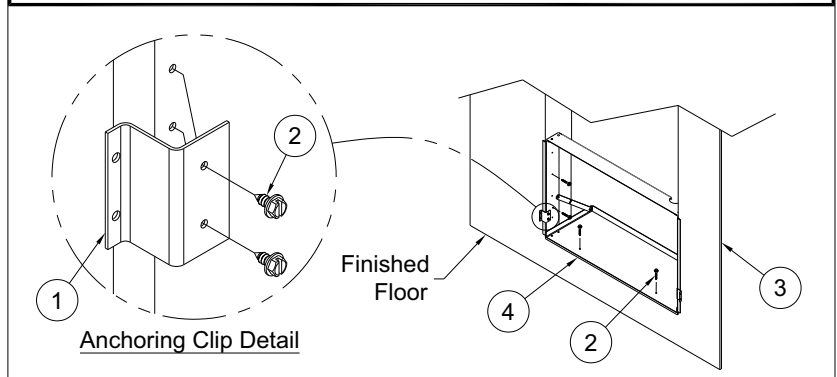
- 1** Rotate Chiller Shelf to full depth and fix to frame, anchoring Support Struts using #10-32 Phillips Head Screws and Hex Head Locknuts provided before continuing.



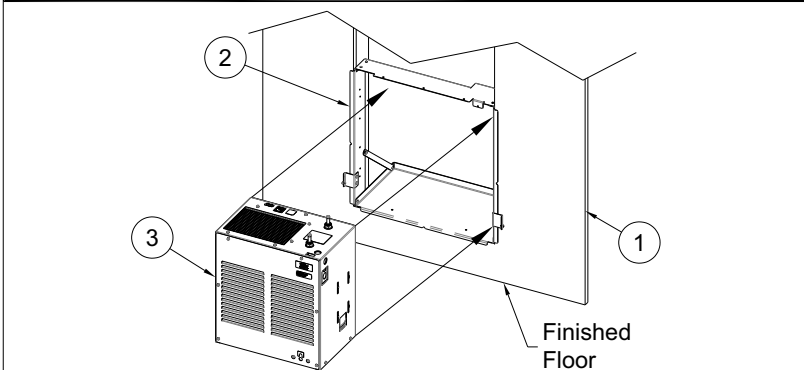
- 1 #10-32 Hex Head Locknut
- 2 Chiller Shelf Mounting Frame
- 3 #10-32 Phillips Head Screw
- 4 Chiller Shelf Support Strut

- 2** Position Chiller Frame Assembly within prepared opening with sides and bottom lips overlapping against the finished wall. Anchor Chiller Frame Assembly to block out being sure to keep Frame level and square. 1/8" holes provided for Anchoring Hardware, provided by installer.

- 1 Trim Panel Mounting Bracket
- 2 #8 x 3/8" Hex Head Screw
- 3 Reference Wall
- 4 Chiller Mounting Frame Assembly
- 5 Anchoring Hardware (By Others)



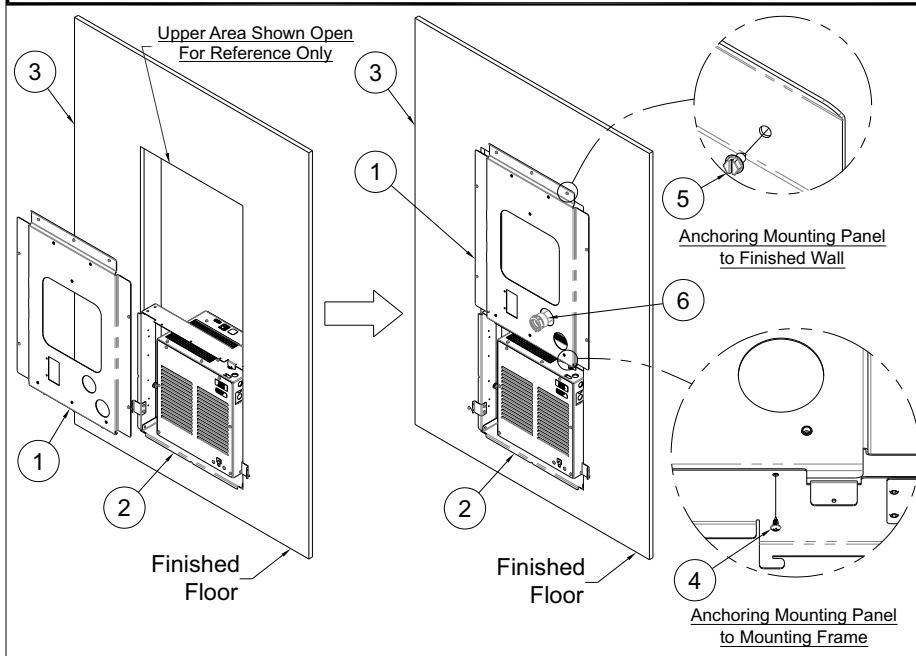
- 3** With Chiller Mounting Frame Assembly Secured, position and center 8 GPH Chiller Assembly onto Chiller Mounting Frame Assembly. Anchoring is not required for Chiller Assembly. Connect Chiller Electrical (See Chiller Manual).



- 1 Reference Wall
- 2 Chiller Mounting Frame Assembly
- 3 8 GPH Chiller Assembly

## Frame Installation (Continued)

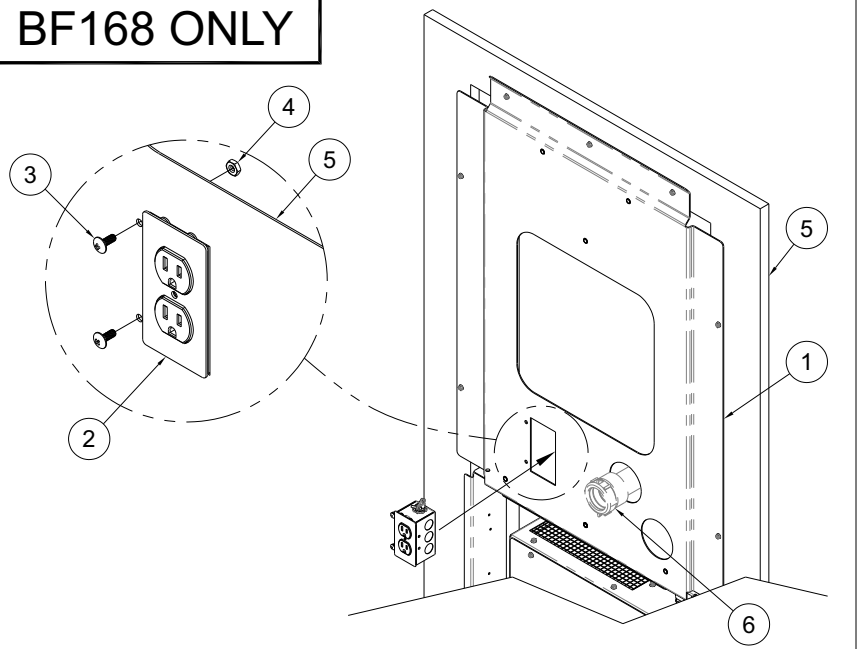
- 4** Position Mounting Panel on Mounting Frame by utilizing the Lower Flange on the Mounting Panel. Center and secure with #8-3/8" Phillips Sheet Metal Screws. With Mounting Panel secured, Anchor Mounting Panel to finished wall with anchoring hardware provided by others for Ø7/32" holes.



- ① Mounting Panel
- ② Chiller Mounting Frame Assembly
- ③ Reference Wall
- ④ #8 x 3/8" Phillips Sheet Metal Screw (Qty. 3)
- ⑤ Anchoring Hardware to suit wall conditions (7) Places (provided by others)
- ⑥ 1-1/4" Compression Adapter Stubbed out (provided by others)

- 5** With Mounting Panel Secured, mount Junction Box Assembly to Mounting Panel. Secure Junction Box Assembly with #10-32 x 1/2" Truss Head Screw and #10-32 Hex Nut.

### BF168 ONLY

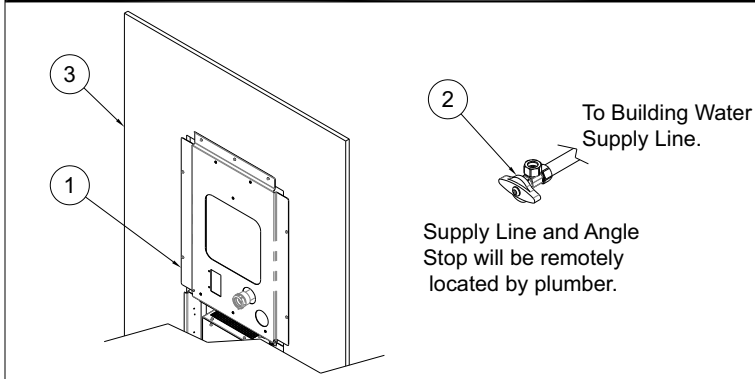


- ① Mounting Panel
- ② Junction Box Assembly
- ③ #10-32 x 1/2" Truss Head Screw
- ④ #10-32 Hex Nut
- ⑤ Reference Wall
- ⑥ Rough-In Plumbing, by others



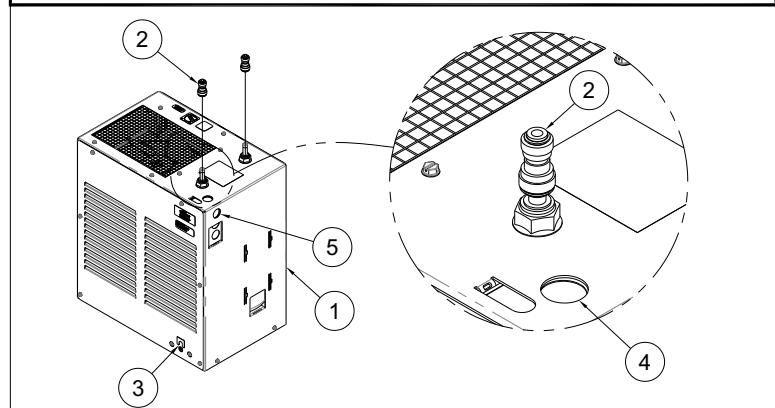
## Chiller Supply Connections

- 1** Acorn Recommends to install an Angle Stop to the main water supply for easy maintenance. Utilize basic plumbing knowledge to locate and install Angle Stop.



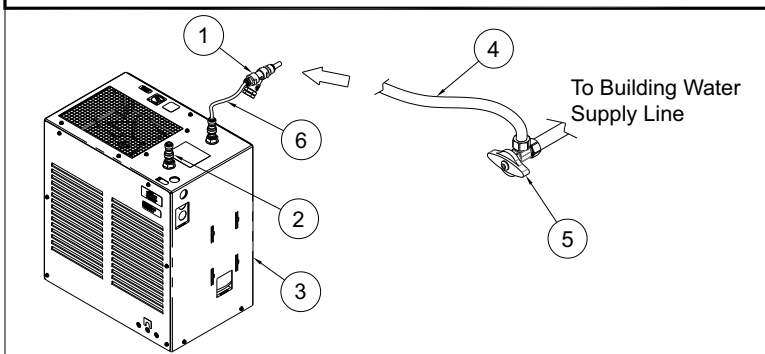
- ① Bottle Filler Mounting Plate
- ② Angle Stop Recommended, by others
- ③ Reference Wall

- 2** Install the 1/4" x 3/8" Tube Union Push-In Adapter onto Chiller inlet and outlet.



