



Sensor Faucets and Flush Valves



OPERATION & MAINTENANCE MANUAL

5000EM Series Faucet

www.hydrotekintl.com

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Sensor Faucets and Flush Valves

5000EM Series

U.S. Patent 6192530B1

AC or Battery Powered Sensor Operated Faucet

The 5000EM Series faucet is an elegant piston operated sensory faucet that provides a vandal resistant, no touch lavatory solution with hot/cold mixing and manual on/off adjustments that promotes better hygiene and energy savings.

Designed to be easy to install and maintain, all major faucet components are encased above deck, making for easier access. The sensor included in this faucet is self adapting, meaning manual adjustments are not necessary and the innovative sensor placement eliminates ambient reflectivity issues.

- ADA Compliant. Meets all barrier free codes
- Conserves water and energy
- Easily installed in new or retrofit applications
- Competitively priced for today's commercial market
- Promotes cleanliness & hygiene
- Proven Hydrotek craftsmanship and reliability

Available in:

- ✓ H-5000EM-LR: Low Lead, AC Powered
- ✓ HE-5000EM-LR: Low Lead, Battery Powered with Enduratek **NEW!**



Features:

- Proprietary **Enduratek** energy saving design allows up to 1.5 million on/off cycles
- Vandal resistant faucet body with chrome plated, solid metal construction
- Faucet design allows for quick and simple installation.
- Clam shell design allows for easy "above the deck" access to all major faucet component parts.
- Integral faucet mixing valve (with built-in checks) & manual on/off.
- "Above the deck" external or internal temperature adjustment variation.
- "Above the deck" manual on/off with external temperature adjustment variation.
- Slow closing solenoid valve provides reliable and smooth operation without water hammer.
- Available in AC powered and battery powered versions.
- Unique, energy-saving design of electronics and solenoid valve contributes to longer battery life.
- AC power input cable is armored and vandal resistant (AC powered version).
- Sensor eye positioning eliminates ambient reflectivity issues.
- "Self-adapting" sensor distance adjustment eliminates the need for manual sensor adjustments.
- 30 second time-out feature prevents accidental sink overflow.
- Built-in, replaceable filter screen reduces maintenance costs.
- Low battery indicator light.
- Unique electronic control module allows for faucet electronic component diagnostics.
- Standard 0.5 GPM vandal resistant aerator.
- Single-hole deck mount with optional 4" and 8" cover plate for vandal resistant three point anchoring.

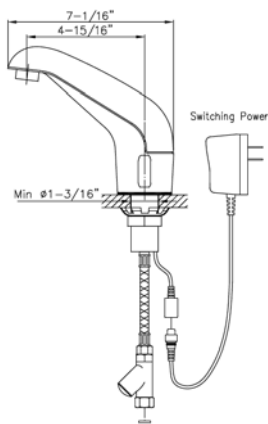
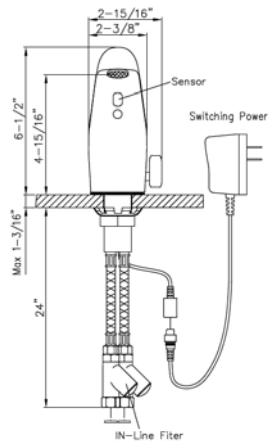
Hydrotek Automatic Faucets

5000EM Series

Deck Mounted / Non-mixing

Meets ANSI/ASME A112.18.1 M-1989

H-5000EM (AC Powered)



Operation:

1. A continuous, invisible beam is emitted from the sensor.
2. The faucet is activated by placing hands under the spout within the effective range of the beam. Water starts to flow immediately for as long as the user's hands remain in the sensor range.
3. When hands are removed, the water flow stops. The sensor will automatically reset and be ready for the next user.
4. In the battery powered version, a flashing red light will indicate a low battery condition.

