

A171.8-SOC Series
Concealed Sensor Operated, Barrier-Free, Wall
Mounted Water Cooler



A171.8-UG-SOC-BF12-BCD SHOWN

TECHNICAL ASSISTANCE TOLL FREE TELEPHONE NUMBER:
1.800.591.9360

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.**
- 4. IMPORTANT: Water supply to unit from RO Reverse Osmosis filtration systems will damage fixture components and void product Warranty.**

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7020-898-001 Date: 06/01/2023 A

COMPLIES WITH
STANDARDS



murdock[®]
SINCE 1853

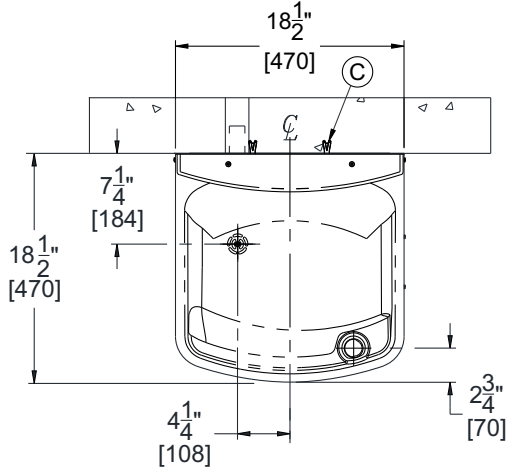
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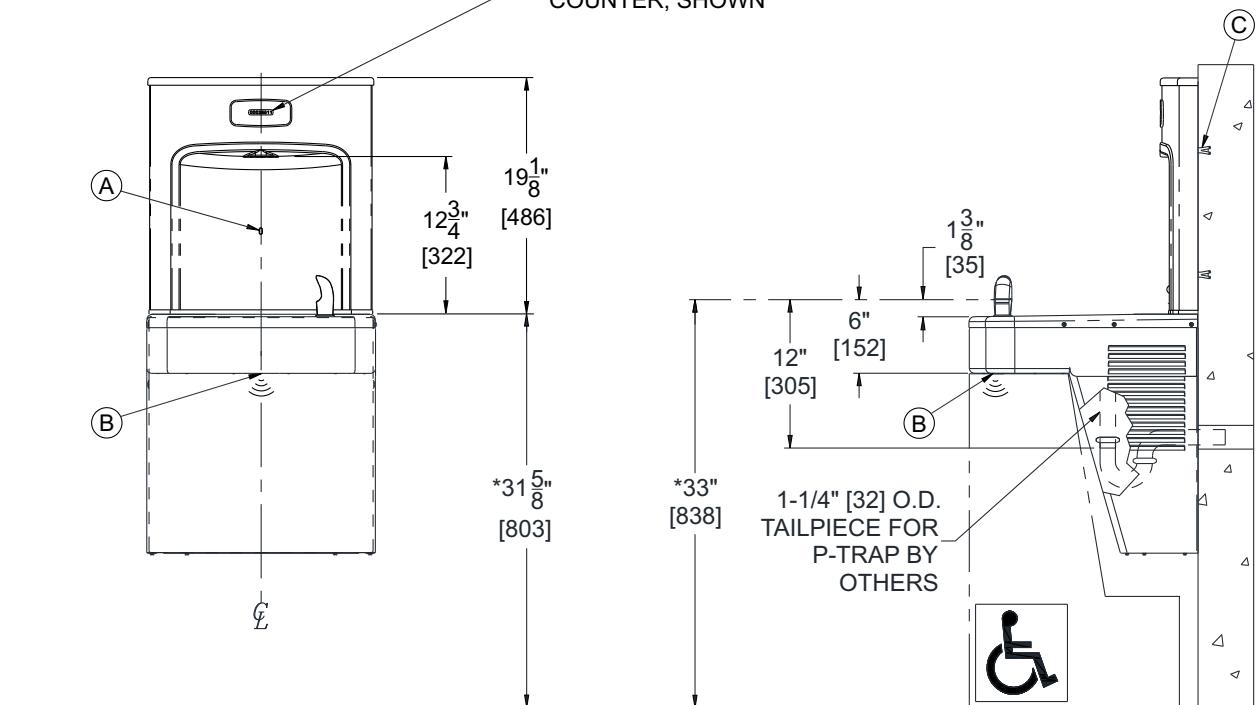
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A171.8-SOC-BF TECHNICAL DIMENSIONS



A. BOTTLE FILLER SENSOR
B. DRINKING FOUNTAIN CONCEALED SENSOR
C. WALL ANCHORING

OPTIONAL -BCD BOTTLE
COUNTER, SHOWN



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN INCHES [MM]
2. ALLOW 4 INCHES [102 MM] MINIMUM CLEARANCE PER SIDE FOR VENTILATION
- *3. DIMENSIONS SHOWN ARE FOR ADA ADULT HEIGHT. ADJUST VERTICAL DIMENSIONS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, & LOCAL CODES
4. STOP VALVE, P-TRAP, & ELECTRICAL OUTLET NOT SUPPLIED
5. IMPORTANT: COOLERS MUST BE ATTACHED TO WALL WITH APPROPRIATE ANCHOR SCREWS

