

HYDROTEK INTERNATIONAL, INC.

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

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

www.hydrotekintl.com

OPERATION & MAINTENANCE MANUAL

HYDROTEK MODEL #HB-5000EM FAUCET

TECHNICAL SUPPORT TEAM:

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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:	- Metal & Chrome Plated
Mixing Valve (Built-in):	- Adapts to internal or external adjustments
	- Manual off/on in external adjustment mode.
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: 0.3 Bar
Flow Control:	- 0.5 GPM, Rosette, Vandal Resistant

AC Powered Mode

Standard plug-in:	- Input AC 120V 60 Hz or 220 V
(UL/CSA)	- Output DC 7.5V, 0.8A/Class 2
Power Cable:	- Armored, Vandal Resistant
Optional Multi-Unit Adapter	- Serves up to 10 Faucets
(UL/CSA)	- Input AC 120V, Output DC 7.5V, 3A

Battery Mode

Battery Powered Models:	- (4) AA Alkaline Batteries
Battery Service Life:	- 400,000 on/off cycles, up to 4yrs

Standard Package Includes:

<i>H-5000EM (AC)</i>		<i>HB-5000EM (Bat)</i>
X	(1) Faucet with Sensor/Solenoid/Handle	X
X	(1) 7.5V DC Plug-in Power Adapter	X
X	(2) Armored Steel Supply Tube with filter	X
X	(1) Mounting Lock Nut and Washer	X
X	(1) 0.5 GPM V.R. Rosette Flow Control	X
	(4) AA Alkaline Batteries	X

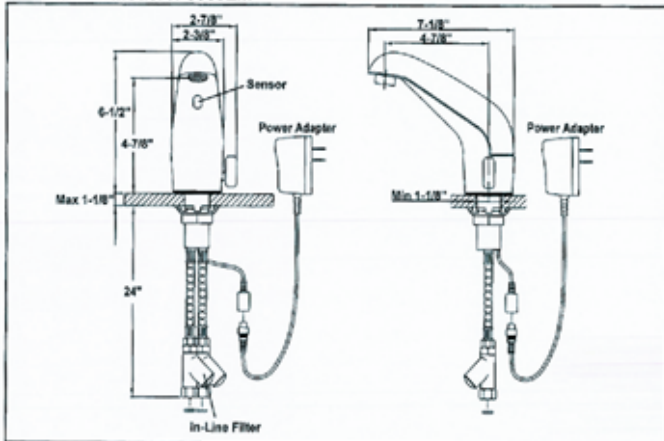
Dimensions:

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"

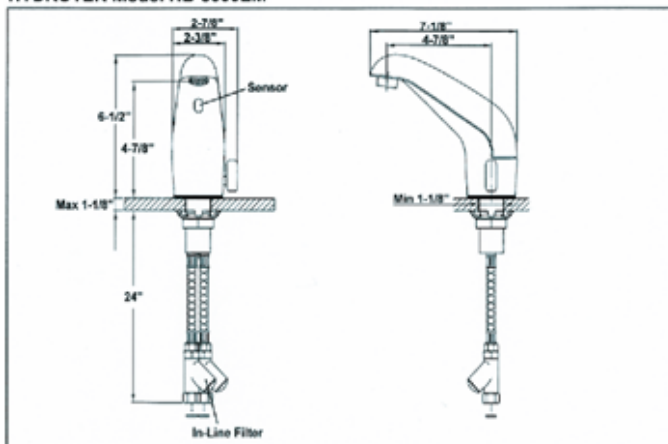
Optional Variations and Accessories:

- 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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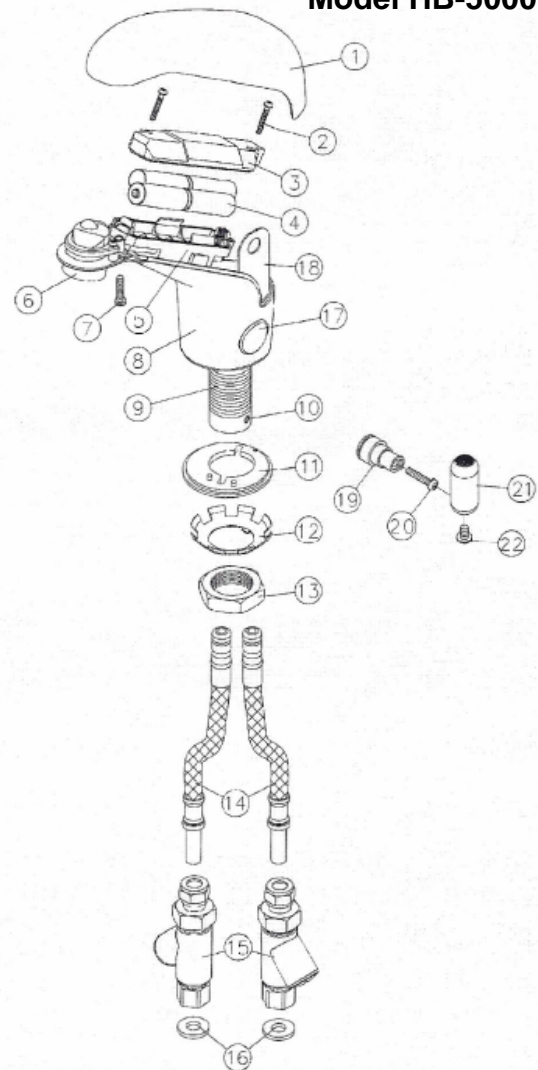


INSTALLATION INSTRUCTIONS

Hydrotek Non-Mixing Automatic Faucet w/ Manual Control (Battery Powered)