Specifications:

Faucet Construction: Metal & chrome plated
Mixing Valve (Built-in): Adapts to internal or external adjustments.
Manual on/off in external adjustment mode.
Control Circuit:
Auto. Time-out: 30 seconds
Sensor Range: Self adapting
Shut-off Delay: 1 second
Solenoid Valve: 6V DC, normally closed
Wattage: 0.2W (idle), 3W (in use)
Operating Pressure: 5 psi to 125 psi
Flow Control: 0.5 GPM Laminar, vandal resistant

AC Mode

Power Adapter

Standard Plug-in: Input AC 120V 60 Hz
(UL/CSA) Output DC 7.5V, 0.8A/Class 2
Power Cable: Armored, vandal resistant
Optional Multi-Unit Adapter: Serves up to 8 faucets
(UL/CSA) Input AC 120V, Output DC 7.5V, 3A

Battery Mode

Battery Powered Models: (4) AA Alkaline Batteries
Enduratek Service Life: **1.5 million on/off cycles, up to 10 years**

Package Includes:

- (1) Faucet with sensor/solenoid
- (1) 7.5V DC plug-in power adaptor (H-5000EM & H-5000EM-LR Only)
- (2) Armored steel supply tube with filter
- (1) Mounting lock nut and washer
- (1) 0.5 GPM vandal resistant Rosette flow control
- (4) AA Alkaline batteries (HE-5000EM & HE-5000EM-LR Only)

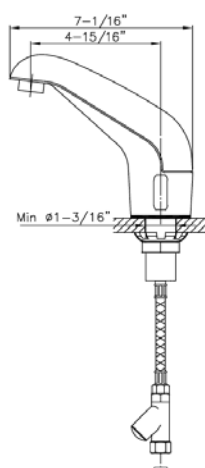
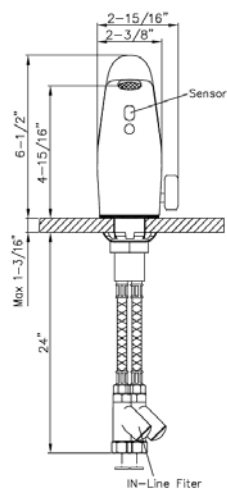
Dimensions:

Base Width (Outside Measurement) 2-3/8"
Base Depth 2-3/8"
Faucet Height (Aerator to Base) 4-7/8"
Faucet Height Overall 6-1/2"
Depth (Center of Aerator to Center of Faucet Base) 4-7/8"
Mounting Bolt Length 2-1/4"
Mounting Bolt Size 1-1/8"

Optional Variations and Accessories

- 1.5 GPM VR Soft Flow or 0.35, 2.2 GPM Laminar Flow Control
- 4" or 8" Centerset Cover Plate
- HC-010E Multi-Unit Voltage Adapter (AC Powered Only)
- HBL-04 Thermostatic Mixing Valve with Checks

HB-5000EM (Battery Powered)



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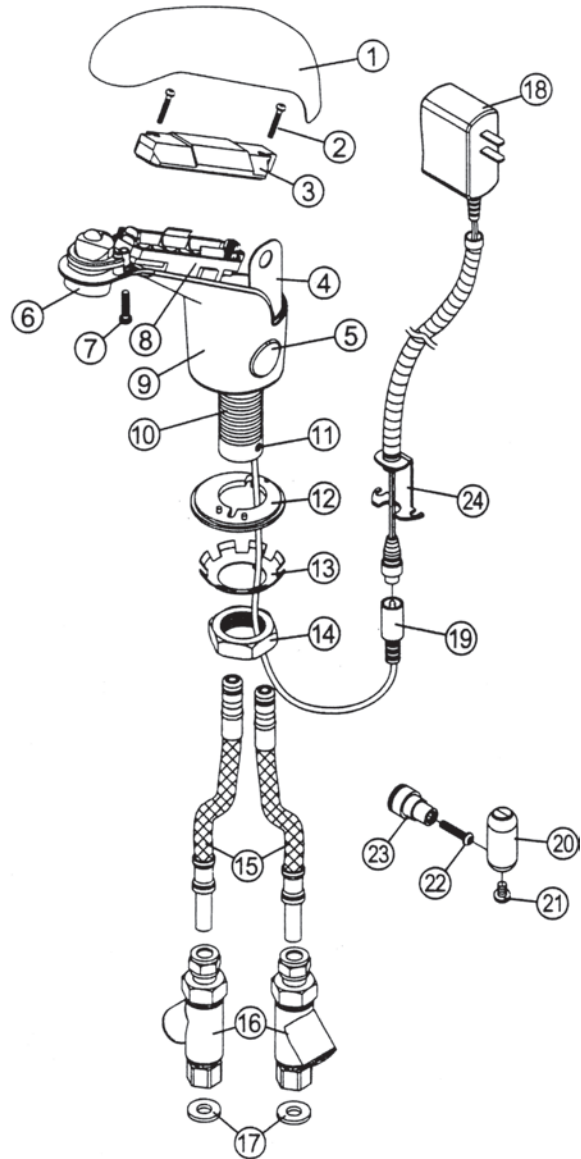
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H-5000EM

