

**AR81.8 Series**

**Ligature Resistant, Barrier Free, Inverted, Fully Recessed Wall Mounted  
Electric Drinking Fountain**



AR81408S-BF SHOWN

**TECHNICAL ASSISTANCE TOLL FREE TELEPHONE NUMBER:**  
**1.800.591.9360**

Technical Assistance Fax: 1.626.855.4894

**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.

**LIMITED WARRANTY - UNITED STATES & CANADA**

Murdock warrants that every cooler, bottle filling station, packaged water chiller, fountain and accessory to be free from defects in material and workmanship under normal use for one (1) year from date of install or eighteen (18) months after the date of shipment from the factory, whichever comes first.

Murdock warrants the compressor and hermetically sealed refrigeration system, including cooling coil assembly when part of the hermetically sealed refrigeration system, to be free from defects in material and workmanship under normal use for an additional four (4) years from the end of the one (1) year period described above.

This warranty does not cover installation or labor charges and does not apply to materials, which have been damaged by other causes such as mishandling or improper care or abnormal use. The repair or replacement of the defective materials shall constitute the sole remedy of the Buyer and the sole remedy of Murdock under this warranty. Murdock shall not be liable under any circumstances for incidental, consequential or direct charges caused by defects in the materials, or any delay in the repair or replacement thereof. This warranty is in lieu of all other warranties expressed or implied. Product maintenance instructions are issued with each unit and disregard or non-compliance with these instructions will constitute an abnormal use condition and void the warranty. Stainless steel must be protected on job site during construction and must be properly maintained after the water has been introduced into the water cooler or drinking fountain, or Murdock's limited warranty is void.

**LIMITED EXPORT WARRANTY - One year on parts only.**

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7020-998-001

04/20/2021



Test rating conditions are compliant with ARI 1010.



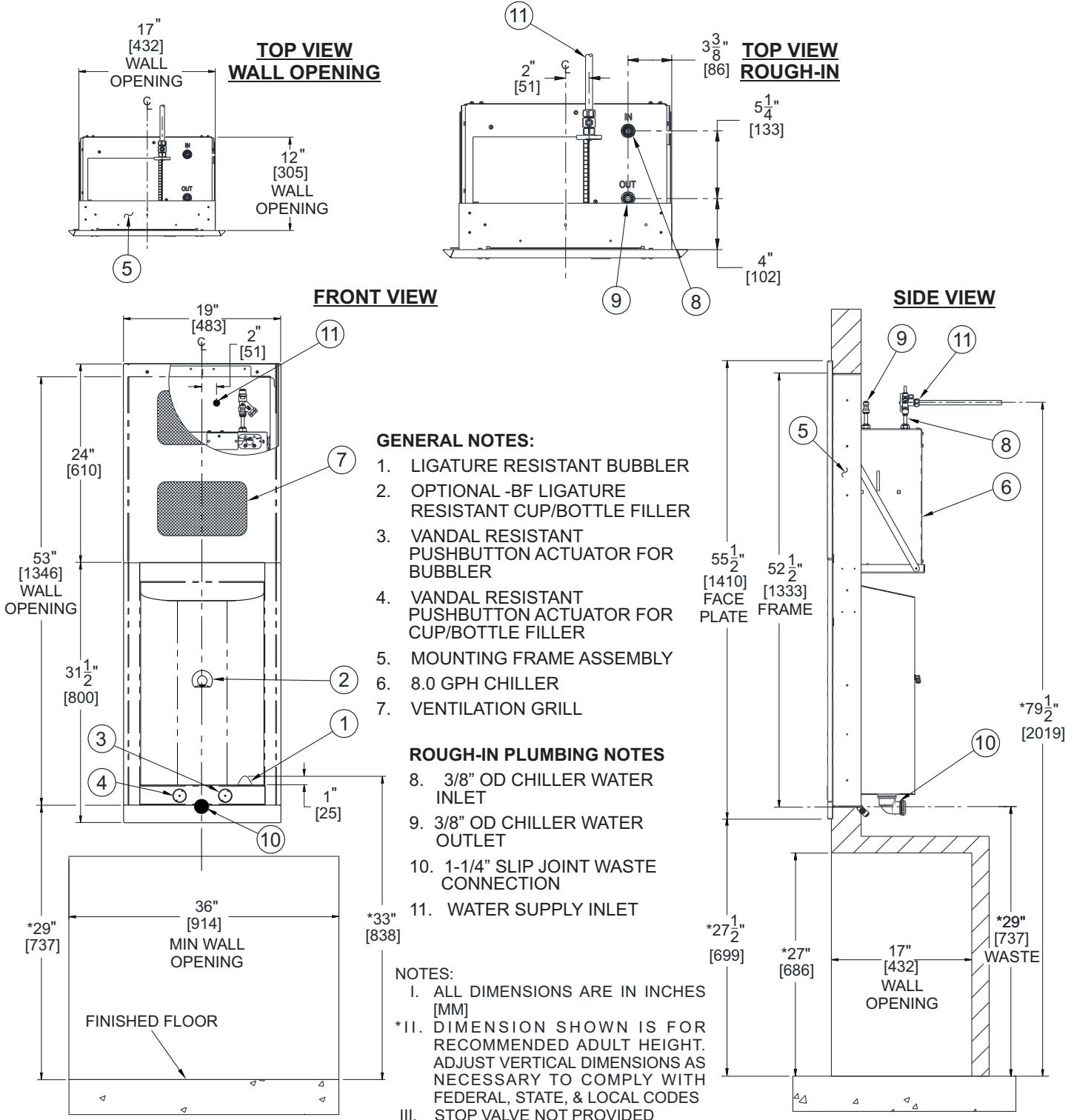
Member of  
**MORRIS GROUP**  
INTERNATIONAL

