



# BEHAVIORAL SAFETY PRODUCTS

## SAFE → AESTHETIC → FUNCTIONAL

### LIGATURE RESISTANT SENSOR FAUCET

PATENT #US D635, 386

#SF370/SAL-5011

#### INSTALLATION, MAINTENANCE & OPERATION INSTRUCTIONS— SENSORFLO® BATTERY OR AC POWERED

The Ligature Resistant Sensor Faucet was designed and developed in conjunction with the Speakman Company. Its patented design provides for a ligature resistant sink faucet that will mount to existing or new lavatories. Its operating mechanisms (Solenoid and Power pack) are readily serviceable from under the counter. Standard in-line filters and Sensor Module design incorporated into solid zinc chrome plated Faucet body make it ideal for public areas that need ligature resistant products.

Speakman/Behavioral Safety Products SENSORFLO® Ligature Resistant Faucet comes standard with two batteries or with an optional A/C adapter. Inside the solid zinc body of the faucet resides the Infrared Sensor Module. The Solenoid and the Power Supply (Batteries or AC/DC adapter) are located under the sink with easy accessibility. With an extension cable, the Power Module could be installed away from the Solenoid to easily change batteries.

The Sensor Module is powered by two 3-volt DC lithium batteries (#123) or optional A/C adaptor with waterproof connectors housed in a separate Power Module attached under counter mounted onto the Solenoid body. There is a low battery warning light that pulsates before the batteries are depleted and keeps pulsating at least for 2 weeks after they are no longer in service. Under normal usage the batteries last one to two years. The optional long term battery pack lasts approximately 4-5 years.

Speakman/Behavioral Safety Products SENSORFLO® faucets are thoughtfully designed and engineered in accordance with the highest quality and performance standards. The faucet requires no handles to turn, lift, or push for water flow. Built-in vandal resistant circuitry shuts off the water after continuous flow of approximately 60 seconds. This feature prevents flooding; water is easily turned on again by placing one's hands under the lavatory spout.

Water-conserving vandal resistant recessed Laminar Flow Outlet reduces water flow to 1.2 GPM/4.5 LPM to meet the requirements of ASME A112.18.1M for flow rates. There is a Water Filter on the Solenoid ready accessible for maintenance purposes. NOTE: Stainless steel hoses are optional. The faucet is lead-free and meets National and California maximum lead content standards.

#### SPECIFICATIONS

This product meets CA AB1953, NSF 372 UPC, ASME A112.18.1, ANZ.18.1, ADA

Inlet supply:	3/8" Compression with male threads for already mixed cold and hot water
Flow rate:	1.2 GPM / 4.5 LPM
Finish:	Zinc Chrome Plated
Operating static water pressure:	20psi to 80psi

706-705-1500

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**STANDARD**

LF–Laminar Flow 1.2 GPM Flow Control  
T–Tee with checks  
UCM Under Counter Mixer  
Battery Pack–includes two 3-volt lithium batteries

**OPTIONS** (SEE ACCESSORIES ON BSP WEBSITE)

AC Adapter Kit (SF371)  
TMV–UC Thermostatic Lead-Free Valve with check valves (SF372)  
8" Cover Plate (SF373)–converts 8" to 4" OC  
Brainwave Touchless Temperature and Flow Control unit (SF374)  
4-year Battery Pack (SF375)–4 D-size batteries needed for operation (not included)  
BO–Boca VR 0.5 GPM Flow Control–Spray/Non-Aerating

The faucet comes with a rubber gasket to seat it on the sink. It has a central Shank to be connected to the water supply, and two threaded tie-downs 4" apart.

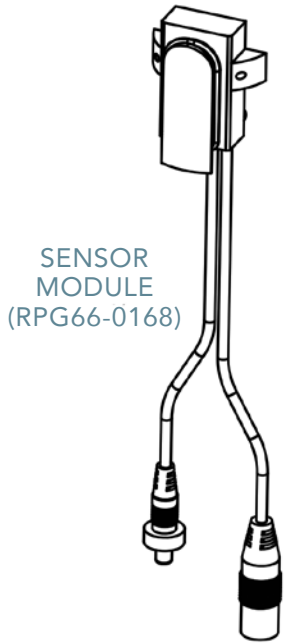
The Solenoid attached to the central shank has installed on it the Power Module that can be powered either with batteries (standard) or with an optional A/C adapter wired into a Transformer. The conversion from batteries to A/C is a quick process. Other optional equipment for mixing hot and cold water can be ordered separately as TMV (Thermo Mixing Valve).

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LIGATURE RESISTANT SENSOR FAUCET

