

# INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

## Sensor Operated AquaAccess Barrier Free, Wall Mounted Water Cooler



A111108F-SO / A111108B-SO / A111408F-SO / A111408B-SO

**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**

Acorn Aqua warrants that its products are free from defects in material or workmanship under normal use and service for a period of one year from date of original shipment or for 18 months after the date of shipment from the factory, whichever comes first. The compressor, condenser and refrigeration tubing is warranted for five years. Acorn's liability under this warranty shall be discharged solely by replacement or repair of defective material, provided Acorn is notified in writing within one year from date of shipment, F.O.B. Industry, California.

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 Acorn under this warranty. Acorn 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 jobsite during construction and must be properly maintained after the water has been introduced into the water cooler or drinking fountain, or Acorn's limited warranty is void.

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



ACORN AQUA  
P.O. Box 3527  
City of Industry, CA 91744-0527  
United States of America  
[www.acornaqua.com](http://www.acornaqua.com)

### IMPORTANT

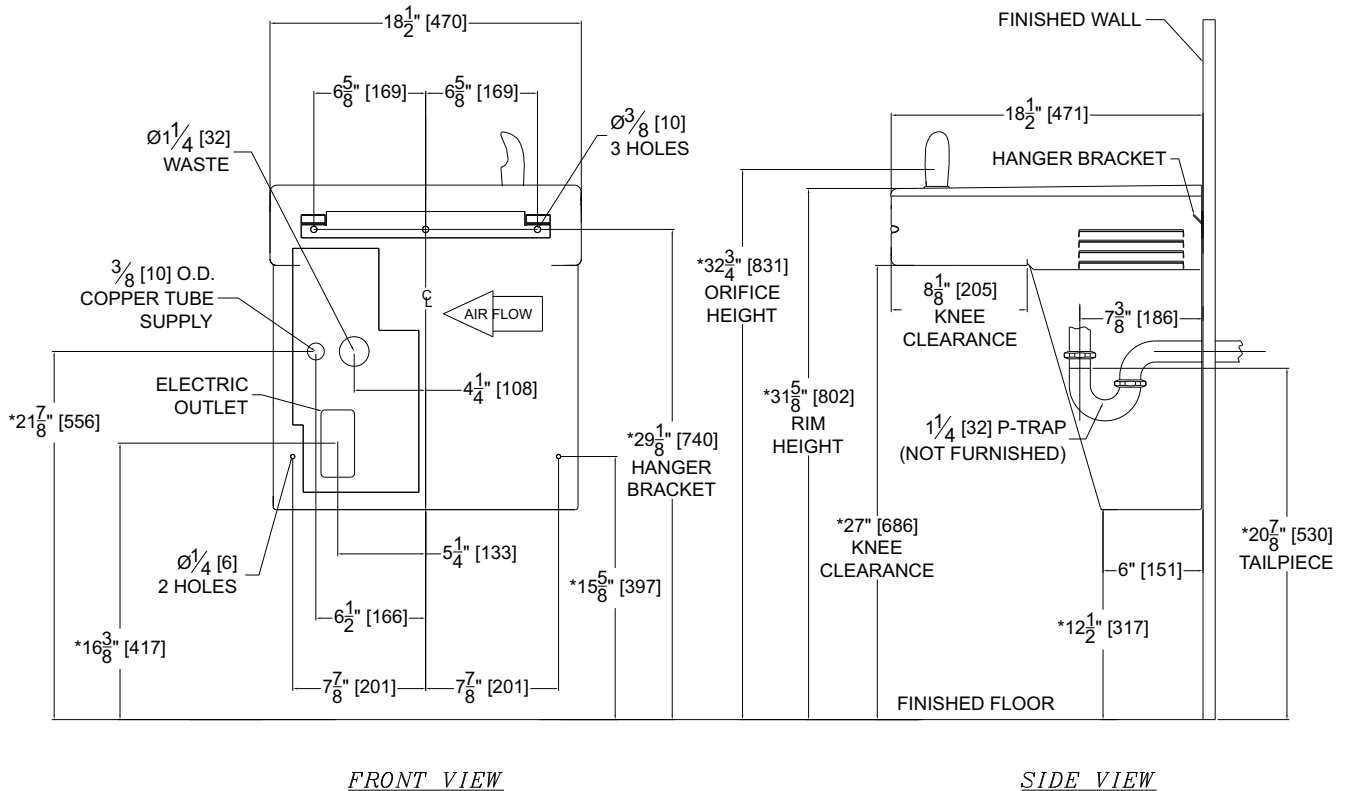
This fixture is intended to dispense water that has been lowered in temperature, but otherwise remains unchanged by the materials in the water cooler. It is common for electrical equipment to be grounded to water lines either within a structure or away from it. Every attempt should be made to prevent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

