murdock® SINCE 1853

ELECTRIC DRINKING FOUNTAIN
INSTALLATION/MAINTENANCE INSTRUCTIONS

AR81.8 Series

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

AR81408S-BF SHOWN

TECHNICAL ASSISTANCE TOLL FREE TELEPHONE NUMBER: 1.800.743.8259

Technical Assistance E-Mail: 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

COMPLIES WITH STANDARDS

NSF/ANSI 61

Federal Public Law 111-380 (No Lead)

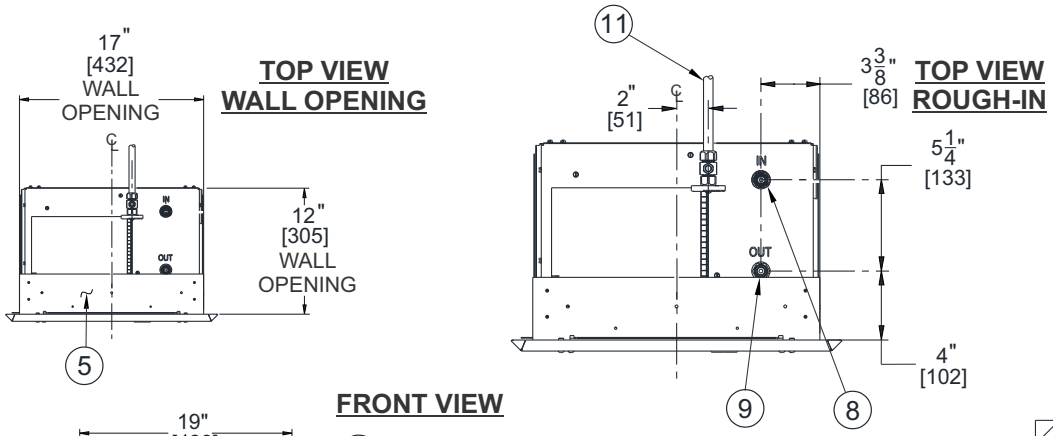
Test rating conditions are compliant with ARI 1010.

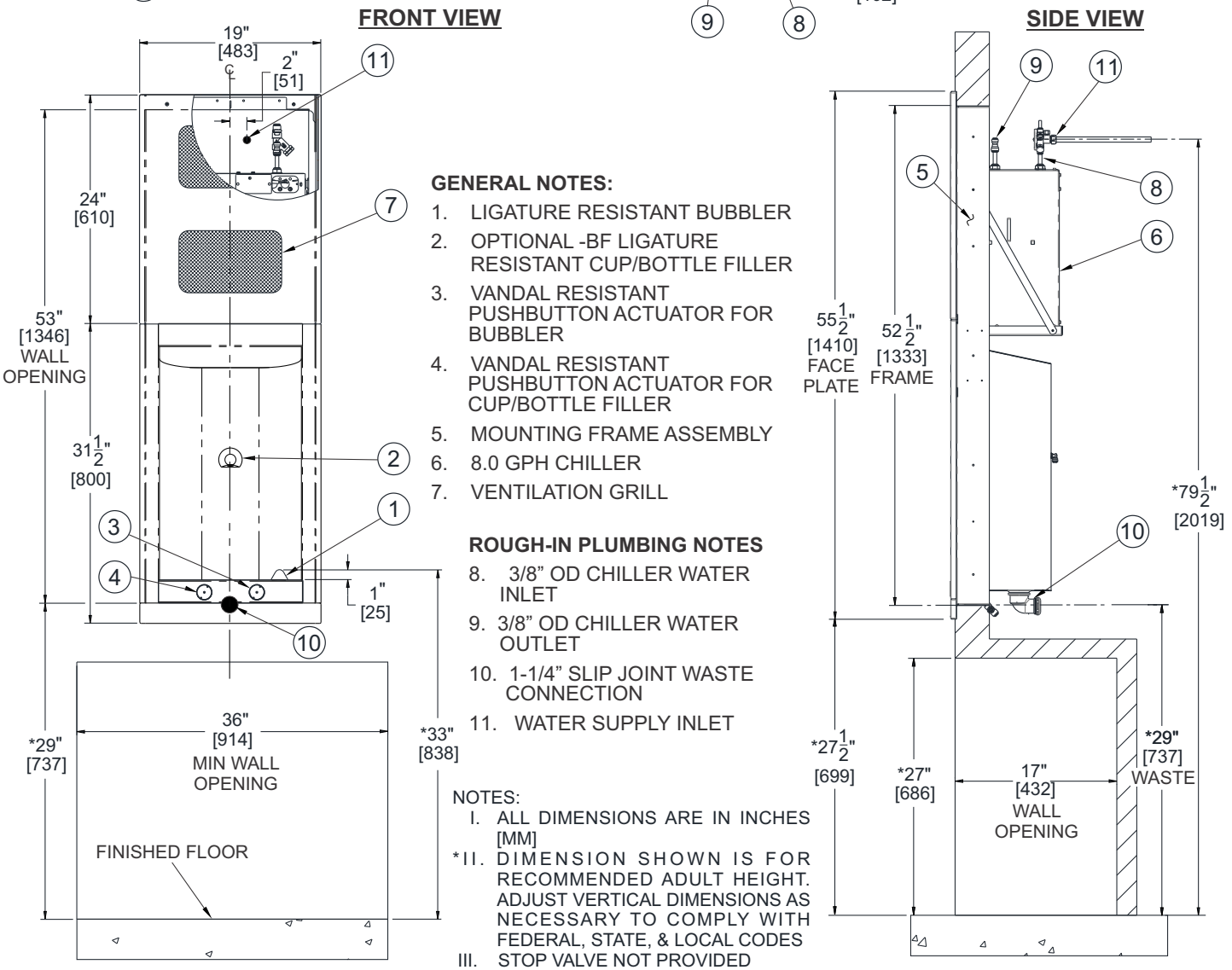
(220V Compressor Only)