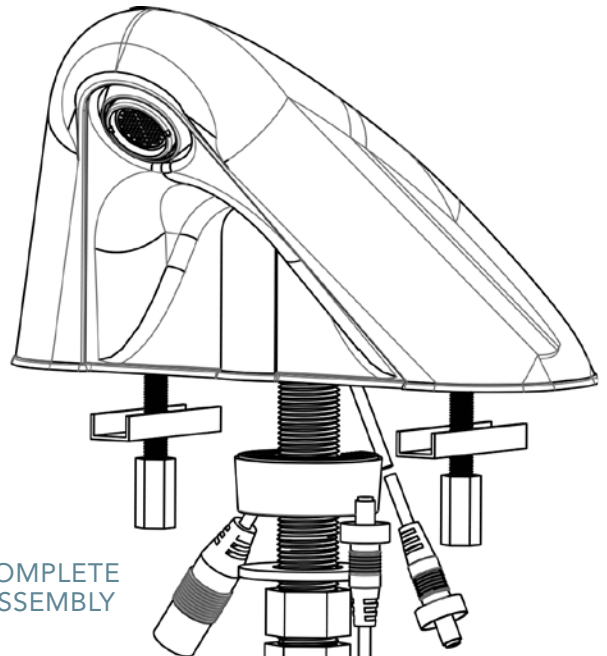
#SF370, CONTINUED, 3 OF 13



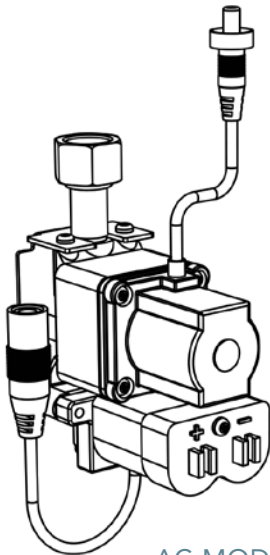
SENSOR MODULE (RPG66-0168)



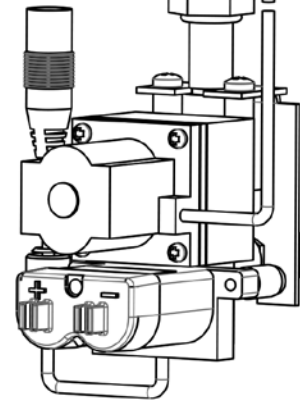
LAMINAR FLOW OUTLET (A-ELF)



COMPLETE ASSEMBLY



SOLENOID WITH BATTERY MODULE (G76-0131)

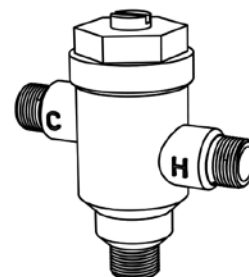
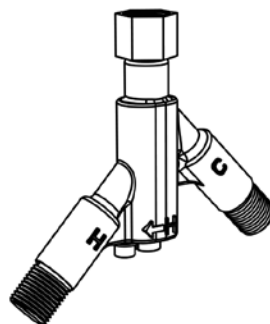
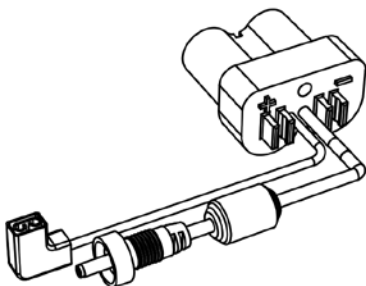


UNDER COUNTER MIXER (RPG20-2024-CA)



THERMOSTATIC MIXING VALVE (OPTIONAL) (SF372)

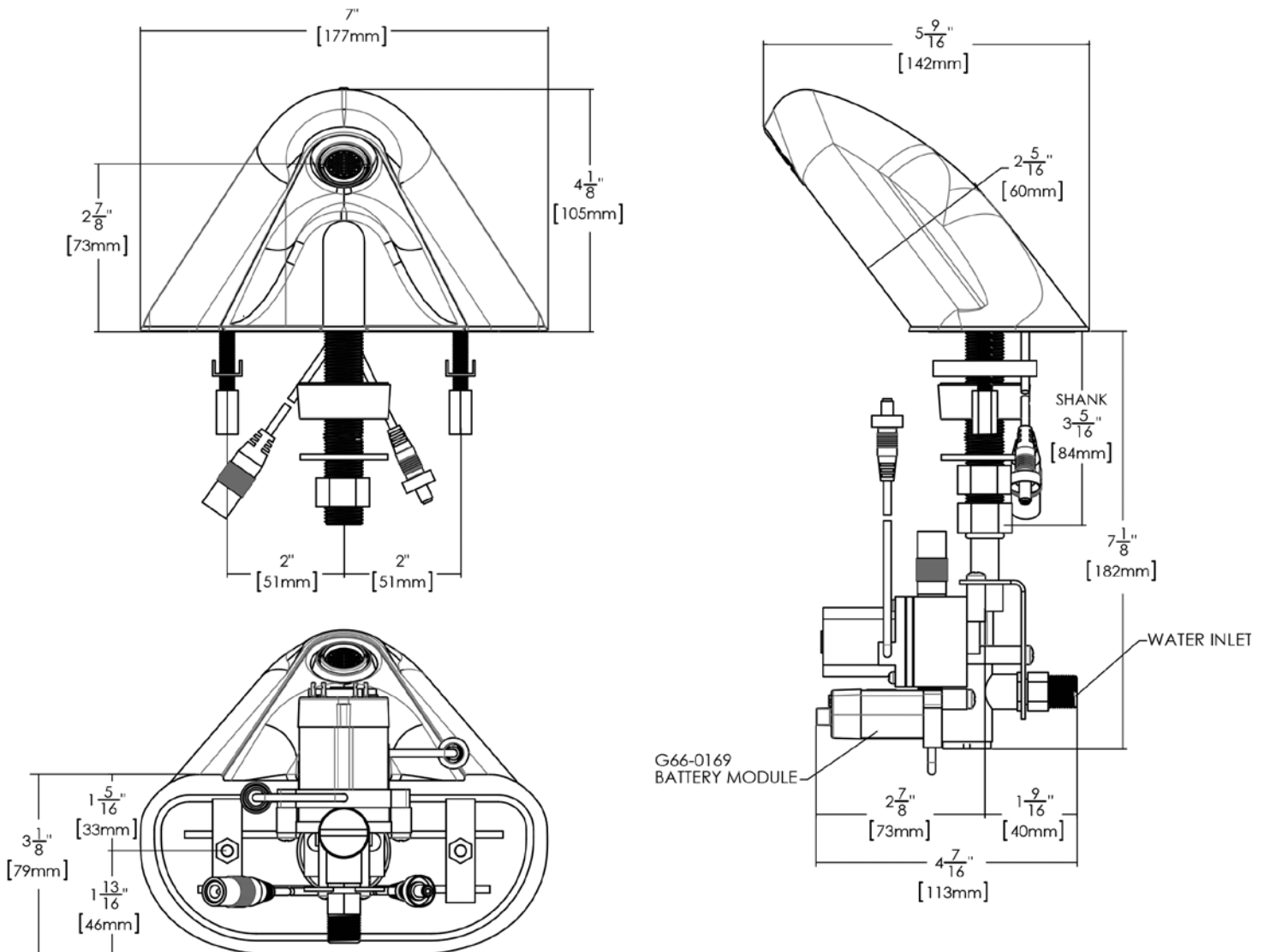
AC MODULE (OPTIONAL) (SF371)