AC Powered Sensor Operated Mixing Faucet Installation Instructions

1. Prior to installing this faucet, thoroughly flush all water lines and replace stop washers as may be required.
2. Dry Test the faucet by plugging the Power Adapter (18) into an Electrical Wall Outlet and connecting the Power Adapter output lead to the faucet AC Input Lead (19). The faucet should immediately perform a self adjusting and diagnostic function. If you see the indicator light flash and hear a clicking sound, proceed to the next step. If no light flash or clicking sound, recheck power source and connections.
3. Unplug Power Adapter (18) from Wall Outlet. Disconnect Power Adapter output lead from faucet AC Input Lead (19).
4. Rotate the Supply Tube Locking Screw (11) fully clockwise. Insert both Supply Tube (15) ends (with o-rings) fully into the bottom of the Mounting Rod (10) by twisting / pushing until properly seated. Rotate Supply Tube Locking Screw (11) counter-clockwise until Red indicator marking on Locking Screw is at its closest position to Red indicator marking on Mounting Rod. This is necessary to insure that Supply Tubes have been properly locked into the Mounting Rod.
5. Install In-Line Filters (16) onto stop valves using Nylon Washer (17).
6. Unscrew Mounting Nut (14) from Mounting Rod (10) and completely remove both Mounting Nut (14) and Star Locking Washer (13).
7. From above the deck, carefully feed the faucets AC Input Lead (19), Supply Tubes (15) and Mounting Rod (10) into deck mounting hole and seat faucet in correct mounting location.
8. From below the deck, insert the AC Input Lead (19) and Supply Tubes (15) into the keyed Star Locking Washer (13) then Mounting Nut (14). Slide Locking Washer and Mounting Nut up onto Mounting Rod (10) and tighten Mounting Nut on Mounting Rod to securely lock faucet to the deck.
9. Connect Supply Tubes (15) to the In-Line Filters compression fittings (16) and securely tighten.
10. Attach Armored Cable Bracket (24) to the bottom of Mounting Rod (10) using existing Mounting Rod screws.
11. Connect Power Adapter (18) output lead to faucet AC Input Lead (19). Plug Power Adapter into Electrical Wall Outlet.
12. Turn water on and check for leaks.
13. Place your hands under the faucet spout – water should start to flow. Remove your hands – water flow should stop.
14. To adjust temperature in internal adjustment mode - open faucet body top cover and remove Lock-V.R. Access Cover (4) and V.R. Access Cover (5) from faucet body. Temp. Adjust. slotted Shaft will now be exposed in body opening. With flat-bladed screwdriver rotate shaft clockwise for cooler or counter-clockwise for warmer water temperature. Replace Access Cover and Access Cover Lock.
15. To install faucet external adjustor handle – open faucet body top cover and remove Lock-V.R. Access Cover (4) and V.R. Access Cover (5) from faucet body. Temp. Adjust. Shaft will now be exposed in body opening.
16. Install Mix Shaft Extender (23) on Temp. Adjust Shaft and secure with Screw (22).
17. Attach Adjustor Handle (20) to Shaft Extender (23) with Screw (21).
18. To externally adjust temperature, rotate Adjustor Handle clockwise for cooler or counter-clockwise for warmer water temperature.
19. To turn faucet on manually – pull Adjustor Handle (20) out from faucet body. Push handle in toward faucet body to shut off water flow.
20. **IMPORTANT:** The stop valve should never be opened to the point where the water flow exceeds the flow capability of the fixture. The fixture must always be able to accommodate the continuous water flow from the valve in the event of a valve failure. Should the fixture overflow happen due to water exceeding the capability of the fixture & or the drain pipe, Hydrotek will not be responsible for any flood damages.



