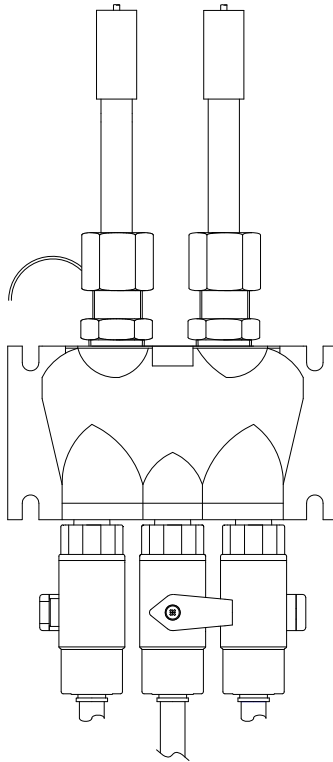




## **GLOBE FLOWCELL**



## **Operating Manual**

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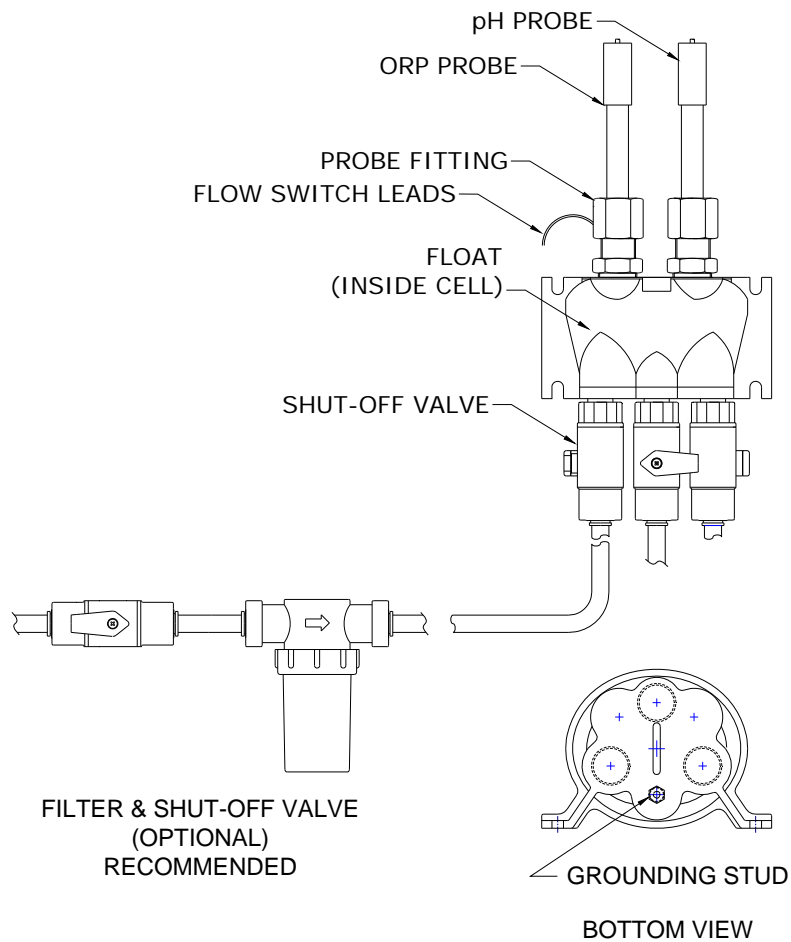
## 1.0 Safety Instruction

**See controller manual for additional safety instructions.**

- A- **WARNING:** Do not shut down circulating and control system immediately after using pool, spa or hot tub. Systems must operate until water chemistry is stable. Systems must be restarted before water chemistry is out of NSPI recommended ranges or water chemistry must be manually corrected.
- B- **WARNING:** Removing power from circulating pump must also remove power from the controller. Provide a properly located outlet controlled by the circulating pump circuit.
- C- **WARNING:** Use a device such as a flow switch to remove power from the controller in the event of pool pump or circulation failure. It is not safe to automatically dispensed chemicals into circulating system that is not running.

