



Electronic Sensor Faucet

Installation Instructions



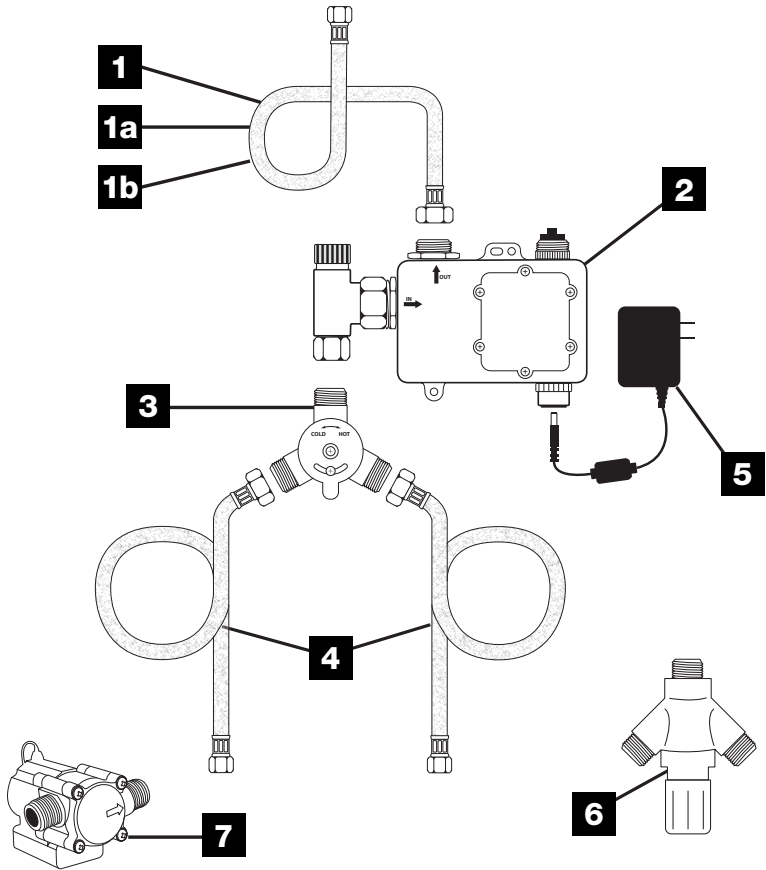
Krowne
100 Haul Rd.
Wayne, NJ 07470
krowne.com



ASME A112.18.1/CSA B125.1
NSF/ANSI 372
NSF 01



ELECTRONIC FAUCET PARTS



No.	Part	Model
1	Spout Supply Hose for Wall Mount Faucets	16-512
1a	Spout Supply Hose for Deck Mount Faucets	16-511
1b	Spout Supply Hose for Model 16-654	16-517
2	Control Module	16-198
3	Mechanical Mixing Valve	16-402L
4	Hot & Cold Supply Hoses	16-510
5	AC Adapter (optional)	16-199
6	Thermostatic Mixing Valve (optional)	16-405L
7	Hydro Generator (optional)	16-501

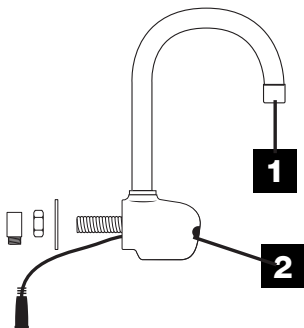


ELECTRONIC FAUCET PARTS

Model 16-190

Single Hole Wall Mount w/ 4-½" Swivel Gooseneck

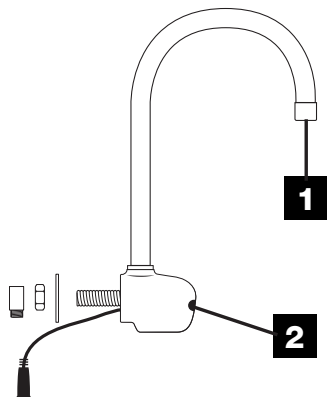
No.	Part	Model
1	Female Aerator	see pg. 5
2	Flat Sensor with Cable	16-505



Model 16-191

Single Hole Wall Mount w/ 6" Swivel Gooseneck

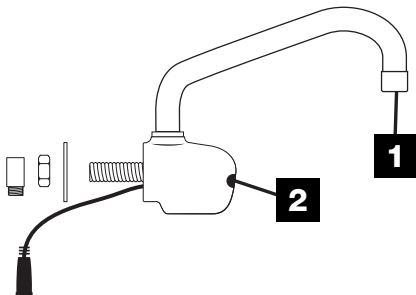
No.	Part	Model
1	Female Aerator	see pg. 5
2	Flat Sensor with Cable	16-505