IMPORTANT

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

Mounting Carrier: Refer to Installation details provided by Carrier manufacturer when unit is to be installed with In-Wall Mounting Carrier (provided by others). **Compatible J.R. Smith[®] brand Carrier model is Figure # 0830.**

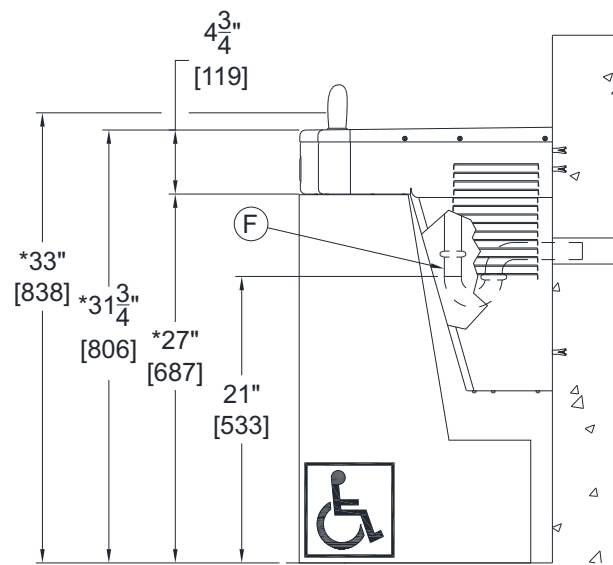
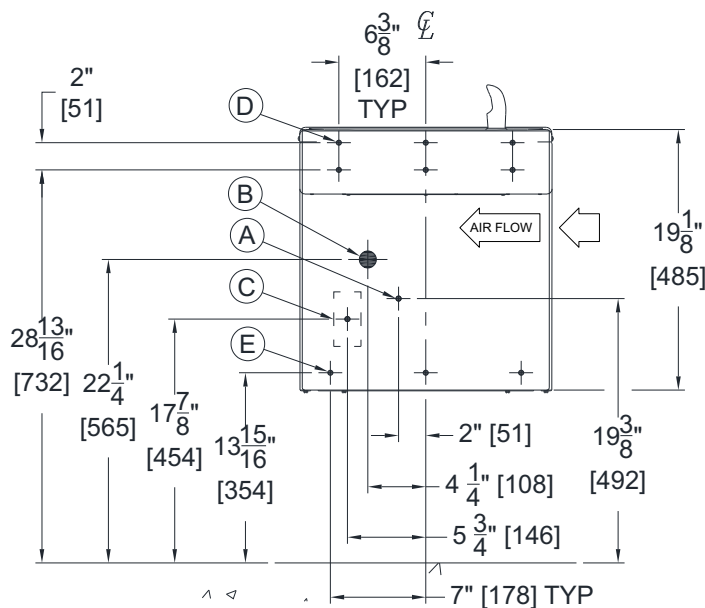
ROUGHING-IN AND DIMENSIONAL DRAWING

Prior to roughing-in, consult with local, state, and federal codes for proper mounting height. All installation and service may only be performed by authorized personnel. No unauthorized persons shall have access to the service area.

A171.8-UG-SOC SERIES REFRIGERATED WALL MOUNTED WATER COOLER

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN INCHES [MM]
 2. ALLOW 4 INCHES [102 MM] MINIMUM CLEARANCE PER SIDE FOR VENTILATION
 - *3. DIMENSIONS SHOWN ARE FOR ADA ADULT HEIGHT. ADJUST VERTICAL DIMENSIONS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, & LOCAL CODES
 4. STOP VALVE, P-TRAP, & ELECTRICAL OUTLET NOT SUPPLIED
 5. IMPORTANT: COOLERS MUST BE ATTACHED TO WALL WITH APPROPRIATE ANCHOR SCREWS
- A. 3/8" O.D. SUPPLY INLET
 - B. WASTE OUTLET FOR P-TRAP BY OTHERS FOR PROVIDED 1-1/4" O.D. TAILPIECE
 - C. ELECTRICAL SERVICE ROUGH. SEE NOTE.
 - D. Ø3/8" HANGER BRACKET PUNCHING, 6 PLACES FOR ANCHORING HARDWARE BY OTHERS
 - E. Ø1/4" PUNCHING, 3 PLACES FOR ANCHORING HARDWARE BY OTHERS
 - F. 1-1/4" [32] O.D. TAILPIECE FOR P-TRAP BY OTHERS



SIDE VIEW

Electrical Requirements (Chiller / -SOC Models):
 - Provide Duplex Receptacle on GFCI Protected Circuit
 - (Standard) 115VAC, 60Hz, 5A
 - (220V Option) 220VAC, 60Hz, 3A

NOTE: For units with optional -BF11, BF12 Bottle Fillers, Refer to separate Bottle Filler Installation Manual details.