murdock® SINCE 1853
Member of MORRIS GROUP INTERNATIONAL
15125 Proctor Ave, City of Industry, CA, 91746 U.S.A.
Phone 800-591-9360
626-336-4561
www.murdockmfg.com

AR81.8 SERIES ROUGHING-IN AND DIMENSIONAL DRAWING:

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





GENERAL NOTES:

1. LIGATURE RESISTANT BUBBLER
2. OPTIONAL -BF LIGATURE RESISTANT CUP/BOTTLE FILLER
3. VANDAL RESISTANT PUSHBUTTON ACTUATOR FOR BUBBLER
4. VANDAL RESISTANT PUSHBUTTON ACTUATOR FOR CUP/BOTTLE FILLER
5. MOUNTING FRAME ASSEMBLY
6. 8.0 GPH CHILLER
7. VENTILATION GRILL

ROUGH-IN PLUMBING NOTES

8. 3/8" OD CHILLER WATER INLET
9. 3/8" OD CHILLER WATER OUTLET
10. 1-1/4" SLIP JOINT WASTE CONNECTION
11. WATER SUPPLY INLET

NOTES:

I. ALL DIMENSIONS ARE IN INCHES [MM]

*II. DIMENSION SHOWN IS FOR RECOMMENDED ADULT HEIGHT. ADJUST VERTICAL DIMENSIONS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, & LOCAL CODES

III. STOP VALVE NOT PROVIDED

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:

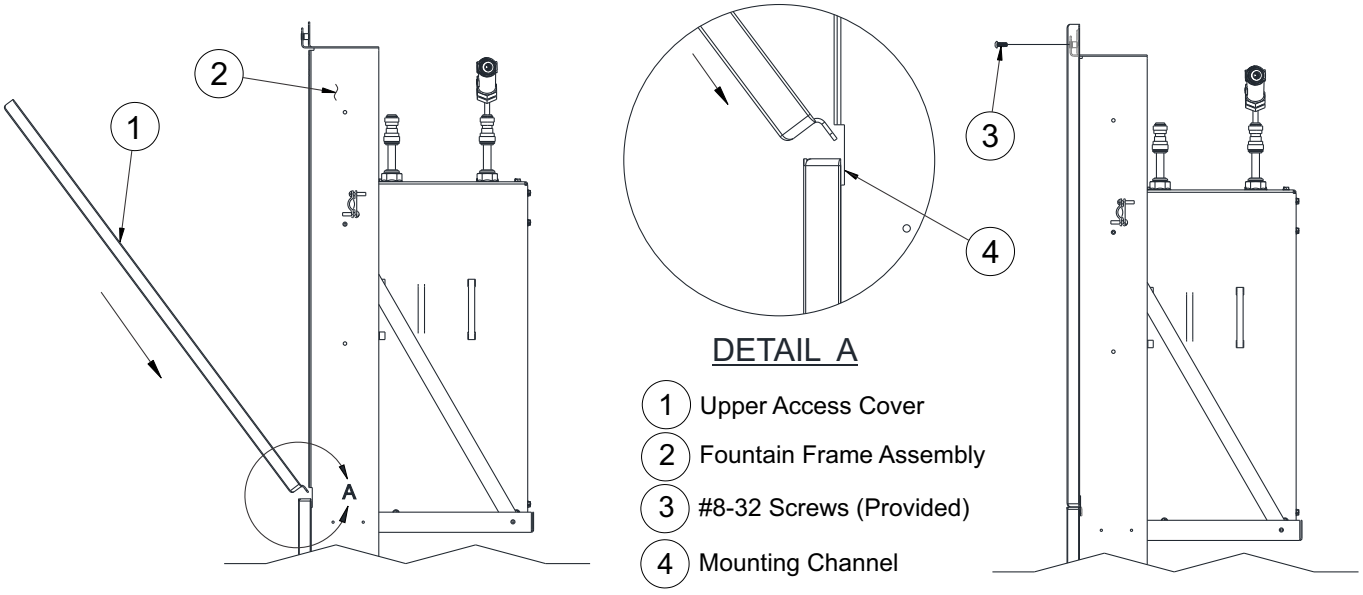
1. Read all installation instructions carefully, before proceeding.
2. Carefully remove all fixture components from packaging, preventing scratching or damage. Inspect fixture and all parts from damages and all parts are bolted on.
3. Provide mounting surface, sufficient to support the fixture and loads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

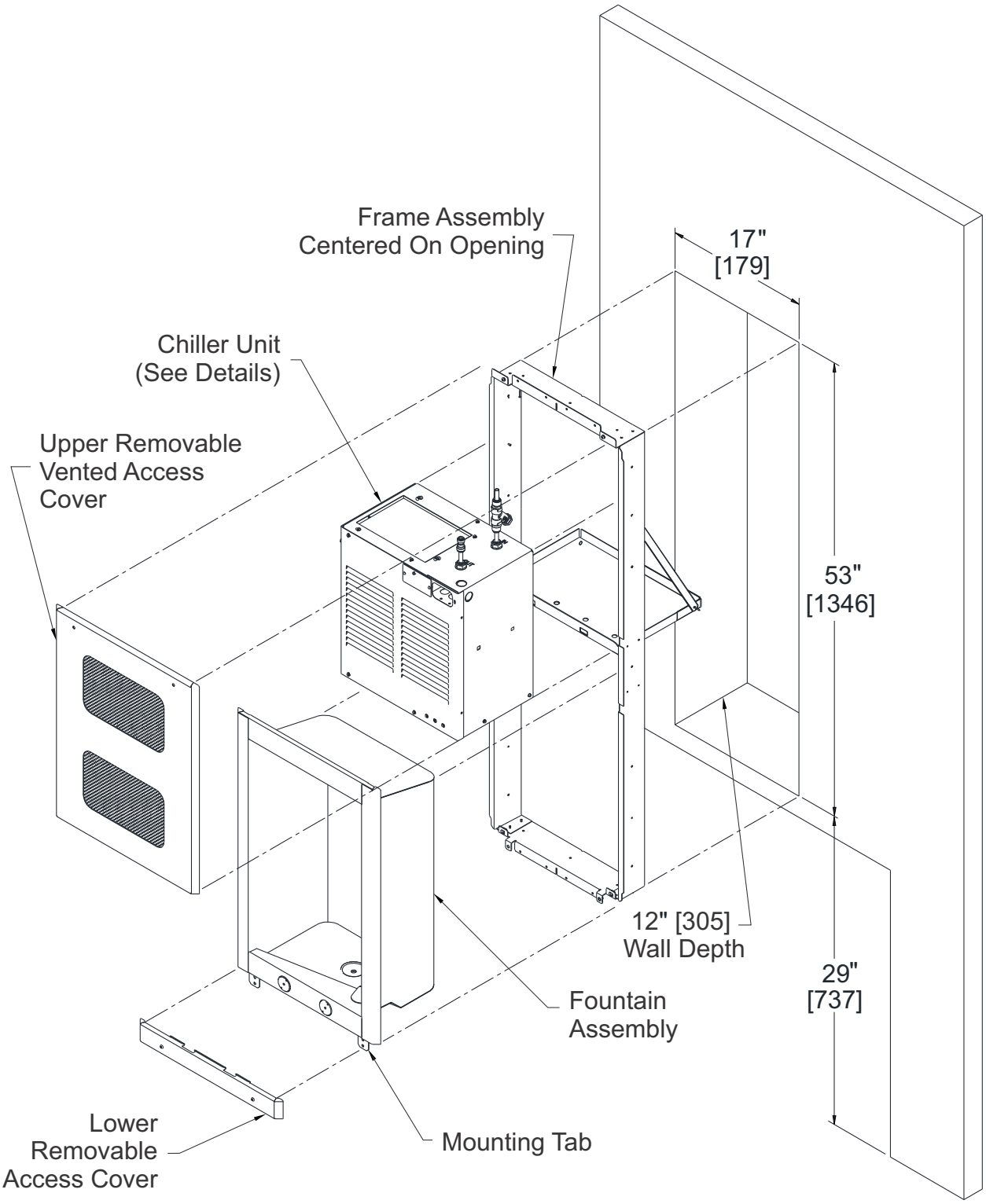
1. Provide wall opening as indicated in Rough-in sheet. Provide structural support around opening for frame anchoring if required.
2. Carefully remove Drinking Fountain and Chiller mounting frame from packaging to prevent damage.
3. Insert and center mounting frame into the rough-in blockout, with sides, 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. Scews 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:

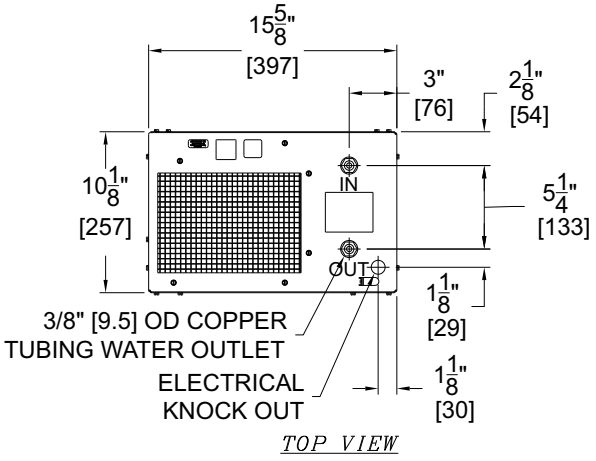


AR81.8 SERIES CHILLER ELECTRICAL:

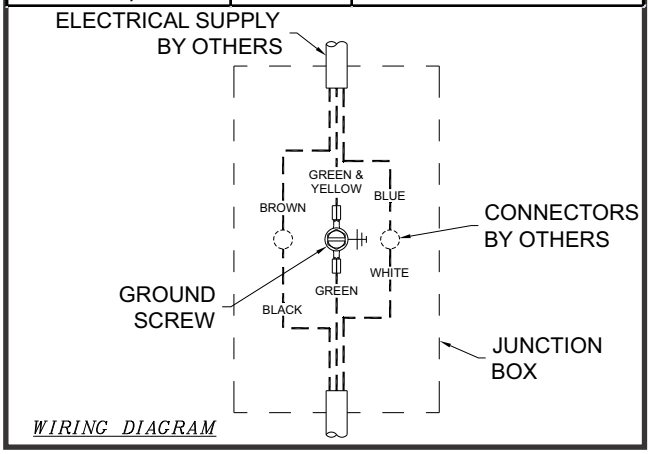
This fixture is intended to dispense water that has been lowered in temperature, but otherwise remains unchanged by the materials in the water cooler. It is common for electrical equipment to be grounded to water lines either within a structure or away from it. Every attempt should be made to prevent 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.

