



# INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

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No. 2080407(1)

## Model VRKHO1 24 VAC SENSOR

**NOTE TO INSTALLER: Please leave this information with the Maintenance Department.**

### LIMITED WARRANTY

HAWS® warrants that all of its products are guaranteed against defective material or poor workmanship for a period of **one year from date of shipment**. HAWS liability under this warranty shall be discharged by furnishing without charge F.O.B. HAWS Factory any goods, or part thereof, which shall appear to the Company upon inspection to be of defective material or not of first class workmanship, provided that claim is made in writing to company within a reasonable period after receipt of the product. Where claims for defects are made, the defective part or parts shall be delivered to the Company, prepaid, for inspection. HAWS will not be liable for the cost of repairs, alterations or replacements, or for any expense connected therewith made by the owner or his agents, except upon written authority from HAWS, Sparks, Nevada. HAWS will not be liable for any damages caused by defective materials or poor workmanship, except for replacements, as provided above. Buyer agrees that Haws has made no other warranties either expressed or implied in addition to those above stated, except that of title with respect to any of the products or equipment sold hereunder and that HAWS shall not be liable for general, special, or consequential damages claimed to arise under the contract of sale.

The emergency equipment manufactured by HAWS is warranted to function if installation and maintenance instructions provided are adhered to. The units also must be used for the purpose, which they were intended. This product is intended to supplement first-aid treatment. Due to widely varying conditions HAWS cannot guarantee that the use of this emergency equipment will prevent serious injury or the aggravation of existing or prior injuries.

**NO OTHER WARRANTIES EXPRESSED OR IMPLIED ARE AUTHORIZED, PROVIDED OR GIVEN BY HAWS.**

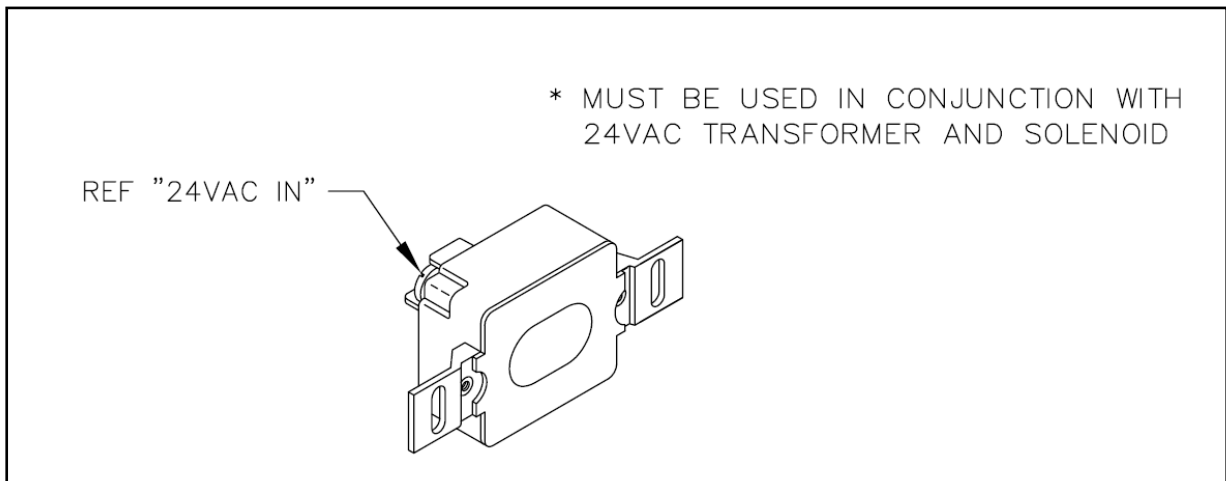
**SHOULD YOU EXPERIENCE DIFFICULTY WITH THE INSTALLATION OF THIS MODEL, PLEASE CALL:**