**murdock**<sup>®</sup>  
SINCE 1853

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**AR81.8 SERIES ROUGHING-IN AND DIMENSIONAL DRAWING:**

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



**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 upper 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" OD copper tube. Chiller water outlet is 3/8" Outer Diameter copper tube. Drinking Fountain water inlet is 3/8" OD copper tube. Bottle Filler water inlet is 3/8" OD copper tube. Water line by others from in-wall chiller to drinking fountain must have adequate insulation.
4. Completely flush supply lines of all foreign debris before connecting to fixture. Water cooler designed to not cause problems with taste, odor, color, or sediment. Optional water filter (Wf1), is available should any of these problems arise from the water supply.
5. Do NOT solder tubes inserted into the chiller, bottle filler or the fountain strainer 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 voided if installation is not made following current Acorn Engineering installation instructions and if components are assembled to the fixture that are not approved by Acorn Engineering.
10. Fixture operates within water pressure range of 174 kPa (25 psig) to 724 kPa (105 psig). Acorn Engineering will not warranty chiller damaged when connected to supply lines with flow pressure lower than 174 kPa (25 psig) or higher than 724 kPa (105 psig). A pressure regulator must be furnished by others on supply line if inlet pressure is greater than 724 kPa (105 psig).
11. Due to cold waste water, Acorn Engineering 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:**

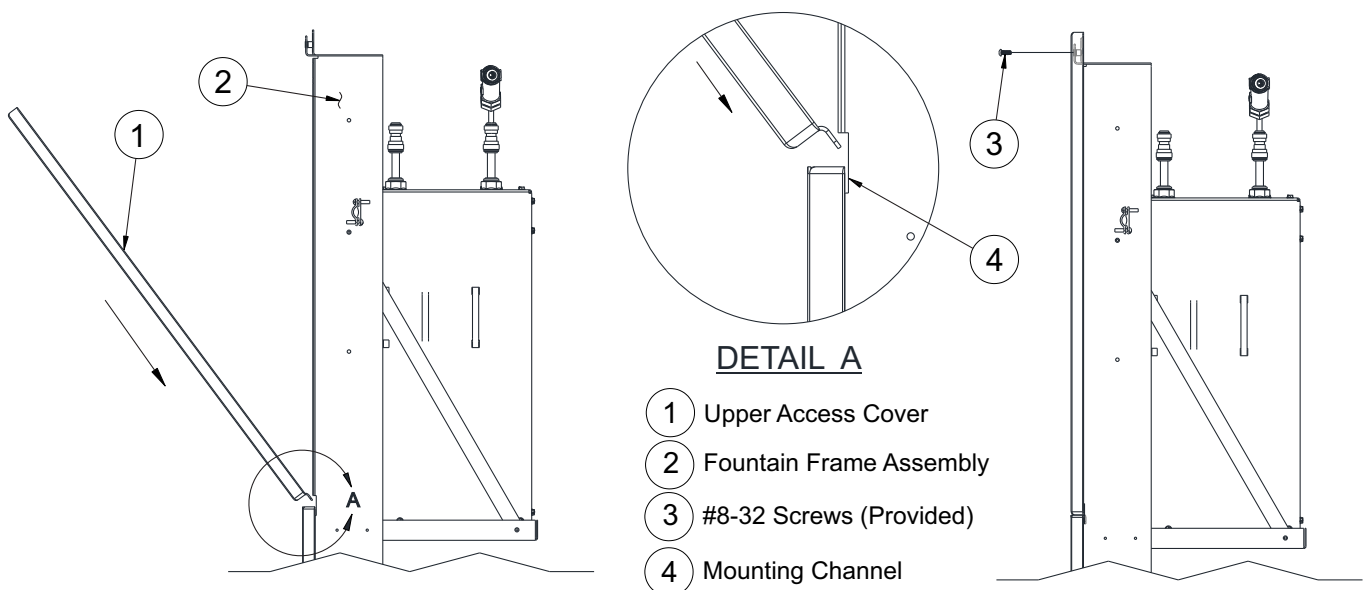
1. Read all installation instructions carefully, before proceeding.
2. Carefully remove all fixture components from packaging, preventing scratching or damage. Inspect fixture and all parts from damages and all parts are bolted on.
3. Provide mounting surface, sufficient to support the fixture and loads 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 content to increase.
6. 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.