NOTES:

1. Dimensions shown for ADA compliant installation. For Child ADA 2010 compliant parallel approach installation, decrease height of * dimensions by 2-3/4".
2. Provide clear floor space as required. Adjust vertical dimensions as required to comply with federal, state, and local codes. Compliance is subject to the interpretation and requirements of the Local Code Authority.

A171.8-UG SERIES REFRIGERATED WALL MOUNTED WATER COOLER INSTALLATION

IMPORTANT:

1. Waste P-Trap, Water Supply Service Angle Stop Valve and 2" x 4" Electrical Plug-In Receptacle to be supplied by others in accordance with local codes. A P-Trap (by others) must be used for the drain connection.
2. Provide 4" minimum clear space on fixture sides to allow for proper ventilation through cabinet louvers.
3. Water supply is 3/8" Outside Diameter copper tube. Waste is 1-1/4" Outside Diameter.
4. Completely flush supply lines of all foreign debris before connecting to fixture. Water cooler designed to not affect taste, odor, color, or sediment. Optional water filter (WF1 or WF3) is available should any of these problems arise from the water supply.
5. Do **NOT** solder copper tube when inserted into the coupler as damage to the o-ring will result.
6. All burrs must be removed from outside of cut tubes before inserting into coupler or other components.
7. Power supply must be identical in voltage, cycle and phase to that specified on the cooler data plate. Electrical outlet and furnished power cord with plug must be used to supply power to fixture. Do **NOT** wire compressor directly to the power supply.
8. This unit must be grounded per the requirements of applicable electrical codes.
9. **Warranty is voided** if installation is not made following current Murdock Manufacturing installation instructions and if components are assembled to the fixture that is not approved by Murdock Manufacturing.
10. Fixture is to operate within a water pressure range of 20 PSIG (138 kPa) to 105 PSIG (724 kPa). Warranty is void if the unit is allowed to operate outside the range of 20 PSIG (138 kPa) to 105 PSIG (724 kPa). **Consult with UPC and local codes for maximum allowable water pressures.**
11. Due to cold waste water, Acorn Engineering recommends that p-trap supplied by installer be insulated 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 will be installed as close as possible to the quick closing valve.*

INSTALLATION:

1. Mount Hanger Brackets to wall horizontally level as shown in Roughing-In and Dimensional Drawing. **NOTE:** Adjust height of Bracket if Bubbler outlet height is required to vary from that shown /indicated. Hanger Brackets **MUST** be securely anchored to wall with fasteners sufficient to support 3 times the weight of Water Cooler. **NOTE:** *If wall cannot provide adequate support, order and install Fixture Support Carrier (By others).* **NOTE:** *If replacing a competitors Water Cooler you may be able to use existing mounting bracket*
2. Remove the Bottom Cover from the Water Cooler and set aside in a safe place. Save the screws in a secure location for re-use in later stages of installation.
3. Hang the Water Cooler on the hanger brackets ensuring the bracket tabs engage **AND** seat in the slots in the back of the Water Cooler. **NOTE:** Verify Water Coolers are level, left to right **AND** front to back from bottom of unit. **CAUTION:** The Bubbler stream may be adversely affected if units are not square and level. Bottom of units and louvers should be used as reference to verify unit is square and plumb.
4. Anchor the Water Cooler to the wall at the lower mounting points of the back panel. Shim lower mounting points to level unit if necessary.
5. Outlet tube from Evaporator has an in-line tee with a tube going to the refrigerated unit's valve and the "TEE" not connected. Connect the loose Supply Tube from refrigerated unit to the "TEE".
6. Thoroughly flush the 3/8" O.D. supply line and then connect water cooler to water supply angle stop valve (by others) with supplied 3/8" O.D. copper tube.
7. Make up 1-1/4" O.D. p-trap waste connection. Waste p-trap by others.

START UP:

1. **Do not connect electrical power to unit:** With Bottom Cover removed, turn on fixture water supply and check all connections for leaks.
2. Air within the Water Cooler system or the structure supply piping will cause an irregular Bubbler outlet stream until purged out by incoming water. Thoroughly flush and purge air from supply line by depressing the Pushbutton or activating infrared sensor, until steady water stream is achieved.
3. If water flow requires adjustment, insert a slotted narrow blade screwdriver through the hole centered on the underside of the basin to modify the flow regulator. Turning clockwise will increase flow and turning counterclockwise will decrease flow.
4. Recheck all Water and Drain connections with water flowing through system.
5. With power still **NOT** connected, carefully manually rotate cooling fan to insure proper clearance and free fan action.
6. Plug Water Cooler into Electrical Outlet and make sure unit begins to function. **IMPORTANT:** After turning power on to initiate cooler and cool down, immediately purge (chiller) water by operating unit continuously for approx. 1 minute.
7. Assemble Bottom Cover to Water Cooler with screws furnished.