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ROUGH IN DIMENSIONS

SAL-5011/SF370

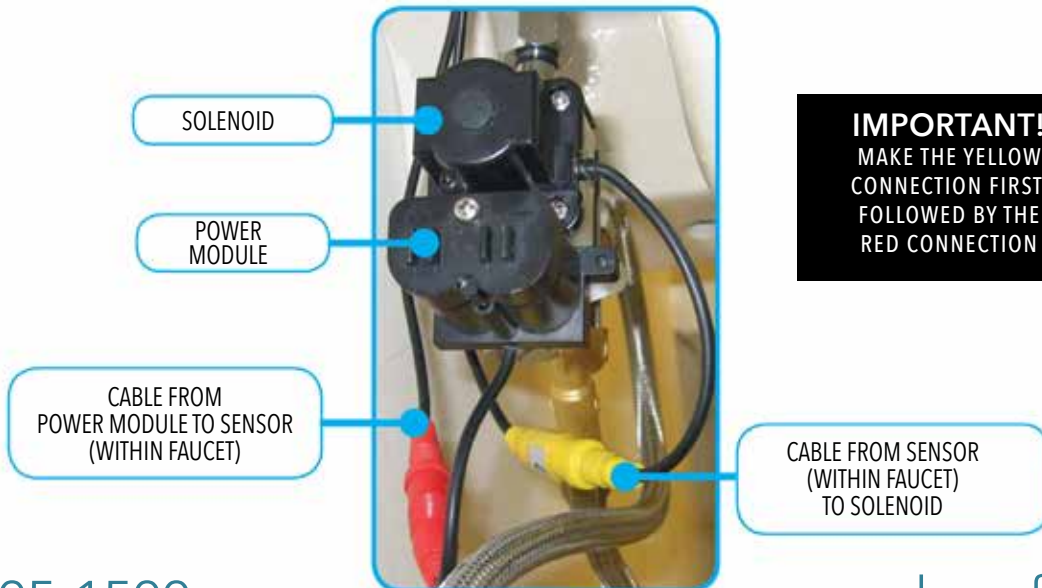
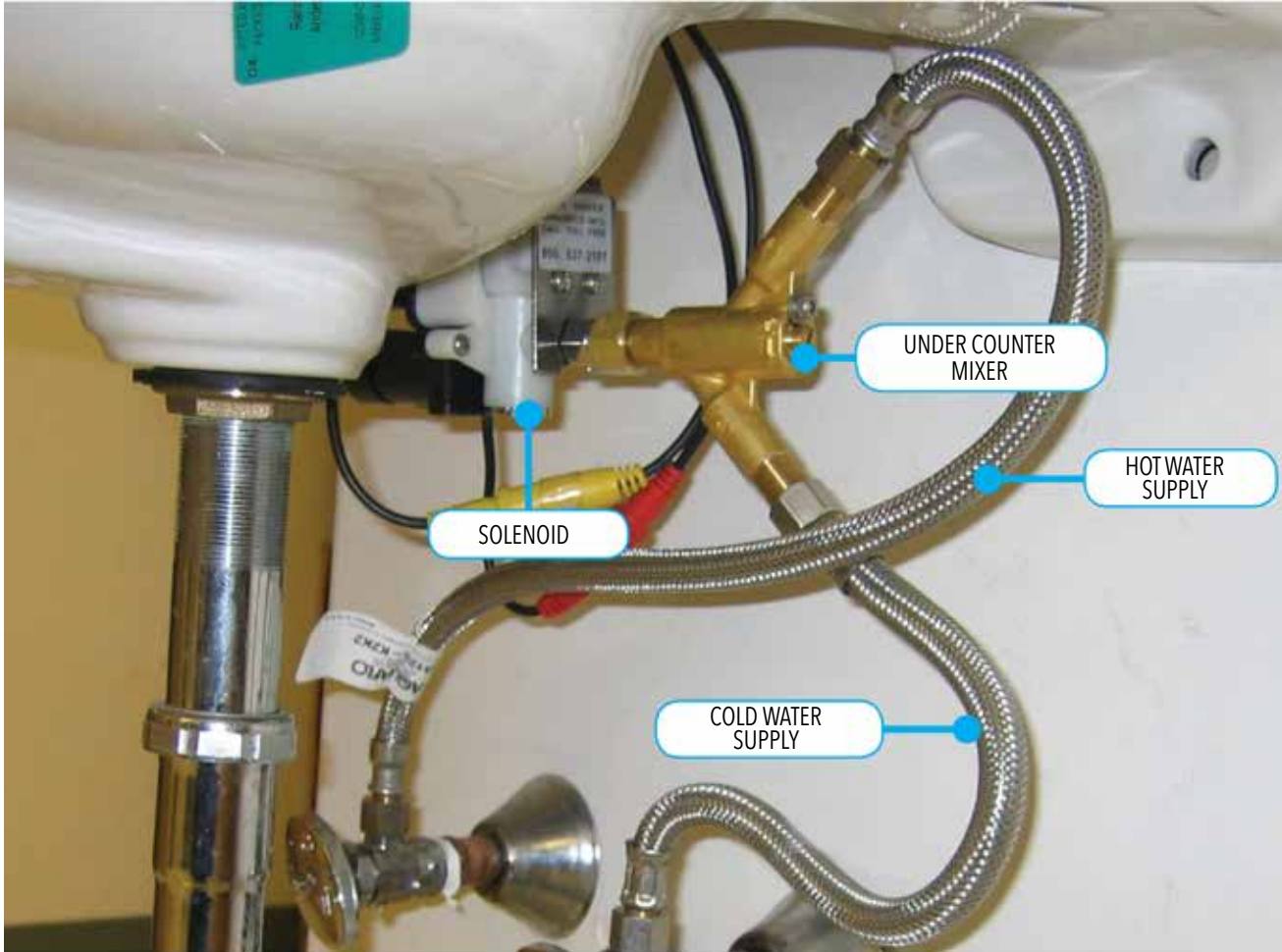