### NOTICE

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

### ROUGHING-IN AND DIMENSIONAL DRAWING

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



**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 RECOMMENDED ADULT HEIGHT. ADJUST VERTICAL DIMENSIONS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, & LOCAL CODES.
4. STOP VALVE, TRAP, & ELECTRICAL OUTLET NOT SUPPLIED.
5. IMPORTANT: COOLER MUST BE ATTACHED TO WALL WITH ANCHOR SCREWS.

**NOTES:** Dimensions shown for ADA compliant installation. For Child ADA-ABA compliant parallel approach installation, decrease height of installation for spout to be 30" above finished floor maximum. Provide clear floor space as required. Adjust vertical dimensions as required to comply with federal, state, and local codes.

### 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 metallic p-trap 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" Outer Diameter copper tube. Waste is 1-1/4" Outer Diameter.
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 strainer as damage to the o-ring 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 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. **WARNING:** Warranty is voided if installation is not made following current Acorn Aqua installation instructions and if components are assembled to the fixture that is not approved by Acorn Aqua.
10. Fixture operates within water pressure range of 20 to 105 psig. Acorn Aqua will not warranty fixtures damaged when connected to supply lines with flow pressure lower than 20 psig or higher than 105 psig. A pressure regulator must be furnished by others on supply line if inlet pressure is greater than 105 psig.
11. Due to cold waste water, Acorn Aqua 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 bracket 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. **WARNING:** Hanger Bracket **MUST** be securely anchored to wall with fasteners sufficient to support weight of cooler. If wall can not provide adequate support, order and install optional fixture support carrier.
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 bracket, ensuring the bracket tabs engage **AND** seat in the slots in the back of the water cooler. Verify water cooler is level, left to right **AND** front to back. **Caution:** The bubbler stream may be adversely affected if unit is not square and level. Bottom of unit and louvers should be used as reference to verify unit is square and plumb.
4. Anchor water cooler to wall at other mounting points in base. Shim lower rear mounting points to level unit if necessary.
5. 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. 6. Make up 1-1/4" O.D. p-trap (by others) waste connection.
6. Make up 1-1/4" O.D. p-trap (by others) waste connection.

### START UP:

1. Before connecting power supply and assembling bottom cover to water cooler, 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 water cooler system or the structure supply piping will cause an irregular bubbler outlet stream until purged out by incoming water. Covering the bubbler with a clean cup (or similar object) is recommended when first activating water cooler to prevent excessive splashing. Depress a side or front push bar until steady water stream is achieved.
3. If water flow requires adjustment, insert a slotted narrow blade screwdriver in the hole centered on the underside of the fixture in the knee clearance area up to 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 in to electrical outlet and make sure unit begins to function.
7. Assemble bottom cover to water cooler with screws furnished.

### **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. Cold Water Thermostat – The water temperature can be adjusted using a slotted screwdriver and turning clockwise to make colder and counterclockwise to make warmer.
  - c. 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 cooler.
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.
  - 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 cooler 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. 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.
- 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. 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 cooler needs to be checked by a qualified technician.
- g. If light within sensor does not flash when the users' hands are within range:
  - i. Verify power supply to transformer.
  - ii. Replace defective 9VDC transformer.
  - iii. Transformer polarity crossed. Replace transformer. (Sensor may be damaged and need replacement.)
  - iv. Sensor in "Security Mode" after 90 seconds of constant detection. Remove source of detection and wait 30 seconds before checking.
  - v. Sensor range is too short or too long. See SENSOR RANGE ADJUSTMENT section.
  - vi. Sensor is picking up a highly reflective surface. Eliminate cause of reflection and wait 30 seconds before checking.
  - vii. Replace defective sensor.
- h. If light within sensor flashes once when the users' hands are within range:
  - i. Repair bad connection from sensor to solenoid.
  - ii. There is debris or scale in the solenoid assembly. Remove solenoid, pull out plunger and spring. Clean with scale remover solution or pressurized air.
  - iii. There is debris or scale on the water diaphragm. Remove and clean.