UPON COMPLETION OF ALL PLUMBING CONNECTIONS, CHECK FOR WATER LEAKS IN SUPPLY LINES AND WASTE WATER PIPING.

TROUBLE SHOOTING:

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

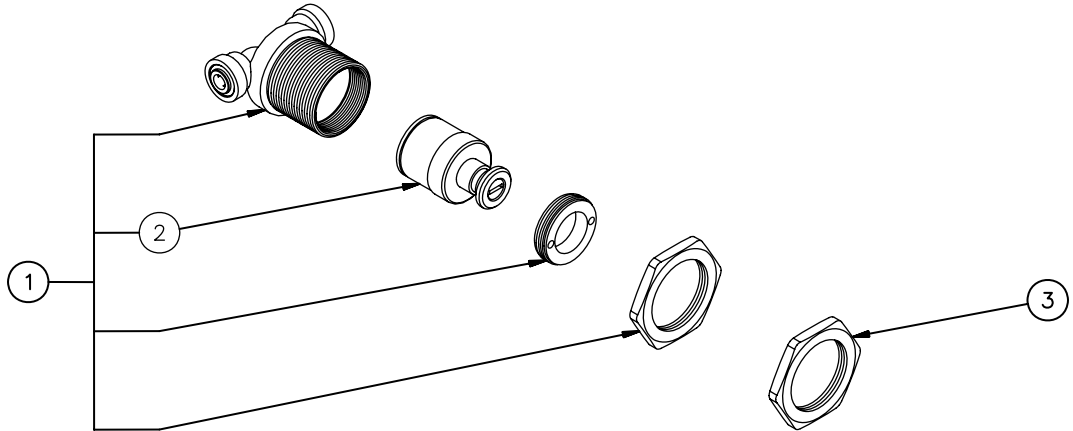
1. Adjustments
 - a. **Cartridge** – The water flow can be adjusted using a slotted narrow blade Screwdriver and turning clockwise to increase flow and counterclockwise to decrease flow.
 - b. **Bubbler Stream** – Bubbler can be rotated slightly to direct the stream backwards or forwards. Adjust the stream to minimize splashing. Splashing may occur from Bubbler stream if the unit is not level. Shim lower mounting points, if necessary, to level Water Cooler.
 - c. **Cold Water Thermostat** – **IMPORTANT:** Thermostat is Factory pre-set. Thermostat settings should never be field adjusted since damage to fixture may occur, voiding product Warranty.
2. Compressor Does Not Run
 - a. Check the electrical receptacle for power and correct voltage. The incoming voltage must be within 10% of the rated voltage on the serial nameplate.
 - b. The cold thermostat is accessible by removing the bottom access cover. 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. Unplug the water cooler 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.
3. Compressor Runs – Water Is Warm
 - a. The most common cause for a water cooler to run without producing cold water is a loss of refrigerant. The water cooler 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.

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. Make sure the water cooler is correctly mounted to the wall. Absence of the two lower mounting bolts may cause excess noise and vibration.
 - c. 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 bubbler tubing.
 - d. Check the water inlet 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.
NOTE: STRAINER SCREEN MUST BE IN PLACE FOR WATER TO FLOW.
 - e. The cartridge valve located in the water control assembly or bubbler can also become clogged with foreign material. The cartridge valve can only be replaced and not repaired.
 - f. Check flow adjustment. See start up note #3.
 - g. The water cooler may develop a freezing condition in which the water will become frozen inside the evaporator coil. This indicates a refrigeration problem or thermostat failure. Disconnect the electrical power and have the unit checked by a qualified technician.

CLEANING & MAINTENANCE GUIDE:

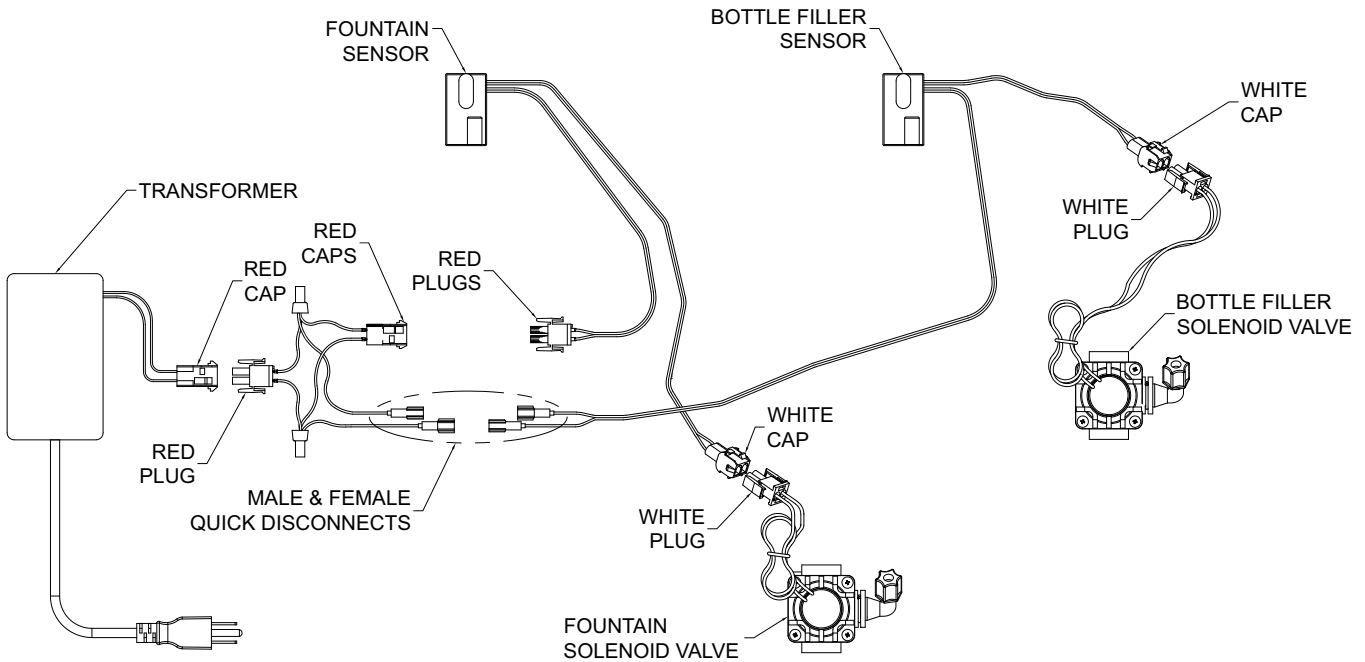
1. Motors have lifetime lubrication and do not require scheduled maintenance.
2. Excess dirt or poor ventilation will cause the compress` more frequently.
3. Periodically remove access panels and clean out in-line strainer.
4. Do NOT use harsh chemicals, abrasive or petroleum based cleaners. Use of these will void the Murdock Manufacturing warranty.
5. Exterior panels can be cleaned using mild household detergents or warm, soapy water. Extra care must be used cleaning chrome plated items and mirror finished stainless steel. They can scratch easily and should only be cleaned using a clean, soft cloth and mild soap with water or a mild glass cleaner.

-SOC SENSOR OPERATED CARTRIDGE VALVE PARTS BREAKDOWN



ITEM #	PART NUMBER	DESCRIPTION
1	7000-050-001	Valve Cartridge Assembly
2	7000-060-000	Valve Cartridge
3	7000-053-199	Jam Nut

-SOC SENSOR OPERATED WIRING DIAGRAM WITH -BF12

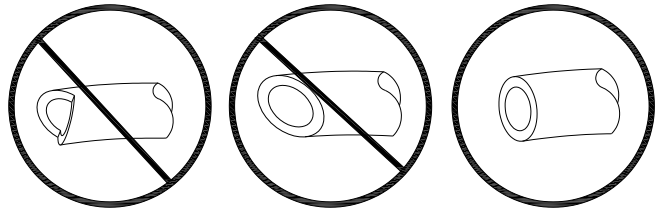


PUSH-IN FITTING INSTALLATION

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

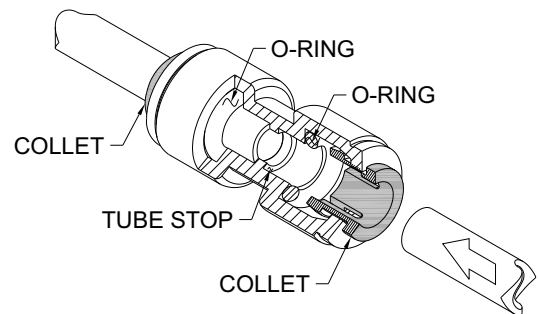
TO CUT TUBE:

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.

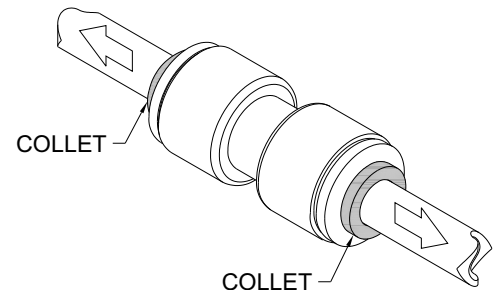


INSERTING THE TUBE:

1. Firmly and fully insert the tubing end into the push-in fitting up to the tube stop located approximately 1/2" deep.

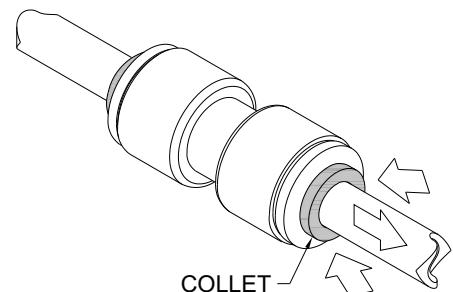


2. Pull on the fitted tubing to ensure it is secure. Tube should not come free from the fitting. Water test the connection assembly prior to leaving the site to ensure there are no leaks.