Model HB-5000EM

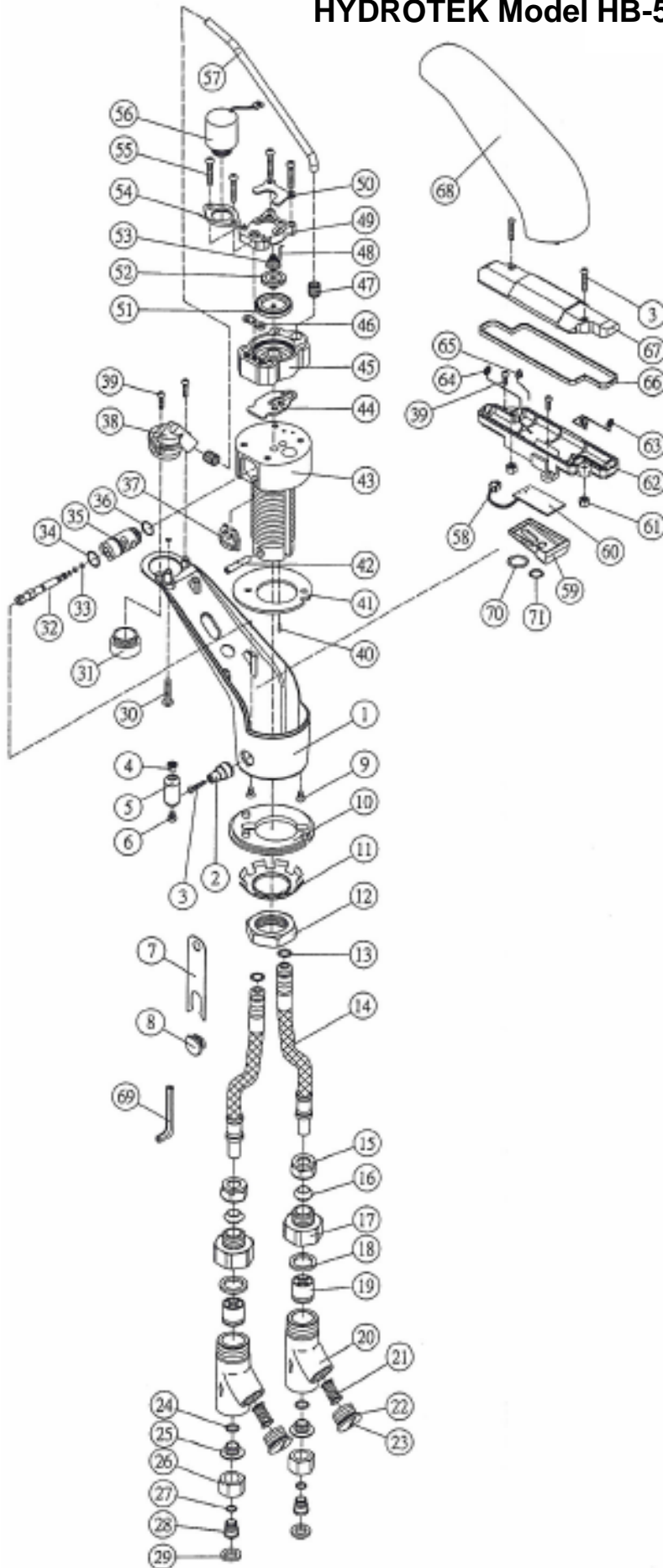
- Prior to installing this faucet, thoroughly flush all water lines and replace stop washers, if necessary.
- To ensure proper operation, " DRY TEST " the faucet before installing. Loosen the Cover Screw (7) and remove the Top Cover (1). Loosen the Battery Holder Screws (2) and remove the Battery Holder Cover (3). Properly insert batteries into the Battery Holder (5) and reinstall Battery Holder Cover. The faucet should immediately perform a self-adjusting/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 batteries for correct positioning.
- Remove the Battery Holder Cover (3) again and take out batteries.
- Rotate the Supply Tube Locking Screw (10) fully clockwise. Insert both ends of the Supply Tube (14) (with O-rings) fully into the bottom of the Mounting Rod (9) by twisting and pushing until properly seated. Rotate Supply Tube Locking Screw (10) 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.
- Install In-Line Filters (15) onto stop valves using Nylon Washers (16).
- Unscrew the Mounting Nut (13) from the Mounting Rod (9) and completely remove both the Mounting Nut (13) and the Star Locking Washer (12).
- From above the deck, carefully feed the faucet's Supply Tubes (14), and Mounting Rod (9) into the deck mounting hole and seat the faucet in the correct mounting location.
- From below the deck, feed the Supply Tubes (14) through the keyed Star Locking Washer (12) and Mounting Nut (13). Slide the Locking Washer and Mounting Nut up onto the Mounting Rod (9) and tighten Mounting Nut on the Mounting Rod to securely lock faucet to the deck.
- Connect the Supply Tubes (14) to the In-Line Filter compression fittings (15) and securely tighten.
- Reinstall batteries and secure Battery Holder Cover (3) with the Battery Holder Screws (2).
- Reinstall Top Cover (1) and secure it to the faucet body using the Cover Screw (7).
- Turn water on and check for leaks. Place your hands under the faucet spout to activate water flow. Remove hands and water should stop.
- 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 (18) and the V.R. Access Cover (17) 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.
- To install the faucet's external adjustor handle, open the faucet body Top Cover (1) and remove the Lock for V.R. Access Cover (18) and the V.R. Access Cover (17) from the faucet body. The Temperature Adjustment Shaft will now be exposed in the body opening.
- Install the Mix Shaft Extender (19) on the Temperature Adjustment Shaft and secure with the Screw (20).
- Attach Adjustor Handle (21) to the Shaft Extender (19) with the Screw (22).
- To externally adjust the temperature, rotate the Adjustor Handle clockwise for cooler temperature, or counter-clockwise for warmer water temperature.
- To manually turn on water flow, pull Adjustor Handle (20) out, from the faucet body. To shut off water flow manually, push handle in, toward the faucet body.



Part Number Descriptions		
1.	Top cover	12. Star locking washer
2.	Battery holder screws (2)	13. Mounting nut
3.	Battery holder cover	14. Supply tube (2)
4.	AA Alkaline batteries (4)	15. In-line filter (2)
5.	Battery holder	16. Nylon washer (2)
6.	Aerator	17. V.R. access cover
7.	V.R. Screw for top cover	18. Lock for V.R. access cover
8.	Faucet body	19. Mix shaft extender
9.	Mounting rod	20. Screw for mix shaft extender
10.	Locking screw for supply tube	21. Adjustor handle
11.	Rubber gasket	22. Screw for adjustor handle