- ① Chiller
- ② 1/4" x 3/8" Tube Union Push-In
- ③ Thermal Adjustment (Pre-adjusted at factory)
- ④ Electrical Knockout
- ⑤ Alternate Electrical Knockout

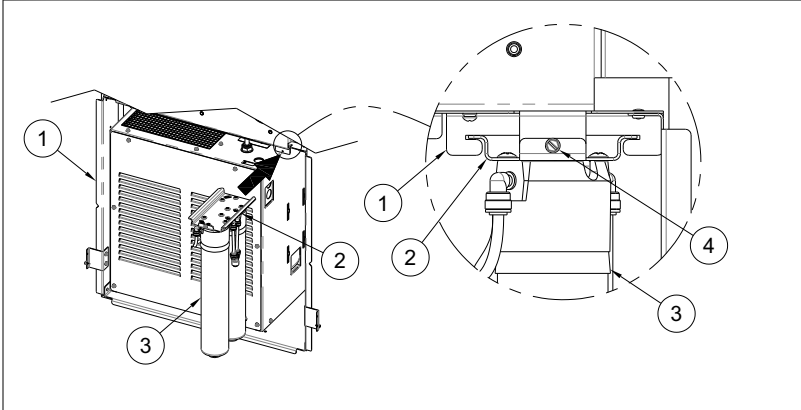
- 3** (For Water Filter options go to Step 4)  
After thoroughly flushing supply line, make up the supply line connections to the 3/8" OD x 1/4" OD Push-In Y-strainer.  
**NOTE:** See Push-In Connection Installation for information.



- ① 3/8" OD x 1/4" OD Push-In Y-Strainer
- ② 1/4" x 3/8" Tube Union Push-In
- ③ Chiller
- ④ Supply Line, provided by installer
- ⑤ Angle Stop Recommended, by others
- ⑥ 1/4" OD Water Supply Tubing

## Chiller Supply Connections (Continued)

- 4** If the optional -WF1 or -WF3 Water Filter is included with Fixture, slide and mount Water Filter Bracket to Chiller Mounting Frame Assembly. Secure Bracket with #8 x 3/8" Hex Washer Head Screw.

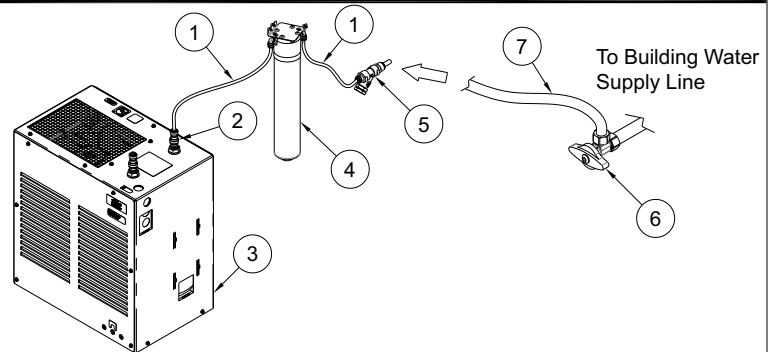


- 1 Chiller Mounting Frame Assembly
- 2 Water Filter Bracket Assembly
- 3 Water Filter
- 4 #8 x 3/8" Hex Washer Head Screw

- 1 1/4" OD PE Tubing
- 2 1/4" x 3/8" Tube Union Push-In
- 3 Chiller
- 4 -WF1 Water Filter
- 5 1/4" OD x 3/8" OD Push-In Y-Strainer
- 6 Angle Stop Recommended, by others
- 7 Supply Line, provided by installer

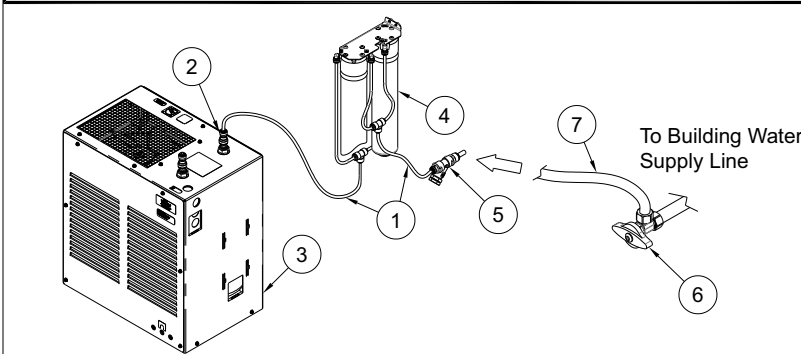
### 5A (-WF1 Water Filter Tubing)

After thoroughly flushing supply line, make up the supply line connection to the 1/4" OD x 3/8" OD Push-In Y-Strainer and from Y-Strainer to the Water Filter inlet. From Filter outlet, make up connections to chiller inlet.



### 5B (-WF3 Water Filter Tubing)

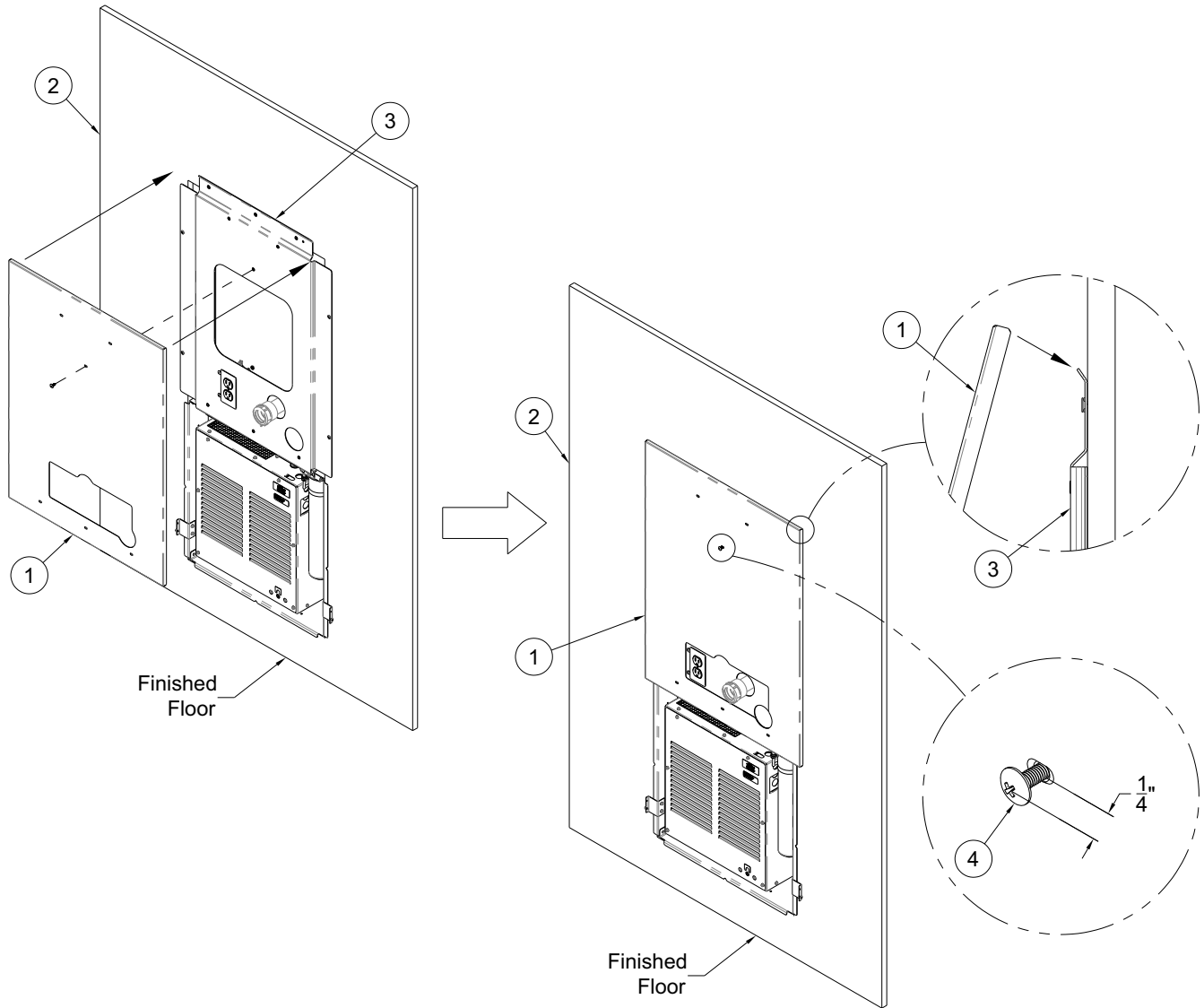
After thoroughly flushing supply line, make up the supply line connection to the 1/4" OD x 3/8" OD Push-In Y-Strainer and from Y-Strainer to the Water Filter inlet. From Filter outlet, make up connections to chiller inlet.



- 1 1/4" OD PE Tubing
- 2 1/4" x 3/8" Tube Union Push-In
- 3 Chiller
- 4 -WF3 Water Filter
- 5 1/4" OD x 3/8" OD Push-In Y-Strainer
- 6 Angle Stop Recommended, by others
- 7 Supply Line, provided by installer

## Chiller Supply Connections (Continued)

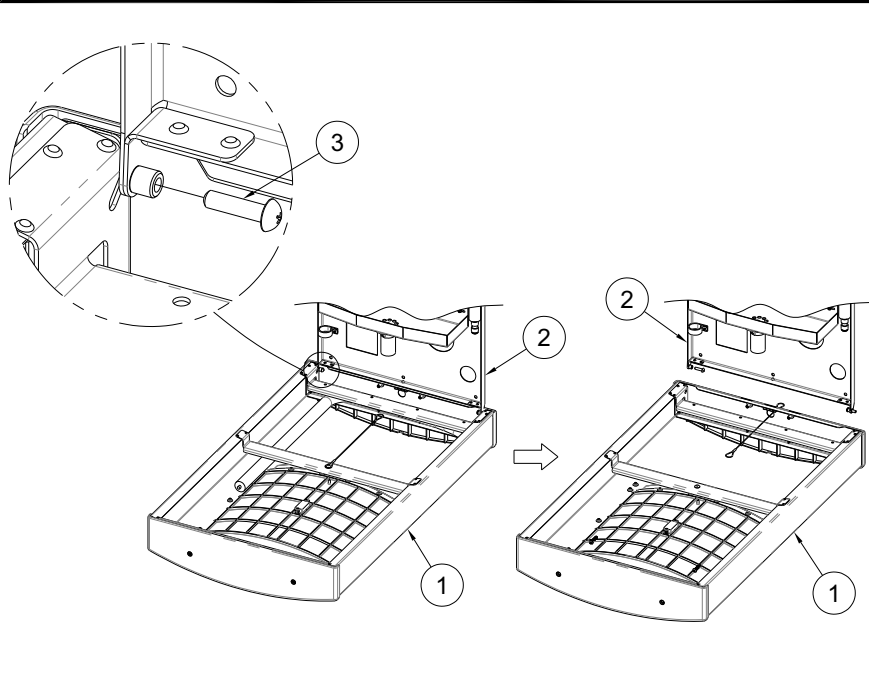
- 6** Hang Upper Trim Panel on Mounting Panel by utilizing the Upper Flange on the Mounting Panel. Center and secure with #10-32 Phillips Head Screw. Leave 1/4" sticking out to mount Bottle Filler.