DISCONNECTING THE TUBE:

To disconnect 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.



WATER FILTER INSTALLATION:

IMPORTANT:

FLUSH 5 GALLONS OF WATER THROUGH THE FILTER BEFORE USE!

-WF1 FILTER CARTRIDGE INSTALLATION:

WATER FILTER HAS 1500 GALLON CAPACITY, CARTRIDGE WILL REQUIRE REPLACEMENT AFTER 50 HOURS OF ACTUAL OPERATIONAL USAGE. FREQUENCY OF FIXTURE OPERATION WILL DETERMINE TIME FRAME FOR CARTRIDGE REPLACEMENT.

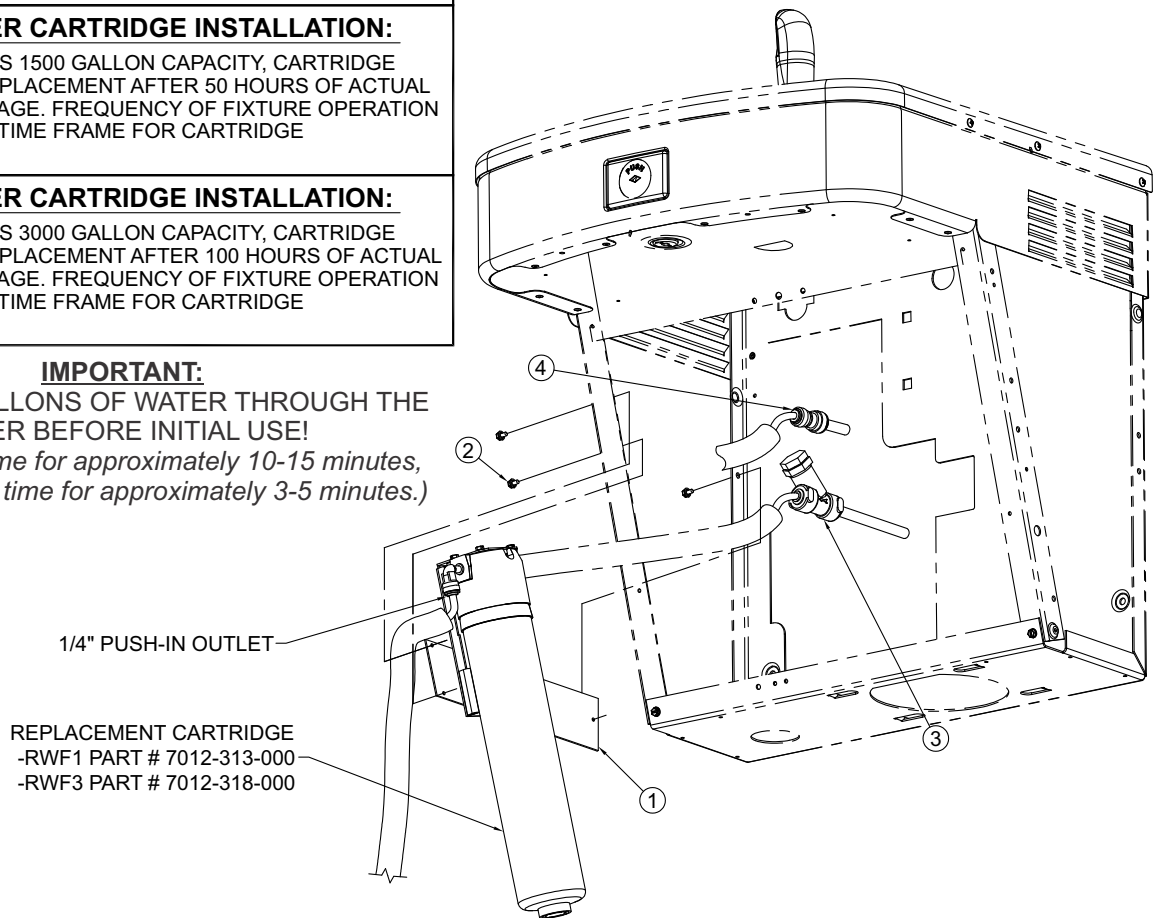
-WF3 FILTER CARTRIDGE INSTALLATION:

WATER FILTER HAS 3000 GALLON CAPACITY, CARTRIDGE WILL REQUIRE REPLACEMENT AFTER 100 HOURS OF ACTUAL OPERATIONAL USAGE. FREQUENCY OF FIXTURE OPERATION WILL DETERMINE TIME FRAME FOR CARTRIDGE REPLACEMENT.

