

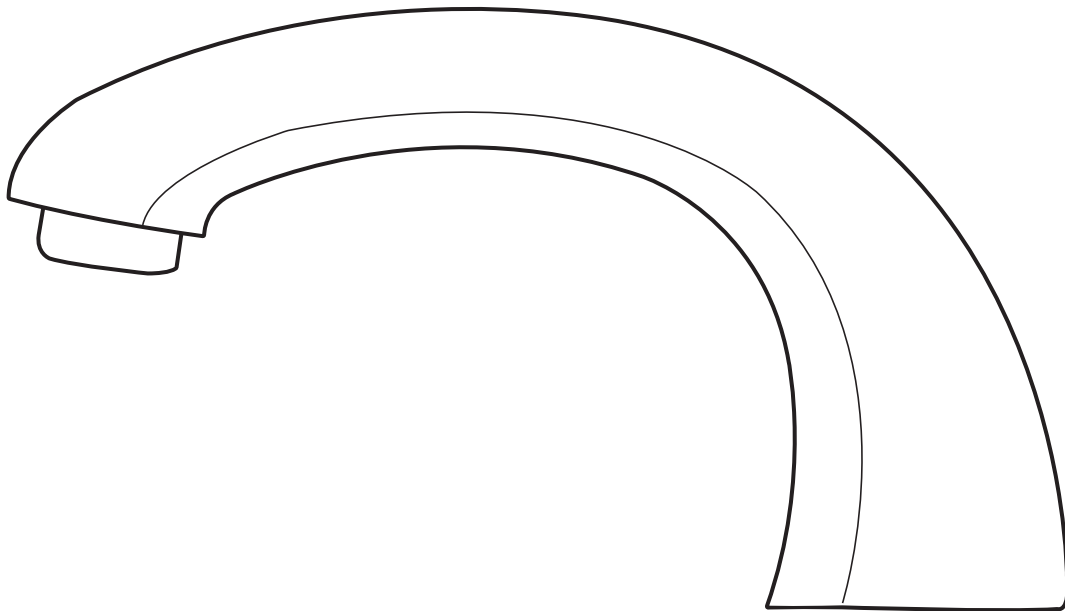
FEATURING:

**radius**<sup>™</sup>  
TOUCH-FREE TECHNOLOGY

# *Milano*

## **AUTOMATIC FAUCET**

with **Surround Sensor** Technology



*Installation & Maintenance*

**IMPORTANT: PLEASE READ ENTIRE INSTRUCTION  
BOOKLET BEFORE YOU BEGIN INSTALLATION!**

*Looks Clean - Is Clean.™*



**technical concepts**  
Innovative Hygiene Solutions

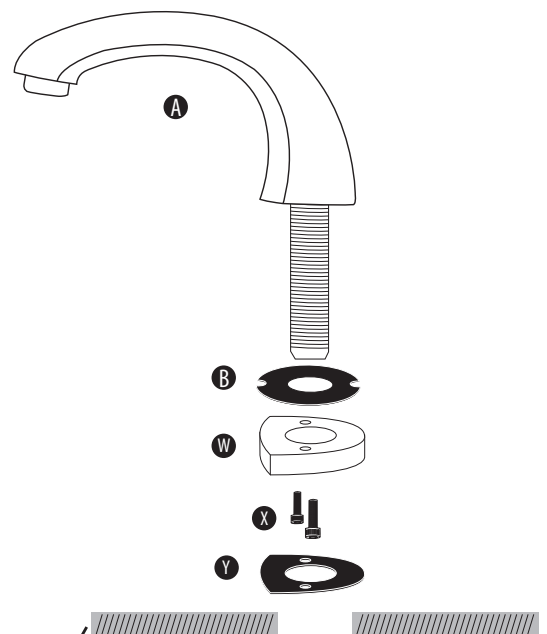
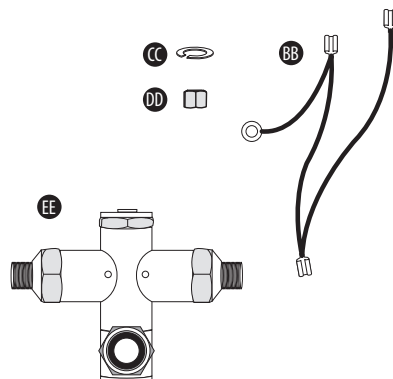
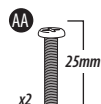
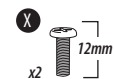
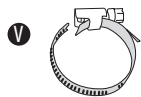
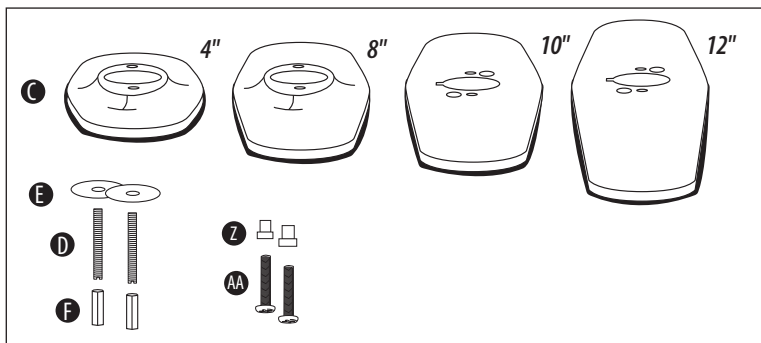
# AutoFaucet® Parts List