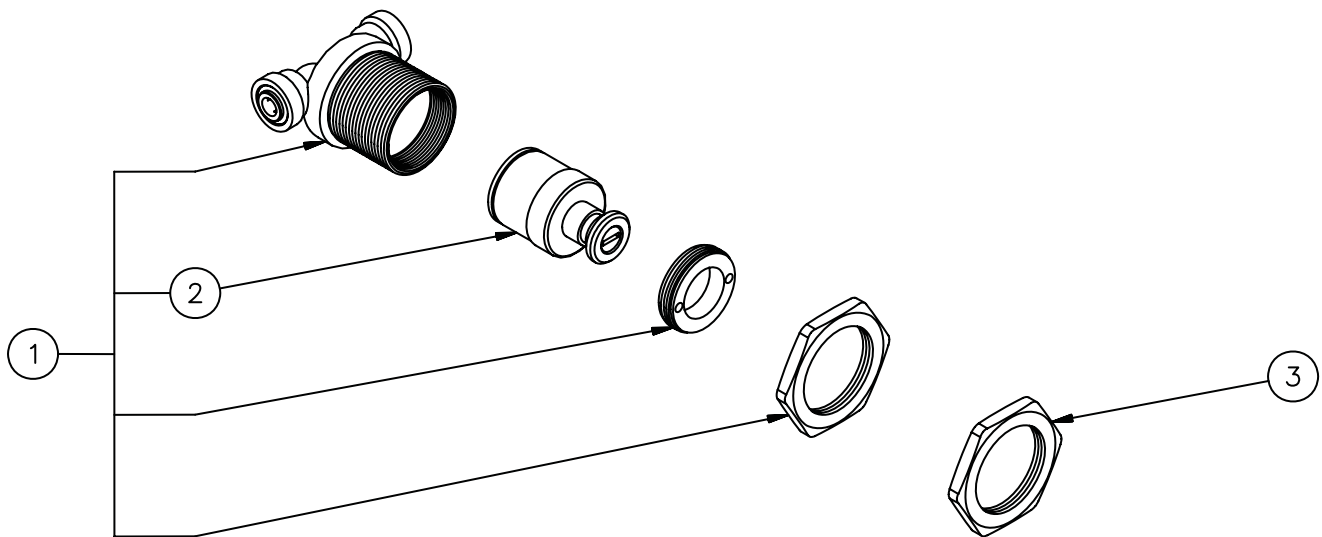
## 7. Water Drips Or Will Not Shut Off

- a. If light within sensor flashes once when the users' hands are within range:
  - i. Clean water diaphragm that has debris or scale.
  - ii. Replace defective or torn water diaphragm.
- b. If light within sensor does not flash when the users' hands are within range:
  - i. Sensor is dirty or covered. Clean or uncover and wait 30 seconds before checking.
  - ii. Sensor is being triggered because range is too long or by sunlight, reflective surface, bright lights, etc. Correct lighting or reflections. Decrease range and wait 30 seconds before checking.

### **CLEANING & MAINTENANCE GUIDE:**

1. Motors have lifetime lubrication and do not require scheduled maintenance.
2. Excess dirt or poor ventilation will cause the compressor overload protector to turn the compressor off and it will cycle on and off with no cold water coming out of bubbler. Periodically clean with vacuum cleaner, air hose or brush the condenser fins and cabinet ventilation louvers. In environments where dirt and dust is more prevalent, clean 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 Acorn Aqua 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.

### **CARTRIDGE VALVE PARTS BREAKDOWN**

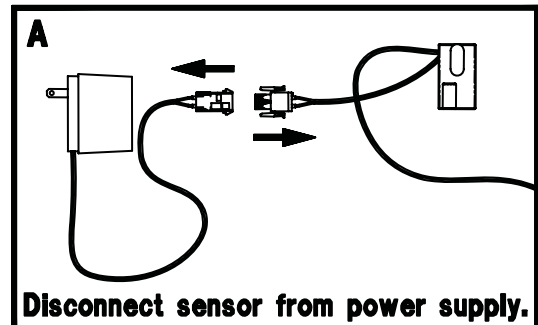


ITEM #	PART NUMBER	DESCRIPTION
1	7000-050-001	Valve Cartridge Assembly
2	7000-060-000	Valve Cartridge
3	7000-053-199	Jam Nut

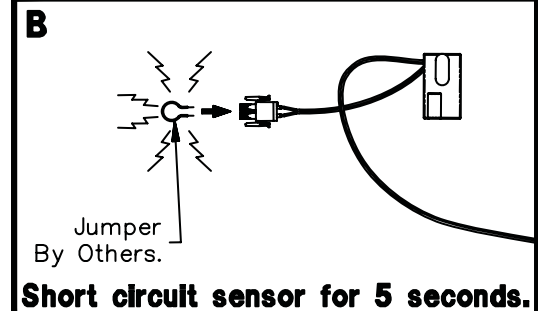
Repairs must be made with Acorn Aqua parts only. please order through your local representative or distributor. the phone number to locate your local representative is 1.800.591.9360.