- ① Upper Trim Panel
- ② Reference Wall
- ③ Mounting Panel
- ④ #10-32 UNF x 1" Phillips Screw

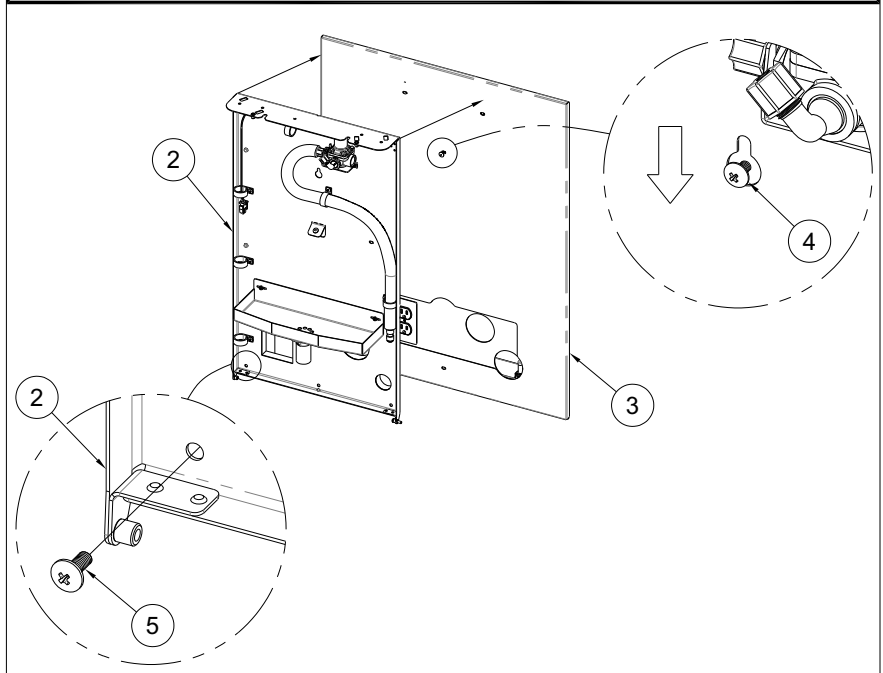
## Bottle Filler Installation

- 1** Retrieve Bottle Filler and remove Bottle Filler Housing from unit by unfastening one Screw from the Hinge and sliding the Bottle Filler Housing out. Set aside for later use in the Manual.



- ① Bottle Filler Housing
- ② Bottle Filler Mounting Panel
- ③ #10-32 x 3/4" Phillips Round Head Screw

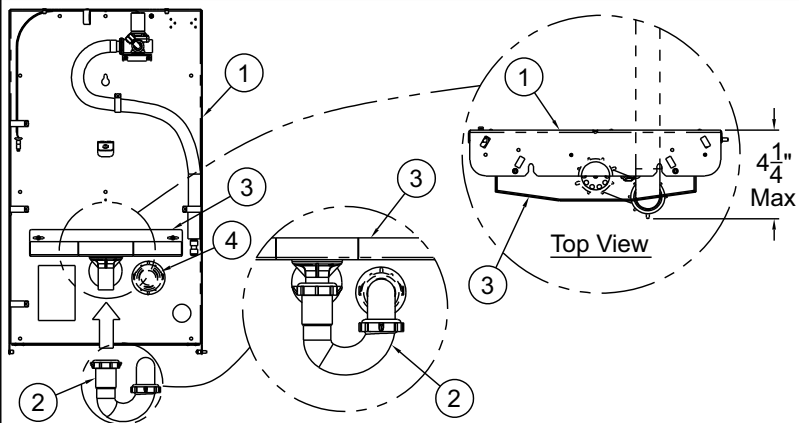
- 2** Locate and attach Bottle Filler Mounting Panel to Upper Trim Panel utilizing #10-32 UNF Screw. Secure Mounting Panel with remaining #10-32 Screws.



- ① Finished Wall
- ② Bottle Filler Mounting Panel
- ③ Upper Trim Panel
- ④ #10-32 UNF Screw (Located on Trim Panel)
- ⑤ #10-32 UNF Screws (Qty. 5)

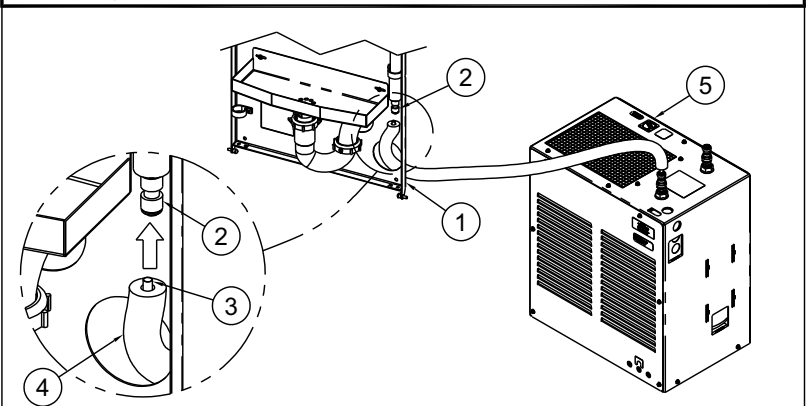
## Bottle Filler Installation (Continued)

**3** With the Mounting Panel secured to Trim Panel, install P-Trap Waste Outlet. P-Trap must not extend more than 4-1/4" from Trim Panel.



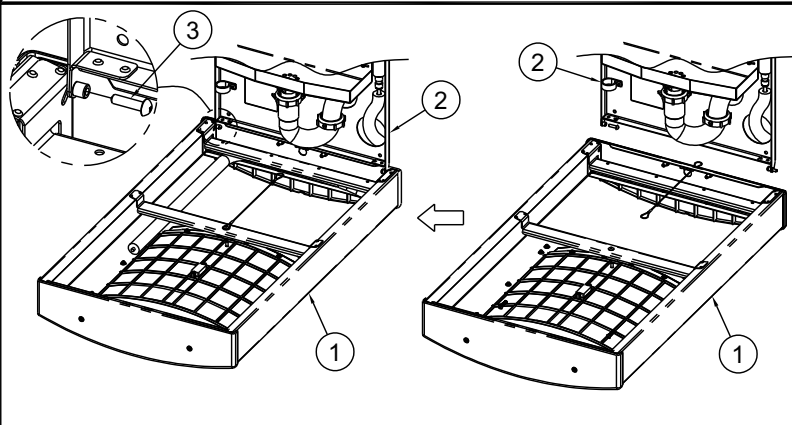
- ① Mounting Panel
- ② P-Trap
- ③ Drain Tray
- ④ Plumbing, by others

**4** Connect 1/4" OD x 15" Long tube to Chiller outlet. Retrieve the other end of the Tube and slide through Bottle Filler opening. Connect Tubing to the 1/4" Union Connector.



- ① Bottle Filler Mounting Panel
- ② 1/4" OD Union Connector
- ③ 1/4" OD x 15" Long Tube
- ④ Foam Pipe Insulation
- ⑤ Chiller

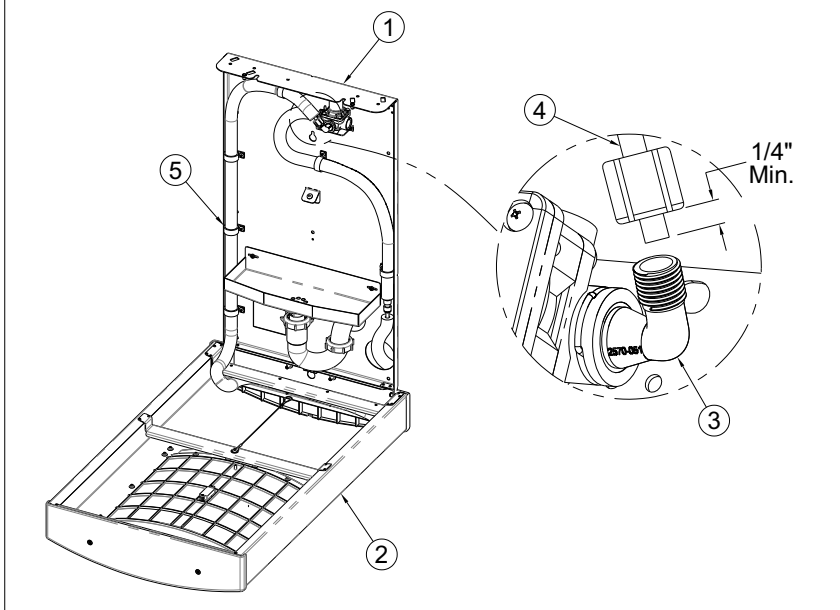
**5** Re-mount Bottle Filler Housing by reversing steps taken in Step 2 of the Bottle Filler Installation section.



- ① Bottle Filler Housing
- ② Mounting Panel
- ③ #10-32 x 3/4" Phillips Round Head screw

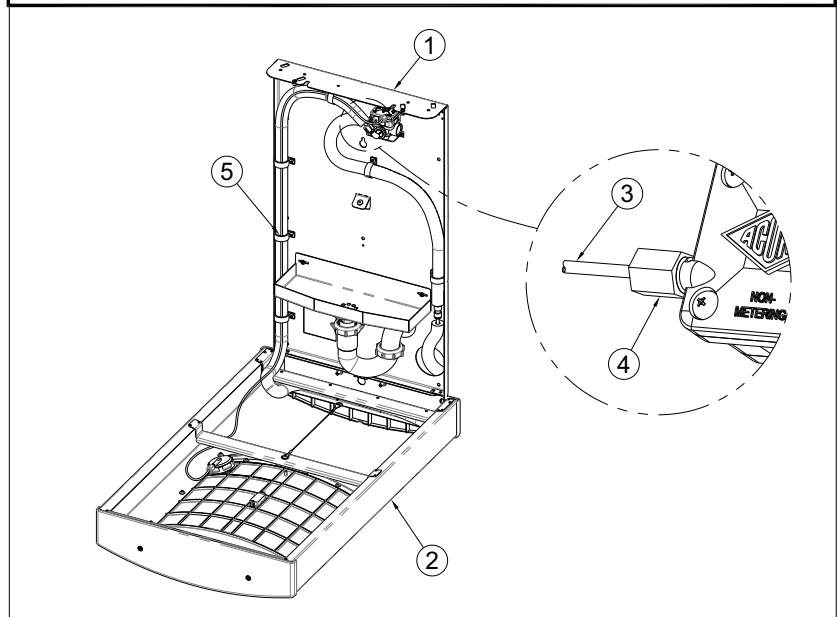
## Bottle Filler Installation (BF158)

**6A** With Bottle Filler Housing secured to unit, connect water supply line. Keep supply line within Supply Tubing holders to prevent supply line from getting pinched or damaged. If Fixture is BF168, see steps 6B-7B.



- ① Bottle Filler Mounting Panel
- ② Bottle Filler Housing
- ③ Valve Water Supply Outlet Elbow
- ④ Bottle Filler Water Supply Outlet Tubing
- ⑤ Supply Tubing Holder

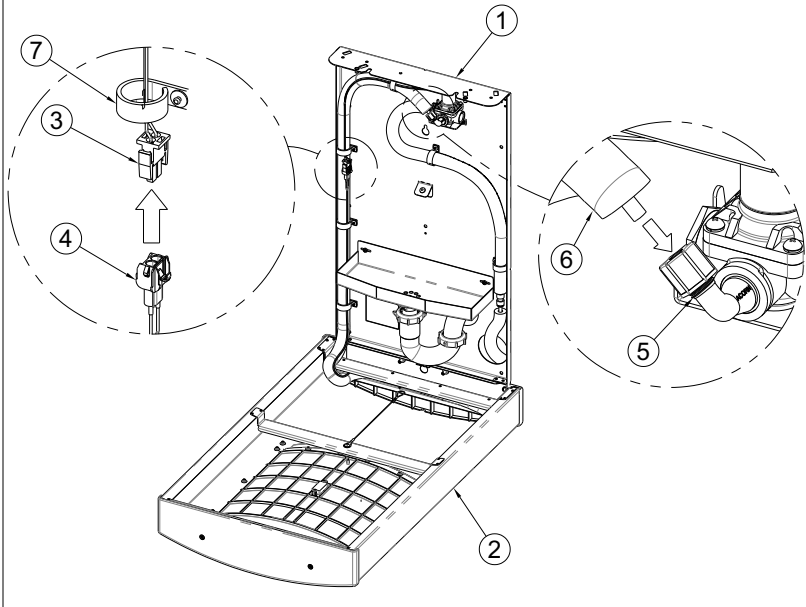
**7A** With Water Supply Line properly secured, connect 1/8" O.D. Polyethylene Air Line to valve. Keep Air Line within the Supply Tubing holders to prevent supply line from getting pinched or damaged. Turn on water. Check for Leaks throughout the system.



