

# **HYDROTEK INTERNATIONAL, INC.**

5055 Forsyth Commerce Rd., Ste. 124, Orlando, FL 32807

Phone (800)922-9883 / Fax (866)670-5580

[www.hydrotekintl.com](http://www.hydrotekintl.com)

## **OPERATION & MAINTENANCE MANUAL**

**HYDROTEK MODEL #H-5000EM FAUCET**

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**AC or Battery Powered**

# Automatic Faucet

**5000EM Series**

**ISO 9002 Certified**

## High Technology For No Touch Operation

- 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



**5000EM Series**

## Features:

- 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 Off/On.
- "Above the Deck" external or internal temperature adjustment variations.
- "Above the Deck" Manual Off/On 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.
- Battery Powered version uses (4) AA batteries.
- 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 design allows for faucet electronic component diagnostics.
- Standard 0.5 GPM vandal resistant aerator.
- Single-hole deck mounting with optional 4" and 8" cover plate for vandal resistant three point anchoring.

# Hydrotek Mixing Automatic Faucet

## Manual Off/On & Deck Mounted

Model H-5000EM (AC) or HB-5000EM (Battery)

Meets ANSI/ASME A112.18.1 M-1989

### Operation:

1. A continuous, invisible beam is emitted from the sensor.
2. The faucet is activated by placing hands under the spout. 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. Water temperature adjustment and manual off/on can be easily accessed with external adjuster.
5. In the battery powered model, a flashing red light will indicate low battery condition.

### Specifications:

Faucet Construction:  
Mixing Valve (Built-in):

- Metal & Chrome Plated
- Adapts to internal or external adjustments
- Manual off/on in external adjustment mode.
- 30 seconds
- Self Adapting
- 1 second
- 6V DC, Normally closed
- Wattage: 0.2W (idle), 3W (in use)
- Operating Pressure: 0.3 Bar
- 0.5 GPM, Rosette, Vandal Resistant

Auto. Time-out:  
Sensor Range:  
Shut-Off Delay:  
Solenoid Valve:

Flow Control:

### AC Powered Mode

Standard plug-in:  
(UL/CSA)  
Power Cable:  
Optional Multi-Unit Adapter  
(UL/CSA)

- Input AC 120V 60 Hz or 220 V
- Output DC 7.5V, 0.8A/Class 2
- Armored, Vandal Resistant
- Serves up to 10 Faucets
- Input AC 120V, Output DC 7.5V, 3A

### Battery Mode

Battery Powered Models:  
Battery Service Life:

- (4) AA Alkaline Batteries
- 400,000 on/off cycles, up to 4yrs

### Standard Package Includes:

#### H-5000EM (AC)

- X (1) Faucet with Sensor/Solenoid/Handle
- X (1) 7.5V DC Plug-in Power Adapter
- X (2) Armored Steel Supply Tube with filter
- X (1) Mounting Lock Nut and Washer
- X (1) 0.5 GPM V.R. Rosette Flow Control
- (4) AA Alkaline Batteries

#### HB-5000EM (Bat)

- X
- X
- X
- X
- X
- X

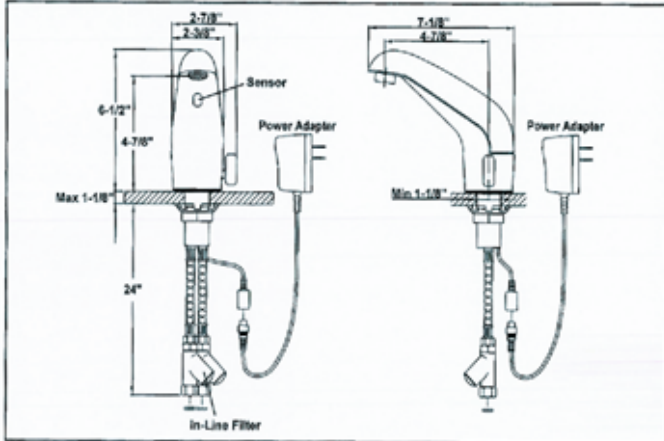
### Dimensions:

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 (Single-Hole Mount)	1-1/8"

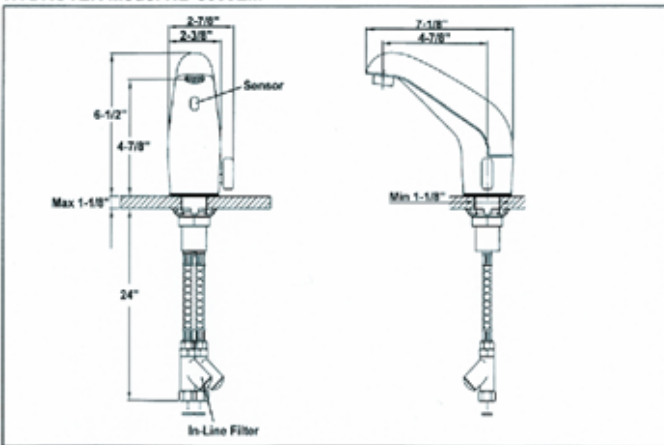
### Optional Variations and Accessories:

- 1.5 or 2.0 GPM Laminar Flow Control
- 4" or 8" Centerset Cover Plate
- HC-010 Multi-Unit Voltage Adapter (AC Model)
- HBL-04 Thermostatic Mixing Valve with Checks

HYDROTEK Model H-5000EM



HYDROTEK Model HB-5000EM



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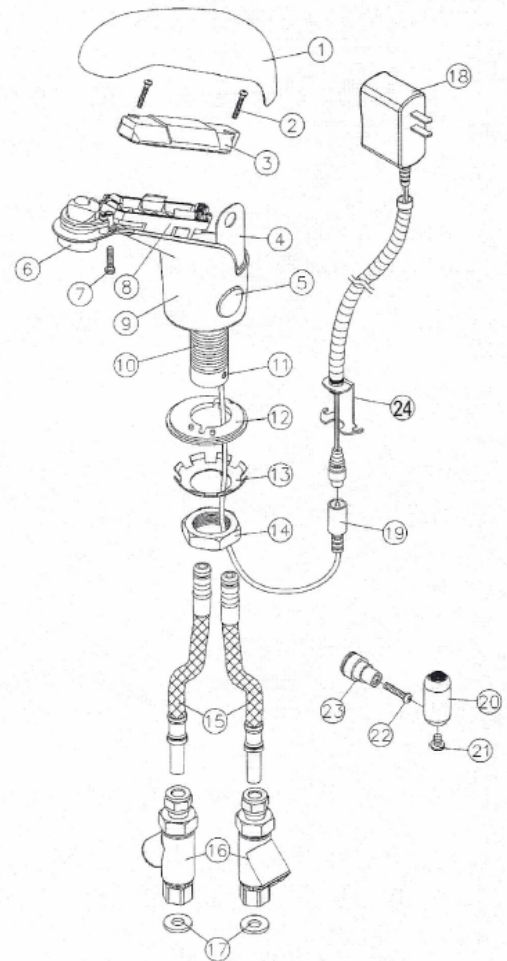