## SENSOR RANGE ADJUSTMENT

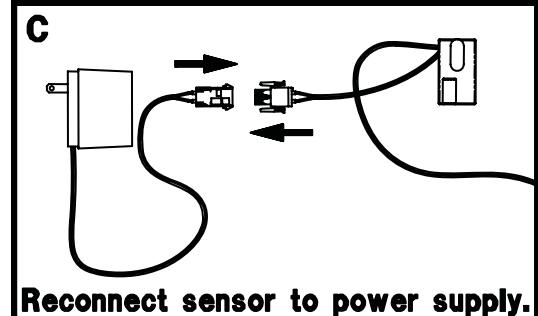
A. Disconnect sensor from power supply.



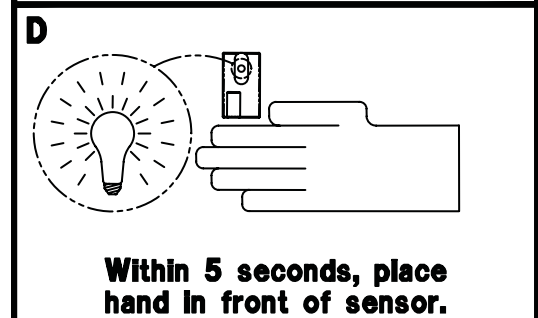
B. Create a short circuit between the positive and negative connections on the sensor for five seconds. **WARNING:** Do **NOT** create a short circuit on the power supply or while the sensor is connected to the power supply!



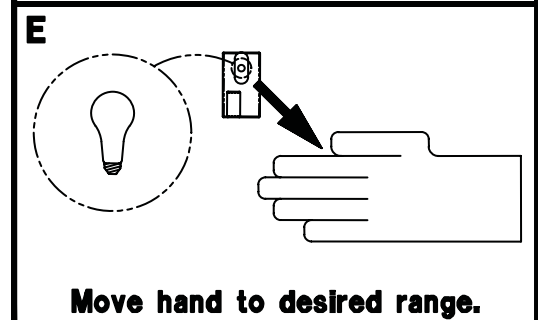
C. Reconnect the sensor to the power supply.



