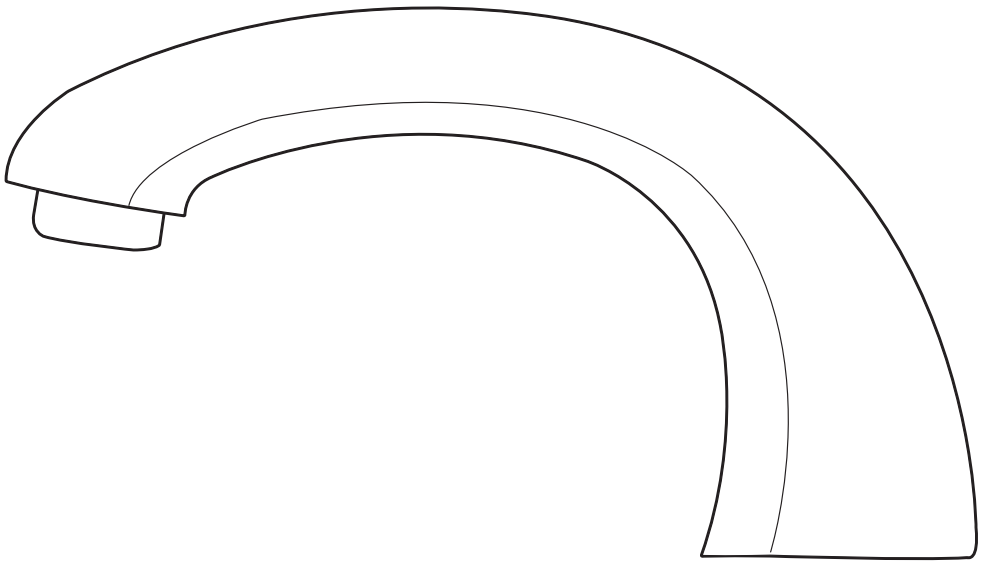
FEATURING:
radius™
TOUCH-FREE TECHNOLOGY

AutoFaucet®

with "Surround Sensor" Technology



Installation & Maintenance

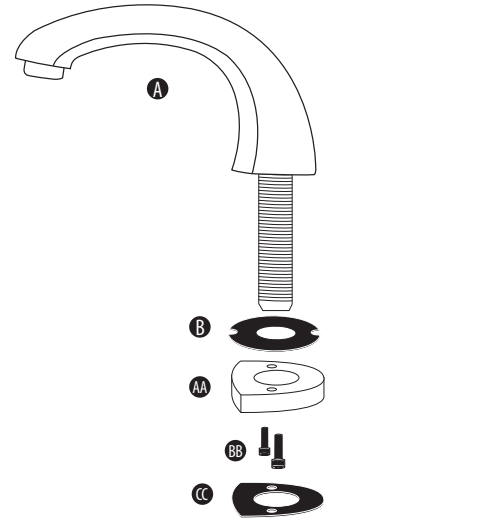
Instalaion y Mantenimiento • Installation Et Maintenance
on www.technicalconcepts.com or call 800-551-5155