**INSTALLATION STEPS: (ILLUSTRATED ON FOLLOWING PAGES)**

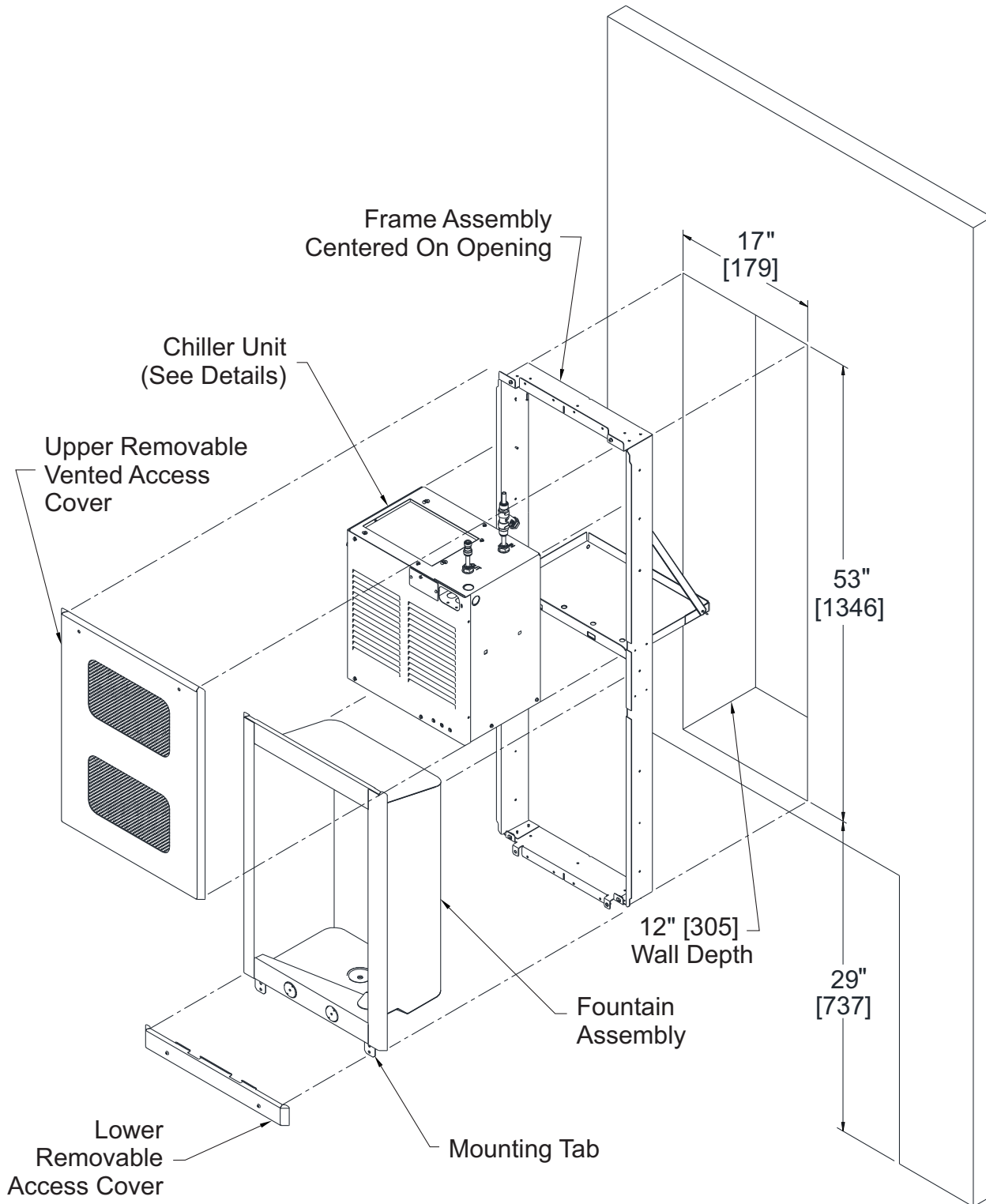
1. Provide wall opening as indicated in Rough-in sheet. Provide structural support around opening for frame anchoring if required.
2. Carefully remove Drinking Fountain and Chiller mounting frame from packaging to prevent damage.
3. Insert and center mounting frame into the rough-in blockout, with sides, top and bottom flange against finished wall. Level and secure using mounting hardware provided by the installer. Verify if level and shim if necessary.
4. Secure Frame to wall through sides top and bottom using anchoring hardware by others.
5. Place the Chiller Unit onto the basepan of the frame assembly. Make up electrical connections as required. Refer to A910.8 Chiller manual 7020-978-001 for complete Chiller installation information.
6. Position the top of the Fountain assembly over the Frame S-clip just below the Chiller basepan and engage while securing bottom tabs to Frame assembly with #10-32 screws and washers provided. Screws must thread into captive nuts behind Frame tab. Tighten screws to pull the Fountain flush with the wall.
7. Make up supply connections to 3/8" OD Tube x 1/4" OD Tube Y-Strainer Chiller and riser connections from Chiller to Fountain. Riser 1/4" OD tube from Chiller to Fountain should be insulated to prevent condensation and maintain cool water temperature. Refer to Water Path and Chiller detail.
8. Make-up 1-1/4" OD waste connection.
9. After thoroughly flushing supply line, connect water supply to chiller.