D. Within 5 seconds of making the connection to the power supply, place and hold hand 2" to 4" in front of the sensor.

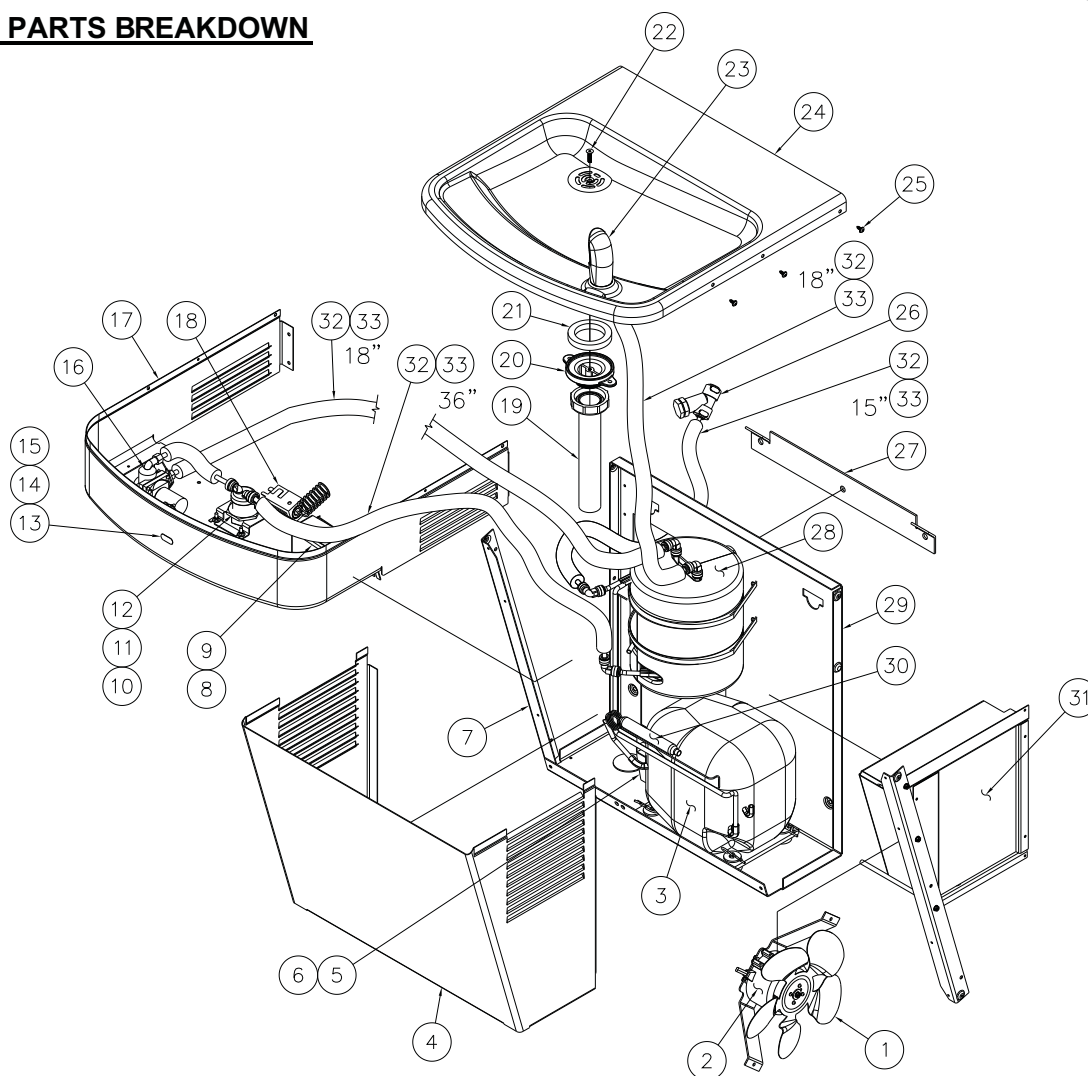


E. Once red light within sensor begins flashing quickly, move hand to preferred activation distance and hold there until light stops flashing.



Check sensor activation distance. If unsatisfactory, repeats steps A through E.

## COOLER PARTS BREAKDOWN



ITEM #	PART NUMBER	DESCRIPTION	ITEM #	PART NUMBER	DESCRIPTION
1	7003-355-000	Fan Blade	17	7003-005-015	Apron Assembly - "2" Dark Bronze
2	7003-302-000	Fan Motor		7003-005-016	Apron Assembly - "3" Gold
3	7012-001-001	Compressor		7003-024-001	Apron Assembly - "4" Stainless Steel
4	7003-004-020	Lower Cabinet - Granite	18	7003-250-000	Cold Control
	7003-004-015	Lower Cabinet - "2" Dark Bronze	19	7000-019-001	Waste Tailpiece Assembly
	7003-004-016	Lower Cabinet - "3" Gold	20	7000-005-199	Drain Adapter
	7003-035-299	Lower Cabinet - "4" Stainless Steel	21	7000-006-000	Flat Drain Adapter Gasket
5	7012-002-000	Start Relay	22	0152-040-000	Allen Flat Head Screw
6	7012-003-000	Start Capacitor	23	7000-410-002	Standard Flexible Gray Bubbler Assembly
7	7003-007-199	Support Strut		7000-002-001	"B" Option Brass Bubbler Assembly
8	0711-409-001	120V AC/9V DC Transformer	24	7003-001-199	AquaAccess Basin Top
9	7003-028-199	Transformer Bracket	25	0124-051-000	Allen Pan Head Screw
10	7000-050-001	Valve Assembly	26	7000-022-000	"Y" Strainer
11	7000-060-000	Valve Cartridge	27	7003-014-199	Hanger Bracket
12	7003-023-199	Valve Bracket	28	7003-100-001	Evaporator Assembly
13	2562-373-001	9V DC Sensor	29	7003-003-199	Back Panel
14	7003-027-199	Sensor Bracket	30	7012-050-000	Filter / Dryer
15	7001-202-199	Sensor Spacer	31	7003-201-000	Condenser
16	7001-200-001	Solenoid Valve Assembly	32	2169-000-000	¼" O.D. LLDPE Tubing, Blue
17	7003-005-020	Apron Assembly - Granite	33	7012-055-000	Foam Pipe Insulation 3/8" I.D.x1/4" thk

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