Model 16-192

Single Hole Wall Mount w/ 6" Swivel Spout

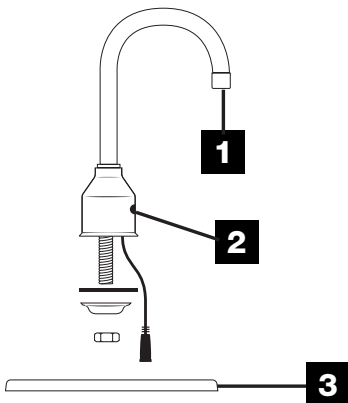
No.	Part	Model
1	Female Aerator	see pg. 5
2	Flat Sensor with Cable	16-505



Model 16-649

Single Hole Deck Mount w/ 4-½" Rigid Gooseneck

No.	Part	Model
1	Female Aerator	see pg. 5
2	Convex Sensor with Cable	16-506
3	4" Deck Plate (optional)	16-189



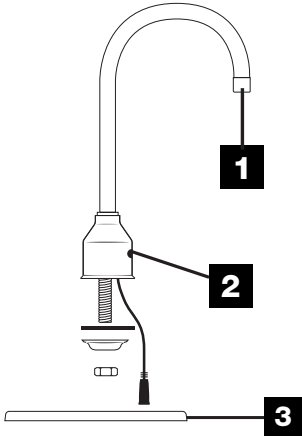


ELECTRONIC FAUCET PARTS

Model 16-650

Single Hole Deck Mount w/ 6" Rigid Gooseneck

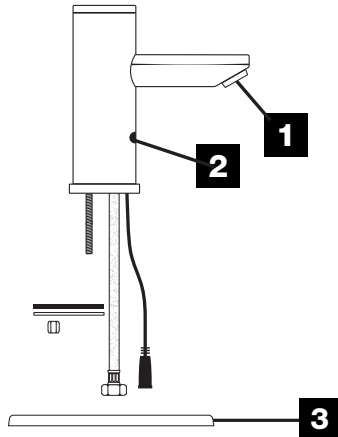
No.	Part	Model
1	Female Aerator	see pg. 5
2	Convex Sensor with Cable	16-506
3	4" Deck Plate (optional)	16-189



Model 16-654

Single Hole Deck Mount w/ Straight Spout

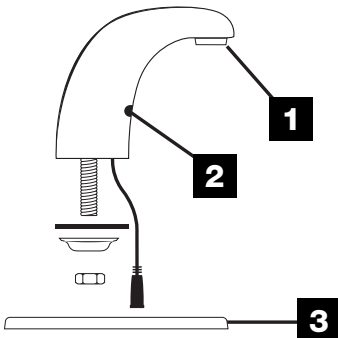
No.	Part	Model
1	Male Aerator	see pg. 5
2	Convex Sensor with Cable	16-506
3	4" Deck Plate (optional)	16-189



Model 16-196

Single Hole Deck Mount

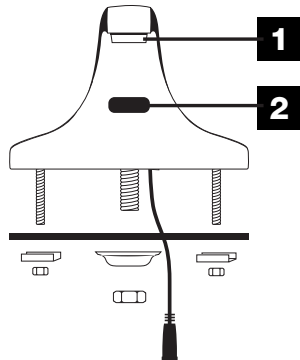
No.	Part	Model
1	Male Aerator	see pg. 5
2	Convex Sensor with Cable	16-506
3	4" Deck Plate (optional)	16-189



Model 16-197

4" Center Deck Mount

No.	Part	Model
1	Male Aerator	see pg. 5
2	Flat Sensor with Cable	16-505



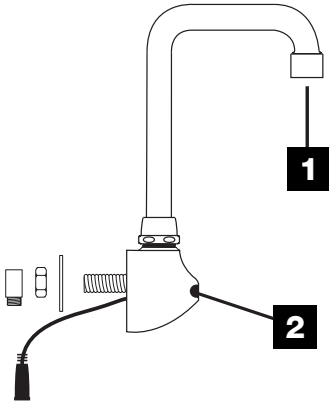


ELECTRONIC FAUCET PARTS

Model 16-670

4" Center Wall Mount with 4-1/2" Double Bend Spout, Satin Finish

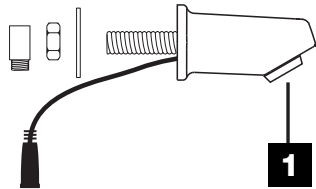
No.	Part	Model
1	Female Aerator	see pg. 5
2	Flat Sensor with Cable	16-505



Model 16-675

Single Hole Wall Mount, Satin Finish

No.	Part	Model
1	Aerator	Contact Factory for Replacement



REPLACEMENT AERATORS / OUTLETS



Standard Aerators
Aerated Stream



Multi-Laminar Spray Outlets
Spray Stream



Laminar Flow Outlets
Laminar Stream



Vandal Resistant aerators include an install key.