# INSTALLATION INSTRUCTIONS

## Hydrotek Mixing Automatic Faucet w/ Manual Control (AC Powered)

**Model H-5000EM**

1. Prior to installing this faucet, thoroughly flush all water lines and replace stop washers, if necessary.
2. To ensure proper operation, " DRY TEST " the faucet by plugging the Power Adapter (18) into a wall outlet and connecting the Power Adapter output lead to the faucet Input Wire Lead (19). The faucet should immediately perform a self-adjustment and diagnostic function. If you see the indicator light flash and hear a clicking sound, proceed to the next step. If there is no flash of light or clicking sound, recheck power source and connections.
3. Unplug Power Adapter (18) from the wall outlet. Disconnect the Power Adapter output lead from the faucet's AC Input Lead (19).
4. Rotate the Supply Tube Locking Screw (11) fully clockwise. Insert the ends of both Supply Tubes (15) (with O-rings) fully into the bottom of the Mounting Rod (10) by twisting and pushing until properly seated. Rotate Supply Tube Locking Screw (11) counter-clockwise until the red indicator marking on the Locking Screw is at its closest position to the red indicator marking on the Mounting Rod. This is necessary to ensure that the Supply Tubes have been properly locked into the Mounting Rod.
5. Install In-Line Filters (16) onto stop valves using Nylon Washers (17).
6. Unscrew the Mounting Nut (14) from the Mounting Rod (10) and completely remove both the Mounting Nut (14) and the Star Locking Washer (13).
7. From above the deck, carefully feed the faucet's AC Input Lead (19), Supply Tubes (15), and Mounting Rod (10) into the deck mounting hole and seat the faucet in the correct mounting location.
8. From below the deck, feed the AC Input Lead (19) and Supply Tubes (15) through the keyed Star Locking Washer (13) and Mounting Nut (14). Slide the Locking Washer and Mounting Nut up onto the Mounting Rod (10) and tighten Mounting Nut on the Mounting Rod to securely lock faucet to the deck.
9. Connect the Supply Tubes (15) to the In-Line Filter compression fittings (16) and securely tighten.
10. Attach Armored Cable Bracket (24) to the bottom of the Mounting Rod (10) using the existing Mounting Rod screws.
11. Connect the Power Adapter (18) output lead to the faucet's AC Input Connector (19). Plug the Power Adapter into the electrical wall outlet.
12. Turn water on and check for leaks. Place your hands under the faucet spout to activate water flow. Remove hands and water should stop.
13. To adjust the temperature in internal adjustment mode, open the faucet body's Top Cover (1) and remove the Lock for V.R. Access Cover (4) and the V.R. Access Cover (5) from the faucet body. Temperature Adjustment slotted shaft will now be exposed in the body opening. With a flat-bladed screwdriver, rotate the shaft clockwise for cooler temperature, or counter-clockwise for warmer water temperature. Replace the Access Cover and Access Cover Lock when done.
14. To install the faucet's external adjustor handle, open the faucet body Top Cover (1) and remove the Lock for V.R. Access Cover (4) and the V.R. Access Cover (5) from the faucet body. The Temperature Adjustment Shaft will now be exposed in the body opening.
15. Install the Mix Shaft Extender (23) on the Temperature Adjustment Shaft and secure with the Screw (22).
16. Attach Adjustor Handle (20) to the Shaft Extender (23) with the Screw (21).
17. To externally adjust the temperature, rotate the Adjustor Handle clockwise for cooler temperature, or counter-clockwise for warmer water temperature.
18. To turn faucet on manually, pull Adjustor Handle (20) out, from the faucet body. Push handle in, toward the faucet body to shut off water