**START UP:**

1. Before assembling the upper and lower Removable Access Covers to the Fountain, but after thoroughly flushing the supply line and connecting it to the fixture, turn on building water supply and check all connections for leaks.
2. Air within the Fountain or the structure supply piping will cause an irregular outlet stream until purged out by incoming water.
3. Recheck all water and drain connections with water flowing through system.
4. Install upper Removable Access Cover to the Fountain by sliding the Cover into the Fountain's Mounting Channel (DETAIL A), then secure the upper and lower Covers to the Fountain's frame using the supplied #8-32 screws & washers (Illustrated Below).



**AR81.8 SERIES INSTALLATION:**

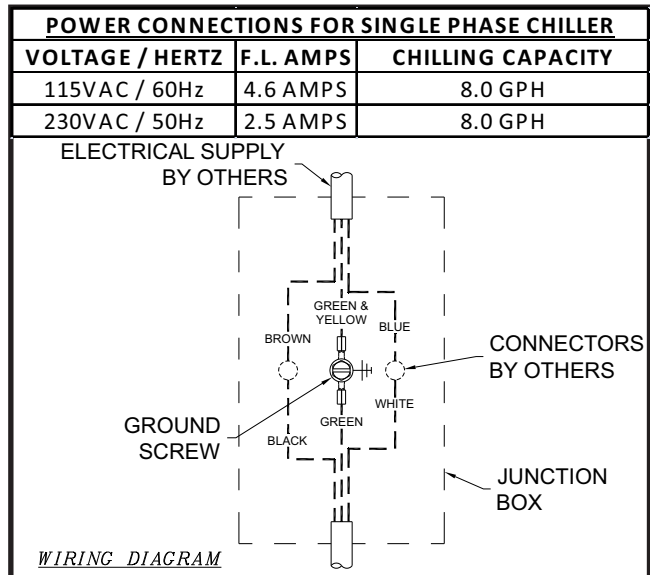
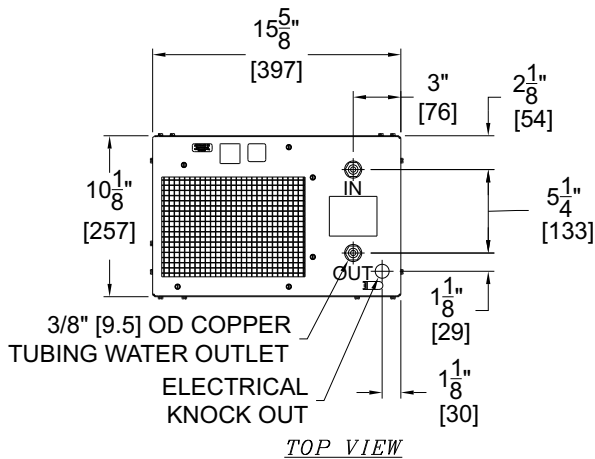


**AR81.8 SERIES CHILLER ELECTRICAL:**

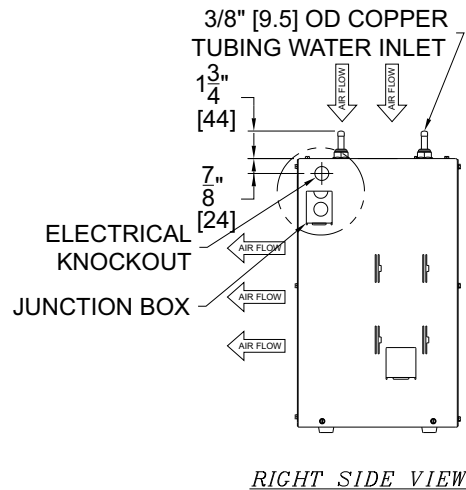
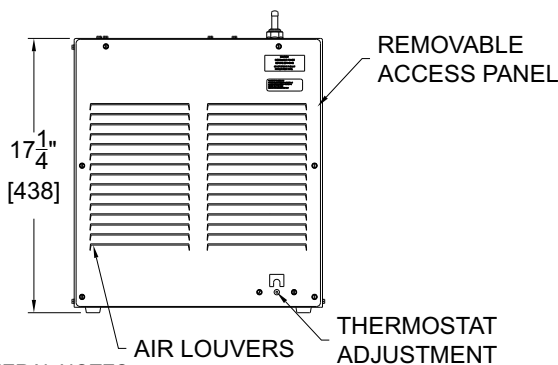
This fixture is intended to dispense water that has been lowered in temperature, but otherwise remains unchanged by the materials in the water cooler. It is common for electrical equipment to be grounded to water lines either within a structure or away from it. Every attempt should be made to prevent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