Krowne offers a variety of aerators & outlets with various flow rates to suit any application.

- Standard Aerators
- Laminar Flow Outlets
- Multi-Laminar Spray Outlets
- Vandal Resistant Standard Aerators
- Vandal Resistant Laminar Flow Outlets
- Vandal Resistant Multi-Laminar Spray Outlets



Scan to see our selection of aerators on krowne.com



IMPORTANT

- DO NOT USE PIPE DOPE AS A SEALANT. All water lines provided with faucet are compression fittings and do not require sealant. Pipe dope will damage the valve and filters and will void the warranty.
- DO NOT OVERTIGHTEN.
- YOU MUST FLUSH ALL WATER LINES UNTIL CLEAR BEFORE CONNECTING TO THE SUPPLY LINES PROVIDED.
- Faucet includes a mechanical mixing valve that must be installed and adjusted for proper temperature.
- Clean water filter located inside black filter compartment located on the side of the control unit on a regular basis.
- Install all plumbing and electrical in accordance with national/local codes and regulations.
- Use precaution when connecting optional AC adapter to power source.

TOOLS REQUIRED

- 8" adjustable wrench
- Basin wrench
- 1/8" Allen wrench
- Pliers
- Slotted and Flat screwdriver

SPECIFICATIONS

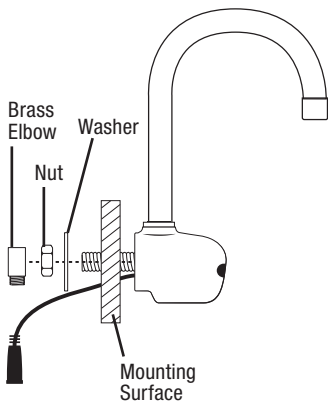
Power	(4) Alkaline AA Batteries or AC/DC
Working Pressure	20 - 125 PSI
Temperature Range	40°F - 180°F
Sensing Distance	3/4" - 6-1/2" (default 5-1/2")
Response Time	0.3 seconds
Off Delay Time	1 second (default), 10 seconds, 15 seconds (optional)
Fresh Battery Life Cycle	500,000 on/off
Low Battery Indicator	Red LED Flash
Dead Battery Indicator	Red LED on
Control Module	30 seconds (default) before automatic shut off 20s, 25s, 30s, 45s, 1min, 2min, 10min max

STEP 1 • Install Faucet Assembly

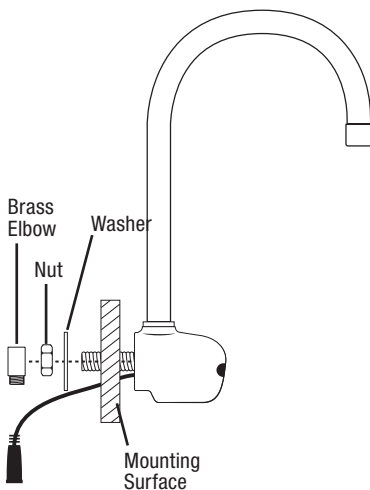
MOUNT ON SURFACE UP TO 1" THICK

- Feed sensor cable and supply inlet through base gasket and mounting hole.
- Secure using lock washer and nut as shown in below diagrams.