**1-800-766-5612**

**FOR PARTS CALL:**

**1-800-758-9378**

**(U.S.A. AND CANADA ONLY) MONDAY-THURSDAY: 6:00 A.M. – 4:00 P.M. PST  
FRIDAY: 6:00 A.M – 1:00 P.M. PST**



**Recommended Tools:** 5/64" Hex Key wrench, 11/32" socket wrench or open end wrench.

## INSTALLATION PROCEDURE

**Step 1:** Remove grille, shut off water supply and unplug 24VAC transformer from duplex receptacle.

**Step 2:** Remove bottom plate from fountain using 5/64" Hex key wrench.

**Step 3:** Remove sensor to be replaced using 11/32" socket wrench and disconnect leads to sensor.  
\*\* With older style 24VAC H.O. sensor, unplug sensor from cable assembly. Snip off the 3 position connect from cable assembly and tape off or, with a wire nut, insulate the white wire (this wire, neutral, is not required with new style sensor.)

**Step 4:** Connect leads from cable assembly to sensor. Black lead to "24VAC IN" and red lead to "TO VALVE".

**Step 5:** Install sensor.

**Step 6:** Plug the 24VAC transformer into the duplex receptacle. This will initiate the sensor's "start-up mode". "Start-up mode" for the H.O. sensor will take approximately five (5) minutes to complete its full cycle of self-calibration. It is important that no object is in front of sensor during this time. A steady red light visible in the center of the sensor window indicates the sensor is in "start-up mode". If the red light is flashing, this indicates that the sensor is picking up an object. Unless this object is a permanent fixture, (i.e. a wall, a plant, etc.), it must be removed from the view of the sensor. The sensor will adapt itself around such permanent fixtures. In this mode, the sensor will take up to ten (10) minutes to calibrate.

**NOTE:**

1. If the 24VAC power supply is interrupted for more than fifteen (15) seconds, the "start-up mode" will automatically repeat itself when power is restored.
2. If the indicator light flashes three (3) times quickly, then three (3) times slowly and continues to repeat this sequence, this indicates incorrect wiring or a short in the 24VAC power supply.
3. When someone remains standing in front of the sensor for more than thirty (30) seconds, the sensor will automatically shut off the water supply to the bubbler. To restart, stand to the side for a moment, then return to a position in front of the sensor.

**Step 7:** Turn water supply on and adjust the bubbler's flow using the black regulator mounted next to the solenoid valve. Finally, check fountain for leaks. Verify the chiller turns off after water reaches proper temperature. If there are any problems, refer to sensor's Troubleshooting Guide.

**Step 8:** Re-install bottom plate and grille.

## SENSOR TROUBLESHOOTING GUIDE

**Step 1:** A loud click indicates when the solenoid valve is turned on. If valve clicks, but no water comes on make sure screwdriver stop is wide open (turn counterclockwise). If valve clicks but still no water, check valve or line for obstruction. If valve does not click when hand is placed a few inches in front of sensor, go on to next step. **DO NOT ATTEMPT TO DISASSEMBLE SENSOR, DAMAGE WILL RESULT.**

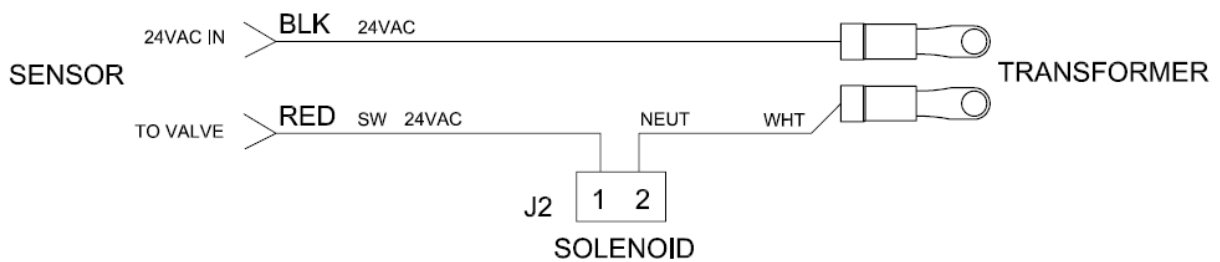
**Step 2:** Using volt meter, check for 24VAC across the transformer terminals. Replace transformer if faulty.

**Step 3:** Check solenoid valve. Voltage rating on valve top plate should be 24VAC. Unplug sensor from wiring harness. Using a volt meter, check for 24VAC signal from wiring harness (use hand in front of sensor to activate).