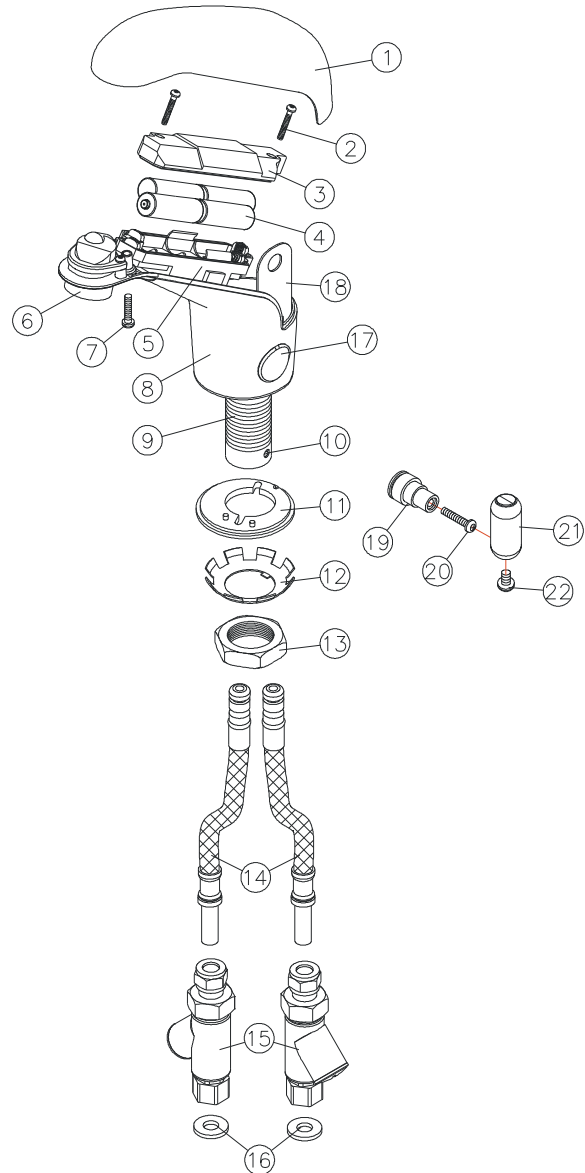
Part No. Description	Part No. Description
1. Top Cover	13. Star locking Washer
2. Screws (2)	14. Mounting Nut
3. Inside Cover	15. Supply Tube (2)
4. Lock - V.R. Access Cover	16. In-Line Filter (2)
5. V.R Access Cover	17. Nylon Washer (2)
6. Aerator	18. Plug-in Power Adapter
7. V.R. Screw, Top Cover	19. AC Input Lead
8. PCB	20. Adjustor Handle
9. Body	21. Screw, Adjustor Handle
10. Mounting Rod	22. Screw, Mix Shaft Extender
11. Locking Screw, Supply Tube	23. Mix Shaft Extender
12. Gasket, Rubber	24. Armored Cable Bracket