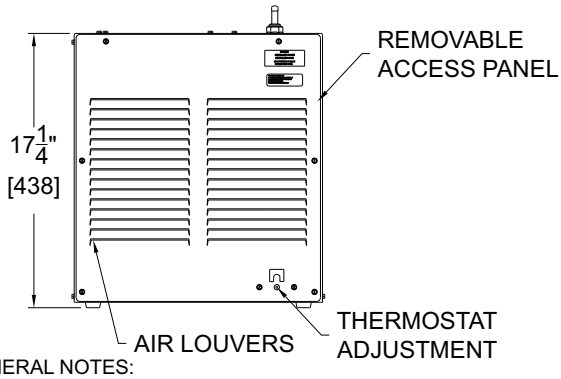
ROUGH-IN:

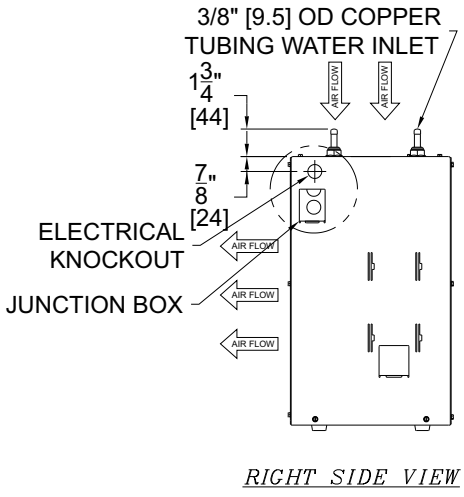


POWER CONNECTIONS FOR SINGLE PHASE CHILLER		
VOLTAGE / HERTZ	F.L. AMPS	CHILLING CAPACITY
115VAC / 60Hz	4.6 AMPS	8.0 GPH
230VAC / 50Hz	2.5 AMPS	8.0 GPH



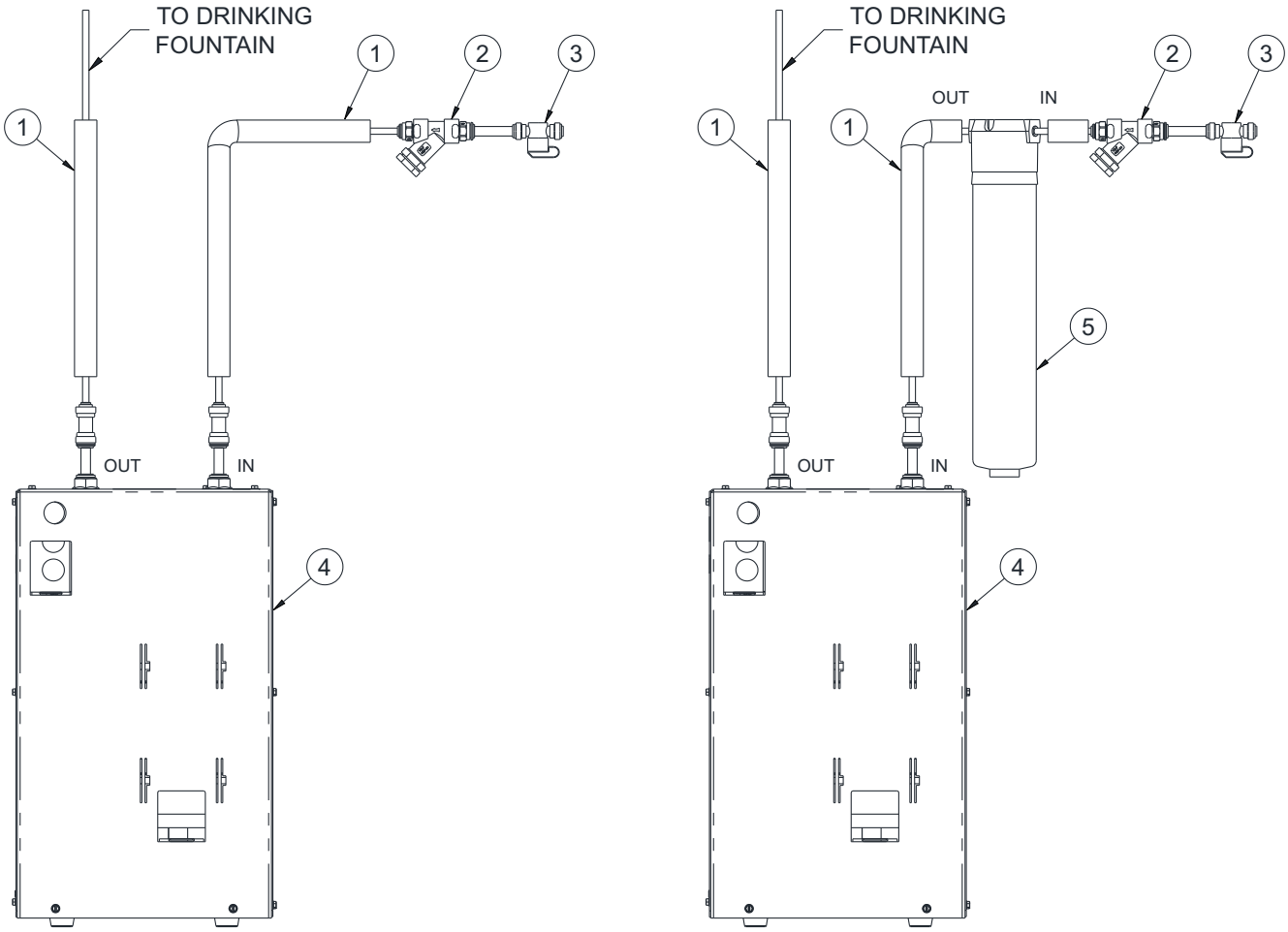
NOTE: INSTALLER MUST REMOVE THE REMOVABLE ACCESS PANEL TO LOCATE THE JUNCTION BOX TO MAKE UP WIRING CONNECTIONS