- A. Faucet Spout Assembly with 1.5 GPM Aerator 202321
- B. Rubber Gasket for Faucet Spout Base 490145
- C. 4" Domed Cover Plate (optional) 490286  
8" Domed Cover Plate (optional) 490287  
10" Flat Cover Plate (optional) 490238  
12" Flat Cover Plate (optional) 490217
- D. Threaded Cover Plate Studs (x2) 490139
- E. Washers for Cover Plate (x2) 490138
- F. Hex Nuts for Cover Plate (x2) 490139
- G. Tab Grounding Spacer 750368
- H. Brass Mounting Nut (x2) 490272
- I. Sensor Wire Connection Washer (Included with Isolation Kit 490341)
- J. 6" Extension Hose ½"Male x ½"Female NPS T (optional) 490137
- K. Valve Control Module with Power and Sensor Connectors 490251
- L. 12" Supply Hoses 3/8" x 3/8" compression (x2) (optional) 490036
- M. Mixing Valve with Filter (optional) 490179
- N. Battery Compartment with Connector 490157
- O. Battery Compartment Screws and Anchors (x2) (Included with Battery Compartment 490157)
- P. Double-Sided Foam Tape 105451
- Q. "D" Cell Alkaline Batteries (x4)
- R. Rubber Washers (x2) 490221
- S. Main Supply Line Hose ½"Female x ½"Female NPST (optional) 401627
- T. Dirt Filter 490143 (optional)
- U. Earth Ground Kit 490341
- V. Drain Ground Clamp 490341
- W. Top Plastic Insulator 490334
- X. M4 x 12mm Screws (x2) (Included with Spout 490320)
- Y. Rubber Spacer Gasket 490337
- Z. White Plastic Screw Spacers (x2) (Included with Cover Plates)
- AA. M4 x 25mm Screws (x2) (Included with Cover Plates)
- BB. Grounding Isolation Wires (Included with Isolation Kit 490341)
- CC. Split Lock Washer (Included with Isolation Kit 490341)
- DD. Nut (Included with Isolation Kit 490341)
- EE. Thermostatic Mixing Valve (optional) 402188

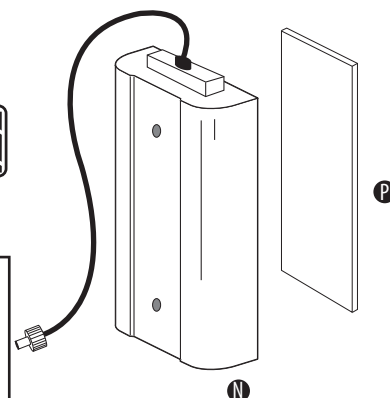
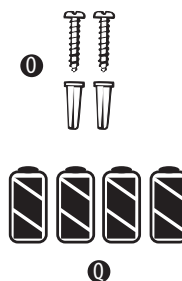
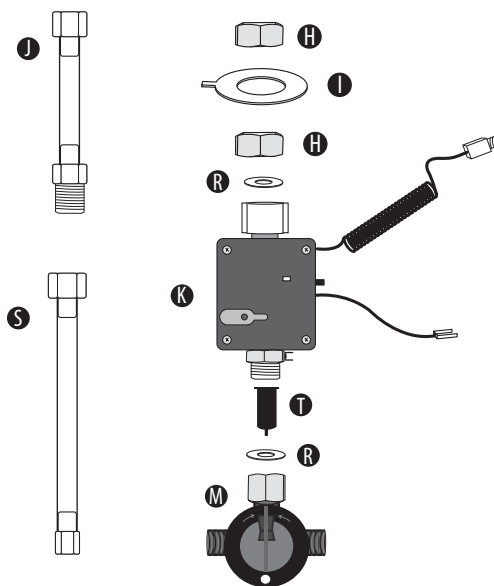
**Tools Required:** Basin or Crescent wrench, slotted and Phillips screwdriver