HE-5000EM

DC Powered Sensor Operated Mixing Faucet

Installation Instructions

1. Prior to installing this faucet, thoroughly flush all water lines and replace stop washers as may be required.
2. Rotate the Supply Tube Locking Screw (10) fully clockwise. Insert both Supply Tube (14) ends (with o-rings) fully into the bottom of the Mounting Rod (9) by twisting / pushing until properly seated. **DO NOT USE PIPE DOPE, USE TEFLON TAPE.** Turn the Locking Screw (10) counter-clockwise until the markings on the Mounting Rod and the Screw are properly lined up.
3. Install in-line Filters (15) onto stop valves using nylon washer (16).
4. Unscrew Mounting Nut (13) from Mounting Rod (9) and completely remove both Mounting Nut (13) and Star Locking Washer (12).
5. From above the deck, carefully feed the Supply Tubes (14) and Mounting Rod (9) into deck mounting hole and seat faucet in correct mounting location.
6. From below the deck, insert the Supply Tubes (14) into the keyed Star Locking Washer (12) then Mounting Nut (13). Slide Locking Washer and Mounting Nut up onto Mounting Rod (9) and tighten Mounting Nut on Mounting Rod to securely lock faucet to the deck.
7. Connect Supply Tube (14) to the in-Line Filters compression fittings (15) and securely tighten.
8. **INSTALL BATTERIES** and tighten the cover with Battery Holder Screws (2). You should hear a clicking sound. Dry Test the faucet by placing hands under the spout and you will hear another clicking sound. If not, double check the batteries connections and positioning.
9. Turn water on and check for leaks.
10. Place your hands under the faucet spout, water should start to flow. Remove your hands, water should stop. If the faucet is not functioning properly, **RE-INSERT BATTERIES** and let the faucet "RESET" itself.
11. To adjust temperature in internal adjustment mode – open faucet body top cover and remove Lock-V.R. Access Cover (18) and V.R. Access Cover (17) from faucet body. With flat-bladed screwdriver rotate shaft clockwise for colder and counter-clockwise for warmer water.
12. To install faucet external adjustor handle – open faucet body cover (1) and remove Lock-V.R. Access Cover (18) and V.R. Access Cover (17) from faucet body. Install Mix Shaft Extender (19) on Temp. Adjust Shaft and secure with screw (20).
13. Securely attach Adjustor Handle (21) to Shaft Extender (19) with screw (22).
14. To externally adjust temperature, rotate Adjustor Handle clockwise to increase, counter-clockwise to decrease water temperature.
15. To turn faucet on manually – pull Adjustor Handle out from faucet body. **PUSH HANDLE IN** toward faucet body to shut off water flow.
16. **IMPORTANT:** The stop valve should never be opened to the point where the water flow exceeds the flow capability of the fixture. The fixture must always be able to accommodate the continuous water flow from the valve in the event of a valve failure. Should the fixture overflow happen due to water exceeding the capability of the fixture & or the drain pipe, Hydrotek will not be responsible for any flood damages.
17. **IMPORTANT:** This product contains mechanical and/or electrical components that are subject to normal wear. These components should be checked regularly (1 year is recommended) and replaced as needed to maintain the Faucets performance. Call 1-800-922-9883 for further details.
18. **IMPORTANT:** DO NOT use abrasives, acids or cleaning fluids to clean the Hydrotek Faucet as they may dull the luster and attack the chrome or special finishes. Use only soap and water then wipe with a clean cloth or towel.



Part No. Description	Part No. Description
1. Top Cover	12. Star Locking Washer
2. Battery Holder Screws (2)	13. Mounting Nut
3. Battery Holder Cover	14. Supply Tube (2)
4. Batteries, AA Alkaline (4)	15. In-line Filter (2)
5. Battery Holder	16. Nylon Washer (2)
6. Aerator	17. V.R. Access Cover
7. V.R. Screw, Top Cover	18. Lock – V.R. Access Cover
8. Body	19. Mix Shaft Extender
9. Mounting Rod	20. Screw, Mix Shaft Extender
10. Locking Screw, Supply Tube	21. Adjustor Handle
11. Gasket, Rubber	22. Screw, Adjustor Handle

5000EM Series

Sensor Operated Mixing Faucet

Troubleshooting Guide

Normal Operation: When power is connected, the faucet will immediately perform diagnostic function. You will hear a clicking sound and see lights flash. When the user's hands are placed under the spout, the light will flash once and water will start to flow. Water flow will stop when hands are removed. The red indicator light will flash when the batteries are low.

Turn the manual handle clockwise to increase temperature and counter-clockwise to decrease.

Problem	Possible Cause	To Diagnose	Remedy
Faucet will not turn on:	Water not turned on	Check water supply	Turn water on
	Power supply failure	No light, no clicking: • Check batteries • Check power adapter	Reinstall or replace batteries/ Replace power adapter
	Low battery	Light continues to flash	Replace batteries
	Electronic PCB / Sensor is defective	No light, no clicking: • Reinsert batteries • Reattach power adapter	Replace electronic PCB
	Solenoid valve is clogged	Solenoid is clicking but no water is coming out	Clean solenoid
	In-line filter is clogged	Open clean-out trap and check filter screen	Clean or replace filter screen
	Solenoid coil is defective	Insert new batteries or reattach power adapter. Light blinks but no solenoid is clicking	Replace solenoid coil
	Flow control is clogged	Open flow control device and check	Celan the flow control device
Faucet will not shut off, has low glow, or drips:	The solenoid valve is normally closed. Turn off water and activate the faucet. If there is a clicking sound, the solenoid valve is dirty. If there is no clicking sound, then check the solenoid valve. If the faucet is dripping, clean the solenoid valve.		