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

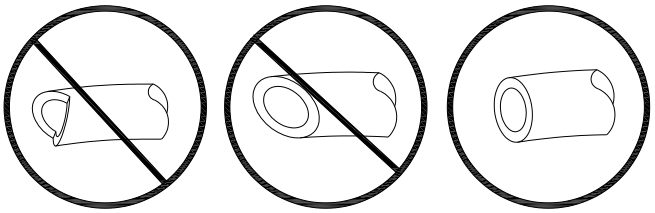
*NOTE: INSULATION TUBING MAY OVERLAP FITTINGS. ILLUSTRATIONS MAY SHOW EXPOSED 1/4" OD TUBING FOR CLARITY ONLY.

PUSH-IN FITTING INSTALLATION

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

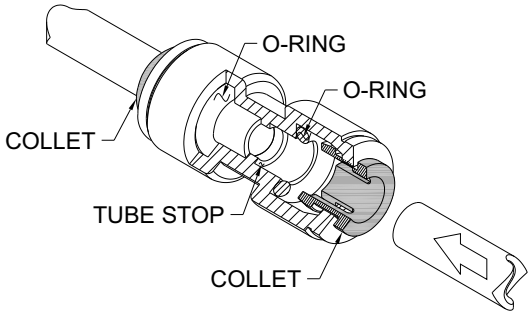
TO CUT TUBE:

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.

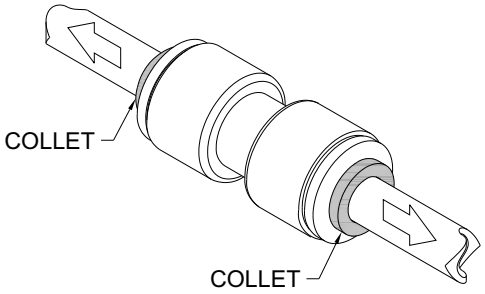


INSERTING THE TUBE:

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

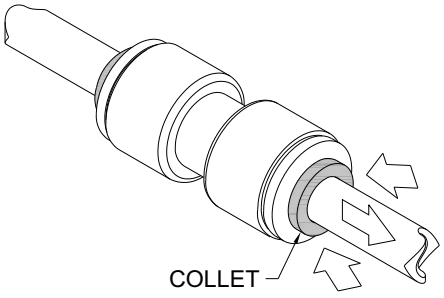


2. Pull on the fitted Tubing to ensure it is secure. Tube should not come free from the Fitting. Water test the connection assembly prior to leaving the site to ensure there are no leaks.