Valve coil may be checked for continuity using an Ohm meter. Disconnect valve from wiring harness and sensor wires. Connect each valve lead to a meter lead. One meter lead should be plugged into meter ground socket and one should be plugged into socket marked "Ohm". Coil resistance should be around 10 – 20 Ohms. If resistance is near infinity or zero, solenoid coil is at fault. Coils may be easily replaced without disconnecting valve body from plumbing. Replace with new 24VAC rated coil.

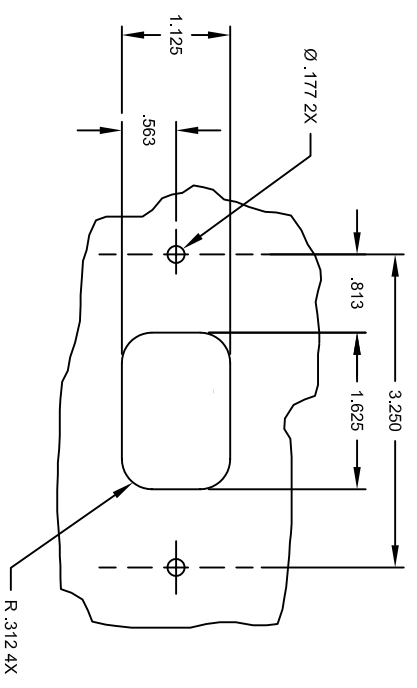
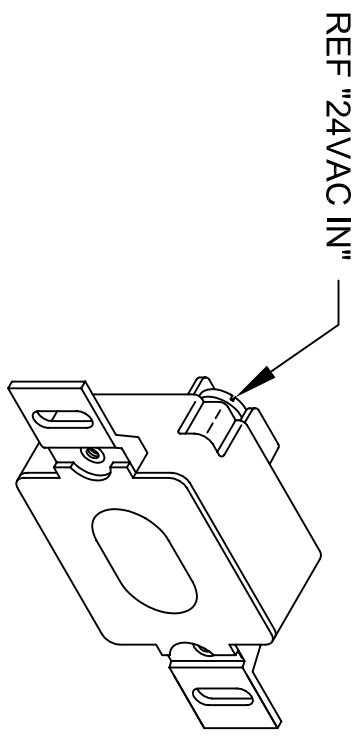
**Step 4:** Check wiring harness. If wiring harness appears to be hooked up correctly, disconnect harness from valve, sensor and power cord, then check harness for continuity using Ohm meter. Resistance between connectors attached to each other by wires should be near zero Ohms. High resistance indicates a faulty connector or wire. There should be infinite resistance between separate (independent) legs of the wiring harness. Less than infinite resistance indicates a short or cross connection. If wiring harness has proper continuity and is hooked up properly, proceed to Step 5.

**Step 5:** Check sensor. If Steps 2, 3 and 4 all check out OK, the sensor is probably the problem. The sensor acts pretty much like a simple relay or switch. The SCR (semiconductor relay) within the sensor will not fully switch without a 6 to 11 Watt load such as a solenoid valve or household light bulb. For this reason, a simple Ohm meter test on a good sensor which is not connected to the proper load will yield misleading results seemingly indicating improper function.

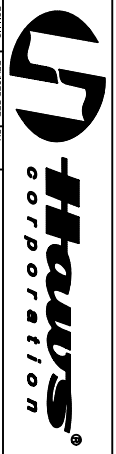


**CABLE WIRING DIAGRAM**

\* MUST BE USED IN CONJUNCTION WITH 24VAC TRANSFORMER AND SOLENOID



PANEL CUT-OUT



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FIG. NO. 1370	REVISIONS	DATE	BY	DESCRIPTION
1370	ECN: 1628	05/10/94	GE	SENSOR, 24VAC H.O.
APPROVER:	DATE:	SCALE:	INSTALLATION/REWORK	
MODEL(S):	INFO FAX DOC #:	SPANNING TYPE:		
0002080407.D				
11393C00				
SIZE: A	SHEET: 1	OF: 1		