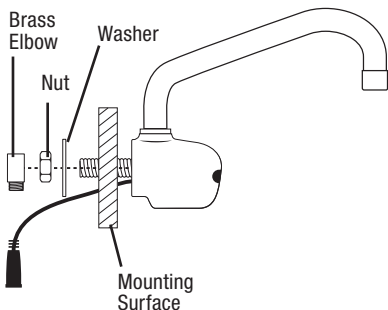
Model 16-190



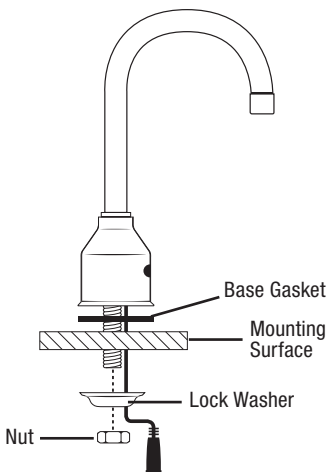
Model 16-191



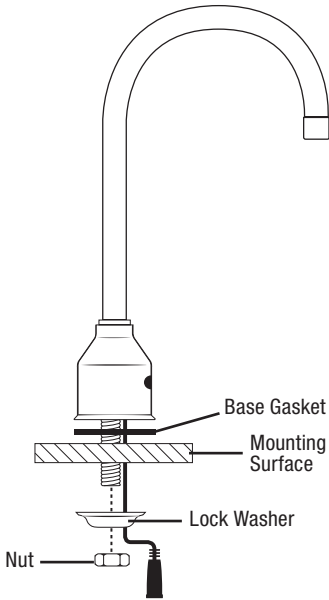
Model 16-192



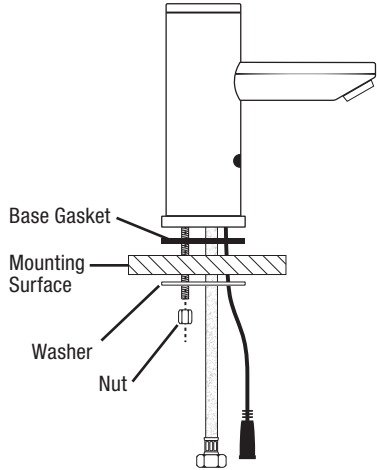
Model 16-649



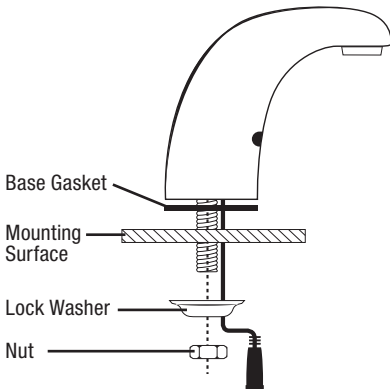
Model 16-650



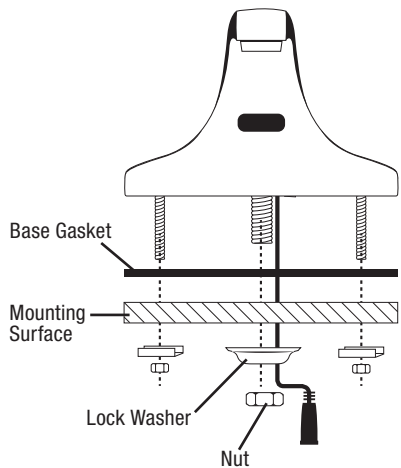
Model 16-654



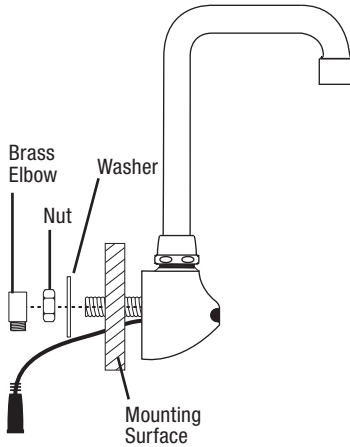
Model 16-196



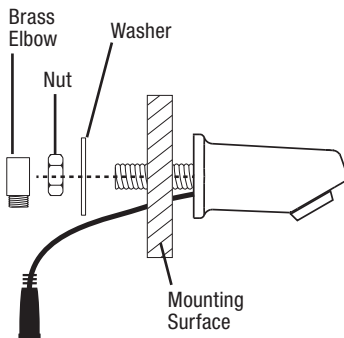
Model 16-197



Model 16-670



Model 16-675





INSTALLATION (continued)

Note: Refer to below diagram for step by step installation.

STEP 2 • Install Mechanical Mixing Valve

1 Install Mechanical Mixing Valve into inlet location #1 on the Control Module, which has a compression fitting. Do not use thread sealant and do not overtighten. The Control Module is to be mounted to a wall and the Mechanical Mixing Valve must be straight as per photo below. Pick mounting location that will allow the supply lines and cable to have slack to prevent strain. Mount Control Module on wall using mounting screws and plastic anchors provided.