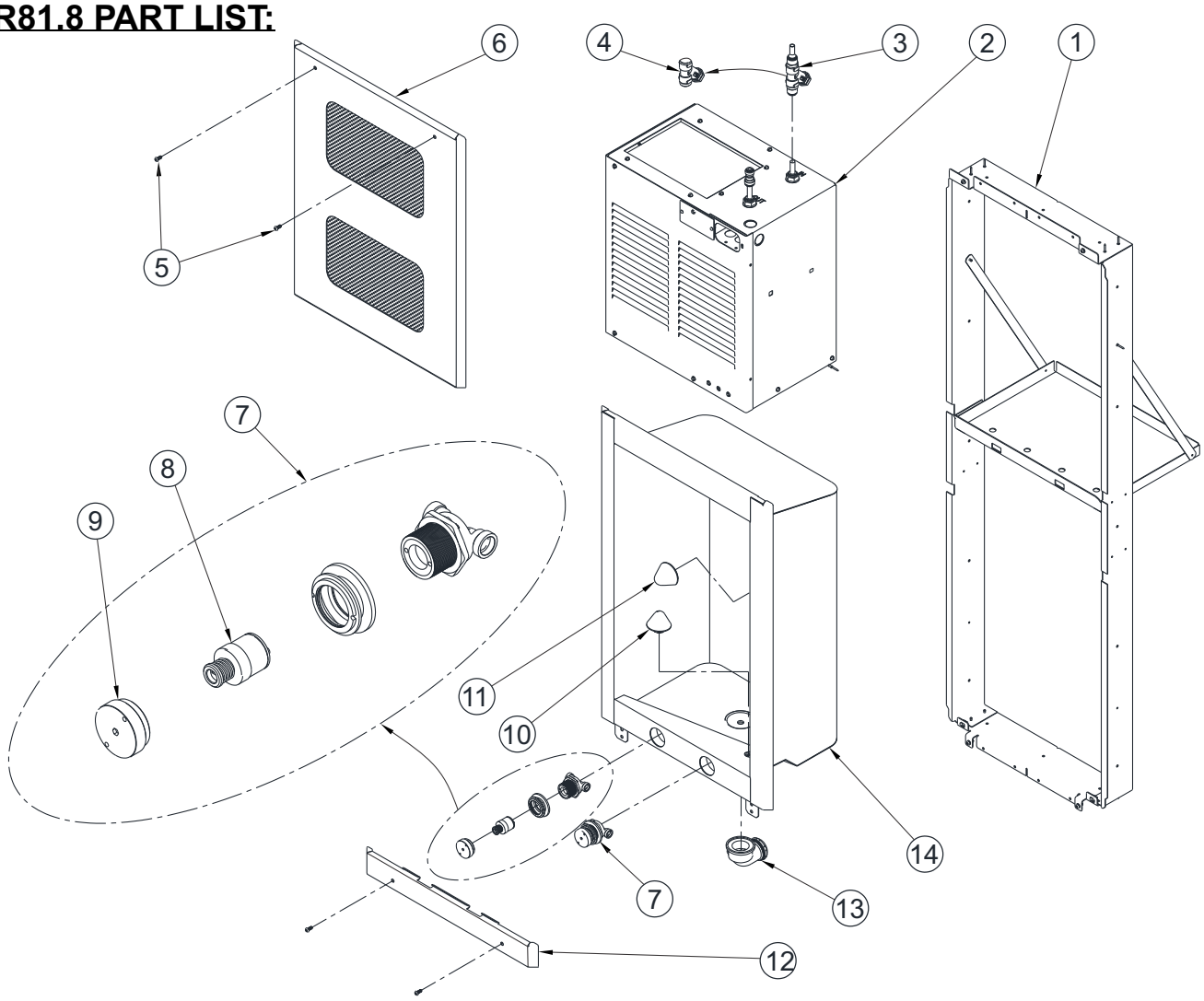


DISCONNECTING THE TUBE:

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.