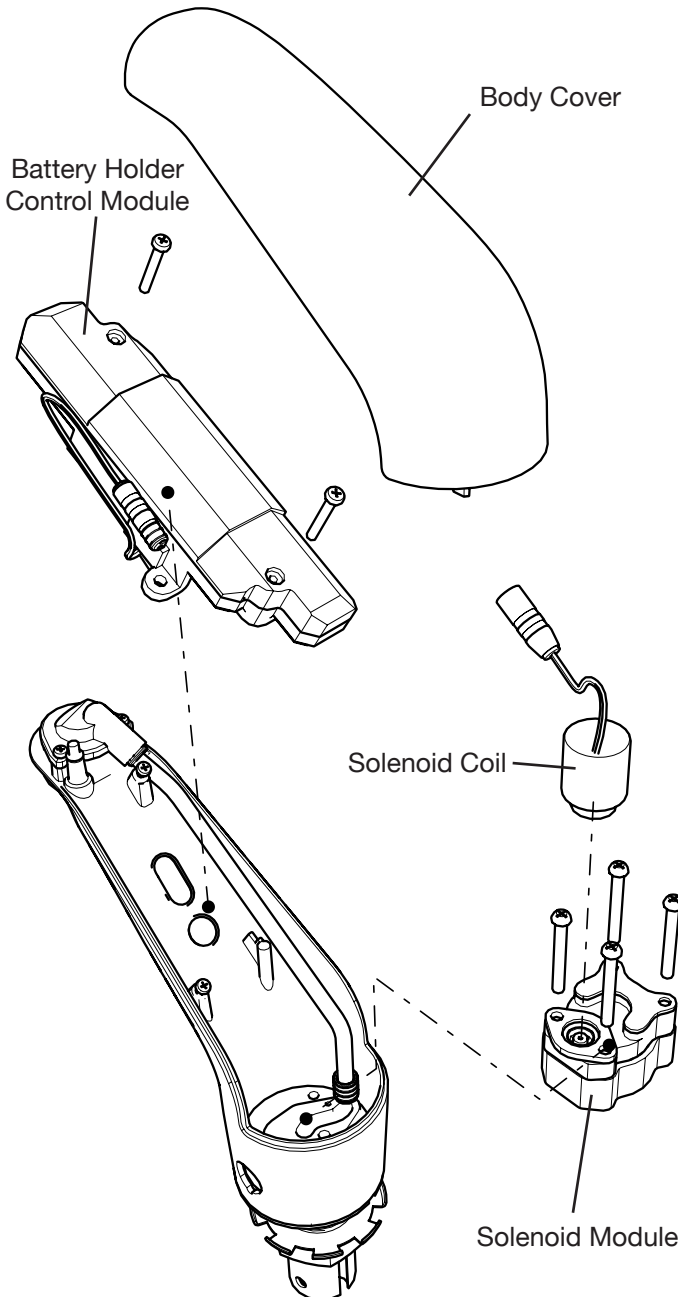
IMPORTANT: Periodic maintenance is required for smooth and trouble-free operation of this faucet.

For service and inquiry about available repair kits, please call Hydrotek Technical Support at (800) 922-9883.

5000EM Series

Sensor Operated Mixing Faucet Maintenance Tasks

HCE-194 Solenoid Valve Assembly Replacement



1. Remove faucet **Body Cover**.
2. Remove batteries (battery powered faucets) or unplug power adapter (AC powered faucets).
3. Loosen and remove the **Battery Holder/Control Module**, making sure to disconnect all connectors.
4. Unscrew and remove the **Solenoid Coil** from the **Solenoid Valve Module**.
5. Completely loosen the four screws securing the **Solenoid Valve Module**. List the **Solenoid Valve Module** from the faucet.
6. Install the new **Solenoid Valve Module** and reassemble the faucet in reverse order. **NOTE: When installing the Solenoid Coil to the Solenoid Valve Module, DO NOT over-tighten. Fit should be snug.**

CONTROL MODULE (P.C. BOARD) REPLACEMENT

1. Remove faucet **Body Cover**.
2. Remove batteries (battery powered faucets) or unplug power adapter (AC powered faucets).
3. Unplug the Battery Holder/Control Module connector.
4. Loosen the two screws holding the Battery Holder/Control Module and remove it.
5. Install the new Battery Holder/Control Module ensuring the sensor eye is fitted correctly to the faucet body.