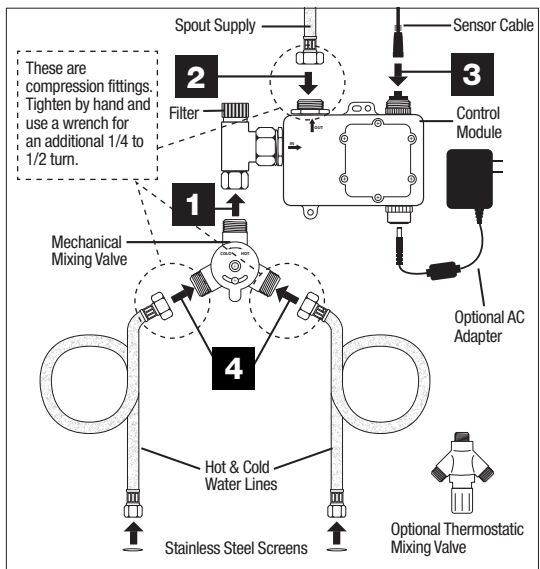
STEP 3 • Install Sensor Cables and Supply Lines

- Install the spout water supply line, which has a compression fitting, onto the faucet body and tighten properly. Do not overtighten. Do not use thread sealant.
- On wall mount models you must install brass elbow on spout inlet before installing spout water supply line. Do not overtighten. Do not use thread sealant.
- Feed the sensor cable and supply inlet through the hole & mount faucet body onto surface. Do not overtighten. Do not use thread sealant.

1 Install the spout supply line from supply inlet. This is a compression fitting. Tighten by hand and use a wrench for an additional 1/4 to 1/2 turn. Do not overtighten. Do not use thread sealant.

2 Install the sensor cable onto the control unit. It is very important to match up the white arrows when connecting the sensor cable to the fitting on the control unit. Gently push it into place as forcing it can damage the pins. Slide chrome cap over black connector and gently tighten. Do not overtighten.

3 Remove the 2 small stainless steel screens inside small plastic bag and place one inside each of the 2 water lines. Connect the compression fitting with the screen (tighten by hand and use a wrench for an additional 1/4 to 1/2 turn) onto the wall supply stops (not included) and do the same for the other water line. This screen will prevent debris from going inside the control valve. Connect the other side of the hot water supply line to the hot side of the mixing valve and tighten properly and do the same for the cold supply line. Do not overtighten. Do not use thread sealant.



STEP 4 • Power Connection

- If you are using batteries as your source of power, remove the 6 phillips screws on the battery cover located on the front of the control unit. Install the (4) AA Alkaline batteries that are included. It is very important to make sure each battery is placed in the proper direction. Press Sensor Setup Button 8 times to energize the system. Replace battery cover and screws.
- If you are using the optional AC adapter as your source of power, you will need to remove the rubber plug on the control unit. Insert the small plug from the transformer into the control unit. Plug transformer into wall outlet using appropriate caution. Remove battery cover and press Sensor Setup Button 8 times to energize the system.
- If using optional Hydro Generator please follow directions included with the device. Remove battery cover and press Sensor Setup Button 8 times to energize the system.

Control Module Settings

Flow controls can be found inside control module after removing the battery cover.

Factory Default Settings:

- Shut Off Delay: 1 sec
- Auto Flush: OFF
- Auto Time Out: 30 sec

Optional Settings:

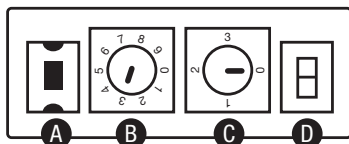
- Shut Off Delay: 1s, 10s, 15s
- Auto Flush: (15s flush after every 12 inactive hours) ON or OFF
- Auto Time Out: 15s, 20s, 25s, 30s, 45s, 1m, 2m, 10m

A Sensor Setup Button / Reset Button Procedure

- Hold for 10s
- LED on sensor will turn on & stay lit
- Let go of button
- LED light will turn off
- Place hand/object at desired distance
- Make sure the LED is flashing
- If the LED is not flashing, you have a faulty control box or you are out of range
- Hold hand/object at desired distance for 5s
- LED will have one last long flash, settings are saved

C Delayed Shut-Off (Time before water shuts off after hands leave the faucet)

- 0: Delayed shut-off is 1s
- 1: Delayed shut-off is 10s
- 2: Delayed shut-off is 15s



B Auto-Cutoff (Maximum time water can flow for one cycle)

- 0: 15s max
- 1: 20s max
- 2: 25s max
- 3: 30s max
- 4: 45s max
- 5: 1m max
- 6: 2m max
- 7: 10m max

D Auto Flush Switch (Default setting: OFF)

- ON will flush a full cycle if not in use for 12 hours
- ONE CYCLE is based on Auto-Cutoff time setting



STEP 5 • Water Connection

- Turn on the hot and cold wall water stops to supply the faucet with water. Check all connections for leaks.