## 2.0 Description

The manifold is designed to be used with a controller as part of a chemical automation system, which continuously monitors and maintains pH balance and sanitizer level in a swimming pool or spa.



### 3.0 Installation

#### 1. Mount Manifold:

Pre-mark hole locations for manifold mounting screws using the manifold. The manifold should not be above the controller unit or other equipment or electrical devices. Manifold holes will accept #10 screws.

#### 2. Install pH and ORP Probes:

Note: standard probes have platinum tips. Special gold tipped probes are recommended for application with Salt Chlorine Generators.

Probe ends should not dry out. They are packaged within a jar to keep the ends wetted during shipment and storage. Remove the probes from wetting jars by unscrewing the jar cap. Remove the jar cap and grommet from the probe. (Save for future probe storage.) Close left and right manifold valves, and open the center manifold valve.

Remove nuts from probe fittings and slide onto probes, noting direction of nut thread.

Insert the pH probe into the right probe receptacle. Probe should slide freely through the fitting and into the manifold until it bottoms out inside the manifold. Then raise the probe about 1/8", hold in position and finger-tighten the nut onto the fitting. Use a wrench to tighten the cap about another 1/4 turn.

**DO NOT OVER TIGHTEN.**

Repeat the procedure for the ORP probe in the left probe fitting.

### 3. Install Manifold Connections to the Pool Water System

Turn off the pool's pump system during this procedure.

Check that sufficient tubing (supplied) is available for connecting Manifold prior to drilling holes.

Additional tubing may be obtained –see parts list for part numbers.

Do not exceed a total of 40' of tubing.

Select installation points in the Pool Circulation System for the fitting that will provide flow into the Manifold. The inlet to the Manifold should be at a higher pressure than outlet of the Manifold to provide flow through the Manifold. Assuming the inlet connector will be located upstream of the pool filter and the outlet connector is downstream from the pool filter, proceed as follow:

Cut a length of black plastic tubing long enough to reach from the left (inlet) Manifold Valve to the installation point on the upstream side of the pool filter.

Install this piece of tubing into the left Valve of Manifold. (Turn this Valve 'off.')

Cut a length of black plastic tubing long enough to reach from the right (outlet) manifold fitting to the installation point on downstream side of the pool filter.

Install this piece of tubing into the right Valve of Manifold. (Turn this Valve 'off.')

A length of tube can also be added to the center Manifold Valve for convenience of water sampling.

Drill and tap a 1/4" NPT thread into a **straight** section of water pipe at both installation points.

Screw in 1/4" MNPT x TUBE fitting and tighten.

Note: use Teflon<sup>®</sup> tape on pipe threads and **DO NOT OVER TIGHTEN**.

Connect the tubes coming from the Manifold Valves into the fittings.

Open both the left and right Valves on the Manifold (close the center Valve).

Turn on the Pool's pump system and check for water leaks. Fix leaks as required.

If flow is backwards, the Float will not move up. Reverse the tubes if needed.

Connect the two Probe cables to controller. The pH Probe cable connects to the mating jack on the bottom of the controller labeled "pH Probe." Push the connector onto the jack and turn clockwise about 1/4 turn. The ORP Probe cable connects to the mating jack on the bottom of the controller labeled "ORP Probe."

### 4. Flow Switch

Although the Float is an integral part of the flow switch, it may also be used as a manual flow indicator. On Controllers with a flow switch feature, connect the two lead wires as specified in the Controller manual.

### 5. Grounding

The Manifold is supplied with a titanium grounding stud. It is recommended that this stud be used to ground the manifold to earth ground. Grounding the manifold helps to eliminate ground loop problems that could potentially damage probes and/or cause erroneous readings.

## 4.0 Use of Manifold

### 1. Manifold Inlet and Outlet Valves:

- 1.1 Adjust flow through Manifold. Turn left Valve to full on position.  
Close the right Valve and then open it until the Float rises to the top of its chamber.  
The Float will not rise if flow is not sufficient or backwards.
- 1.2 Removing Probes. The Valves allow the operator to remove Probes without shutting down the pool pump.  
Close both left and right Valves before loosening the Probe fittings.  
(Whenever re-inserting Probes in Manifold, open center Manifold Valve before and during insertion to relieve pressure, then close the center Valve after Probe insertion is complete.)