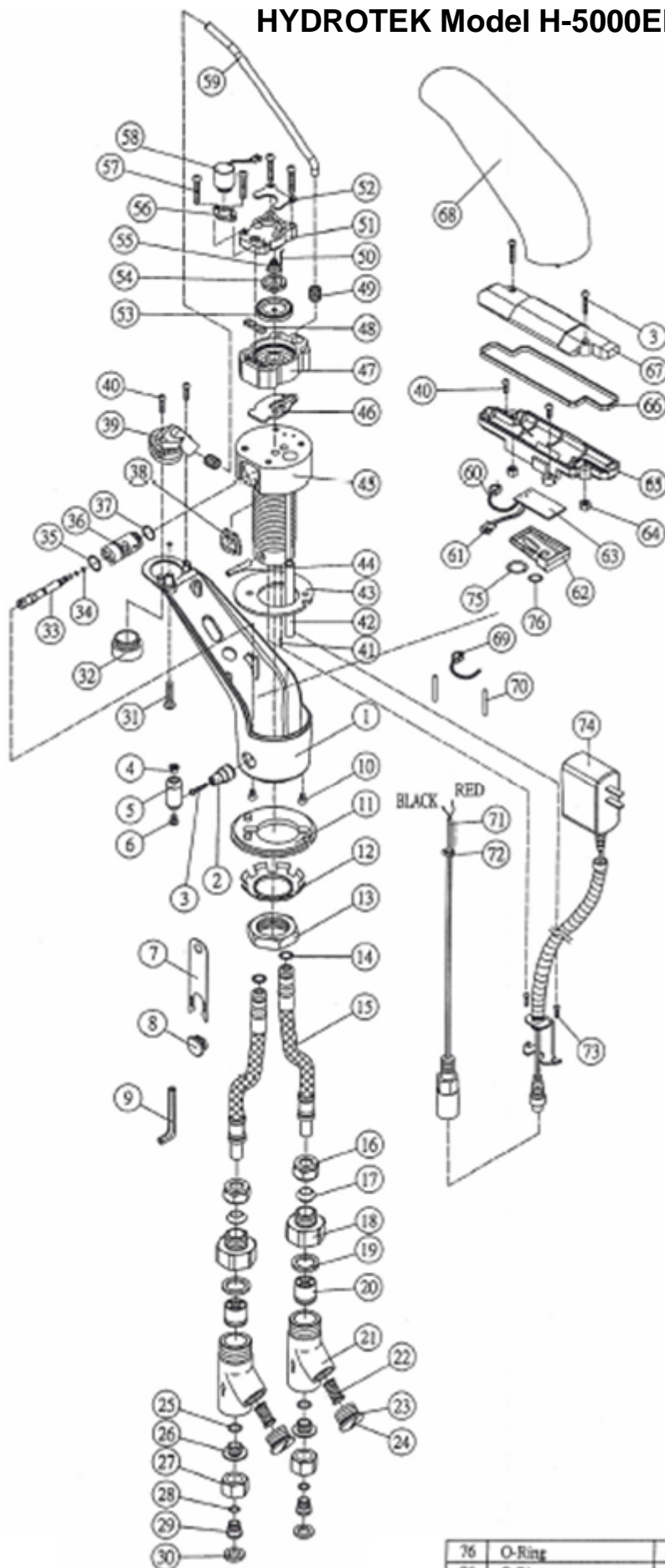
Part Number Descriptions		
1.	Top cover	13. Star locking washer
2.	Screws (2)	14. Mounting nut
3.	Inside cover	15. Supply tube (2)
4.	Lock for V.R. Access cover	16. In-line filter (2)
5.	V.R. Access cover	17. Nylon washer (2)
6.	Aerator	18. Plug-in power adapter
7.	V.R. Screw for top cover	19. AC input connector
8.	PCB	20. Adjustor handle
9.	Faucet body	21. Screw for adjustor handle
10.	Mounting rod	22. Screw for mix shaft extender
11.	Locking screw for supply tube	23. Mix shaft extender
12.	Rubber gasket	24. Armored cable bracket