STEP 6 • Operating the Faucet

Place your hands under the faucet. The water will flow for 15 seconds if user's hands are within the sensor's range. When hands are removed the water flow should stop.

- After activation with water flowing adjust the mixing valve to desired temperature.
- If water does not flow when placing hands in front of the sensor, open the battery cover on the control unit and push the button on the left side 6 times slowly.
- Keep electronic eye cover clean for optimal performance.
- A red flashing LED light indicates the faucet has low battery power.
- A solid LED with no water flow indicates the batteries are dead and need replacing.
- New AA alkaline batteries should provide upwards of 500,000 on/off cycles.

THINGS TO KNOW

MANUALLY OPERATING THE FAUCET. The faucet can be manually operated without placing hands in front of the sensor. To do this, remove the front battery cover. Press on the small button for 10 seconds in order to begin the water flow. Press again to cease the water flow. If the faucet is left on, it will automatically turn off in a minute.

ELECTRONIC EYE CLEANING. Clean the electronic eye with a cloth and warm water.

FILTER MAINTENANCE. We recommend cleaning the filter every 6 months or sooner depending on water conditions.

MAINTENANCE

Use soap and warm water to keep faucet clean. After washing, rinse and wipe down with a soft towel. Do not use any abrasive cleaners as they will corrode the chrome finish. Be sure to keep the eye sensor clear of chemical cleaners to ensure functionality.

- Clean aerator/outlet and in-line water filter (located inside black cap) yearly
- Based on usage, replace w/ AA alkaline batteries (provide upwards of 500,000 on/off cycles)

TROUBLESHOOTING

Note: After identifying the issue, turn-off water supply before proceeding with repair

No water flow when activated

POSSIBLE CAUSES

- Power supply failure (batteries)
- Power supply failure (AC Adapter or tripped circuit breaker)
- Water supply is turned off
- Clogged inline water filter or aerator/outlet
- Sensor not working
- Control Module not working

Continued on next page...



No water flow remedy continued

REMEDY

1. Verify there is not a power supply failure. If using batteries remove the front battery cover and replace with new batteries. If using optional AC adapter, ensure that adapter is plugged in and the AC outlet has power. Then with the battery cover removed, press the Sensor Setup Button 8 times to energize the system. You should hear the solenoid click.
2. The water supply stops may be closed. Open the supply stops for water flow.
3. The stainless steel supply lines may be twisted which can twist the inside material and restrict or cut off the water flow to the spout. Turn off water supply and loosen each hose and tighten properly making sure the hose does not rotate or get kinked. Turn on water supply and test.
4. Remove the black wire connected to faucet body and confirm the small pins are not bent. If bent, straighten the pins with a small tool such as a screw driver. When inserting the plug back into control module, make sure the white arrows line up.
5. The inline filter located below the black plastic cap may be clogged. Turn off water supply and remove the black plastic cap and clean the stainless filter and replace. Turn on water supply and test.
6. The aerator may be clogged. Remove and clean properly.
7. Place a hand in front of the sensor. If red LED light does not blink, replace the sensor.

Very Low Water Flow

POSSIBLE CAUSES

- Clogged inline filter
- Clogged inline water filter or aerator/outlet
- Kinked or twisted supply line
- Supply stops may not be fully open
- Clogged mixing/thermostatic valve
- Debris in hot/cold water supply line stainless steel filter

REMEDY

1. The inline filter located below the black plastic cap may be clogged. Turn off water supply and remove the black plastic cap and clean the stainless filter and replace. Turn on water supply and test.
2. Carefully remove the aerator/outlet from the spout and clean properly. **Please note the GPM flow marked on the aerator. If a higher water flow is required, replace aerator with the desired water flow rate.
3. The stainless steel supply lines and inner tubes may be twisted which can restrict or cut off water flow to the spout. Turn off water supply and loosen each hose and tighten properly making sure the hose does not rotate or get kinked. Turn on water supply & test.
4. Verify hot and cold water stops are both fully open.
5. Verify Mixing/Thermostatic Mixing Valve is not clogged. Turn off water and remove supply line going to the spout. Place mixing valve over a bucket and turn water on to verify water flow on hot and cold side. Replace if needed.
6. Turn off water supply and remove the connection that was attached to the supply stop. Clean the small stainless steel screen and replace. It is possible the last installer placed the screen on the other side of the hose.