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### LIGATURE RESISTANT SENSOR FAUCET MOUNTING (UNDER SINK HOSES AND CABLES)

#SF370, CONTINUED, 5 OF 13

**NOTE:** THE UNDER SINK PLUMBING AND ELECTRICAL ARE NOT LIGATURE RESISTANT.

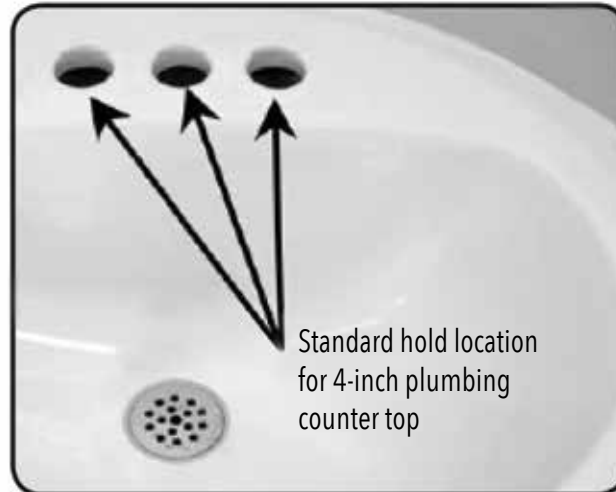


**IMPORTANT!**  
MAKE THE YELLOW  
CONNECTION FIRST,  
FOLLOWED BY THE  
RED CONNECTION

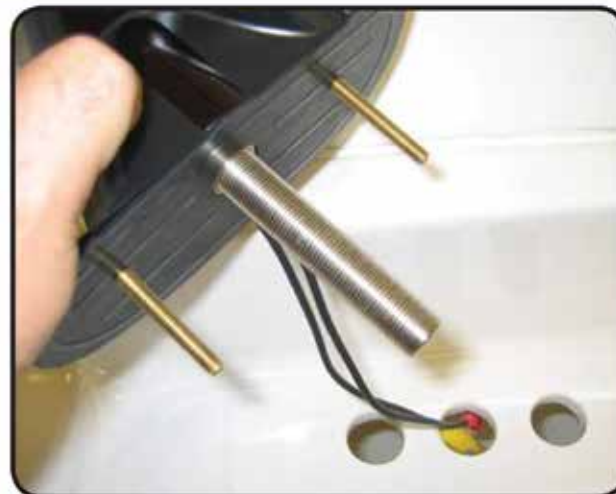
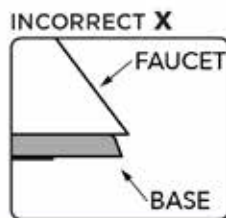
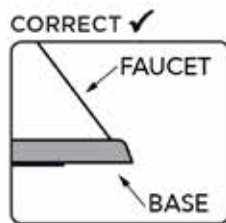
LIGATURE RESISTANT SENSOR FAUCET  
INSTALLATION INSTRUCTIONS—1

#SF370, CONTINUED, 6 OF 13

1 A sink top with 4" on center holes (3 holes) is required for proper installation. If mounting to a sink top with 8" on center (3 holes), you will need to drill holes on a 4" center. The existing 8" on center holes will need to be plugged with screw caps to prevent tampering. An optional 8" cover-plate is available.



2 Install Threaded Mounting Posts to faucet body and tighten with Phillips Head screwdriver. Insert red and yellow connections through center 1-1/8" diameter hole followed by faucet shank. Take extra precautions to avoid pinching wires.



**IMPORTANT!**  
WHEN TIGHTENING DOWN THE FAUCET BE CERTAIN THE REAR OF THE FAUCET IS FULLY RESTING ON THE RUBBER BASE AND DOES NOT OVERLAP THE RUBBER BASE GASKET.