**NOTE:** Remote water chiller is intended for indoor installation (fixture has not been rated for outdoor installation). A dielectric coupling must be used to connect the water chiller to the water supply. A nonmetallic coupler is furnished with this water cooler to meet this requirement.

**ROUGH-IN:**



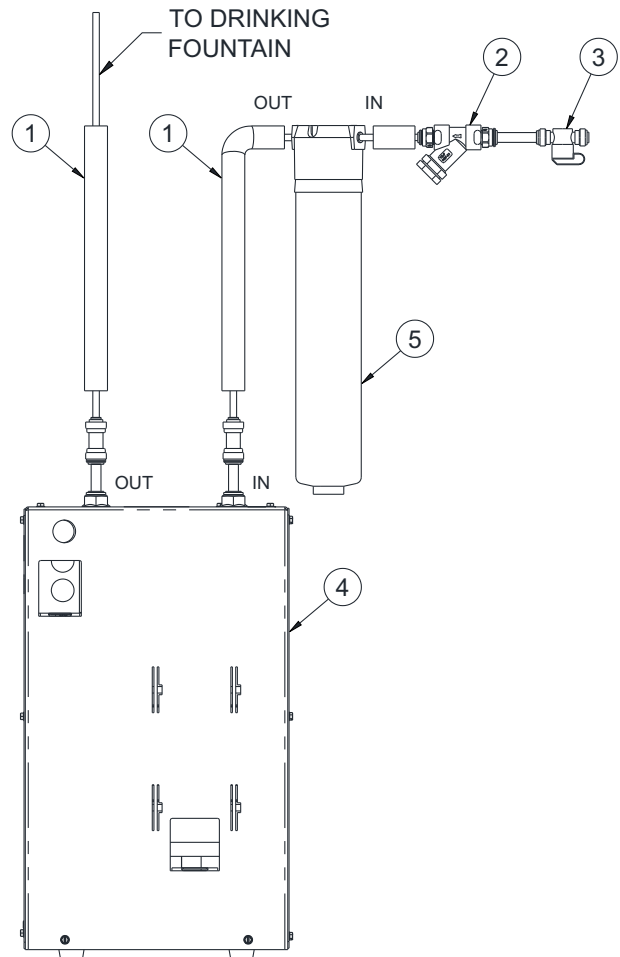
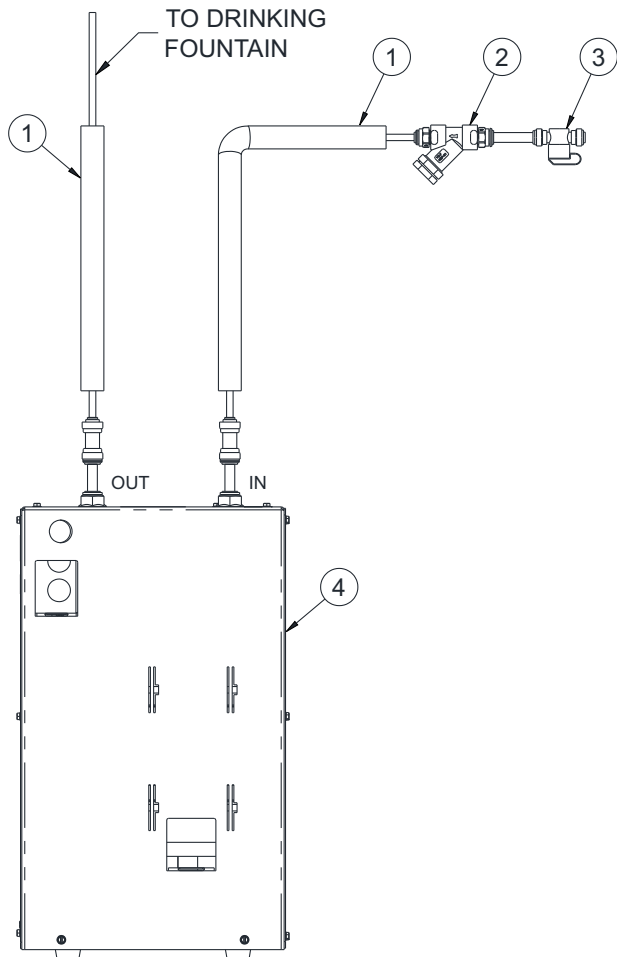
**NOTE: INSTALLER MUST REMOVE THE REMOVABLE ACCESS PANEL TO LOCATE THE JUNCTION BOX TO MAKE UP WIRING CONNECTIONS**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE IN INCHES [MM].
2. ALLOW 4 INCHES [102MM] MINIMUM CLEARANCE ON TOP AND FRONT FOR VENTILATION.
3. IT IS RECOMMENDED THAT ALL WATER OUTLETS BE CONNECTED DIRECTLY AND NO MORE THAN 7 FEET AWAY FROM THE CHILLER. FOR ANYTHING GREATER THAN 7 FEET, CHILLED WATER MAY NOT BE EXPOSED UNTIL ALL WATER IN RISER HAS BEEN RELEASED. ALL CHILLED WATER PIPING IS INTENDED TO BE COVERED WITH APPROPRIATE INSULATION TO MAINTAIN TEMPERATURE AND AVOID CONDENSATION