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HYDROTEK Model HB-500EM



NO	DESCRIPTION	PART NO.
1	Body	01537003
2	Shaft Extension	00217007
3	Screw-Mixer Shaft X3	00630034
4	Temp. Indicator	01239016
5	Temp. Adj. Knob	00217008
6	Screw	00630014
7	Cover Lock	00109002
8	Temp. Adj. Cover	01237015
9	Screw X2	00670006
10	Bottom Plate Rubber	00549031
11	Stop Lock Washer	00311010
12	Mounting Nut	00806015
13	O-Ring X2	00400067
14	Supply Tube X2	01628010
15	Compression Nut X2	00847001
16	Ferrule X2	00400061
17	Compression Adapt. X2	01647011
18	Washer X2	00400056
19	Check Valve X2	00420002
20	Filter Body X2	01127004
21	Filter Screen X2	01702001
22	O-Ring X2	00400032
23	Filter Cap X2	00737001
24	O-Ring X2	00400046
25	Swivel Nut Connector X2	01647005
26	Swivel Nut X2	00807001
27	O-Ring X2	00400045
28	Connector X2	01636010
29	Nylon Washer X2	00400054
30	VR Screw	00791002
31	Aerator	01720013
32	Mixing Shaft	01405001
33	O-Ring X4	00400038
34	O-Ring	00400065
35	Mixing Controller	01302001
36	O-Ring	00400073
37	Retainer-Mixing Shaft	00109001
38	Aerator Connector	01129001
39	Screw X4	00630010
40	Position Staff	00112002
41	Rubber Gasket	00549022
42	Lock Rod	00212003
43	Mixing Chamber Seat	01146003
44	Gasket Rubber	00539001
45	Solenoid Seat	01119001
46	Spacer	00539002
47	Tube Connector X2	00419018P
48	Guide Pin	01401001
49	Solenoid Seat Cover	01132003
50	Seal Washer	00545003
51	Control Disc Rubber	01409001
52	Control Disc	01152003
53	Spring	00300015
54	Coil Fixing Shaft	01516002
55	Screw X4	00630011
56	Solenoid Coil	00042001
57	Copper Tube	01601038
58	Connector	01920018
59	Sensor Eye Casing	01209013
60	Electronic PCB	0211N010
61	Nut X2	00800002
62	Battery Holder	01909001
63	Spring	00300018
64	Spring	00300016
65	Spring	00300017
66	Seal Rubber	00439014
67	Battery Holder Cover	01249006
68	Faucet Body Cover	01247001
69	Key-VR Screw	40760004
70	O-Ring	00400078
71	O-Ring	00400077

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.

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>TO DIAGNOSE</u>	<u>REMEDY</u>
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 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.

Faucet will not shut off, has low flow, or drips:

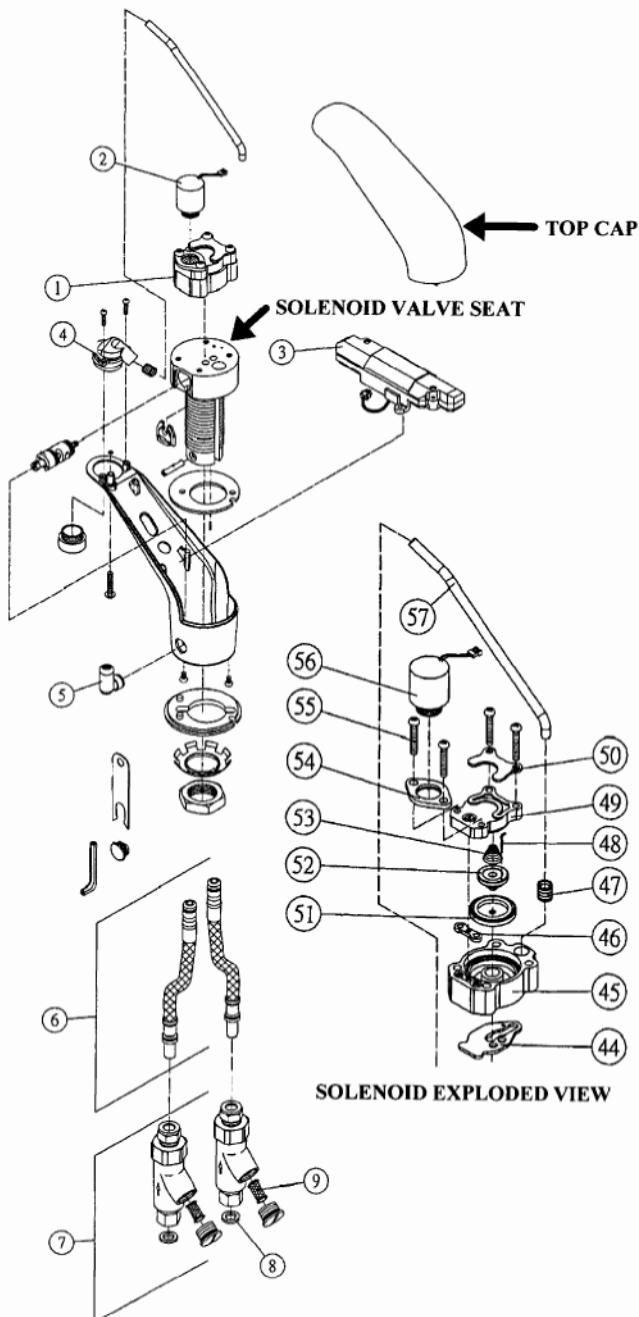
Solenoid valve is normally closed. Turn off water and activate faucet. If there is a clicking sound, the solenoid valve is dirty. If there is no clicking sound, then check solenoid valve. If the faucet is dripping, clean the solenoid valve.