### 2. Water Sampling Valve:

The center Valve on the Manifold can be used to conveniently take water samples from the pool water.

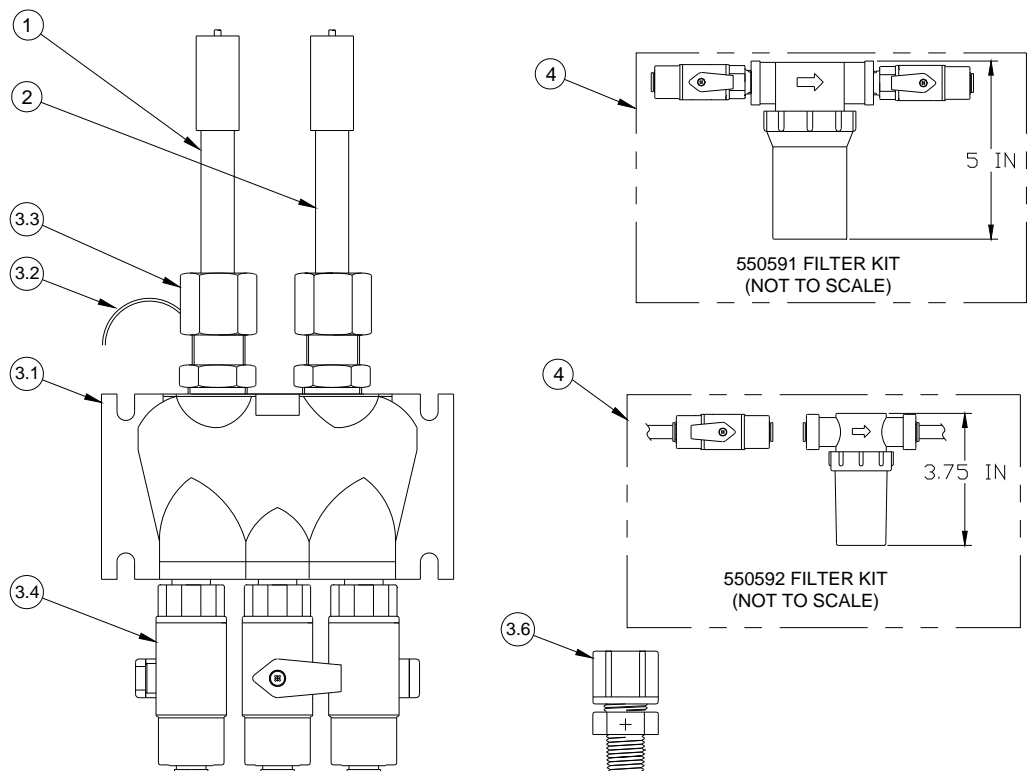
## 5.0 Maintenance

1. Cleaning- Periodically (approx. each month) remove Probes from Manifold and clean them.  
Clean more frequently as required (i.e. if bathers use large amounts of oils and sun tan lotions in the pools).  
**Caution:** Clean probes every 2 to 3 weeks when using di-chlor or tri-chlor products.  
Wash Probes with dish washing liquid and cotton swab or cloth, then soak end for three minutes in a solution of muriatic acid diluted 20:1, and then rinse with water.
2. Do not let Probe ends dry out.  
At year end shutdown, remove Probes from Manifold and return to wetting jars.  
If it is expected that Manifold may go dry for a long period (several hours), remove them from the Manifold and submerge tips in water. Use pH buffer solution in wetting jar to protect Probes. Drain the Manifold to prevent freeze damage. Plug Probe fitting openings in Manifold to minimize contamination.
3. Refer to Feeder and Controller manuals for their maintenance.