*Optional TC Faucet Universal Tool # 490142*

## Cover Plates



SINK or COUNTERTOP



### Optional Aerators Available:

- 0.5 GPM (vandal resistant) #401190
- 1.5 GPM (vandal resistant) #401213
- 1.5 GPM Laminar flow #401214
- 2.0 GPM (vandal resistant) #401148

### Optional AC Adapters:

- Single unit AC adapter #490099
- 6 - unit AC adapter box #490071
- AC wire assembly #490100

**NOTE:** An AC wire assembly needs to be ordered for each faucet when purchasing the 6 - unit AC adapter box.

# ***Installing Your New Faucet***

## **IMPORTANT - DO NOT USE PIPE DOPE OR TEFLON TAPE FOR ANY FAUCET OR SUPPLY CONNECTIONS!**

### **Step 1**

Attach both threaded studs (D) to the bottom of the semi-assembled cover plate.

### **Step 2**

Guide the semi-assembled faucet spout through the 3-hole 4" or 8" center set in counter or sink.

### **Step 3**

Finish securing the cover plate from underneath by placing the two metal washers (E) on to each of the threaded studs. Secure with hex nut (F) and hex nut (DD).

### **Step 4**

Secure the spout by using the following components in sequential order:

- a. Tab grounding spacer (G) (brass washer needs to be on top)
- b. Brass mounting nut (H)
- c. Sensor wire connection washer (I) [IMPORTANT: Make sure this washer's tab is rotated 180° from the tab grounding spacer (G).]
- d. Brass mounting nut (H)

### **Step 5**

Connect the two 12" supply hoses (L) to the mixing valve (M). Place the rubber washer (R) into the mixing valve's brass nut fitting (as shown) and then tighten to bottom of the valve control module (K).

### **Step 6**

Connect the earth ground wire (U) to one side of the U-tab. Then connect the yellow sleeved drain ground connector, located on the Grounding Isolation Wires (BB), to the other side of the brass U-tab.

### **Step 7**

Hand tighten the valve control module assembly to the faucet shank.

**NOTE:** Make sure the black rubber washer is in the white plastic nut before connecting the valve control module to the faucet shank.

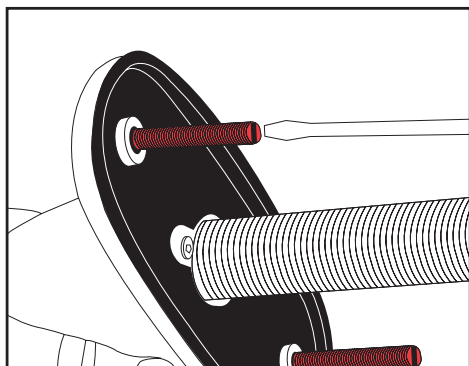
### **Step 8**

Mount the earth ground clamp to the cold water supply pipe.