IMPORTANT:

FLUSH 3-5 GALLONS OF WATER THROUGH THE FILTER BEFORE INITIAL USE!

(Bubbler run time for approximately 10-15 minutes, Bottle Filler run time for approximately 3-5 minutes.)



1/4" PUSH-IN OUTLET

REPLACEMENT CARTRIDGE
-RWF1 PART # 7012-313-000
-RWF3 PART # 7012-318-000

INSTALLATION INSTRUCTIONS:

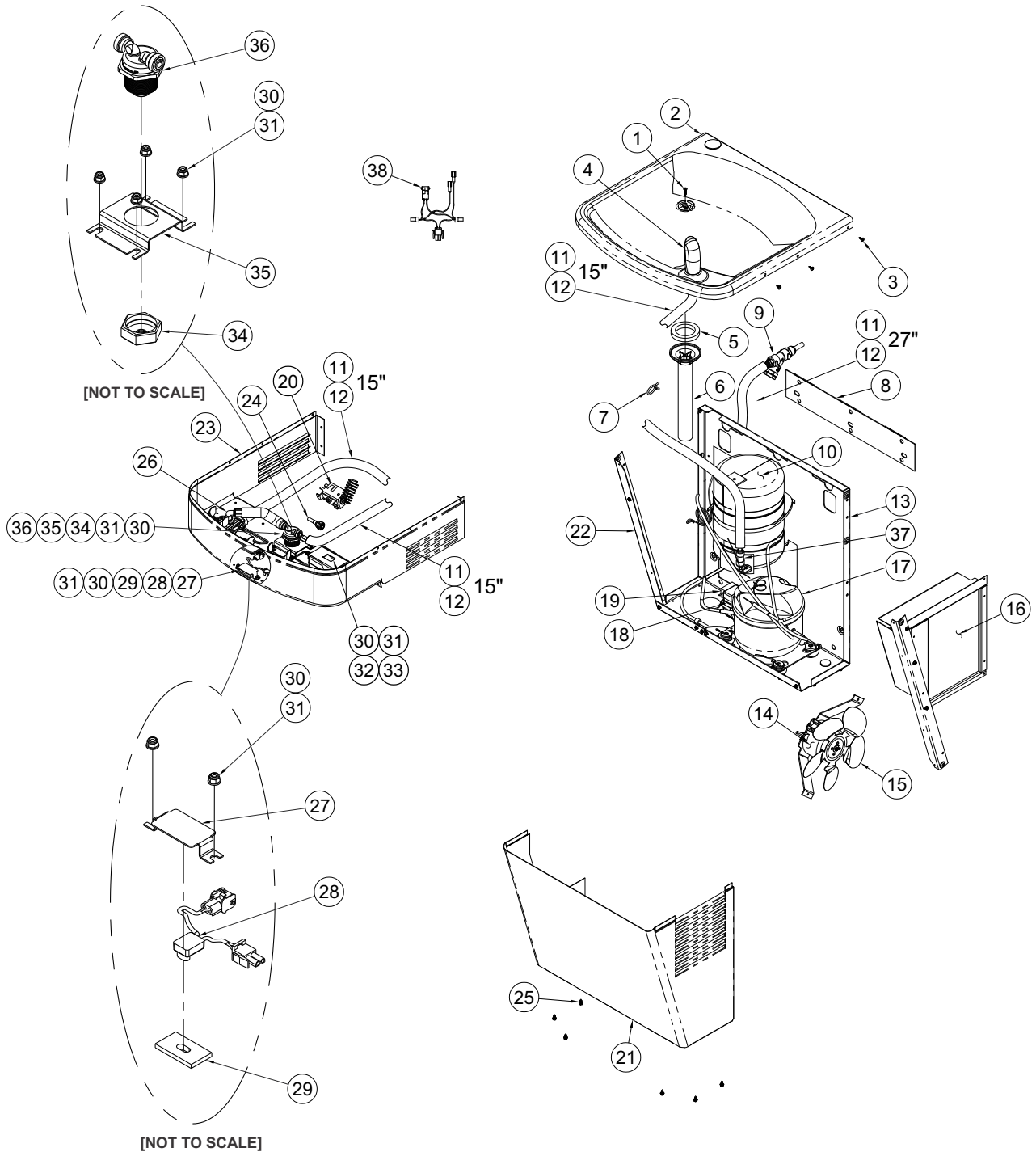
- A- REMOVE THE BOTTOM HOUSING AND TURN OFF UNIT WATER SUPPLY. IF UNIT IS A REFRIGERATED MODEL, DISCONNECT FROM THE POWER SUPPLY.
- B- PLACE FILTER/BRACKET ASSEMBLY ① ON INSIDE OF UNIT FRAME AND ALIGN HOLES IN THE BRACKET WITH THE HOLES OF THE UNIT FRAME.
- C- USE THE SCREWS ② PROVIDED TO PASS THRU THE FRAME CLEARANCE HOLES AND SCREW INTO THE BRACKET HOLES.
- D- FOLLOW PE TUBE FROM "Y" STRAINER ③ OR PUSH-IN UNION ④ TO WHERE IT CONNECTS TO THE EVAPORATOR. DISCONNECT TUBE FROM EVAPORATOR, CONNECT TO FILTER INLET PUSH-IN CONNECTION.
- E- CONNECT NEW PE TUBE PROVIDED WITH FILTER TO EVAPORATOR PUSH-IN INLET, WHERE TUBE WAS REMOVED.
- F- TURN ON WATER. CHECK FOR LEAKS.
- G- **IMPORTANT:** FLUSH 3-5 GALLONS OF WATER THRU THE FILTER BEFORE ALLOWING FIXTURE USE.
- H- IF REFRIGERATED UNIT, TURN ON POWER SUPPLY AND CHECK UNIT FOR PROPER OPERATION.
- I- RE-INSTALL BOTTOM HOUSING.