## 6.0 Troubleshooting

1. If Controller doesn't appear to be reading correctly, check Probes.  
(See cleaning in Maintenance section)
2. Check the pH Probe with 7.2 pH buffer solution.  
The OPR Probe can be checked with a solution of 1 drop 5.25% bleach (i.e. household bleach) and 1 pint water. This should provide a 1-2 ppm free chlorine solution (check with test kit) Add one drop of chlorine at a time to adjust test mixture as required. Put ORP Probe in mixture. The ORP reading should be 600 to 800 mV.  
Note: It may take three to five minutes for Probes to respond to solution. If it takes longer you should replace the Probes.
3. Incorrect ORP/pH reading can occur if water is flowing too fast in the Manifold –see Use of Manifold section.
4. Verify that Probe ends are in the flow stream of the Manifold.
5. If Controller shuts down it may indicate inadequate flow is going through the Flow Switch.

## 7.0 Parts List



| ITEM NO. | PART NO. | DESCRIPTION   |
|----------|----------|---|
| 1        | 550136   | ORP PROBE- HEAVY DUTY, 8 FT CABLE                   |
| 1        | 550209   | ORP PROBE- HEAVY DUTY, 3 FT CABLE                   |
| 1        | 550201   | ORP PROBE- GOLD TIP, 8 FT CABLE                     |
| 2        | 550135   | pH PROBE- HEAVY DUTY, 8 FT CABLE                    |
| 2        | 550208   | pH PROBE- HEAVY DUTY, 3 FT CABLE                    |
| 3        | 550180   | FLOWCELL ASSEMBLY, 3/8 TUBE (INCLUDES 3.1 THRU 3.6) |
| 3.1      | 550181   | FLOWCELL, CLEAR GLOBE                               |
| 3.2      | 550183   | FLOW SWITCH   |
| 3.3      | 550089   | PROBE FITTING (qty 2)                               |
| 3.4      | 7125190  | VALVE, SHUT-OFF, PVC-3/8 TUBE X 1/4 NPT (qty 3)     |
| 3.5      | 550194   | TUBING, PE, 3/8 OD x 40 FT                          |
| 3.6      | 550193   | FITTING, PP, 3/8 TUBE X 1/4 NPT (qty 2)             |
| 4        | 550591   | FILTER KIT, 3/8 TUBE (LARGE FILTER) (OPTION)        |
| 4        | 550592   | FILTER KIT, 3/8 TUBE (SMALL FILTER) (OPTION)        |

### ITEMS A-D USED ON FLOWCELLS WITH 1/4 TUBING

|   |        |   |
|---|--------|---|
| A | 550590 | FILTER KIT, 1/4 TUBE                    |
| B | 550054 | VALVE, SHUT-OFF, PVC-1/4 TUBE X 1/4 NPT |
| C | 550027 | TUBING, PE, 1/4 OD x 40 FT              |
| D | 550026 | FITTING, 1/4 TUBE X 1/4 NPT             |

## **8.0 Warranty and Service-**

### **8.1 Limited Warranty**

Rola-Chem Corporation warrants the original purchaser that this unit is free from manufacturing defects in material and workmanship from the date of the original purchase for one (1) year.

If this unit fails within the one (1) year period, it will be repaired or replaced at Rola-Chem's option, at no charge, when returned to Rola-Chem Corporation with proof of purchase receipt. This warranty does not apply to any product damage caused by improper use, accident, misuse, improper line voltage, fire, flood lightning, earthquake or other acts of nature, or, if product was altered or opened by anyone other than qualified Rola-Chem personnel.

All expendable items- hoses, etc., are not covered under this warranty.

Heavy duty probes are warranted from the date of original purchase for one (1) year. Standard duty probes are warranted from the date of original purchase for 90 days.

Rola-Chem Corporation under no circumstances shall be liable for any consequential damages directly or indirectly caused by this unit. Please observe all rules and regulations required by state and local regulations, building codes, health codes, OSHA, etc.

### **8.2 Service Procedure**

For operation assistance in the United State, please call:

(800) 549-4473 or FAX (651)-653-0989

Monday thru Friday 8:00 am-5:00 pm, Central Time.

Rola-Chem Corporation has specialized knowledge and equipment to properly test your unit and help you with special problems. After talking to our service personnel, the product in need of service should be shipped with RGA#, freight prepaid, via UPS if at all possible to:

Rola-Chem Corporation  
5858 Centerville Road  
St. Paul, MN 55127-6804

**-NOTES-**