3 From beneath, install Rubber Wire Guard (with notch facing towards rear) over shank and pass wires through the notch to prevent pinching of wires. Install Metal Washer and Mounting Nut onto shank. Tighten Mounting Nut while ensuring faucet does not rotate position. Verify that wires are not pinched.



Install "U" washers onto the 2 threaded posts and secure with mounting nuts. Ensure that the "U" washers are perpendicular to wall surface for added leverage.

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## LIGATURE RESISTANT SENSOR FAUCET INSTALLATION INSTRUCTIONS—2

#SF370, CONTINUED, 7 OF 13

- 4 Install Solenoid to Faucet Shank by first engaging thread by hand. Snug into position and final tighten using an Adjustable Wrench. You may need to hold faucet in position from above. Take care to not over tighten connection.

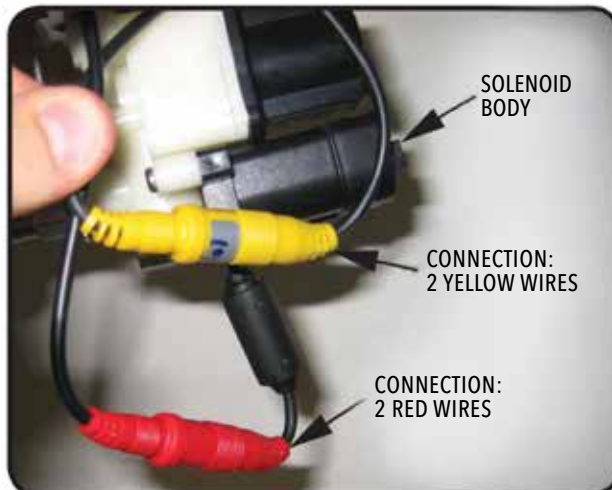
DO NOT use any sealant on this connection as a rubber seal is present with solenoid. DRY CONNECTION ONLY. Verify that the final positioning of Solenoid allows access to the inlet port.



- 5 Make electrical connections ensuring you make the yellow connection first, followed by the red connection.

If you are installing an AC powered option, there is an additional black electrical connection from the top of the Power Module to be made to the AC Transformer (not shown).

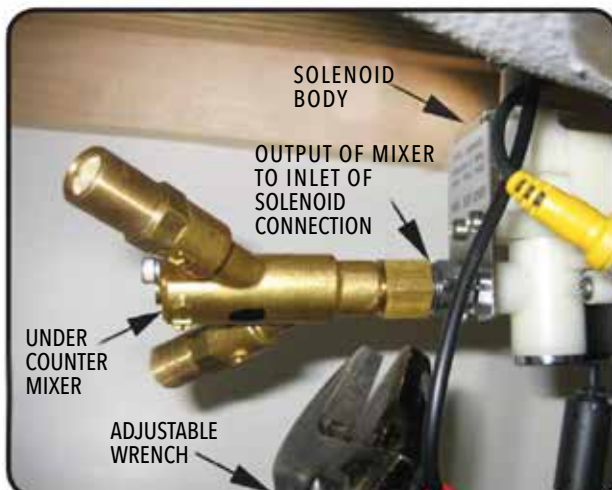
**IMPORTANT!**  
MAKE THE YELLOW CONNECTION  
FIRST, FOLLOWED BY THE  
RED CONNECTION.



- 6 Connect the Under-Counter Mixer (UCM) to the inlet port of the Solenoid. Position inlets of UCM so they are accessible. Finally, tighten into position using an Adjustable Wrench. (Do not over tighten).

Do not use any thread sealant on this connection.

DRY CONNECTION ONLY.



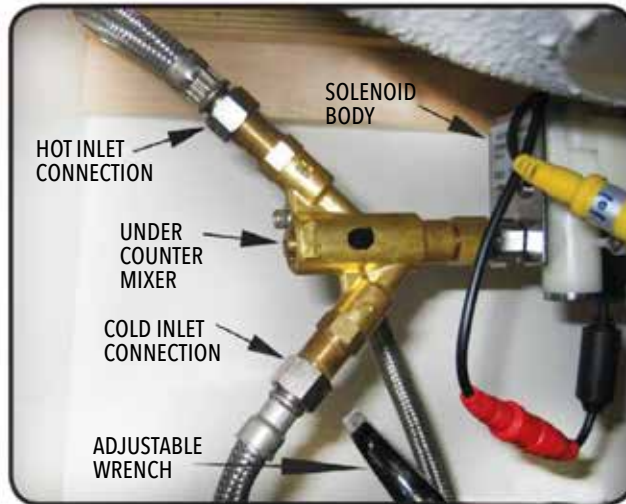
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**LIGATURE RESISTANT SENSOR FAUCET  
INSTALLATION INSTRUCTIONS—3**

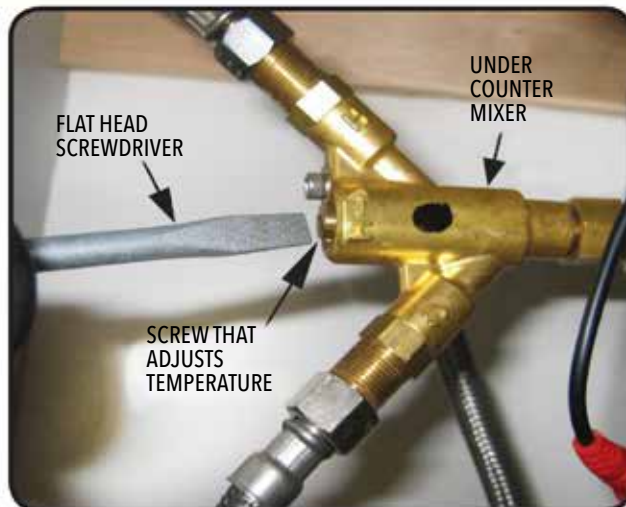
#SF370, CONTINUED, 8 OF 13

- 7 Make water connections between the shut off valves and the Under-Counter Mixer (UCM). Ensure the COLD hose is connected to the "C" port and the HOT hose is connected to the "H" port. Snug connections using an Adjustable Wrench. Take care to not over tighten connection.