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# HYDROTEK Model H-5000EM



NO	DESCRIPTION	PART NO.
1	Body	01537003
2	Shaft Extension	00217007
3	Screw-Mixer Shaft X1	00630034
4	Temp. Indicator	01239016
5	Temp. Adj. Knob	00217008
6	Screw	00630014
7	Cover Lock	00109002
8	Temp. Adj. Cover	01237015
9	Key-VR Screw	40760004
10	Screw X2	00670006
11	Bottom Plate Rubber	00549031
12	Star Lock Washer	00311010
13	Mounting Nut	00806015
14	O-Ring X2	00400067
15	Supply Tube X2	01628010
16	Compression Nut X2	00847001
17	Ferrule X2	00400061
18	Compression Adpts. X2	01647011
19	Washer X2	00400056
20	Check Valve X2	00420002
21	Filter Body X2	01127004
22	Filter Screen X2	01702001
23	O-Ring X2	00400032
24	Filter Cap X2	00737001
25	O-Ring X2	00400046
26	Swivel Nut Connector X2	01647005
27	Swivel Nut X2	00807001
28	O-Ring X2	00400045
29	Connector X2	01636010
30	Nylon Washer X2	00400054
31	VR Screw	00791002
32	Aerator	01720013
33	Mixing Shaft	01406001
34	O-Ring X4	00400038
35	O-Ring	00400065
36	Mixing Controller	01302001
37	O-Ring	00400073
38	Retainer-Mixing Shaft	00109001
39	Aerator Connector	01129001
40	Screw X4	00630010
41	Position Staff	00112002
42	Protector Tube	00544003
43	Rubber Gasket	00549022
44	Lock Rod	00212003
45	Mixing Chamber Seat	01146003
46	Gasket Rubber	00539001
47	Solenoid Seat	01119001
48	Spacer	00539002
49	Tube Connector X2	00419018P
50	Guide Pin	01401001
51	Solenoid Seat Cover	01132003
52	Seat Washer	00546003
53	Control Disc Rubber	01409001
54	Control Disc	01152003
55	Spring	00300015
56	Coil Fixing Shaft	01516002
57	Screw X4	00630011
58	Solenoid Coil	02042001
59	Copper Tube	01601038
60	Female Connector	01920018
61	Male Connector	01920020
62	Sensor Eye Casing	01209013
63	Electronic PCB	0211N009
64	Nut X2	00800002
65	Battery Holder	01909001
66	Seal Rubber	00439014
67	Battery Holder Cover	01249006
68	Faucet Body Cover	01247001
69	Female Connector	01920021
70	Shrink Wrap X2	00500003
71	DC Male Connector	01928005
72	Tie Wrap	01030001
73	Screw X2	00630007
74	Power Adapter	02208010

76	O-Ring	00400077
75	O-Ring	00400078

# HYDROTEK AUTOMATIC FAUCET TROUBLESHOOTING GUIDE

(H/HB-5000E and H/HB-5000EM)

Normal Operation: When power is connected or RESET button is pushed, the faucet will immediately perform a self-adjusting and 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. Red indicator light will flash when the batteries are low.

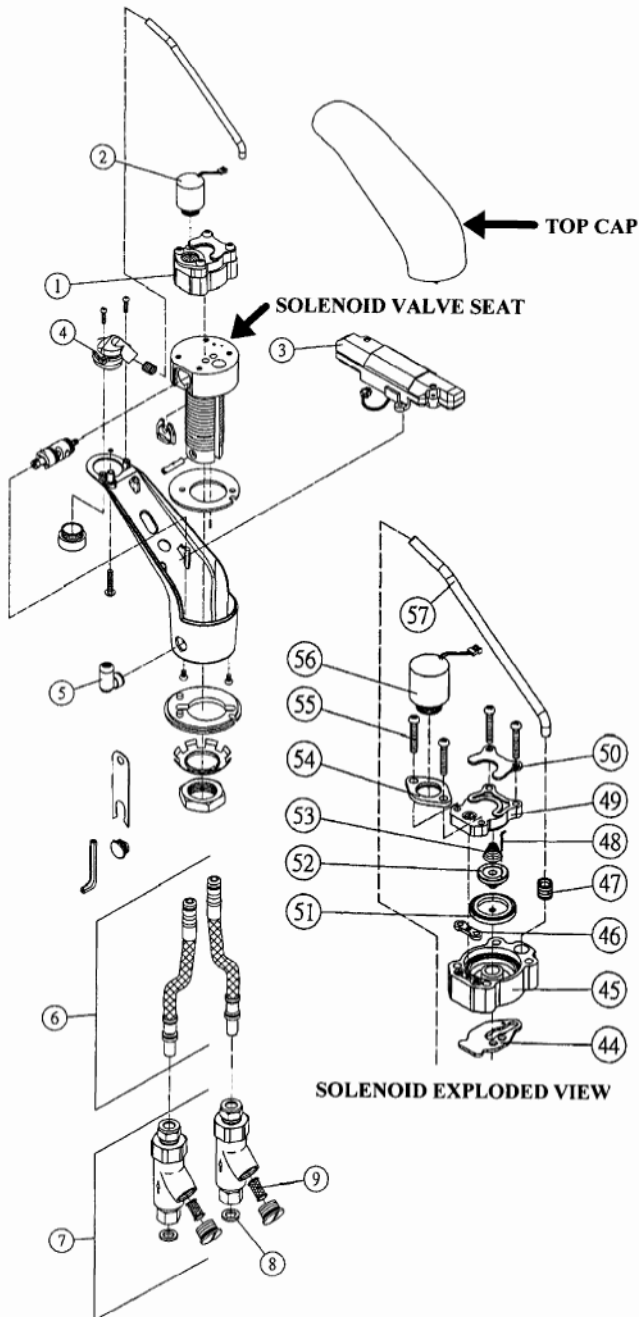
\*For the mixing model (5000EM-LR), turn manual handle clockwise to increase temperature and counter-clockwise to decrease. Pull handle to turn on faucet manually, and push in to turn off faucet manually.