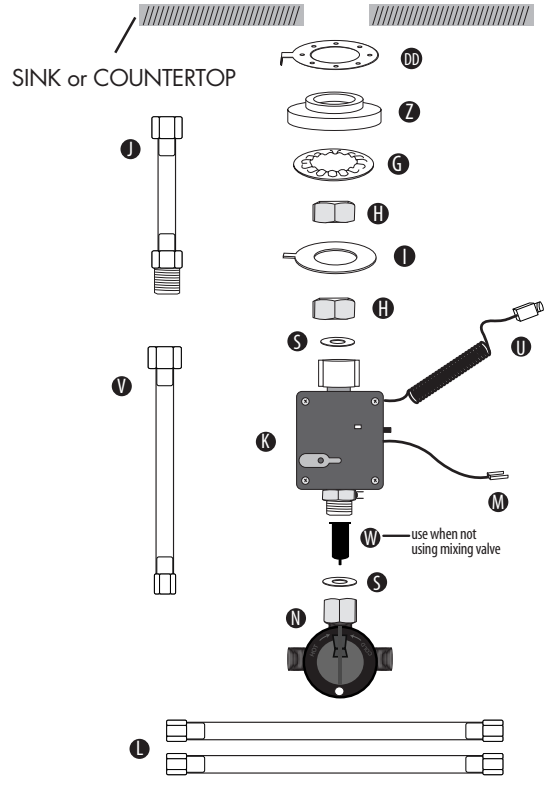
Looks Clean - Is Clean.™

TECHNICAL CONCEPTS

AutoFaucet® Parts List

A. Faucet Spout Assembly with 1.5 GPM Aerator
B. Rubber Gasket for Faucet Spout Base
C. 4", 8", 10" or 12" Flat or Domed Cover Plate (optional)
D. Threaded Cover Plate Studs (x2)
E. Washers for Cover Plate (x2)
F. Hex Nuts for Cover Plate (x2)
G. Lock Washer
H. Brass Mounting Nut (x2)
I. Sensor Wire Connection Washer
J. 6" Extention Hose (optional)
K. Valve Control Box
L. 12" Supply Hoses 3/8" x 3/8" (x2 optional)
M. Sensor Wire
N. Mixing Valve with Filter (optional)
O. Battery Compartment
P. Battery Compartment Screws and Anchors (x2)
Q. Double-Side Tape
R. "D" Cell Alkaline Batteries (x4)
S. Rubber Washers (x2)
T. Battery Box Connector
U. Valve Power Connector
V. Main Supply Line Hose (optional)
W. Dirt Filter (optional)
X. Earth Ground Wire Assembly (cold water pipe)
Y. Drain Ground Assembly
Z. Bottom Plastic Spacer (x2)
AA. Top Plastic Spacer
BB. Screws (x2) M4 x 16mm
CC. Rubber Spacer Gasket
DD. Sink Grounding Tab Washer
EE. White Plastic Screw Spacers (x2)
FF. Cover Plate Screws (x2) M4 x 20mm or 25mm
GG. Sink Grounding Wire
HH. Split Lock Washer
II. Nut (for sink ground)
JJ. Y-tab Ground Adapter
KK. Thermostatic Mixing Valve (optional)

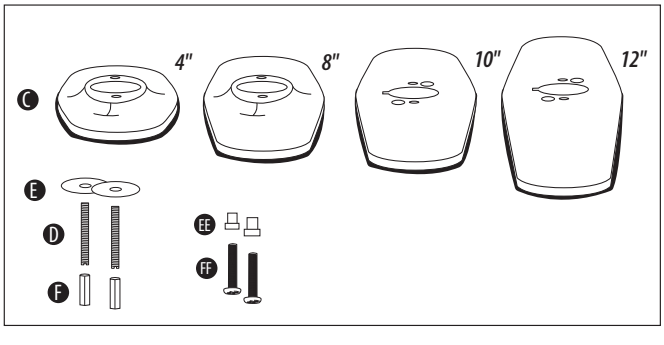


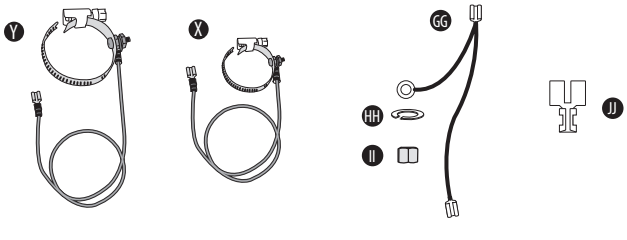


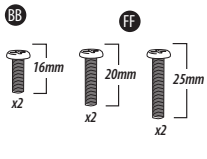
Tools Required: Basin or Crescent wrench, slotted and Phillips screwdriver

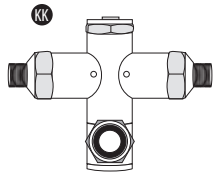
Optional TC Faucet Universal Tool # 490142

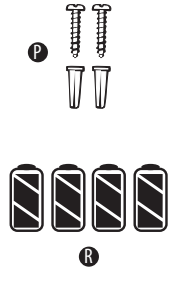
Cover Plates

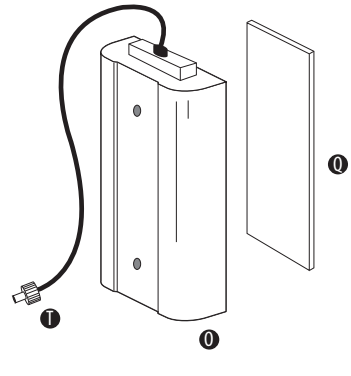












Optional Aerators Available:

0.5 GPM (vandal resistant)	#401190
1.5 GPM (vandal resistant)	#401123
1.5 GPM Laminar flow	#401214
2.0 GPM (vandal resistant)	#401148

Optional AC Adapters:

Single unit AC adapter	#490075
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

BEGIN - Removal of Existing Faucet

- Shut off incoming hot and cold water supply to existing faucet and open hot and cold water controls on the faucet to drain the water from the supply lines. Using a container or towel to catch any remaining water, disconnect existing supply hoses.
- Remove existing faucet and all supply hoses. Clean countertop surface or sink rim well and wipe dry.
- Determine how many holes are in the countertop or sink rim. If there are only two holes and no center hole, then a 1" center hole will need to be drilled.

IMPORTANT - Do not use pipe dope or tape for any faucet or supply connections!

Faucet Installation

Without Cover Plate

- Position rubber gasket (B) and, then place top spacer (AA) with smooth side up and ribbed side down on to faucet base. Next, place the black rubber spacer gasket (CC) on spout shank matching the ribbed side of the top spacer (AA) to the ribbed side of the rubber spacer gasket (CC).
- Guide faucet spout (A) through 1" countertop or sink hole and secure to the countertop or sink using the following components in sequential order. (Refer to Figure 1)

  1) Sink grounding tab washer (DD)
  2) One black bottom plastic spacer (Z)
  3) Spout lock washer (G)
  4) One brass mounting nut (H)
  5) Sensor wire connection washer (I)
  6) One brass mounting nut (H)

NOTE: Make sure the brass mounting nuts are thoroughly tightened.

- Continue installation at section entitled Valve Control Box / Mixing Valve Installation.

Cover Plate Installation

- Position rubber gasket (B) and, then place top spacer (AA) with smooth side up and ribbed side down on to faucet base. Next, place the black rubber spacer gasket (CC) on spout shank matching the ribbed side of the top spacer (AA) to the ribbed side of the rubber spacer gasket (CC).
- Guide faucet spout (A) through cover plate (C) hole. Attach the cover plate (C) to spout (A) using the two white plastic screw spacers (EE) and two cover plate screws (FF) using the required screw size of either M4 x 20mm or 25mm.
- Next, install the two threaded studs (D) in the holes on the underside of the cover plate (C) and tighten with a slotted screwdriver.
- Install the faucet with the attached cover plate by guiding the spout shank and threaded studs (D) through the sink or countertop holes.
- Secure cover plate from underneath by first placing the two metal washers (E) on to each of the threaded studs (E) and then secure with a hex nut (F).
- Next, install on to the spout shank in sequential order: (Refer to Figure 1)

  1) Sink grounding tab washer (DD)
  2) One black bottom plastic spacer (Z)
  3) Spout lock washer (G)
  4) One brass mounting nut (H)
  5)Sensor wire connection washer (I)
  6) One brass mounting nut (H)

NOTE: Make sure the brass mounting nuts are thoroughly tightened down

- Continue installation at section entitled Valve Control Box / Mixing Valve Installation.

Valve Control Module / Mixing Valve Installation

- **When Using a Mixing Valve:** Connect the two 12" supply hoses (L) to the mixing valve (N). Place a rubber washer (S) in to the mixing valve brass nut fitting at the top of the valve and tighten with a wrench to the valve control box (K). Be sure the rubber washer (S) is placed flat in to the fitting to assure a properly sealed fit. Dirt filter is located under the black thumb nut on back of mixing valve.
- **Without Mixing Valve:** Using the optional main supply hose (V), first insert dirt filter (W) in to the threaded brass fitting at the bottom of the valve control box (K), and then connect the end of main supply hose (V) to the valve control box (K). Tighten with a wrench.
- Place one rubber washer (S) in to the white top nut fitting on the valve control box (K) and then hand tighten on to the bottom of the brass threaded spout shank.
- Connect sensor wire (M) to sensor wire connection washer (I).
- Connect sink ground wire (GG) from the sink grounding tab washer (DD) to one of the tabs on the U-tab connection on the brass fitting at the base of the valve control box (K).
- **When Using a Cover Plate:** Place the ring terminal side of the sink grounding wire (GG) on to one of the threaded studs (D) and fasten with lock washer (HH) and nut (II). Ring terminal will be between hex nut (F), lock washer (HH) and nut (II).
- **Without Cover Plate:** Using wire cutters, cut off the ring terminal section of the sink grounding wire (GG) and discard.
- Install ground wire assembly (X) clamp end on cold water pipe between shut off valve and wall plate. Be sure to attach directly to the copper pipe and not to the shut off valve. Next, attach the Y-tab connector (JJ) to the other tab on the U-tab connection on the brass fitting at the base of the valve control box (K). Then, take the female tab connection end of the ground wire assembly (X) and connect to one of the tabs on the Y-tab connector (JJ).
- Install drain ground assembly (Y) clamp end around the threaded part of the drain ring tail piece directly under sink (as close to sink as possible), then fasten female tab connection end of the drain ground wire to the remaining tab on the Y-tab connector (JJ).
- Check that the valve operation selector dial is in the full (until it hits the stop) "Auto" position.