DO NOT use any thread sealant on this connection.  
DRY CONNECTION ONLY.



- 8 Turn on water supplies and check for leaks. Activate Sensor and allow Faucet to run for one minute to flush out any debris. Adjust water temperature rotating the adjustment screw on the Under-Counter Mixer (UCM).



- 9 Install Laminar Flow Outlet to faucet using the Laminar Flow Outlet Wrench (included).



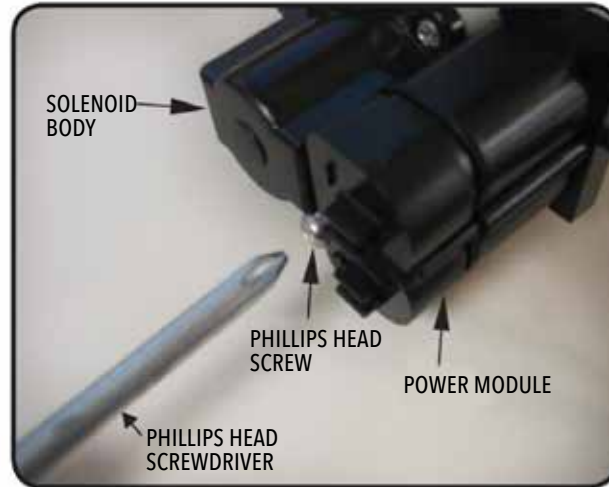
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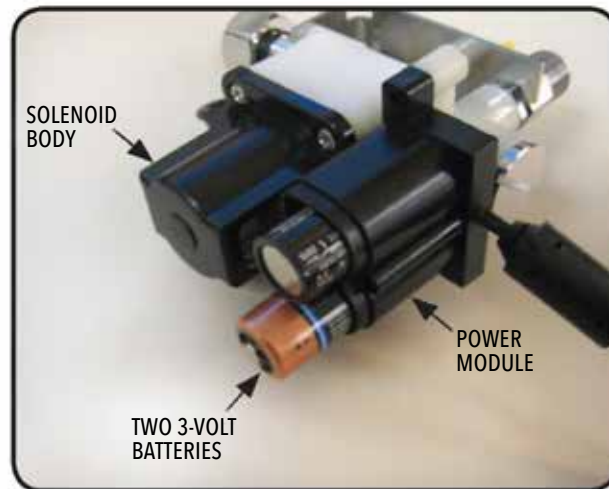
**LIGATURE RESISTANT SENSOR FAUCET  
BATTERY REPLACEMENT**

#SF370, CONTINUED, 9 OF 13

- 1 If your faucet is equipped with a battery powered solenoid, begin battery replacement by unscrewing Phillips head screw on top of the battery power module.

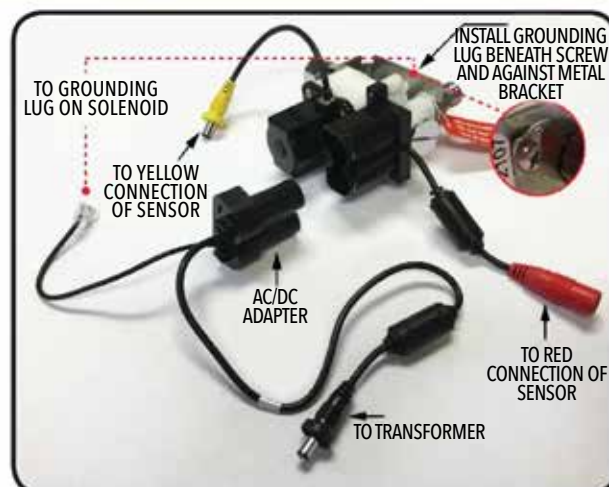


- 2 Remove power module cover and existing batteries. Replace with new 3-volt DC lithium batteries (#123). Ensure the position of the new batteries match the + and - markings on the power module cover.



- 3 If you wish to change your faucet from battery power to AC power, remove battery power module cover and batteries. Replace with SF371 AC Adapter and secure with Phillips head screw. Secure included Grounding Lug between existing screw and Metal Bracket of Solenoid. Connect AC Power Module to AC Transformer.