<b><u>PROBLEM</u></b>	<b><u>POSSIBLE CAUSE</u></b>	<b><u>TO DIAGNOSE</u></b>	<b><u>REMEDY</u></b>
<b>Faucet will not turn on:</b>	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 click: 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 clicking.	Replace solenoid coil.
	Flow control is clogged.	Open flow control device and check.	Clean the flow control device.
<b>Faucet will not shut off, has low flow, or drips:</b>	Solenoid valve is normally closed. Turn off water and activate faucet. If there is a clicking sound, the solenoid valve is dirty. If there is no clicking sound, then check solenoid valve. If the faucet is dripping, clean the solenoid valve. *For mixing models (5000EM-LR): if the faucet continues to run, check the manual adjust handle to see if it is on the "ON" position.		

**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 Tech Support at (800)922-9883 ext. 105*

# SOLENOID VALVE MODULE TASKS FOR HYDROTEK 5000E, 5000EM FAUCETS (AC AND BATTERY POWERED)



(For further questions, please call Hydrotek Tech Support  
at 1-800-922-9883 ext. 105)

## HCE-004 (SOLENOID VALVE MODULE) REPLACEMENT

1. Remove faucet top cap.
2. Remove batteries (for battery powered faucets) or unplug power adapter (for AC powered faucets).
3. Loosen and remove the Battery Holder / Control Module (#3), making sure to disconnect all electrical connections.
4. Unscrew and remove the Solenoid Coil Module (#2) from the Solenoid Valve Module (#1).
5. Completely loosen the four screws securing the Solenoid Valve Module (#1) to the Solenoid Valve Seat. Lift the Solenoid Valve Module from the Faucet Body Housing.
6. Install new HC-004 and reassemble faucet in the reverse order. **NOTE: When reinstalling Coil Module to Solenoid Valve Module, DO NOT over-tighten. Fit should be snug.**

## HCE-004 (SOLENOID VALVE MODULE) CLEANING

1. Follow steps 1-5 above to remove Solenoid Valve Module (#3) from the faucet body.
2. Separate the Solenoid Valve Module Top Housing (#49) from the Lower Housing (#45).
3. Lift out Cone-shaped Spring (#53) and set aside.
4. Lift Rubber Diaphragm (#51) out of the Lower Housing (#45).
5. Clean and rinse all parts of the debris.
6. Reassemble all parts in reverse order. **NOTE: When reinstalling Coil Module to Solenoid Valve Module, DO NOT over-tighten. Fit should be snug.**