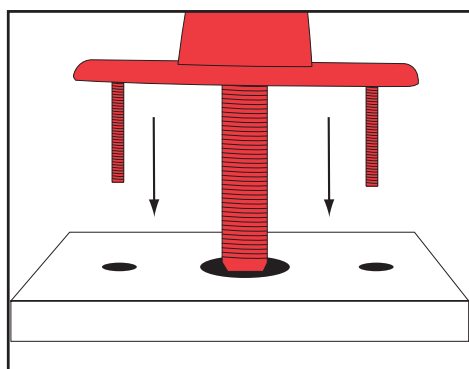


Instructions continued on reverse side

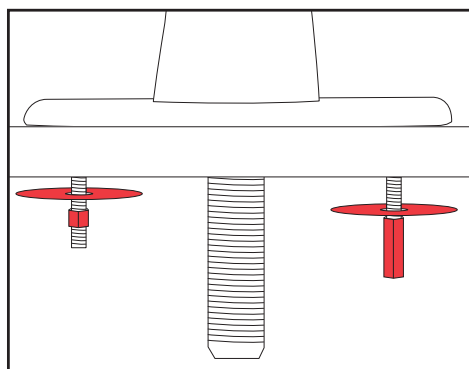
**Step 1**



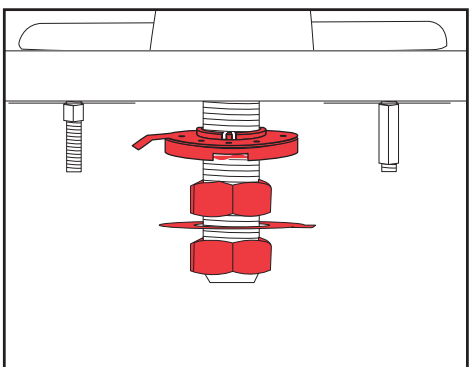
**Step 2**



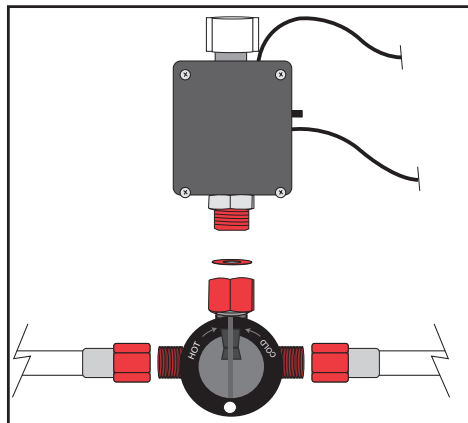
**Step 3**



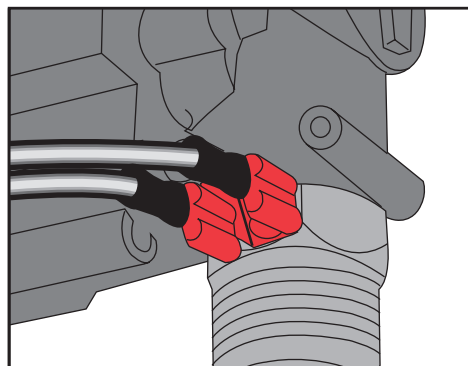
**Step 4**



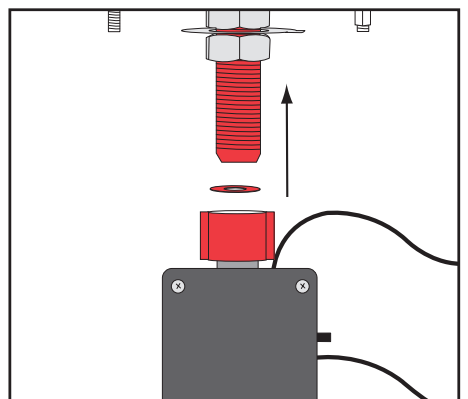
**Step 5**



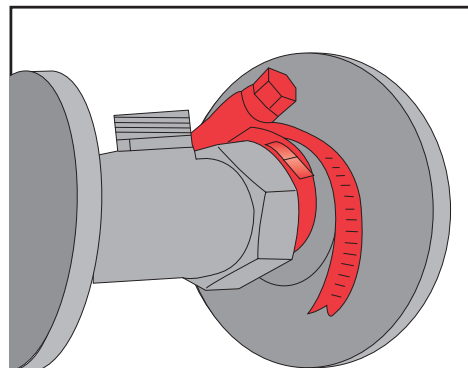
**Step 6**



**Step 7**



**Step 8**



### **Step 9**

Connect the longer green earth ground wire to the clamp tab.

### **Step 10**

Mount the drain ground clamp to the metal drain tail stock as close to the sink as possible.

### **Step 11**

Connect the brass plated end (black sleeved) of the green Grounding Isolation Wires (BB) to the drain ground clamp tab (V).

### **Step 12**

Connect the ring terminal on the green Grounding Isolation Wires (BB) to the stud with the hex nut (DD). Continue fastening with lock washer (CC) and hex nut (F). [NOTE: For single-hole mounted faucets remove the ring terminal wire with wire cutters.]

### **Step 13**

Connect the other end of the green Grounding Isolation Wires (BB) to the tab grounding spacer(G).