**AR81.8 WATER PATH AND CHILLER DETAIL:**



- ① INSULATED 1/4" OD TUBING
- ② Y-STRAINER (PROVIDED)
- ③ ANGLE STOP BY OTHERS

- ④ CHILLER w/ 3/8" OD TUBE INLET/OUTLET CONNECTIONS
- ⑤ OPTIONAL -WF1 1500 GALLON WATER FILTER SHOWN WITH 1/4" OD TUBE INLET/OUTLET

\*NOTE: INSULATION TUBING MAY OVERLAP FITTINGS. ILLUSTRATIONS MAY SHOW EXPOSED 1/4" OD TUBING FOR CLARITY ONLY.

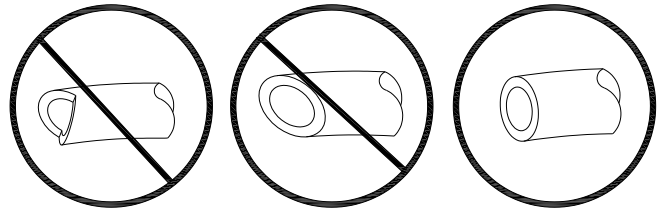


### PUSH-IN FITTING INSTALLATION

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

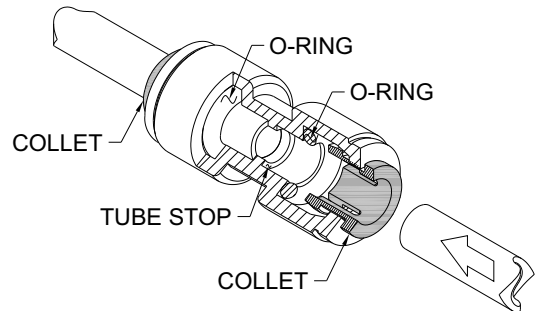
#### TO CUT TUBE:

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.

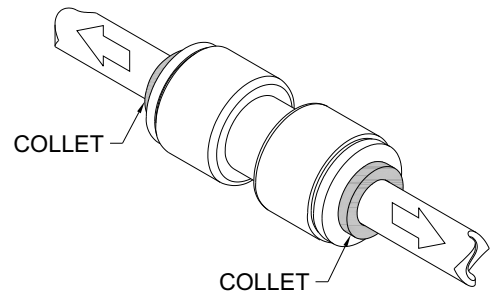


#### INSERTING THE TUBE:

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

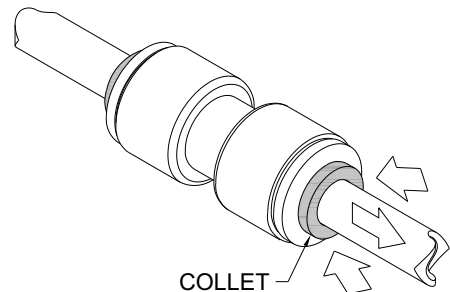


2. Pull on the fitted Tubing to ensure it is secure. Tube should not come free from the Fitting. Water test the connection assembly prior to leaving the site to ensure there are no leaks.