Faucet continues to run

POSSIBLE CAUSES

- Power supply problem
- Debris in solenoid valve and/or faulty control module

REMEDY

1. Remove the 6 screws on the battery cover located on the front of the control module and replace the batteries. If AC adapter is being used, verify outlet has power. You can also install batteries to verify it is not a transformer or A/C power issue. If these steps did not correct the problem, proceed to step 2 keeping the cover removed.
2. Inside the battery compartment press the small rectangular button on the left side 8 times to energize the control module. This is also recommended when replacing the batteries.
3. If above 2 steps did not correct the problem, replace the control module (model 16-198).

False Triggering

POSSIBLE CAUSES

- Sensor range too long
- Room conditions impacting sensor performance

REMEDY

1. The sensor range is too long and is picking up movement in the room. Refer to sensor range setup to set to the correct distance
2. Check surroundings for factors like bright lights, sunlight, highly reflective surfaces etc. which can all contribute to false triggering. If lighting is too bright you will need to lower the wattage or move the fixture

TERMS AND CONDITIONS

1. **PRICES** All previous prices are currently withdrawn.

2. **ACCEPTANCE**

If the terms and conditions herein (the "Terms and Conditions") differ in any way from the terms and conditions of Buyer's order, or if these Terms and Conditions are construed as an acceptance or confirmation acting as an acceptance, then the Seller's acceptance is EXPRESSLY CONDITIONED ON BUYER'S ACCEPTANCE OF AND AGREEMENT TO ANY TERMS AND CONDITIONS SET FORTH HEREIN, THAT ARE DIFFERENT FROM OR ADDITIONAL TO THOSE IN BUYER'S ORDER. In addition, this writing shall constitute notice of objection to any terms and conditions in Buyer's order that differ from, or are in addition to, the Terms and Conditions herein. If the Terms and Conditions herein are construed as an offer, acceptance of such offer is EXPRESSLY LIMITED TO THE TERMS AND CONDITIONS SET FORTH HEREIN. In any event, Buyer's acceptance of goods from Seller shall constitute Buyer's acceptance of and agreement to the Terms and Conditions. These Terms and Conditions shall not be supplemented or modified except as agreed to in writing and signed by Seller.

3. **EXPRESS WARRANTIES, CONDITIONS, AND EXCLUSIONS**

- A. **Warranty**

Subject to the conditions and exclusions set forth below, Seller warrants to Buyer (i) that Seller holds and will pass marketable title to the goods sold hereunder; (ii) that the goods sold hereunder will be free from defects in materials and workmanship (subject to tolerances and variances permitted by the trade hereunder) for the applicable warranty period set forth in Seller's standard warranty and limitation of liability (the "Standard Warranty"), provided, however, that the glasswasher shall have a one (1) year labor warranty and refrigeration parts shall have a one (1) year labor and parts warranty.

- B. **Conditions and Exclusions**

The express warranty set forth above (the "Warranty") is subject to the following conditions and exclusions: (i) Buyer shall not assign its rights under the Warranty and any attempt by Buyer to assign such rights shall render the Warranty, but not any disclaimers or limitations, void, and the goods shall be sold AS IS; (ii) all goods shall be carefully installed by persons who are trained and certified professionals with respect to such installations, and be installed, used, repaired and maintained by Buyer in accordance with all applicable local laws, codes and regulations; (iii) goods covered by the Warranty shall be warranted in connection with original installation only; (iv) Seller shall not be liable by Buyer's failure to provide a continuously suitable environment, including, without limitation, neglect or misuse, failure or sudden surge of electrical power, improper air conditioning or humidity control or any other cause other than ordinary use; (v) Seller shall not be liable for any damage arising from the use of any goods in any application other than the commercial and industrial applications for which they are intended; (vi) Seller shall not be liable for damage caused by fire, flood, earthquake, water, severe wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance or any other cause beyond Seller's reasonable control; and (vi) Seller shall not be liable for any statements made about the goods by salesmen, dealers, distributors or agents, unless such statements are in a written document signed by an officer of Seller.



TERMS AND CONDITIONS (continued)

4. DISCLAIMER OF IMPLIED WARRANTIES

Seller makes no other warranties or conditions, express or implied, included, without limitation, the implied warranties or conditions of merchantability and fitness for a particular purpose. Specifically, except as provided herein and in the standard, seller undertakes no responsibility for the quality or the goods or that the goods will be fit for any particular purpose for which purchaser may be buying the goods. Any implied warranty is limited in duration to the warranty period. No oral or written information, or advice given by the company, its agents or employees, shall create a warranty or in any way increase the scope of this limited warranty.

5. LIMITATIONS OF LIABILITY

Buyer acknowledges that the following limitations of Seller's liability are fair and reasonable and shall apply to any act or omission hereunder, as well as to any breach of contract to which these Terms and conditions form a part.