### **Step 14**

See battery compartment installation instructions below. Then connect the battery power connector wires together. Test the black sensor wire with your fingers. There will be a clicking sound coming from the valve control module indicating that the faucet is installed properly.

### **Step 15**

Connect the black sensor wire to the sensor washer (I).

### **Step 16**

Connect the water supply hoses (L) to the valve stops. Turn on the hot and cold water supply and test faucet.

### **NOTE:**

- If the optional 6" extension hose (J) is used between the valve control module (K) and the faucet shank connection (to lower the unit down for accessibility), the rubber washer (R) is not required.
- If this is an AC adapter installation, skip "Battery Compartment Installation" and use instructions supplied with the AC adapter.

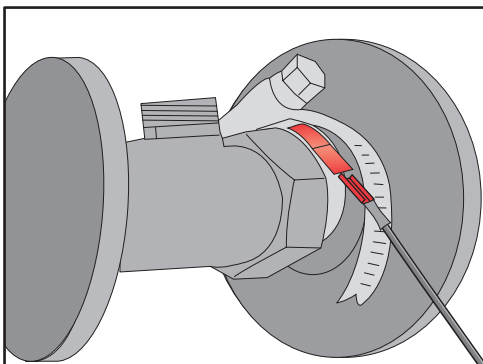
### **Battery Compartment Installation**

1. Remove battery compartment cover by unscrewing the two Phillips screws. Inside the battery compartment (N) there are two large screws and anchors (O). Place the battery compartment (N) in a convenient location ensuring easy access.
2. Secure to wall using screws and anchors (O) or double-sided tape (P).
3. Install four (4) "D" cell alkaline batteries (Q). Replace cover on battery compartment. Connect battery box connector to valve power connector. Once power is established, you will hear a clicking sound when you place your hand under the faucet.
4. Turn water supply on. The water will automatically come on when you place your hand under the faucet. The water will stay on for a maximum of 15 seconds as long as your hands are under the faucet, and moving. The water will shut off after you remove your hands from the sensing zone or water stream.
5. Verify water supply connections are not leaking.

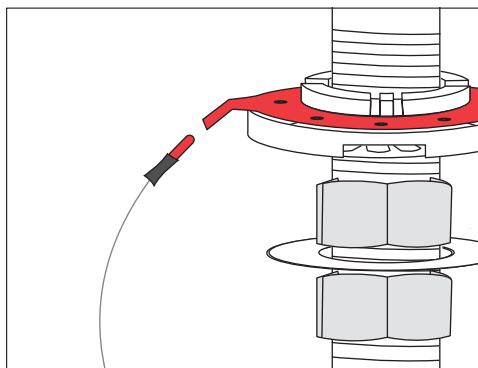
### **Setting Water Temperature Mix**

1. There is a temperature dial on the mixing valve (M). Use a screwdriver to loosen the screw on the dial. [To add hot water, turn the knob to the right or to the left to add cold water. ]
2. Once you have the desired water mix temperature, lock the control knob in place with a screwdriver.
3. There is a temperature adjustment on the optional thermostatic mixing valve (FF). Use an allen wrench to turn adjustment screw to add hot or cold water.