- a. Transformer: 120VAC to 12VDC
- b. AC/DC Adapter: 12VDC to 6VDC



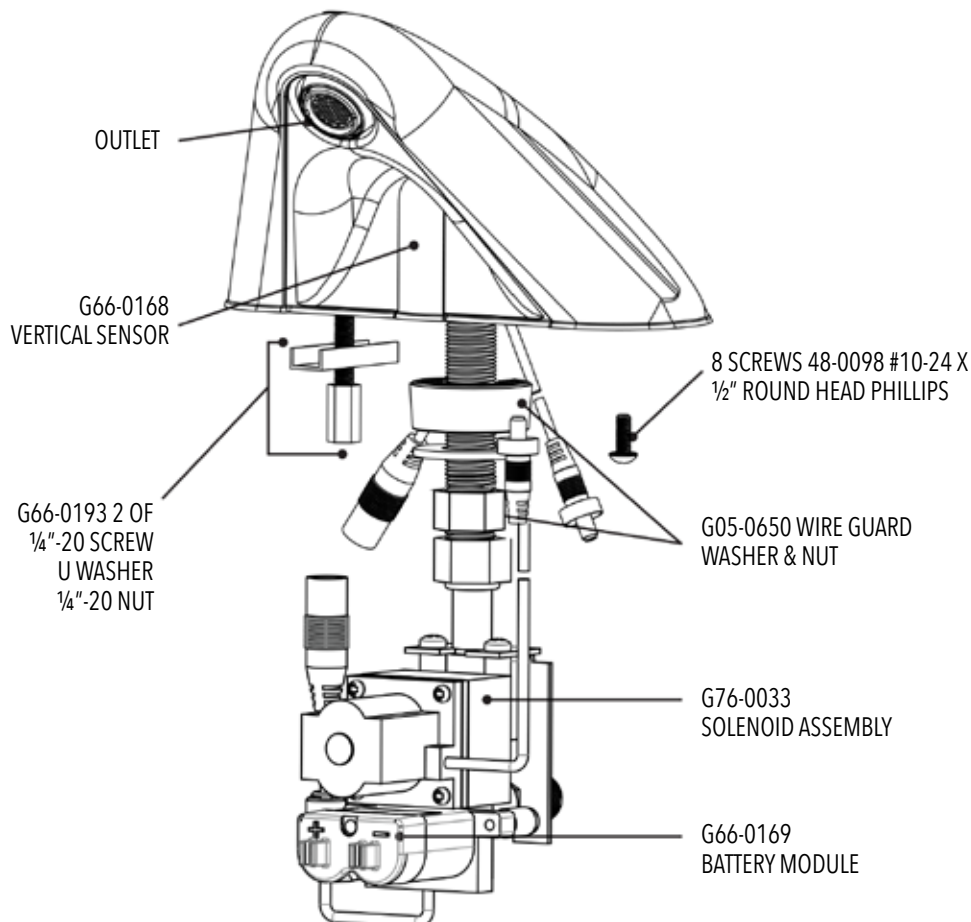
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LIGATURE RESISTANT SENSOR FAUCET

#SF370, CONTINUED, 10 OF 13

REPAIR PARTS

Part/Group Number	Description	Refer to Instructions
RPG05-0851-PC	13/16 -1.5 GPM Laminar outlet repair group	Item
RPG05-0792-PC	13/16 -2.2 GPM Laminar outlet repair group	Item
RPG38-0128-PC	13/16 -0.5 GPM Boca repair group	Item
A-ELF	13/16 -1.2 GPM Laminar outlet repair group	Item
A-EA12	13/16 -1.2 GPM Aerator Assembly	Item
RPG76-0033-LBL	6V Laminar Outlet Assembly	Item
RPG76-0039	Solenoid Repair Kit for G76-0033-LBL	Item
RPG07-0114	Rubber tips for Solenoid Plunger (10 per pkg.)	Item
RPG66-0044	Solenoid Filter Screen	Item
RPG66-0168	Infrared Sensor Module (Vertical Style)	Item
RPG66-0169	Battery Power Module	For Battery Module only
G76-0131	Solenoid Assembly with Battery Pack	Item
RPG66-0010	Transformer 120VAC to 12VDC	For AC Module only
RPG66-0195-KIT / SF371	Conversion kit from Batteries to AC	For AC Module only
G05-0650	Low Profile Spout Mounting Parts	Item
RPG20-2024-CA	Under Counter Mixer	Item



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## CARE & CLEANING

Your SENSORFLO® Faucet is designed and engineered in accordance with the highest quality and performance standards. With proper care, it will provide years of hygienic and trouble-free service.

Periodically the faucet will require some minor maintenance to keep it performing at peak performance. The sensor module has a built-in low battery indicator light. This light will come on when the faucet has approximately 10% of battery life. To replace the batteries, follow the installation instructions on Page 9.

Periodically clean the Solenoid Filter.

The polished chrome finish of your faucet should be cleaned using mild soap and warm water.

Dry immediately with a soft, clean cloth for best results.

Never use abrasive cleaners, chemicals, alcohol or other solvents. They may damage the surfaces of the non-chrome plated finishes.

## WAIVER & DISCLAIMER

This waiver/disclaimer is attached to and made a part of the written contract to purchase these products for use in psychiatric and correctional facilities. Such fixtures and products are purchased to reduce the risk of self-imposed death or injury to patients or clients in such facilities, but are NOT represented as able to prevent such death or injury.

Behavioral Safety Products, LLC ("BSP") as the seller and Speakman Co. as the manufacturer of these products have not and will not represent or warrant to the purchaser shown in this contract ("Purchaser") that its fixtures and products will prevent death or injury in any case whatsoever.

BSP and Speakman Co. make no express or implied warranty with respect to the preventative quality of its products, but merely represents that the use of such products tends to reduce such deaths and injuries by patients or clients who are subject to meticulous screening processes and diligent supervision on the part of the facility housing them.

Purchaser acknowledges the foregoing disclaimer and waives any and all claims against BSP and Speakman Co. as to express or implied warranties of fitness for any purpose whatsoever.

## IMPORTANT

This fixture must be mounted with its back adjacent to a wall.

It is unsafe if unit could be accessed from the back side.

All plumbing and electrical wires under sink are not ligature resistant protected and should be in a separate enclosure or cabinet. (not supplied).