- ① Bottle Filler Mounting Panel
- ② Bottle Filler Housing
- ③ 1/8" O.D. Polyethylene Air Line
- ④ Valve Air Line Inlet
- ⑤ Supply Tubing Holder

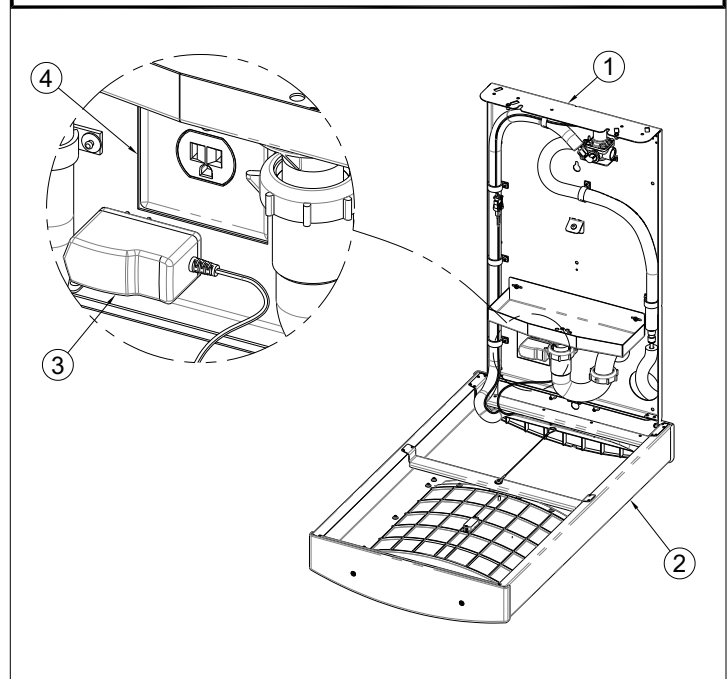
## Bottle Filler Installation (BF168)

**6B** With Bottle Filler Housing secured to unit, connect water supply line and electrical wiring as shown below. Keep supply line and wiring within Supply Tubing holders to prevent supply line and wiring from getting pinched or damaged. If fixture is BF158, see steps 6A-7A.



- ① Bottle Filler Mounting Panel
- ② Bottle Filler Housing
- ③ Solenoid Valve Electrical Connection
- ④ Bottle Counter Display / Sensor Connection
- ⑤ Solenoid Valve Water Supply Outlet Elbow
- ⑥ Bottle Filler Water Supply Outlet Tubing
- ⑦ Plastic Cable Holder

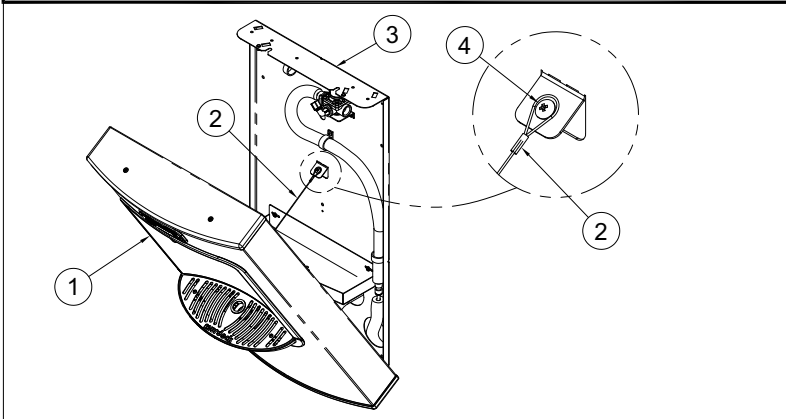
**7B** Plug-in power supply, turn on water. Check for leaks throughout the system.



- ① Bottle Filler Mounting Panel
- ② Bottle Filler Housing
- ③ Power Supply
- ④ 110VAC Duplex Receptacle

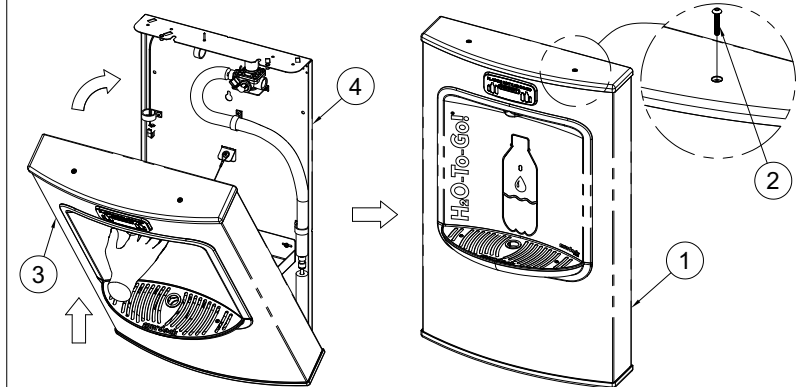
## Bottle Filler Installation

**8** With fixture tested, hook Lanyard from Bottle Filler Housing to Bottle Filler Mounting Panel and tighten Screw.



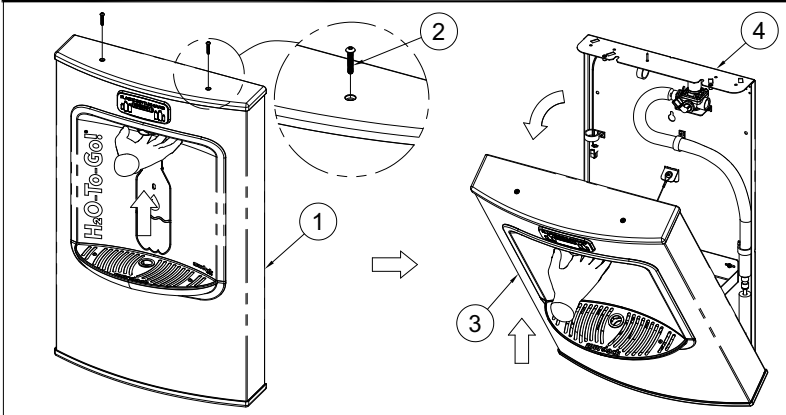
- ① Bottle Filler Housing
- ② Lanyard
- ③ Bottle Filler Mounting Panel
- ④ Lanyard Mounting Screw

**9** Lift up from Fill Spout area to close the unit by swinging Bottle Filler Housing up and secure with Screws from step 1. Do not force closed. Address any interference if necessary. Do not over-tighten.



- ① Bottle Filler Assembly
- ② #10-32 x 1" Allen Button Head Screw
- ③ Bottle Filler Housing
- ④ Bottle Filler Mounting Panel

**10** To open unit for maintenance purposes, remove Top Screws. Lift Bottle Filler Housing up from Fill Spout area then pull away from wall.

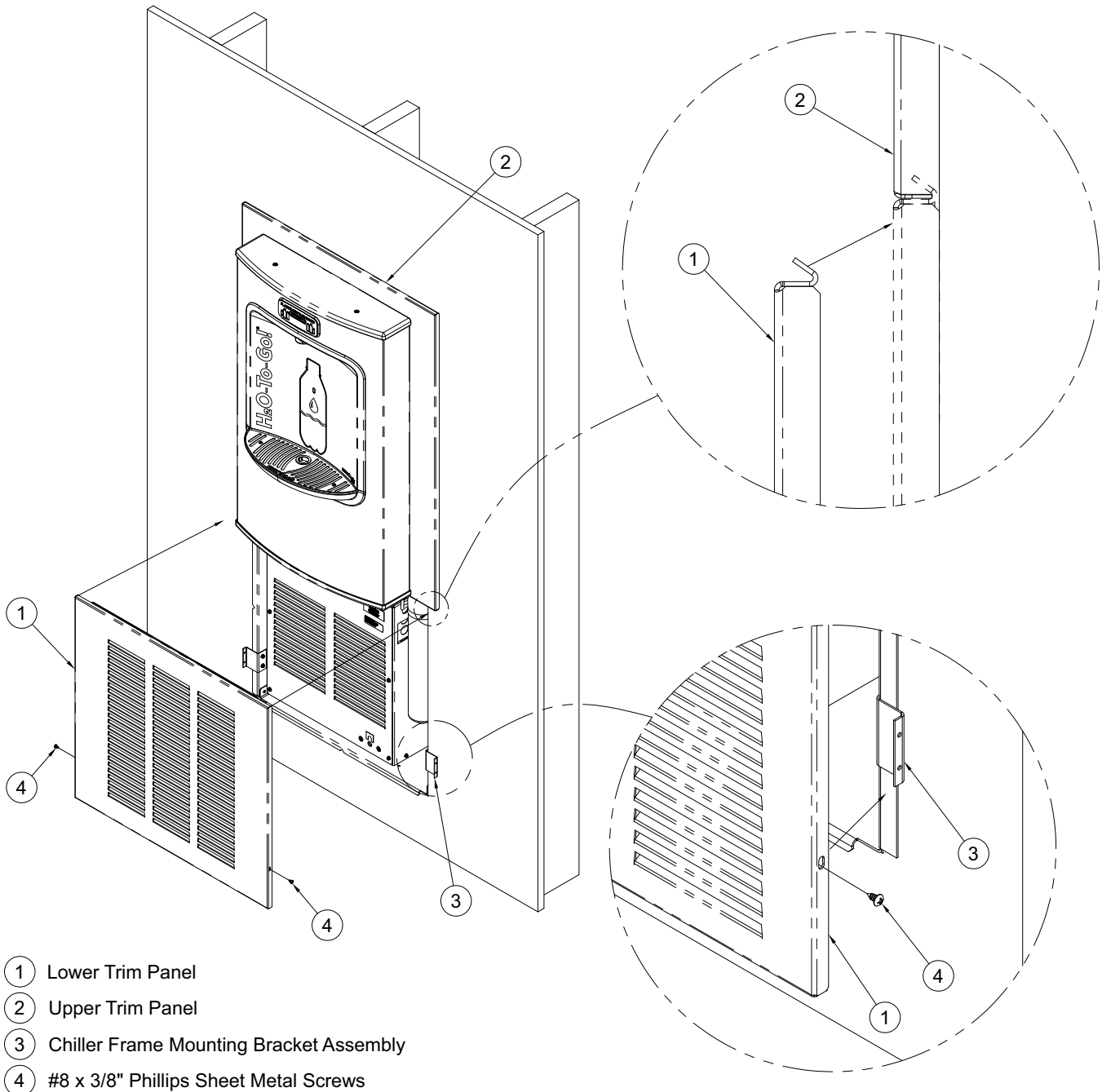


- ① Bottle Filler Assembly
- ② #10-32 x 1" Allen Button Head Screw
- ③ Bottle Filler Housing
- ④ Bottle Filler Mounting Panel