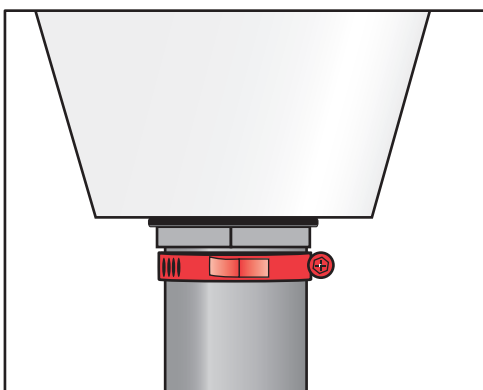
**Step 9**



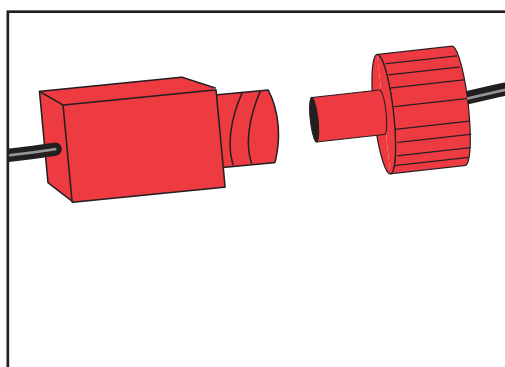
**Step 13**



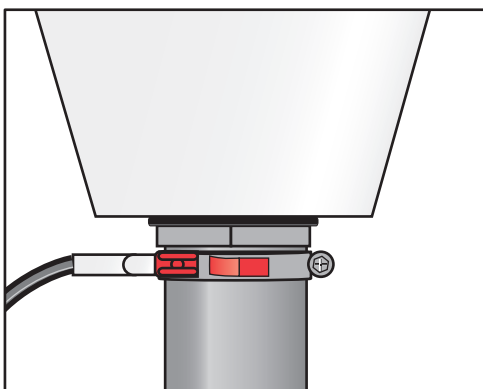
**Step 10**



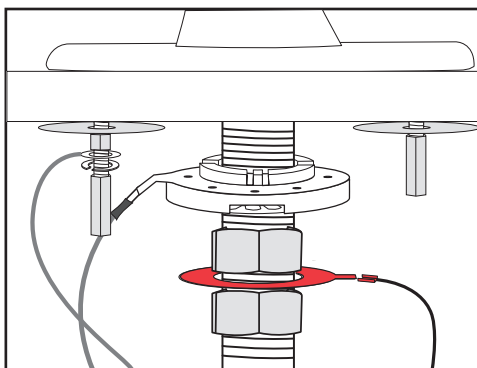
**Step 14**



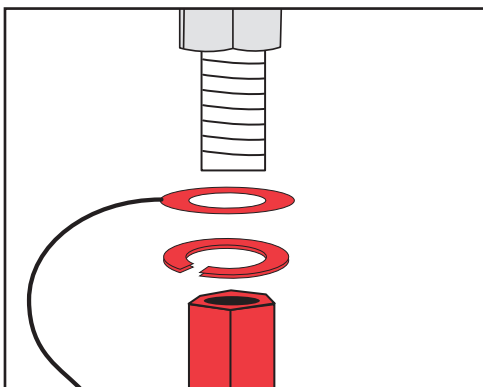
**Step 11**



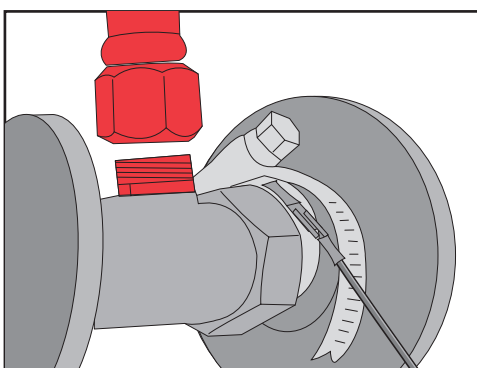
**Step 15**



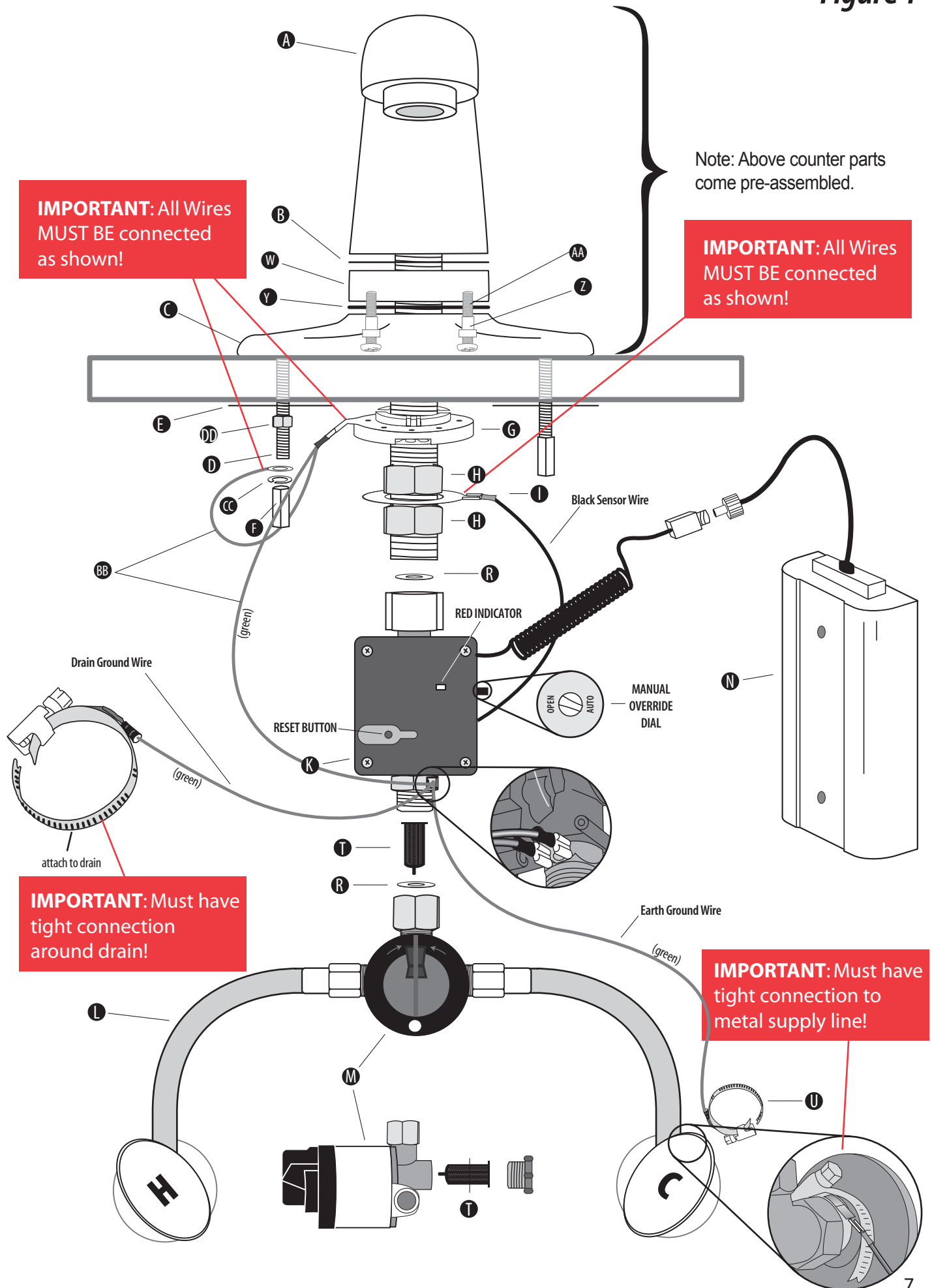
**Step 12**



**Step 16**



**Figure 1**



# Troubleshooting Guide

	Problem	Cause	Solution
1	Install issues due to drainpipe obstructions	Drain pipe or other plumbing under the sink or countertop is in the way.	Use the optional flexible 6" extension hose (J). It is to be placed between the spout shank (A) and the outlet of the valve control module (K). The faucet components can then be assembled off to one side of the drain or other plumbing. Do not add any plumbing or piping components not Included in this kit to the faucet installation as it may cause the faucet to not function or sense properly.
2	Faucet not working (No flashing red LED located on valve control module)	Batteries not inserted correctly	Remove cover from battery box (N) check that the batteries (Q) have been inserted to the correct orientation and are making connection to the contacts. Refer to the battery icons located on the base of the battery box tray.
		Improper or poor connection to power supply	Check that the connection from the battery box is fully inserted into the female connector on the valve control module (K) and assure the connector round thumbnut is fully fastened.
3	Faucet not working and no water flows when activated (Red LED is flashing)	Low batteries	If red indicator is flashing 5 times every 4 seconds, replace with new Alkaline batteries (Q).
		Water source valves turned off	Open water source valves and check that there is water flow.
		Sensor shorted to ground or unit unable to calibrate	If red indicator is flashing once or multiple times every 4 seconds, there is a problem with the installation and the sensor is shorted. To verify the valve control module is working correctly, carefully disconnect the black sensor wire from the connection washer (I). With the wire disconnected, touch the connector at the end of the black wire with your fingers. The sensor should activate and water should come on. Let go of the connector and the water should shut off. If the unit works as described above, it malfunctions when you reconnect the black sensor wire to the spout assembly, then there is an error in the spout and cover plate installation. If the faucet does not activate as described when touching the sensor connector, then you have a grounding issue or there is a broken sensor wire (see troubleshooting below).