NOTES:

- 1- TO DISCONNECT THE TUBE FROM THE PUSH-IN FITTING TUBE HOLD DOWN GRIPPER AND PULL TUBE OUT SLOWLY.
- 2- TO CONNECT PUSH-IN FITTINGS, PUSH TUBE IN ALL THE WAY TO MAKE A GOOD CONNECTION. CARTRIDGE REPLACEMENT.

SENSOR OPERATED WATER COOLER PARTS BREAKDOWN DRAWING:

NOTE: See page 11 for table of part numbers corresponding to drawing below.



Repairs must be made with Murdock Manufacturing parts only. Please order through your local representative or distributor.

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COOLER PARTS BREAKDOWN TABLE

NOTE: See previous page for fixture drawing corresponding to table of parts below.

ITEM #	PART NUMBER	DESCRIPTION
1	0124-008-000	#8 x 3/4" LG TORX FLAT HD SELF TAPPING SCREW
2	7003-161-001	BASIN TOP WITH HOLE FOR BF11/12
3	0124-036-000	#8 x 1/2" LONG TORX SHEET METAL SCREW
4	7000-099-002	LOW-FLOW FLEXIBLE BUBBLER ASSEMBLY
	7000-012-001	STAINLESS STEEL BUBBLER ASSEMBLY
5	7000-006-000	FLAT DRAIN GASKET
6	7003-180-001	DRAIN TAIL PIECE (SHORT)
7	7003-184-000	7/8" SPRING HOSE CLAMP
8	7003-950-199	HANGER BRACKET
9	7000-021-000	1/4" NPT Y-STRAINER
10	7003-125-001	EVAPORATOR ASSEMBLY
11	2169-000-000	1/4" OD TUBING
12	7012-055-000	TUBE INSULATION
13	7003-900-199	BACK PANEL
14	7003-302-000	FAN MOTOR
	7012-062-001	FAN MOTOR - 220V
15	7003-350-000	FAN BLADE
16	7003-201-000	CONDENSER
17	7012-801-000	COMPRESSOR
	7012-030-001	COMPRESSOR - 220V
18	7012-802-000	START RELAY
	7012-031-000	START RELAY - 220V
19	7012-803-000	START CAPACITOR
	7012-032-000	START CAPACITOR - 220V
20	7003-250-000	COLD CONTROL
21	7003-955-020	RIGHT CABINET - GRAY
	7003-824-299	RIGHT CABINET - STAINLESS STEEL
22	7003-007-199	SUPPORT STRUT
23	7003-953-020	APRON ASSEMBLY - GRAY
	7003-826-001	APRON ASSEMBLY - STAINLESS STEEL
	7003-905-020	SENSOR OP APRON ASSEMBLY - GRAY
	7003-905-004	SENSOR OP APRON ASSEMBLY - STAINLESS STEEL
24	7003-093-001	FLOW RESTRICTOR - LOW-FLOW BUBBLER ONLY
25	0124-031-000	#8 x 3/8 LNG SLOTTED HEX WASHER HD SCREW
26	7001-200-001	SOLENOID/VALVE MOUNTING ASSEMBLY
27	7003-958-199	SENSOR BRACKET, SENSOR OP
28	2563-390-001	NANO SENSOR ASSEMBLY
29	7001-203-199	SENSOR SPACER WITH BUSHING
30	0308-009-000	#8-32 NYLON INSERT LOCKNUT
31	0331-023-000	#8 S/S FLAT WASHER
32	0711-407-199	POWER SUPPLY, 240VDC
33	7003-028-199	TRANSFORMER BRACKET
34	7000-059-199	1-1/4" - 18 NORMALLY OPEN VALVE CAP
35	7003-023-199	CARTRIDGE MTG BRACKET, SENSOR OP
36	7000-050-001	VALVE CARTRIDGE ASSEMBLY
37	1895-121-000	1/4" O.D. TUBE UNION PUSH-IN
38	0711-450-001	2 STATION 9VAC WIRING HARNESS

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