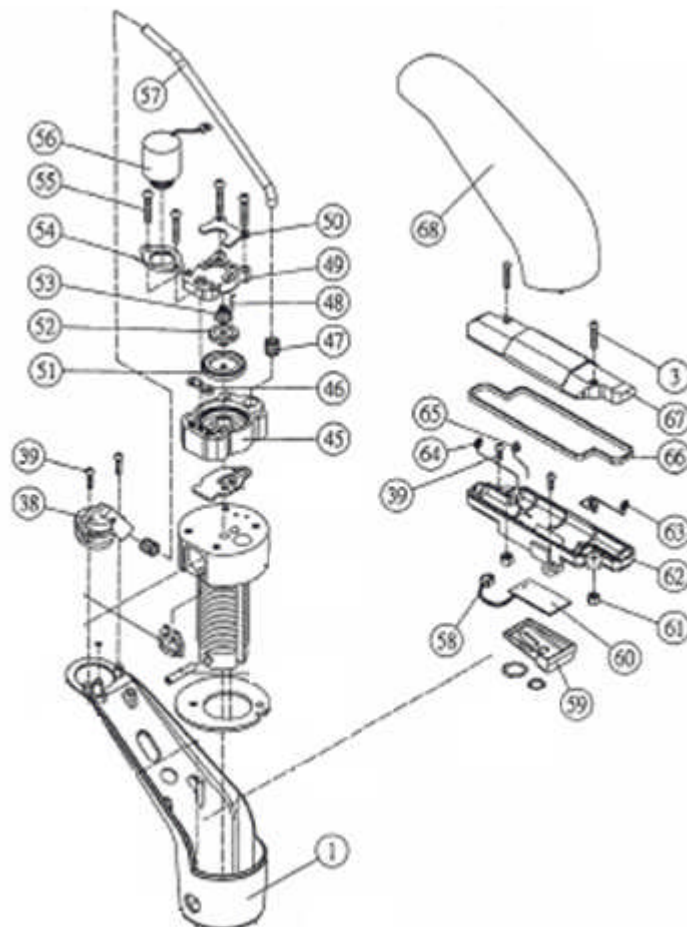
## **CONTROL MODULE (P.C. BOARD) REPLACEMENT FOR HYDROTEK 5000E and 5000EM FAUCETS**

(AC or BATTERY POWERED)

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1. Remove the faucet Body Cover (#68).
2. For AC Powered faucets, unplug the Power Adapter from the electrical wall outlet. For Battery Powered faucets, remove batteries from the Battery Holder (#62).
3. Unplug the black connector (#58) on the Control Module from the Solenoid Coil (#56).
4. Remove the two screws (#39) holding the Control Module to the Faucet Body (#1). Remove the Control Module (#60).
5. Reinstall the new control module onto the faucet body, making sure that the Sensor Eye Casing (#59) is in the right position.
6. Retighten the two screws (#39) that hold the control module on the body.
7. Connect the Control Module (#60) to the Solenoid Coil (#56).
8. Plug the Power Adapter in (for AC Powered faucets) or insert batteries (for Battery powered faucets) and listen for the click of the solenoid. Test for proper operation.

*(For further questions, please call Hydrotek Tech Support at 1-800-922-9553 ext. 105)*





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**Assembly Parts for 5000E & 5000EM Series Faucets**  
AC or Battery Powered Lavatory Faucets

<b>TEMPERATURE MIXER ASSEMBLY</b>		
H-5000EM	Part # 33-37	HCE-028
HB-5000EM	Part # 32-36	HCE-028
<b>CONTROL MODULE ASSEMBLY</b>		
H-5000E	Part # 48-56, 64, 65	HCE-018A
H-5000EM	Part # 60-67, 3, 75, 76	HCE-018A
HB-5000E	Part # 47-57, 59, 60	HCE-018B
HB-5000EM	Part # 58-67, 3, 70, 71	HCE-018B
<b>SOLENOID COIL</b>		
H-5000E	Part # 46	HCE-019
H-5000EM	Part # 58	HCE-019
HB-5000E	Part # 45	HCE-019
HB-5000EM	Part # 56	HCE-019
<b>SOLENOID VALVE KIT (WITHOUT COIL)</b>		
H-5000E	Part # 34-44	HCE-004
H-5000EM	Part # 46-56	HCE-004
HB-5000E	Part # 33-43	HCE-004
HB-5000EM	Part # 44-54	HCE-004
<b>Y-STRAINER WITH CHECK</b>		
H-5000E	Part # 8-22	HC-009A
H-5000EM	Part # 16-30	HC-009A
HB-5000E	Part # 8-22	HC-009A
HB-5000EM	Part # 15-29	HC-009A

*(Please visit [www.hydrotekintl.com](http://www.hydrotekintl.com) to view our most current Products Pricing Sheet)*