**TROUBLESHOOTING.** Before calling Behavioral Safety Products for service, please run through the following checklist:

***If water flow from the faucet decreases***

1. Make sure the supply stops are open.
2. Ensure both the hot- and cold-water temperature adjusters are not in the closed position (to open, screw out the hot and cold-water temperature adjusters in a counter-clockwise direction).
3. Check that the in-line filter in the solenoid body is not blocked with debris. Remove slotted filter screw from the solenoid body and rinse filter screen with clean water. Reassemble the filters, open stops, and check water flow. Stops must be off when filters are removed.
4. Remove the laminar outlet assembly from the spout using the outlet wrench. Operate the faucet with outlet device removed. If water flow is acceptable, disassemble the outlet device and rinse components with clean water.
5. If 1), 2), 3) or 4) do not resolve the problem; call Behavioral Safety Products for assistance.

***If no water flows from the faucet, and...***

***If you can hear clicking sound of solenoid opening, but no water flows.***

1. Check to see that the hot- and cold-water wall stops are completely open.
2. Check that the yellow connector is connected to solenoid, the red to Power Module, black connector to transformer (AC version) and grounding wire is connected to the grounding lug (AC version).
3. Activation light blinks continuously, even when faucet is not in use. This continuous blinking of the activation light indicates that the batteries inside of the sensor module have low voltages and need to be replaced.
4. Check to see that the in-line filter in the solenoid is not blocked by debris (if it is, clean it).

***If you do not hear a clicking sound from the solenoid and water does not flow.***

Disconnect the existing sensor module and connect a new module directly with red and yellow to the solenoid. Activate the new sensor module and check for water flow. If the water flows, disconnect the new module and reconnect the old module and activate. If the old sensor module still does not work, it should be replaced.

***If batteries have been replaced but faucet still fails to operate.***

1. Check battery polarity and electrical connection. Make sure wire plugs are fully inserted into sockets.
2. If faucet does not operate, replace existing sensor module with one you know to be functioning.
3. If faucet operates, contact Behavioral Safety Products for a replacement sensor module.
4. If faucet still does not operate, contact Behavioral Safety Products and ask for the Solenoid Repair Kit, Part No. RPG76-0039. Once the kit is received, shut off the hot- and cold-water supplies to the faucet. Remove sensor module bracket and sensor module. Next, remove the four (4) screws that hold the coil plastic case to the solenoid body and follow the instructions supplied with the kit. After replacing all parts supplied in the kit, reassemble the faucet, open stops, and test the faucet.

***If the faucet activates but the water will not shut off.***

1. Hold a hand in front of sensor at about 6"-8" for more than 2 minutes until the water flow stops. Once the water stops, remove your hand and wait 10 seconds. Then place your hand in front of sensor and it should operate properly.
2. If the faucet still does not shut-off, cover the front of the sink with a towel. This will eliminate potential reflections activating the sensor.
3. If it is a new installation and still is not working, change the solenoid.
4. If it was used for a while and not working, rebuild it with the Repair Kit RPG76-0039.

CONTINUED



## QUESTIONS AND ANSWERS

**Q: How does the Sensorflo® faucet work?**

A: It uses infrared technology. The sensor emits a non-visible beam of light. When an object enters the detection area, the sensor signals the solenoid valve to open for water to flow. When an object leaves the detection area, the sensor signals the valve to close.

**Q: Is the Speakman Sensorflo® faucet sensor beam adjustable?**

A: No, the Speakman Sensorflo® faucets sensor beam is not adjustable. It has been factory set to Speakman's specifications for these faucets.

**Q: What about water conservation?**

A: The Sensorflo® design directly addresses water conservation. Water savings of up to 85% are not unusual. Additional energy savings are realized by conserving hot water.

**Q: Can the water temperature of the Sensorflo® faucet be adjusted?**

A: Yes, this faucet has hot and cold water mechanical mixing valves. If you need one to meet ASSE 1070, you must use our TMV (Thermostatic Mixing Valve—#SF372) option.

**Q: Does Sensorflo® reduce maintenance?**

A: By elimination of on/off handles, control components are reduced and fittings stay cleaner longer. Only a light rinsing and wiping is required to restore the beauty of the Sensorflo® faucets. Drip stains are eliminated. Fingerprints and soap spots on sinks and fittings are avoided. Finishes last longer and wash areas stay cleaner. Germs and bacteria are not transferred as easily making for a healthier environment. .

**Q: The chrome finish on my faucet seems to be deteriorating. What can I do to prevent this from happening?**

A: Many commercial cleaning products contain harsh chemicals and abrasives. These products should not be used on any chrome plated plumbing products. Please refer to the Care & Cleaning section of this manual for Speakman Company's recommendations.

**Q: Does the Sensorflo® system shut off immediately when an object leaves the sensing area?**

A: A very short delay of approximately 0 to 1 second occurs before the water is shut off.

**Q: Is there a way to adjust the flow of water?**

A: Yes, you can choose the option with a 0.5 GPM flow control instead of 1.2 GPM Laminar flow control, which comes standard with each faucet. Also, the temperature adjusters can also be used to control the flow of water.

**Q: Is my faucet protected from power surges?**

A: Yes, Sensorflo® has been designed to have built-in power surge protection.

**Q: If we lose power, do I have to do something to get the faucet to operate again?**

A: After a power outage, the faucet is automatically ready for operation as soon as the power comes back on.

**Q: If I call a plumber to come and install this faucet, will they know enough to hook it up?**

A: Our installation diagrams are very easy to follow.