NOTE: If the optional 6" extension hose (J) is used between the valve control box (K) and faucet shank connection (to lower the unit down for accessibility), the rubber washer (S) is not required at the top connection (washer seals are integral to the hose). Connect main line hose (V) to water supply valve.

- Continue with battery compartment installation.

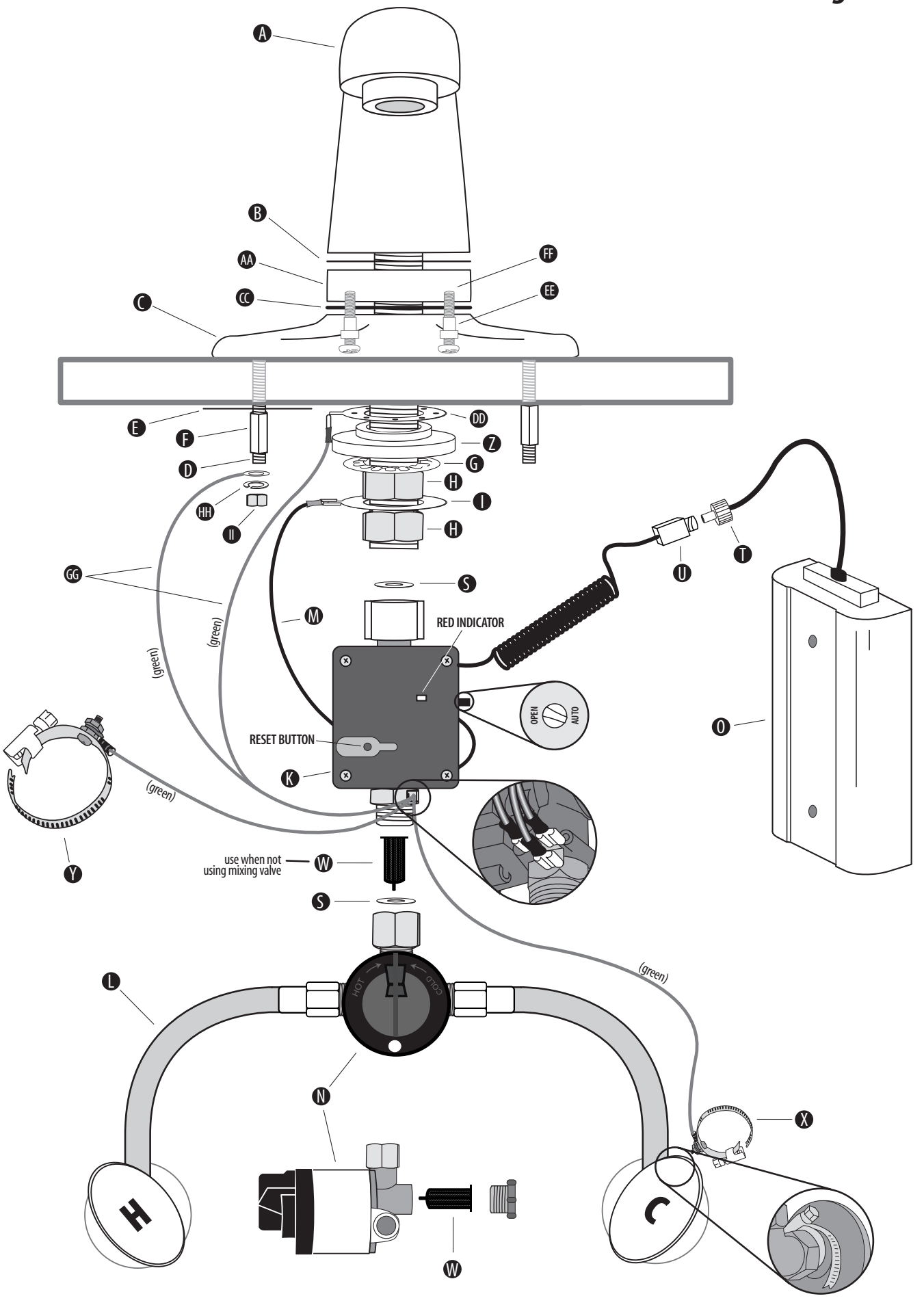
Battery Compartment Installation

- Remove battery compartment cover by unscrewing the two Phillips screws. Inside the battery compartment (O) there are two large screws and anchors (P). Place the battery compartment (O) in a convenient location ensuring easy access.
- Secure to wall using screws and anchors (P) or double-sided tape (Q).
- Install four (4) "D" cell alkaline batteries (R). Replace cover on battery compartment. Connect battery box connector (T) to valve control box power connection (U). You will hear a clicking sound once you place your hand under the faucet.
- Turn water supply on. Place your hand under the faucet and the water will come on automatically. The water will stay on for a maximum of 15 seconds as long as your hands are under the faucet. The water will shut off after you • Verify water supply connections are not leaking.

Setting Water Temperature Mix

- On the mixing valve there is a temperature dial. Use a screwdriver to loosen the screw on the dial. To add hot water, turn the knob to the right and to the left to add cold water.
- Once you have the desired water mix temperature, lock the control knob in place with a screwdriver.
- On the thermostatic mixing valve there is a temperature adjustment. Use an allen wrench to turn adjustment screw to add hot or cold water.

Figure 1


A
B
AA
CC
C
FF
EE
E
F
D
DD
Z
G
H
I
H
HH
II
GG
S
M
RED INDICATOR
(green)
(green)
U
T
O
OPEN
AUTO
RESET BUTTON
K
(green)
Y
use when not
using mixing valve
W
S
L
HOT
COLD
N
(green)
X
H
C
W

Troubleshooting Guide

Problem	Cause	Solution
Unable to install the valve control box and mixing valve due to drain pipe 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 box (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.
Faucet not working (No flashing red indicator located inside clear cover of valve control box)	Batteries not inserted correctly	Remove cover from battery box (O) and check that the batteries (R) 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 (T) is fully inserted into the female connector on the valve control box (K) and assure the connector round thumbnut is fully fastened.
Faucet not working and no water flows when activated (Red indicator is flashing)	Low batteries	If red indicator is flashing 5 times every 4 seconds, replace with new Alkaline batteries (R).