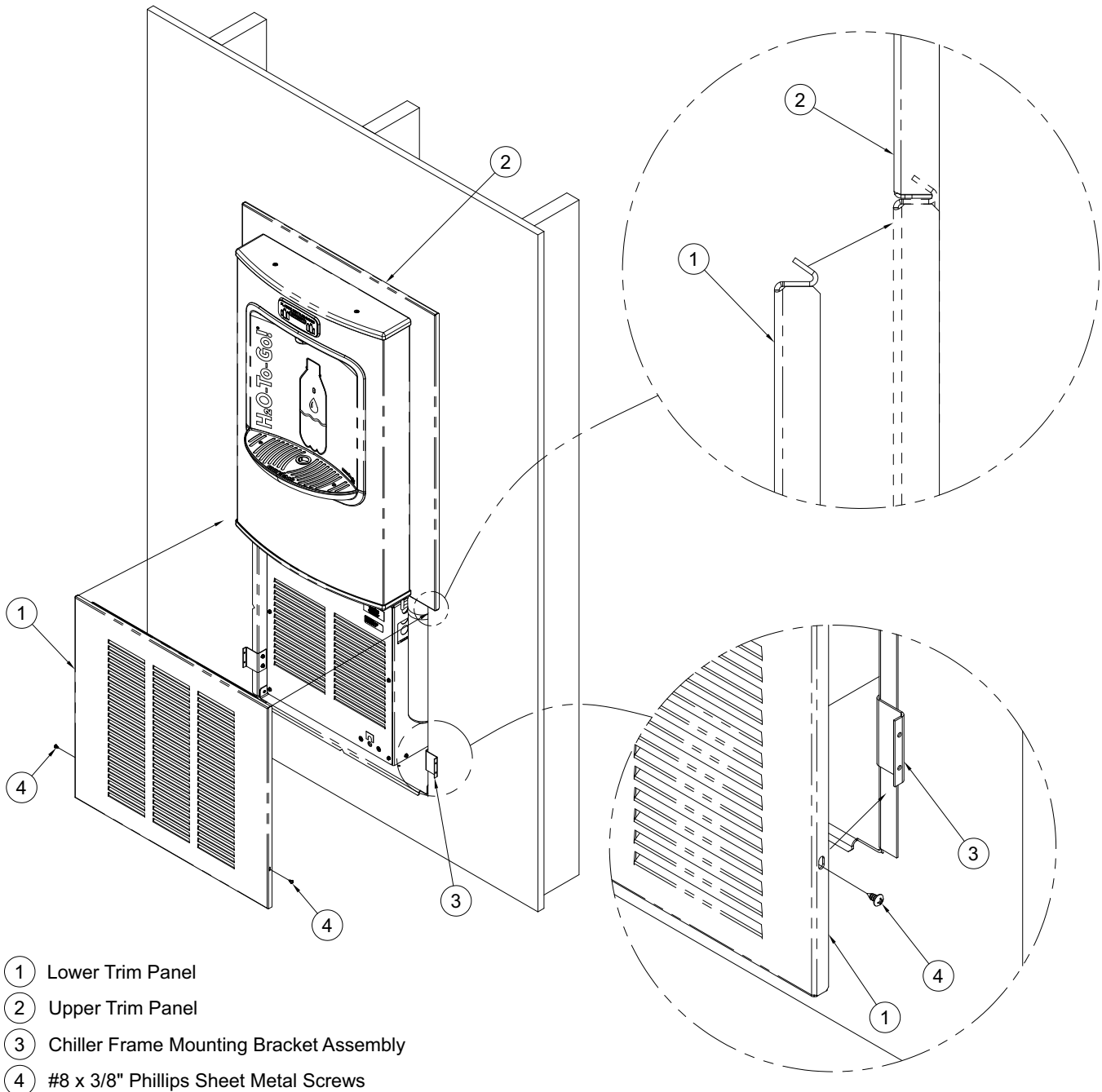
## Chiller Lower Trim Installation

**1** With fixture tested and operating, mount Lower Trim Panel. Hook Upper Trim Panel with Lower Trim Panel's Bent Flange, center within prepared opening and over Chiller Frame Assembly. Secure Lower Trim Panel by tightening Screws on sides of Lower Trim Panel. For maintenance purposes, reverse step to remove Lower Trim Panel.



## Chiller Lower Trim Installation

**1** With fixture tested and operating, mount Lower Trim Panel. Hook Upper Trim Panel with Lower Trim Panel's Bent Flange, center within prepared opening and over Chiller Frame Assembly. Secure Lower Trim Panel by tightening Screws on sides of Lower Trim Panel. For maintenance purposes, reverse step to remove Lower Trim Panel.

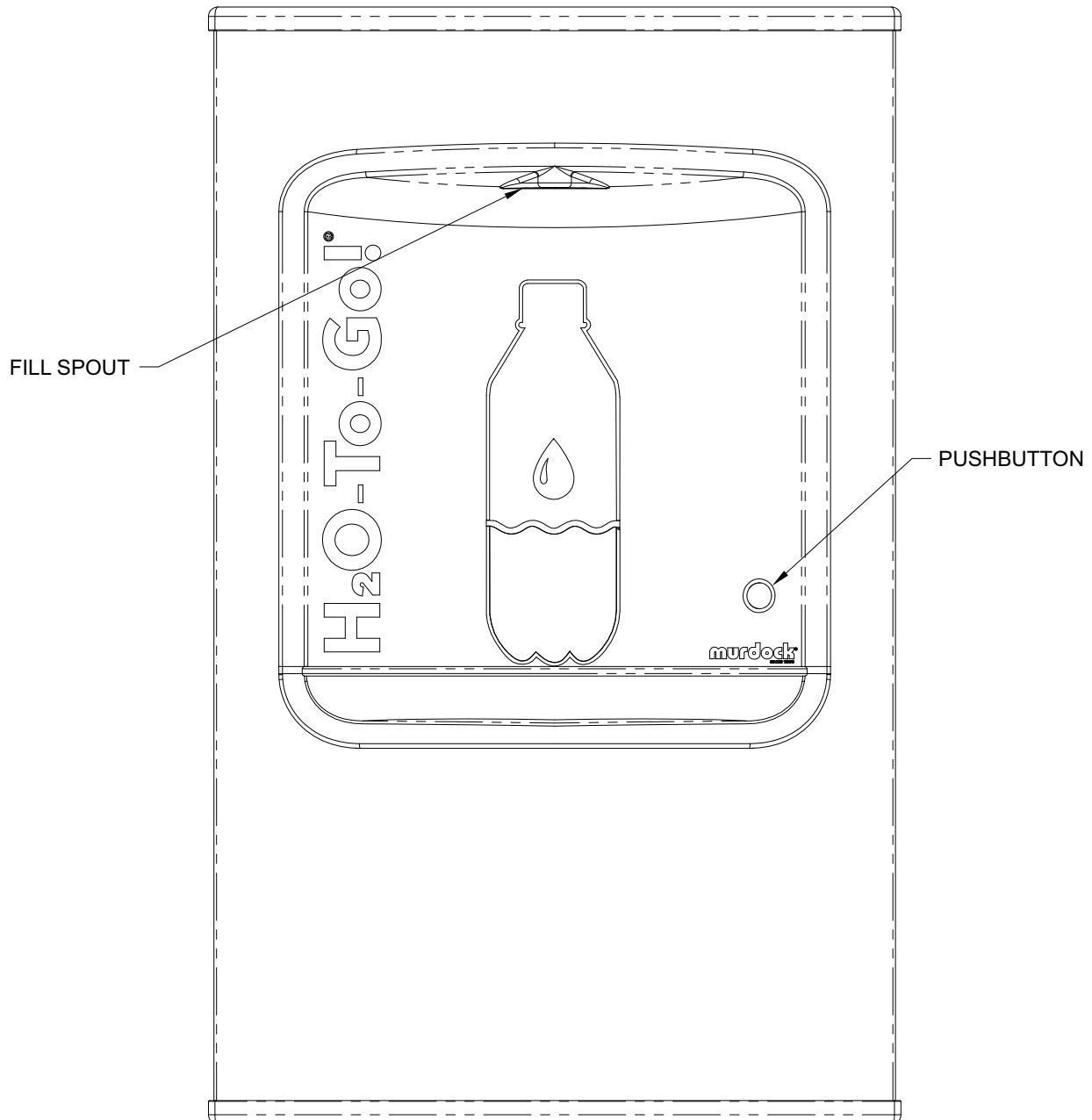


**BF158 BOTTLE FILLER STARTUP:**

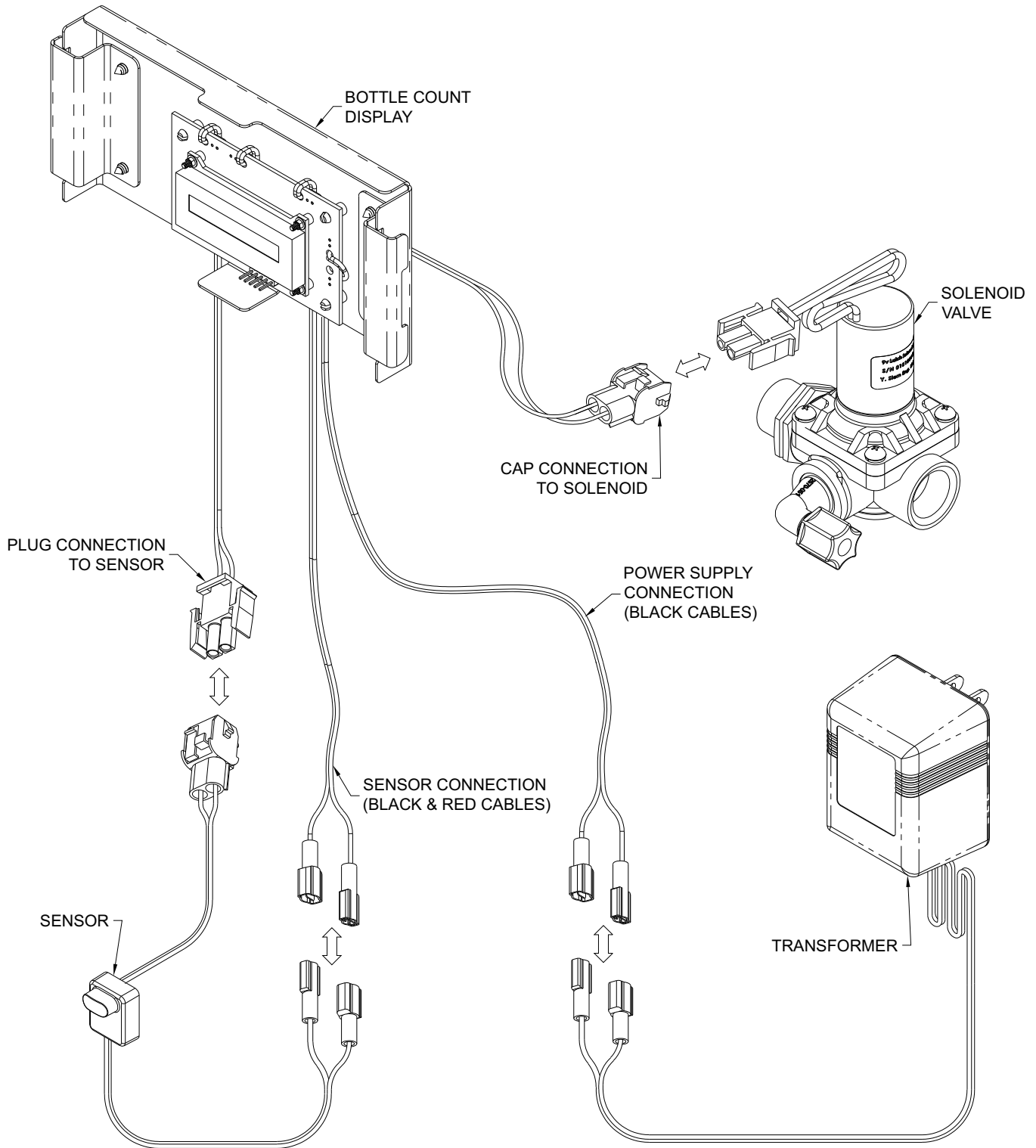
1. Air within the Bottle Filler System or the structure supply piping will cause an irregular Spout outlet stream until purged out by incoming water. Hold cup (or similar object) directly below filler spout is recommended when first activating Bottle Filler to prevent excessive splashing. Press and hold Pushbutton until steady water stream is achieved

**OPERATING INSTRUCTIONS:**

Position container to be filled directly centered under the Filler Spout. Water flow starts when Pushbutton is pressed down. When the container is almost filled, release the Pushbutton. The water will stop flowing.