A. Disclaimer of Damages

In no event shall seller (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any special, consequential, incidental or exemplary damages arising out of or in any way connected with the goods or otherwise, including, without limitation, to damages for lost profits, cost of substitute or replacement goods, down time, lost data, injury to property or any damages or sums paid by buyer to third parties, even if seller has been advised of the possibility of such damages. The foregoing limitation or liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise.

In no event shall seller be liable to buyer or any other party for loss, damage, or injury of any kind of nature arising out of or in connection with this warranty in excess of the purchase price of the goods actually delivered to and paid for by the buyer. The buyer's remedy in any dispute under this warranty shall be ultimately limited to the purchase price of the goods to the extent the purchase price has been paid.

B. Notice and Time of Claims

Buyer agrees (i) to check and inspect all products against shipping papers and for damage or shortage upon receipt of goods at destination; (ii) that any claim for loss, damage in transit, or other cause visible upon inspection shall be made within five (5) days of receipt; (iii) that the parties expressly waive the statute of limitations and that any legal proceeding for any cause of action arising from or relating to this contract shall be waived unless commenced within two (2) years after the accrual of such cause of action.

6. ATTORNEY'S FEES

Buyer agrees to reimburse Seller for any costs and expenses, including reasonable attorney's fees, incurred by Seller as a result of any breach or default by Buyer of its obligations hereunder.

7. TERMS

Net 30 Days for those firms furnishing satisfactory credit reference. Interest on accounts overdue more than thirty (30) days will be charged at a rate of 2% per month or the highest rate permitted by law, whichever is lower (the "Overdue Rate").

8. QUOTATIONS

Unless otherwise stated, quotations are for 90 day acceptance.

9. MINIMUM ORDER \$25.00 Net.

10. SHIPPING TERMS

The method of shipment and carrier shall be determined by Seller unless Buyer shall have specified a method of shipment and carrier (more) than ten (10) days prior to scheduled shipment. Title and all risks of loss or damage shall pass to Buyer upon delivery to carrier. We are not responsible for any delays in delivery which are beyond our control such as fires, strikes, delays in transportation or any similar contingencies. We reserve the right to ship via carriers that in our opinion are the most efficient. Where possible, customer's routing will be followed. All orders shipped prepaid will have a nominal administration charge per freight bill.

11. RETURNS

Custom and modified equipment, Rotary and Front Door Style Glass Washers, and Underbar Workstations without cold plates are not returnable. Return authorization for all other items must be requested within 90 days. All underbar and refrigeration equipment may only be returned with original white protective film in place. No returns are to be made to Seller without first obtaining a return authorization. No returns will be accepted or credited without such prior authorization and returns may be subject to a restocking charge of 25% of the purchase price plus transportation charges.

12. SHORTAGE

Krowne must be notified in writing within 5 days of receipt of shipment.

13. TAXES

Buyer will pay when due any and all taxes, tariffs, fees and assessments or any other similar charges imposed upon this contract, the goods covered hereby or the delivery, installation, use or resale thereof. If Buyer fails to pay any such amount when due, Seller may elect to pay it and Buyer shall promptly reimburse Seller for such payment, together with interest at the Overdue Rate.

14. GOVERNING LAW

This agreement, and all matters arising hereunder, shall be interpreted and resolved in accordance with the laws of the State of New Jersey, without giving effect to conflict of law of principles and excluding the United Nations Convention on the International Sale of Goods. Buyer and Seller submit to the personal jurisdiction of the state and federal courts of the State of New Jersey and agree that such courts will have jurisdiction over them in connection with any matter relating to or arising under this agreement. Service of process may be made by registered or certified mail, return receipt requested, to the last known address of the party being served. Process may also be served by other legal means and Seller may bring an action with respect to any such matter in another jurisdiction.

15. PRINTS AND DRAWINGS

All prints and drawings submitted with orders will be accepted as correct sizes and any errors arising from the same will be the responsibility of the Buyer. There are no returns or cancellations for equipment built to your specifications.

16. PRODUCT IMPROVEMENT

Due to commitment to continued product improvement, specifications are subject to change without notice.

17. MISCELLANEOUS

If any of the foregoing Terms and Conditions is declared illegal or unenforceable by a court of competent jurisdiction, it will be ineffective only to the extent of such illegality or unenforceability, without affecting the validity and enforceability, without affecting the validity and enforceability of the other Terms and Conditions. The headings used herein are inserted for convenience of reference of these Terms and Conditions. All prices are in U.S. Dollars.



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