	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 control box is working correctly, carefully disconnect the black sensor wire (M) 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 (M) and the water should shut off. If the unit works as described above and 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 box, or the mixing valve and it activates the unit, there is improper earth grounding (X). Verify that the ground clamp (X) 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 box after making any adjustments.
	Broken or corrupt sensor wire or defective valve box electronics.	If the connector has broken off of the black sensor wire or the valve box appears to be defective please contact Technical Concepts. Do not attempt to repair the valve box (K) or sensor wire (M).
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 (M) to the washer. Press reset button on valve control box after making any adjustments
	Insufficient ground connection	Verify that the earth ground clamp (X) 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 box.
	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 spaced from each other. Press reset button on valve control box after making any adjustments
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 (AA, EE, & Z) are used and installed correctly. If the sink is of a metal composition, verify the sink ground connection (DD & GG) is in place and installed properly.
Water stays on or runs on after you pull your hand away	Drain grounding not connected or assembled.	Check that the drain ground (Y) 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 box (K). Press reset button on valve control box after making any adjustments.
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 box (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 on, 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 box (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 once you remove your hand from the spout.
Water is dripping from spout when not actuated	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 (W). 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 box (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.
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.
Water temperature too hot or cold	No mixing valve installed or mixing valve needs adjustment	Install a mixing valve (N). 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 (KK) may need to be used.
Need to flush faucet for regulatory protocol	Required hygiene or sanitary procedure	Turn the knob of the side of the valve control box (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.

For technical assistance, please call 1-800-551-5155

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