**WBF168-BCD WIRING CONNECTIONS**



**BF168 BOTTLE FILLER STARTUP:**

**NOTE: PLUG-IN POWER IS A STANDARD FEATURE FOR BF168.**

1. Plug-In Operation: Plug transformer provided into GFCI protected electrical service, used by the Bottle Filler.
2. Connect the Sensor Wires to either the Solenoid Valve or -BCD Bottle Counter Display (if equipped).

**START UP:**

1. Air within the Bottle Filler System or the structure supply piping will cause an irregular Spout outlet stream until purged out by incoming water. Hold cup (or similar object) directly below Filler Spout is recommended when first activating Bottle Filler to prevent excessive splashing. Activate sensor until steady water stream is achieved.

**OPERATING INSTRUCTIONS:**

Position container to be filled directly in front of the Sensor and centered under the Filler Spout. Water flow starts automatically. When the container is almost filled, remove container. The water will stop flowing.

**BOTTLE COUNTER ADJUSTING & RESETING INSTRUCTIONS:**

**NOTE: Bottle Counter Has Multiple Functions**

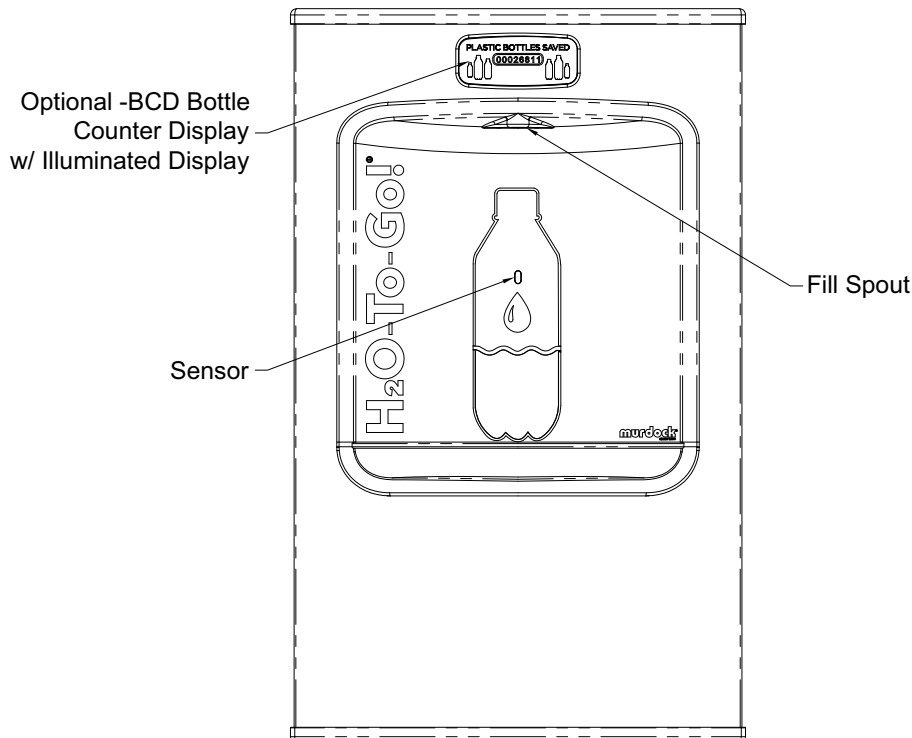
- Reset/ Mode Button
- Counts refilled bottles
- Adjustable for units with and without Filters
- “REPLACEMENT FILTER” alert function
- Alert reset, when Filter is replaced

**Description**

Illuminated LCD Display counts bottles and has a Filter replacement alert function.

**Bottle Counting Function**

The software applies a flow volume of approximately 16.9 fl oz (volume in standard size plastic water bottle) to each bottle counted. If the flow volume is less than 16.9 fl oz, there will be no count but the volume will accumulate, so that part way through the next cycle the total bottle count will change.



**FILTER REPLACEMENT FUNCTIONS:**

**NOTE:** When the volume accumulates to Filter capacity, the “REPLACE FILTER SOON” alert will appear on the display every time the Bottle Filler is activated.

**Counter Modes:**

Located on the back of the Display you will find the Reset/Mode Button for the mode settings. The Reset/Mode Selection Button is accessible by opening the Housing, then locate the large hole in the back of the Display Mounting Bracket. Use your finger or nonconductive object to depress the Reset/Mode Selection Button.

**CAUTION: DO NOT USE SHARP OR METAL OBJECTS!!!**

With this Reset/Mode Button, you are able to indicate whether the unit has a Filter or does not have a Filter. The Reset/Mode Button is used to remove the “REPLACE FILER” alert after the Filter has been replaced.

**Systems With or Without Filter:**

**•To reset “REPLACE FILTER” message:**

-Press and hold Button until “3” is displayed, then release.

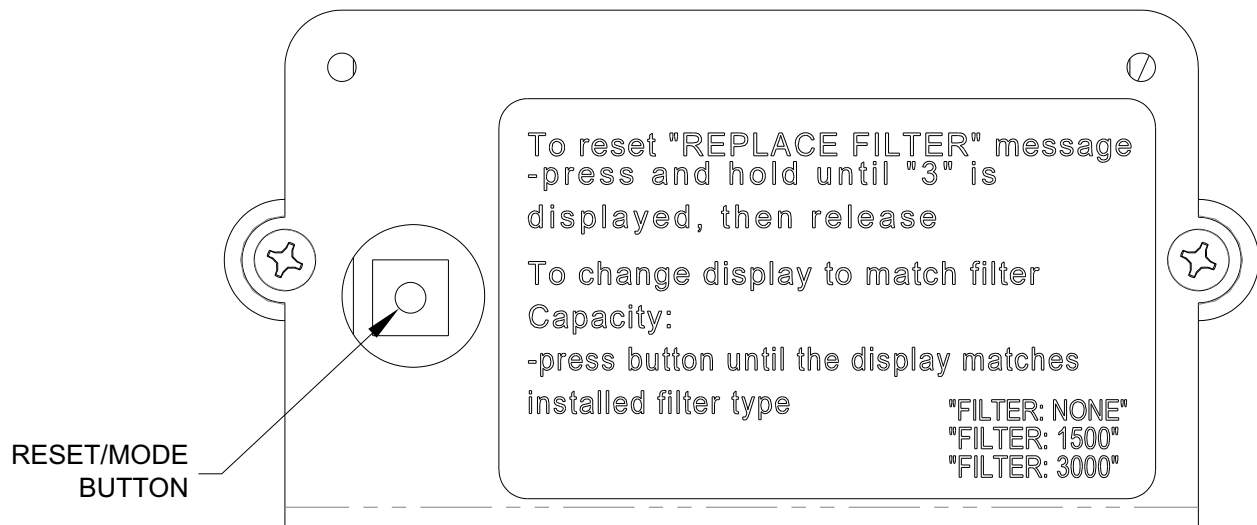
**•To change display to match Filter capacity:**

-Press and hold Button until the Display matches installed Filter type, then release.

“FILTER NONE”

“FILTER 1500”

“FILTER 3000”



**TROUBLE SHOOTING:**

**IMPORTANT: BEFORE MAKING ANY OF THE REPAIRS LISTED, MAKE SURE THE WATER CHILLER IS DISCONNECTED FROM THE ELECTRICAL SUPPLY AND THE WATER SUPPLY VALVE IS SHUT OFF.**

**1. COMPRESSOR DOES NOT RUN:**

- a. Check the electrical supply for power and correct voltage. The incoming voltage must be within 10% of the rated voltage on the serial nameplate.
- b. If the cold thermostat capillary bulb loses its charge or becomes kinked it will fail in the open position causing a disruption of power to the compressor. Disconnect electrical supply to the water chiller and using an ohm meter check for continuity across the two electrical terminals on the thermostat. Install a new thermostat if there is no continuity.
- c. Check for loose wires within the compressor box. The incoming power leads must be connected to the overload and relay.
- d. If all components check positive for continuity then test the wiring harness plug for continuity to see if there is a broken wire within the wiring harness insulation.

**2. COMPRESSOR RUNS - WATER IS WARM:**

- a. The most common cause for a water chiller to run without producing cold water is a loss of refrigerant. The water chiller must be taken to a certified refrigerant technician for repairs.
- b. Make sure the condenser fan motor is operative. The fan blade must turn freely to help remove the heat of compression.
- c. An incorrect refrigerant charge, restriction or defective compressor (not pumping) will also cause the compressor to run without producing cold water. All these signs indicate a problem within the refrigeration system and the water chiller must be checked by an authorized service company.

**4. COMPRESSOR CYCLING ON OVERLOAD PROTECTOR:**

- a. A dirty condenser or a blocked fan will cause a high head pressure and frequent cycling of the overload protector.
- b. Check the incoming voltage to make sure it is within 10% of the serial nameplate rating.
- c. A restriction or moisture in the system will also cause intermittent cycling. A certified refrigeration mechanic should be contacted in this situation.
- d. Change the overload or relay if defective.

**5. NOISY OPERATION:**

- a. Check to make sure the fan blade is rotating freely.
- b. Check the compressor mounting to make sure the pins and clips are not rattling. If the compressor appears to be noisy internally, it must be replaced.

**6. RESTRICTED OR NO WATER FLOW:**

- a. Ensure water supply service stop valve is fully open.
- b. Verify minimum 20 psig supply line flow pressure.
- c. Check for twists or kinks in outlet tubing.
- d. Check the water inlet "Y" strainer. Sediment from the main supply can get trapped in the screen along with installation materials such as pipe dope and flux. The screen should be cleaned and checked on a regular basis and replace if needed.
- f. Flow control in solenoid valve outlet elbow clogged remove & clean.
- g. The water Cooler may also develop a freezing condition in which the water will become frozen inside the evaporator coil. This indicates a refrigeration problem or thermostat failure in which case the Water Chiller needs to be checked by a qualified technician.
- h. No power to transformer connections, loose or wires cut.