*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.**

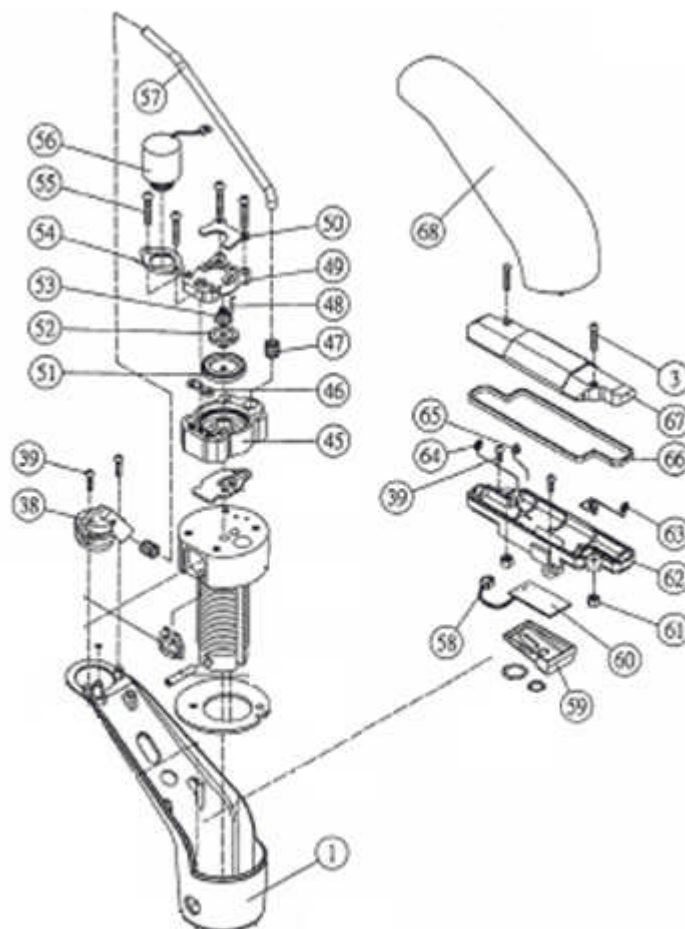
HCE-004 (SOLENOID VALVE MODULE) CLEANING

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)

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

TEMPERATURE MIXER ASSEMBLY		
H-5000EM	Part # 33-37	HCE-028
HB-5000EM	Part # 32-36	HCE-028
CONTROL MODULE ASSEMBLY		
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
SOLENOID COIL		
H-5000E	Part # 46	HCE-019
H-5000EM	Part # 58	HCE-019
HB-5000E	Part # 45	HCE-019
HB-5000EM	Part # 56	HCE-019
SOLENOID VALVE KIT (WITHOUT COIL)		
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
Y-STRAINER WITH CHECK		
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

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