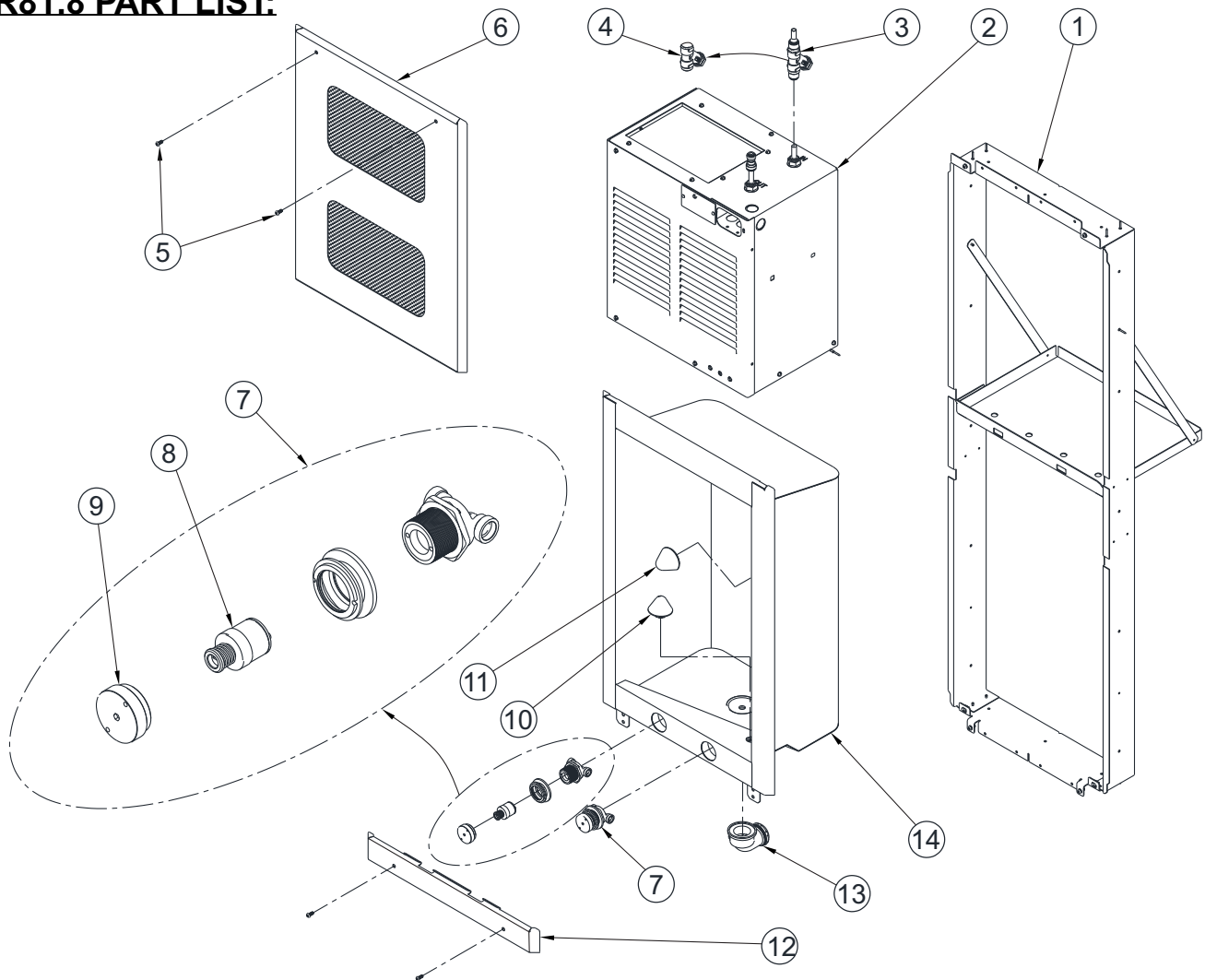
#### DISCONNECTING THE TUBE:

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.