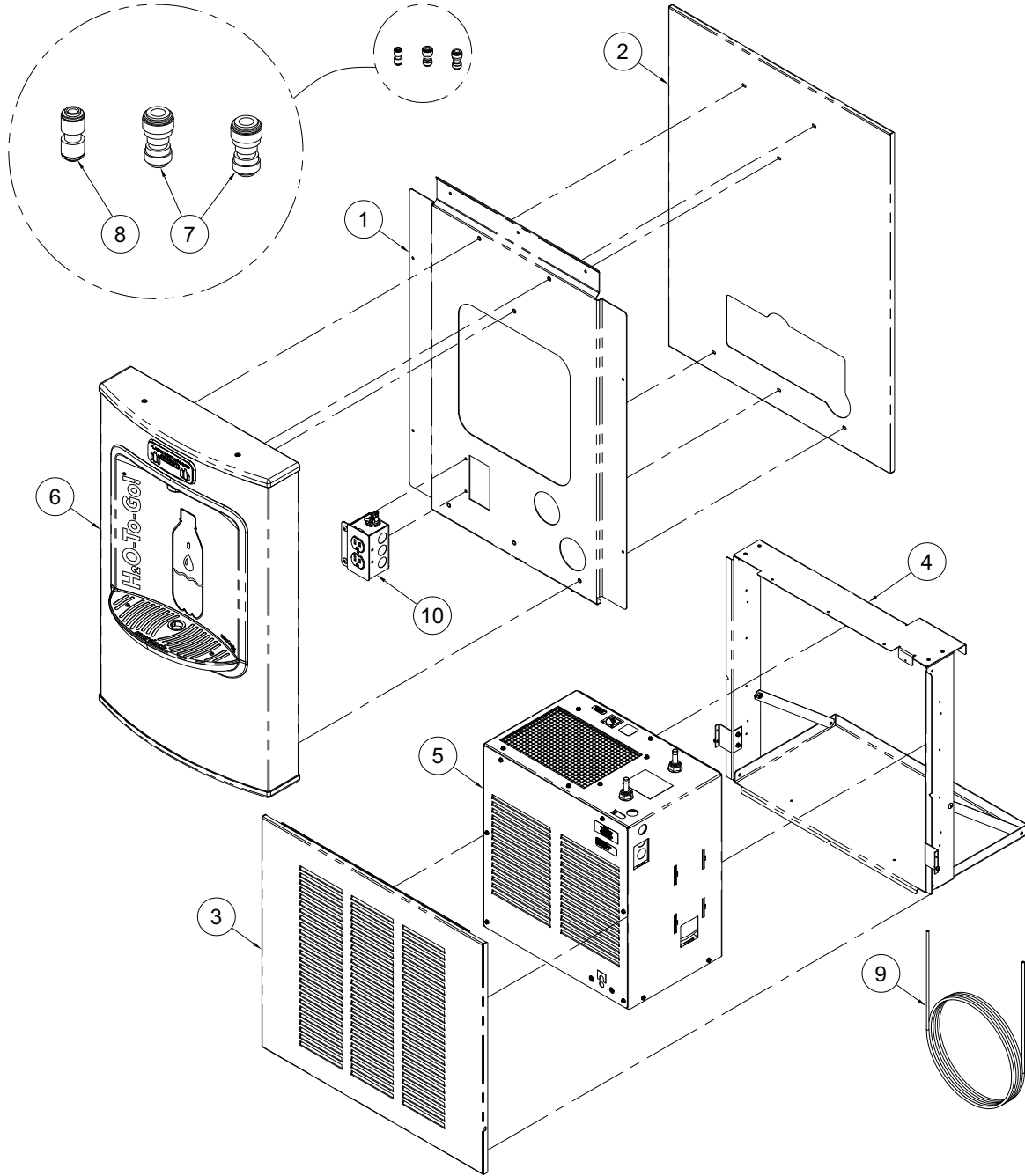
**8. IF LIGHT WITHIN SENSOR DOES NOT FLASH ONCE WHEN USER IS WITHIN RANGE AND WATER DOES NOT FLOW:**

- a. Verify 120VAC input & 9VDC output transformer output 9VDC.
- b. Replace defective transformer.
- c. Transformer polarity crossed. Replace transformer, sensor may be damaged and also need replacement.
- d. Sensor in "Security Mode" after 30 seconds of consistent detection. Remove source of detection and wait 30 seconds before checking.
- e. Sensor is picking up a highly reflective surface. Eliminate cause of reflection and wait 30 seconds before checking.

**9. IF LIGHT WITHIN SENSOR LENS FLASHES ONCE WHEN THE USER IS WITHIN RANGE:**

- a. Repair bad connection from sensor to solenoid.
- b. There is debris or scale in the solenoid assembly. Remove solenoid, pull out plunger and spring. Clean with scale remover solution.
- c. There is debris or scale in the center or two holes in convolution of the water diaphragm. Remove and clean.

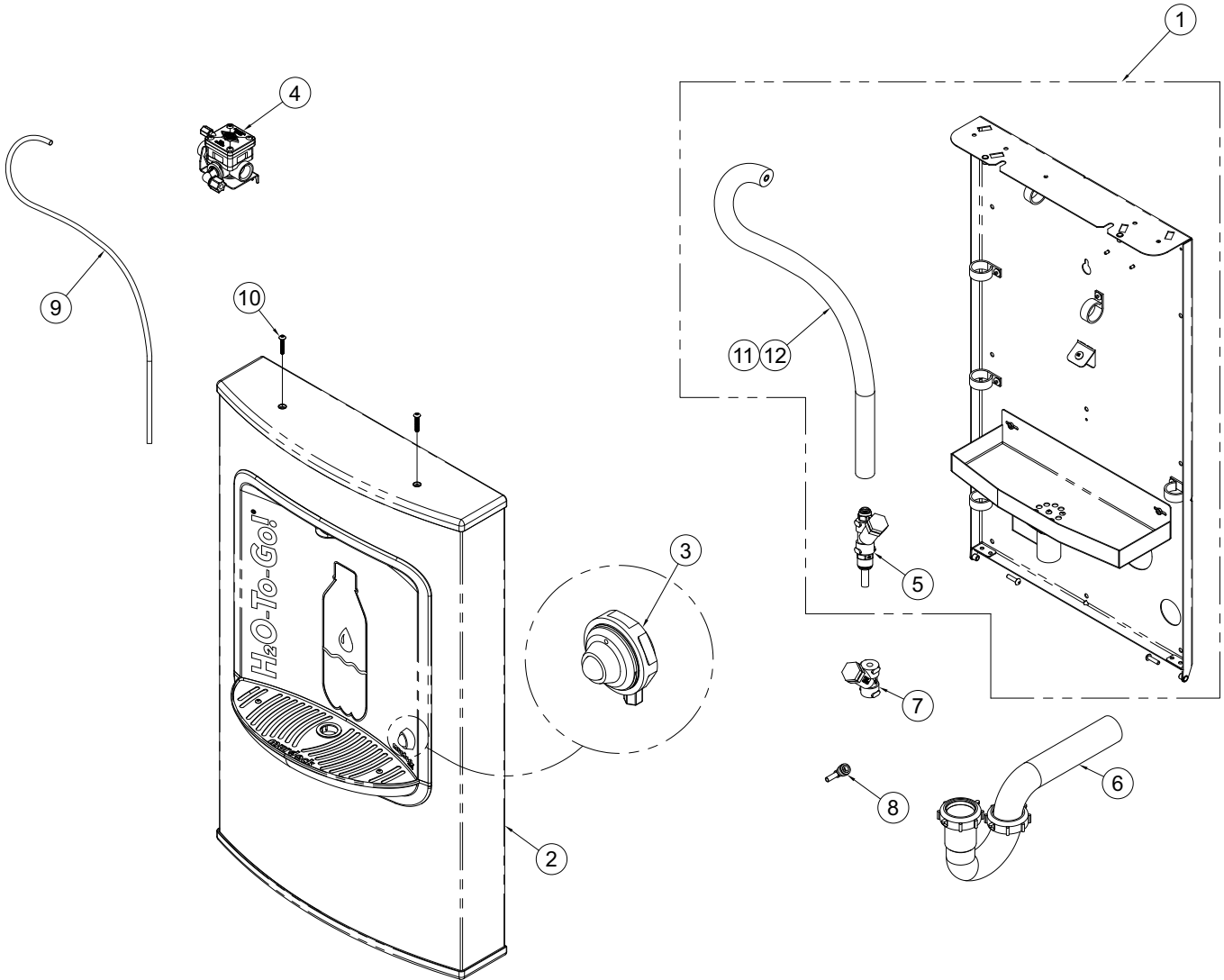
**BF158 / BF168 Series Breakdown**



ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	7014-241-001	MOUNTING PANEL ASSEMBLY	6	MODEL #	BOTTLE FILLER ASSEMBLY
2	7014-216-199	UPPER TRIM PANEL	7	1895-123-000	1/4" OD x 3/8" OD UNION, PUSH-IN
3	7000-239-199	BOTTOM TRIM PANEL	8	1895-121-000	1/4" OD TUBE UNION FITTING
4	7014-230-001	CHILLER FRAME ASSEMBLY	9	2169-000-000	1/4" OD LLDPE TUBING, BLUE
5	7008-010-001	8 GPH CHILLER	10	7014-242-001	BRACKET / JUNCTION BOX KIT