		Improper ground connection	If you can touch any of the steel braided supply hoses, the brass fitting on the valve control module, or the mixing valve and it activates the unit, there is improper earth grounding (U). Verify that the ground clamp (U) has been installed and recheck the connections. Verify the clamp is tightly fastened directly to the copper pipe for a proper ground connection. Press reset button on valve control module after making any adjustments.
		Broken or corrupt sensor wire or defective valve control module electronics.	If the connector has broken off of the black sensor wire or the valve control module appears to be defective please contact Technical Concepts. Do not attempt to repair the valve control module (K) or sensor wire.
4	Intermittent cycling and/or water runs on after actuation	Poor sensor washer and wire connection	Verify the brass nuts (H) that fasten the connection washer (I) are fully tightened. Reconnect the sensor wire to the washer. Press reset button on valve control module after making any adjustments
		Insufficient ground connection	Verify that the earth ground clamp (U) has been installed and recheck the connections. Verify the clamp is tightly fastened directly to the copper pipe for a robust ground connection. Press reset button on valve control module.
		SST faucet components are in contact with metal parts of the sink or plumbing.	Be sure that all of the SST faucet components (cover plate, white plastic screw spacers, brass shank, metal washer, braided hoses) or any components for the sink (metal sink lip / mounting hardware) or countertop (i.e. metal support brackets / structural parts) are not in contact and are spaced from each other. Press reset button on valve control module after making any adjustments
5	Intermittent cycling and /or faucet actuation is overly sensitive	Isolation parts are not installed or not installed correctly.	If you can touch the sink and the faucet activates, the unit installation is improper. Check that isolation components (W, Z, & G) are used and installed correctly. If the sink is of a metal composition, verify the sink ground connection (BB) is in place and installed properly.
6	Faucet doesn't shut off after you pull your hands away	Drain grounding not connected or assembled.	Check that the drain ground (V) is assembled to the threaded portion of the metal drain ring (not on the pipe) and is connected to the tab on the valve control module (K). Press reset button on valve control module after making any adjustments.
7	Water stays on	There is sensor short to ground or unit is not calibrating.	Press reset button located on the face of the valve control module (K). The valve should close and the water will stop running. Let unit recalibrate for 20 seconds and verify faucet activation. If water continues to run, then there is an error in the installation and grounding scheme (see troubleshooting above).