For further questions, please call Hydrotek Technical Support at (800) 922-9883.

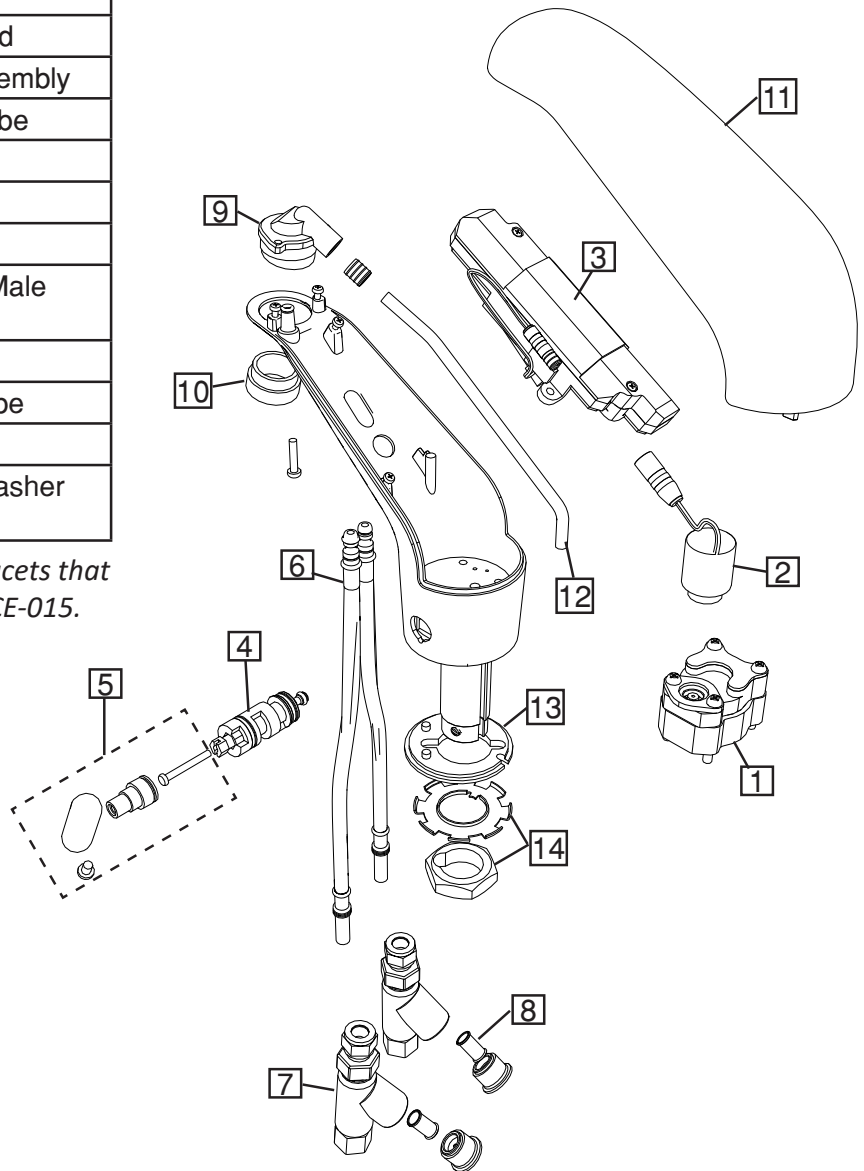
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Sensor Operated Mixing Faucet

Assembly Parts

No	Part Number	Description
1	HCE-004	Solenoid Module
2	HCE-019	Solenoid Coil
3	HCE-018A/B	Control Module A=AC, B=Battery
4	HCE-028	Temp. Adjuster Rod
5	HCE-029	Temp. Handle Assembly
6	HCE-026*	Flexible Supply Tube
7	HCE-009A	In-Line Filter
8	HCE-020	Filter Screen
9	HCE-006	Aerator Connector
10	HB-003AMVR	Aerator 0.5 GPM Male Vandal Resistant
11	HCE-014	Top Cover
12	HCE-016	Copper Supply Tube
13	HCE-022	Rubber Gasket
14	HCE-021	Mounting Nut & Washer Assembly

**For faucets purchased before 2008 or faucets that use two o-rings on the supply tube, use HCE-015.*



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