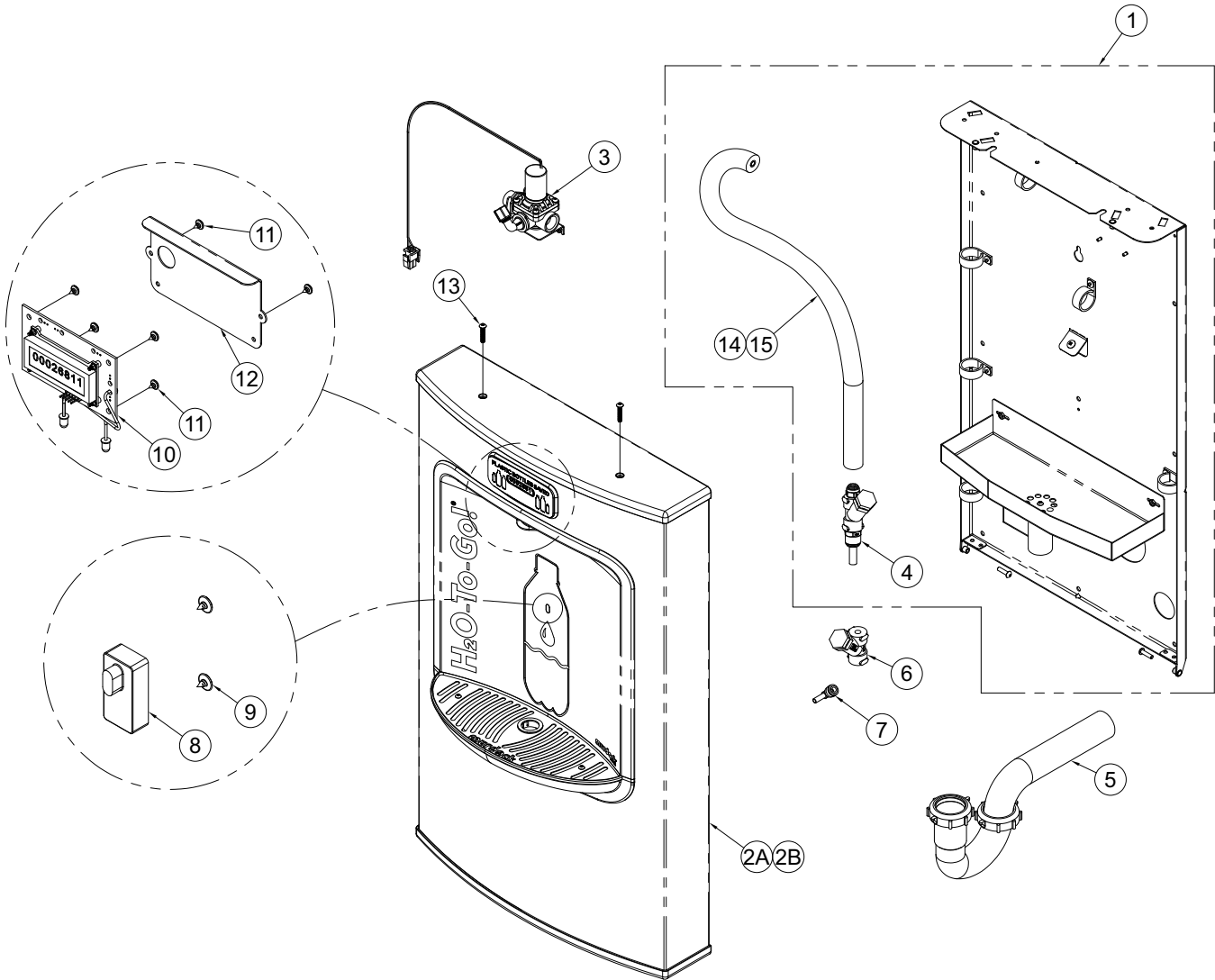


**BF15 PARTS LIST**  
**BOTTLE FILLER PARTS BREAKDOWN**



ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	7014-271-002	WALL MOUNTED FRAME ASSY, BF15/BF16	7	7000-021-000	"Y" STRAINER
2	7014-266-002	HOUSING & TUBING ASSY, BF15	8	1895-709-000	ELBOW, 1/4" OD x 1/4" PUSH-IN
3	2566-160-001	PBH PUSHBUTTON w/ SIDE OUTLET	9	2150-005-199	1/8" OD LLDPE TUBING, CLEAR
4	7001-203-001	AIR-CONTROL VALVE & BRACKET ASSY	10	0116-123-000	#10-32 x 1" LONG, BUTTON HEAD SCREW
5	7000-021-001	"Y" STRAINER ASSY	11	7012-055-000	3/8" ID FOAM INSULATION
6	4970-265-000	P-TRAP ASSEMBLY	12	2169-000-000	1/4" OD LLDPE TUBING, BLUE

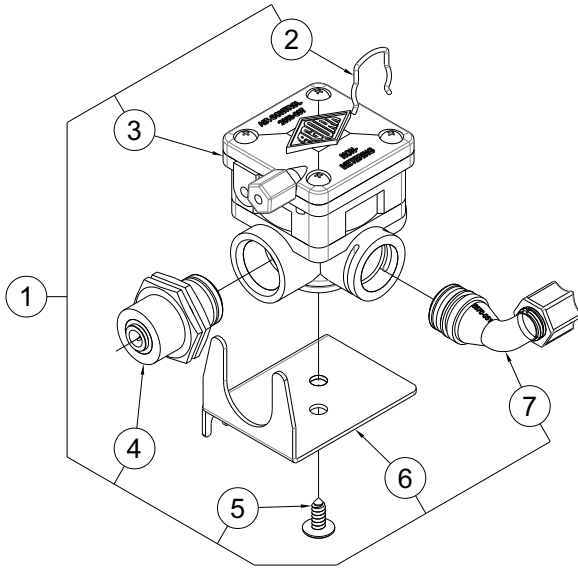
**BF16 PARTS LIST**  
**BOTTLE FILLER PARTS BREAKDOWN**



ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	7014-271-002	WALL MOUNTED FRAME ASSY, BF15/BF16	8	2563-381-001	SENSOR, "A" ASSEMBLY
2A	7014-269-001	HOUSING ASSY, BF16	9	0110-012-000	#6 x 3/16" LONG, TRUSS HEAD
2B	7014-270-001	HOUSING ASSY, BF16-BCD	10	0716-111-001	BOTTLE COUNTER w/ CONNECTORS
3	7001-200-001	9VDC SOLENOID VALVE ASSY	11	0110-011-000	#6 x 3/16" LONG, PAN HEAD
4	7000-021-001	Y STRAINER ASSY	12	7014-253-199	SPLASH GUARD
5	4970-265-000	P-TRAP ASSEMBLY	13	0116-123-000	#10-32 x 1" LONG, BUTTON HEAD SCREW
6	7000-021-000	Y STRAINER	14	7012-055-000	3/8" ID FOAM INSULATION
7	1895-709-000	ELBOW, 1/4" OD x 1/4" PUSH-IN	15	2169-000-000	1/4" OD LLDPE TUBING, BLUE

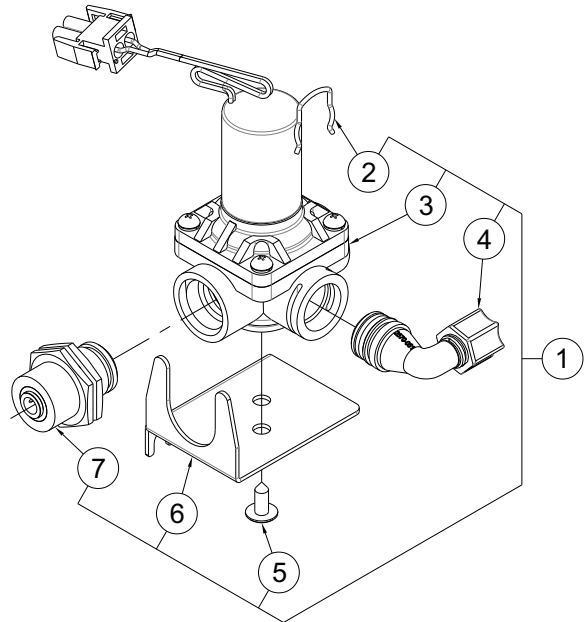
## WBF15 VALVE BREAK DOWN

ITEM	PART NUMBER	DESCRIPTION
1	7001-200-001	AIR-CONTROL RH VALVE & BRACEKT
2	0326-100-000	RETAINING CLIP
3	2570-102-001	AIR-CONTROL RH VALVE, NON-METERING
4	2800-114-001	1/4" OD PUSH-IN INLET ADAPTER
5	0124-010-000	#10-32 x 1/2" LONG PHILLIPS TRUSS HD
6	7001-200-199	BRACKET VALVE MOUNTING
7	2570-051-001	1/4" OD PLASTIC ELBOW ASSEMBLY



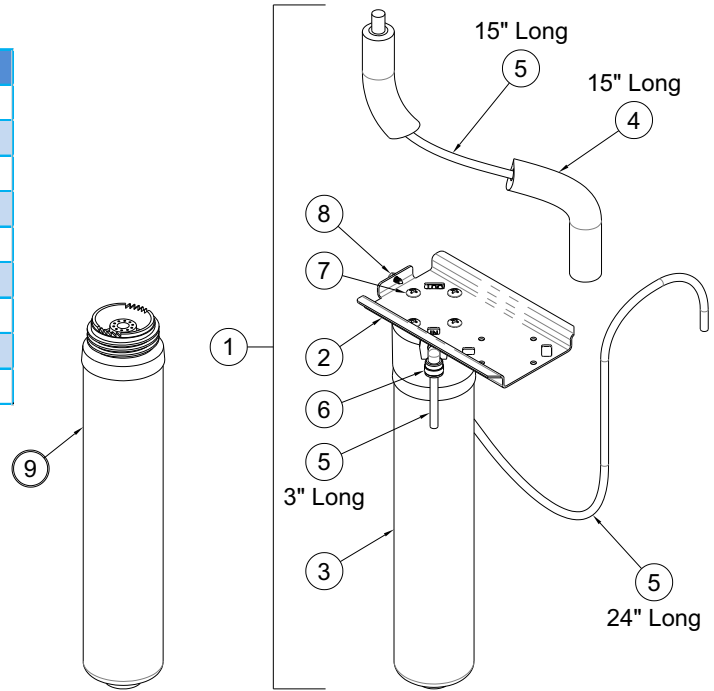
## WBF16 VALVE BREAK DOWN

ITEM	PART NUMBER	DESCRIPTION
1	7001-200-001	SOLENOID RH VALVE MOUNTING ASSY
2	0326-100-000	RETAINING CLIP
3	2570-132-001	SOLENOID RH VALVE ASSY, 12VDC
4	2570-052-001	1/4" OD PLASTIC ELBOW ASSEMBLY
5	0124-010-000	#10-32 x 1/2" LONG PHILLIPS TRUSS HD
6	7001-200-199	BRACKET, SOLENOID VALVE
7	2800-114-001	1/4" OD PUSH-IN INLET ADAPTER ASSY



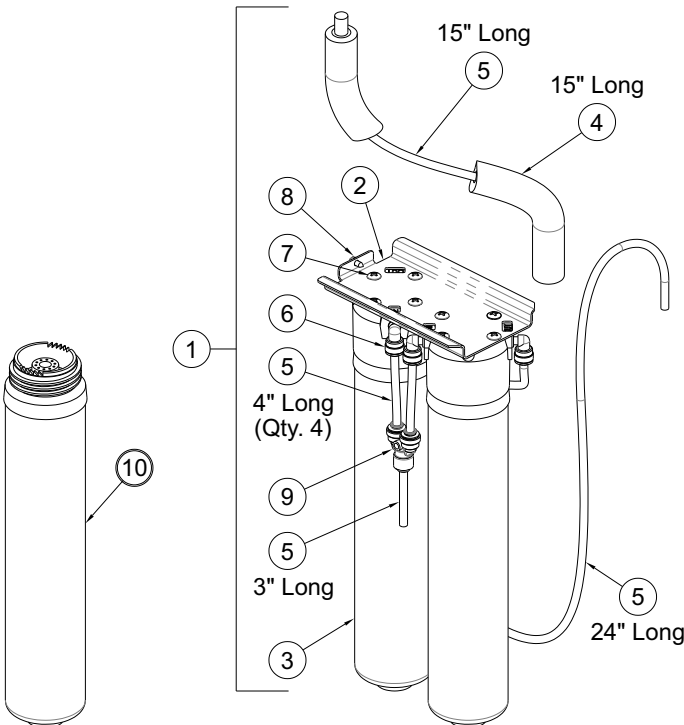
### Optional -WF1 Water Filter

ITEM	PART NUMBER	DESCRIPTION
1	7014-057-001	BF158/BF168 FILTER ASSY, 1,500 GALLONS
2	7014-056-199	BRACKET, DUAL FILTER MOUNT
3	7012-311-000	WF1 FILTER, 1,500 GALLONS
4	7012-055-000	3/8" ID FOAM INSULATION TUBE
5	2169-000-000	1/4" OD TUBE, 3-1/2 FEET LONG
6	1895-709-000	ELBOW, 1/4" OD PUSH-IN x 1/4" OD STEM
7	0250-011-000	#10 x 1/2" LONG TRUSS HEAD SCREW
8	0124-031-000	#8 x 3/8" LONG SLOTTED WASHER SCREW
9	7012-313-000	REPLACEMENT CARTRIDGE



### Optional -WF3 Dual Water Filter

ITEM	PART NUMBER	DESCRIPTION
1	7014-056-001	DUAL FILTER ASSY, 3,000 GALLONS
2	7014-056-199	BRACKET, DUAL FILTER MOUNT
3	7012-311-000	WF1 FILTER, 1,500 GALLONS
4	7012-055-000	FOAM INSULATION TUBE
5	2169-000-000	1/4" OD TUBE, 3-1/2 FEET LONG
6	1895-709-000	ELBOW, 1/4" PUSH-IN x 1/4" OD STEM
7	0250-011-000	#10 x 1/2" LONG TRUSS HEAD SCREW
8	0124-031-000	#8 x 3/8" LONG SLOTTED WASHER SCREW
9	1895-039-000	1/4" OD PUSH-IN, 2-WAY DIVIDER
10	7012-313-000	REPLACEMENT CARTRIDGE



Repairs must be made with Murdock Manufacturing parts only. Please order through your local representative or distributor. The phone number to locate your local representative is 1.800.591.9360.