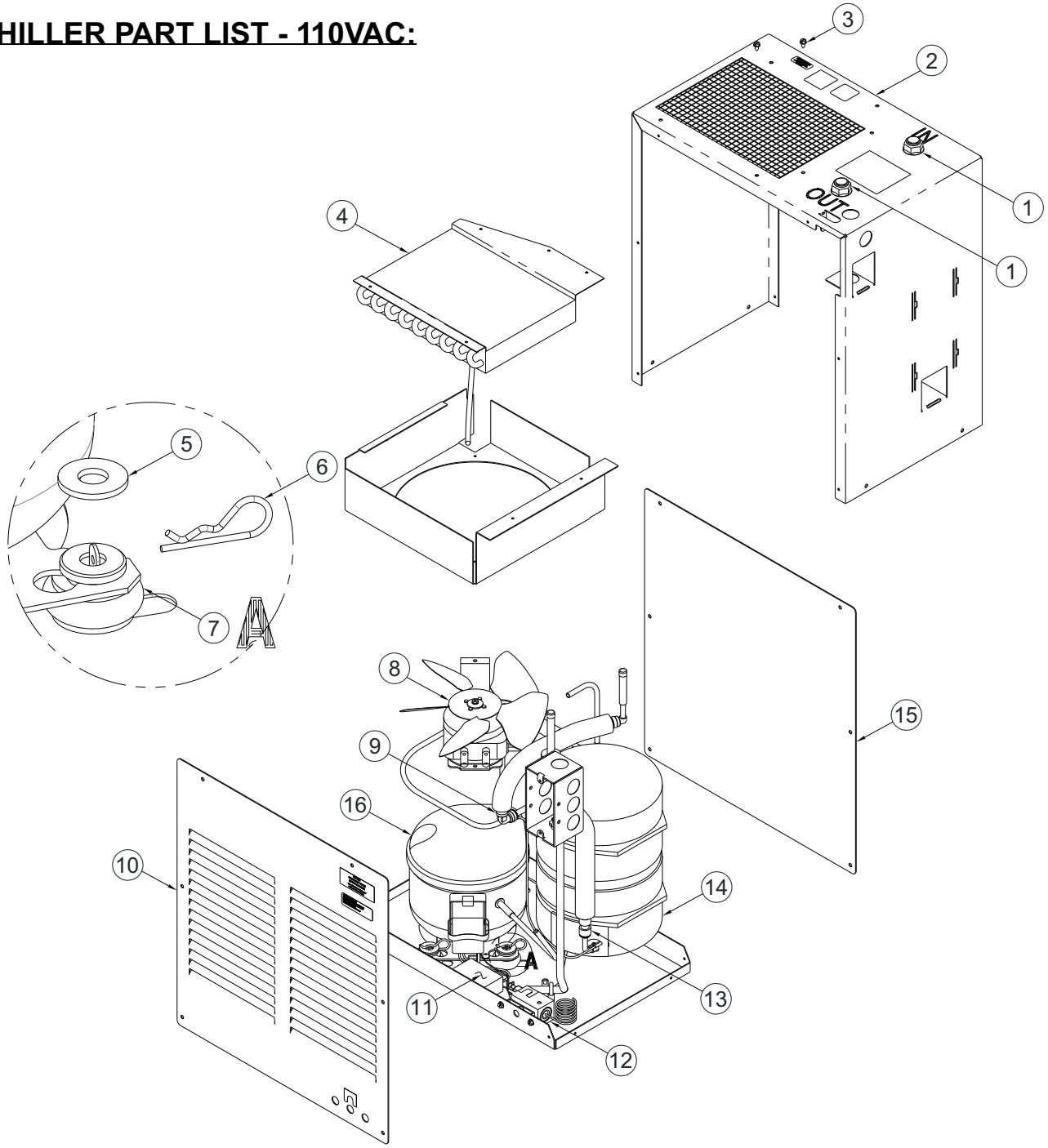


AR81.8 PART LIST:



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, AI81-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