		Dial set to the "open" position or not turned to the full "auto" position	Turn the knob on the side of the valve control module (K) fully to the "auto" position (until it hits the stop) and actuate the faucet by placing your hand near the spout. Water should stop running and unit will return to the normal idle operation mode when you remove your hand from the spout.
8	Leaky faucet	Debris or particulate matter is trapped in valve	Turn off water source valves. Remove aerator from end of the spout (A) and examine for dirt and particulates. Inspect and clean input dirt filter (T). Reinsert filter and turn water source back on. Actuate faucet several times without the aerator installed to flush any debris from the valve mechanism until dripping has ceased. Reinstall aerator.
		Dial not turned to the full "auto" position	Turn the knob on the side of the valve control module (K) fully to the "auto" position (until it hits the stop) and actuate the faucet several times by placing your hand near the spout. Water should stop running or dripping and unit will return to the normal idle operation mode once you remove your hand from the spout.
9	Increase or decrease water flow	Size of aerator or water supply flow	First check that the water supply line valves are fully open and the lines are not restricted. If water flow is not as desired, optional sized aerators to control water flow (0.5 & 2.0 GPM) can be purchased.
10	Water temperature too hot or cold	No mixing valve installed or mixing valve needs adjustment	Install a mixing valve (M). Adjustments can be made to the valve by resetting the temperature control knob. If more precise or anti scald water temperature control is required, the optional thermostatic control valve (FF) may need to be purchased.
11	Flushing faucet for regulatory protocol	Required hygiene or sanitary procedure	Turn the knob on the side of the valve control module (K) to the "open" position to flush faucet. This is a mechanical override of the automatic sensing and will set the valve to a constant open position. Once the water is flushed as required, turn the knob back fully to the "auto" position (until it hits the stop) and cease water flow by placing hand near faucet and pulling hand away.



technical concepts

Innovative Hygiene Solutions

**For technical assistance, please call 1.800.551.5155**

**Web:** [www.technicalconcepts.com](http://www.technicalconcepts.com) **Email:** [info@technicalconcepts.com](mailto:info@technicalconcepts.com)

Technical Concepts LLC.

1301 Allanson Road, Mundelein, Illinois 60060 U.S.A • 1-847-837-4100 • FAX: 1-800-551-5046

107199A Rev 2 12/07