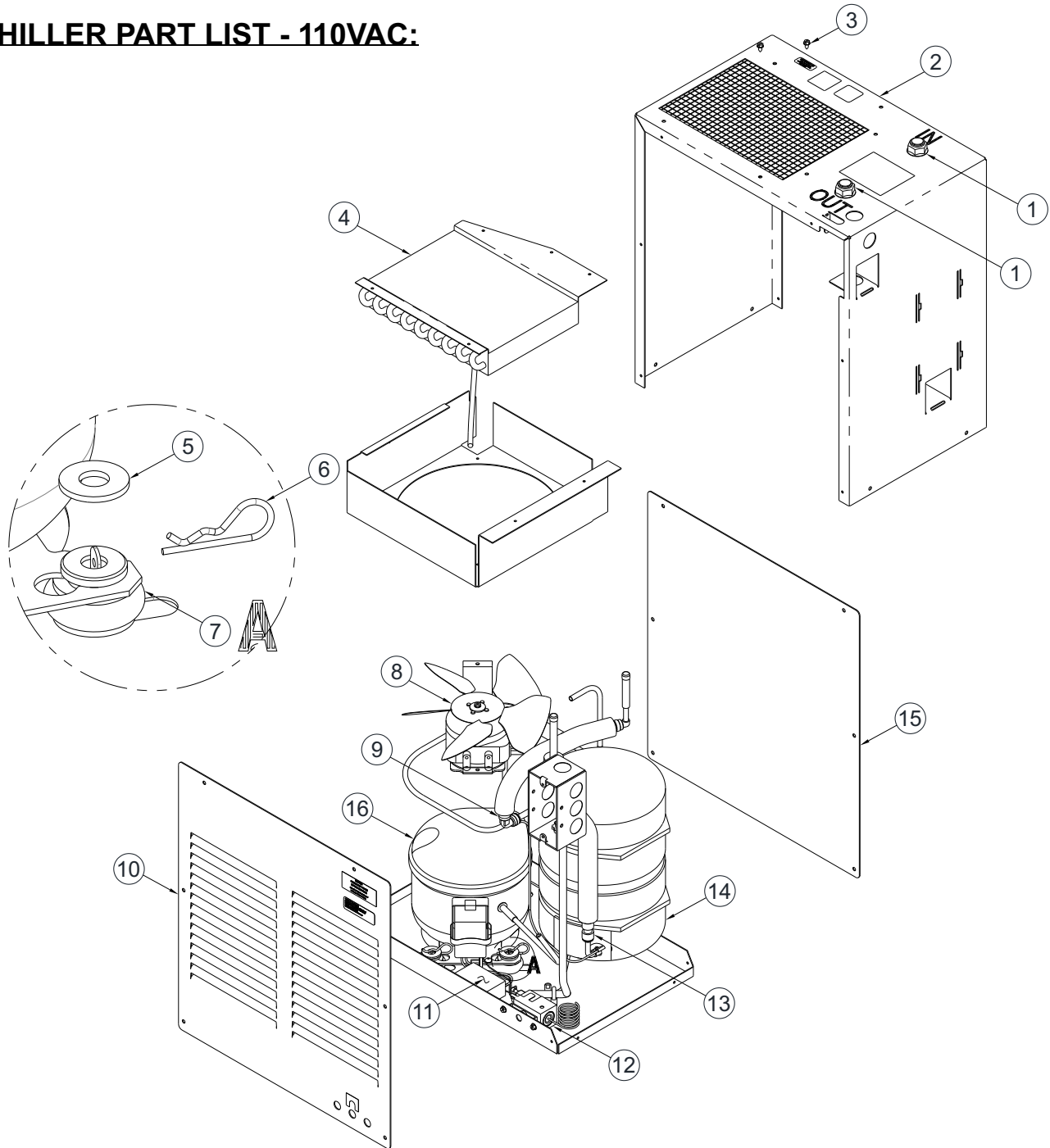


**AR81.8 PART LIST:**



ITEM #	PART NUMBER	DESCRIPTION
1	7035-440-001	FRAME ASSEMBLY, RECESSED FOUNTAIN
2	7008-050-001	8.0 GPH CHILLER
3	7000-024-001	"Y" STRAINER ASSY, W/ 1/4" NPT X 3/8" OD
4	7000-021-001	"Y" STRAINER ASSY, W/ 1/4" NPT
5	0112-002-000	#10-32 X 1/2" S/S HEX C/R BTN HD SCREW
6	7035-430-001	VENT PANEL, RECESSED FOUNTAIN
7	7000-065-001	PUSH BUTTON W/ CARTRIDGE VALVE ASSEMBLY
8	7000-060-000	FLOW REGULATOR CARTRIDGE (0.5 GPM)
9	7000-091-001	PUSHBUTTON W/HEX ASSY
10	4854-020-001	DECK BUBBLER ASSY., (LR-BPH)
11	4854-030-001	NOZZLE ASSY., LR BOTTLE FILLER
12	7035-444-199	BOTTOM TRIM PANEL, RECESSED FOUNTAIN
13	4956-056-001	GRID STRAINER LIG RESIST W/CLOSE ELL ASSY.
14	7035-410-002	WELDMENT, A181-A001 REC'D FTN BASIN, BPH

**CHILLER PART LIST - 110VAC:**



ITEM#	PART NUMBER	DESCRIPTION	ITEM#	PART NUMBER	DESCRIPTION
1	1895-712-000	3/8"OD - 1/4" OD BULKHEAD CONNECTION	9	1895-708-000	1/4" OD PUSH-IN ELBOW CONNECTION
2	7008-010-199	HOUSING	10	7008-012-199	FRONT PANEL
3	0124-031-000	#8-3/8" HEX WASHER HD SLOTTED SCREW	11	7012-803-000	CAPACITOR
4	7008-015-001	CONDENSOR ASSEMBLY	12	7003-250-000	TEMPERATURE CONTROL
5	0332-013-000	1" OD x 7/16" ID FLAT WASHER	13	1895-121-000	1/4" OD PUSH-IN CONNECTION
6	7012-150-000	3/32" x 1-5/8" HITCH PIN	14	7003-115-001	EVAPORATOR ASSEMBLY
7	7012-805-000	RUBBER FOOT FOR TATUNG	15	7008-013-199	BACK PANEL
8	7003-002-004	115V FAN MOTOR	16	7012-801-001	115V COMPRESSOR ASSY