

## Installation Instructions for the SnowMaster Automatic Fluid Refill Systems

### System Description:

This Automatic Fluid Refill System maintains the fluid levels in small machine reservoirs by refilling them automatically from a bulk storage container. Especially useful for extended machine operation or in installations that make reservoir refilling difficult. This unit is not intended for corrosive/explosive fluids.

### Items Required for Installation:

Refill System Kit including  
 Pump Control Unit  
 Float Assembly  
 (1) 1/4" Hose Clamp  
 (1) 5/16" Hose Clamp  
 Roll Tubing

Optional Items  
 Mounting hardware  
 Outdoor/Wet Cover

Please Note: Attempting to use any SnowMasters product in a manner for which it was not designed may cause improper function, destruction of the product, personal injury and/or voiding of any warranties expressed or implied.

- 1) Familiarize yourself with the control module and Float Switch Assembly.



Control Module: Contains the control electronics and the pump. The control module is encapsulated and contains no user-serviceable parts. The power cable and the pump suction line is on the bottom of the pump and the float switch plug and pump outlet are on the top.



Three diagnostic indicators are provided. The blue power indicator shows that the unit is operating. The yellow "call for pump" and the "pump on" light indicate pump status.



The Float Switch has a wiring harness connector, which is plugged into the control box. A float switch extension cord available from SnowMasters can be used to extend the float switch wiring harness. The switch is activated when the fluid level in the remote container falls to a pre-defined level.

The float switch also has two holes at the top to allow insertion of the suction line for the machine and the fill line from the pump system. These two holes may be used for either function.



### **Installation of the Control Unit:**

Overview: The “suction” line on the pump control unit is installed into the bulk storage container. The “discharge” line is installed from the pump control unit to the container that is being refilled.

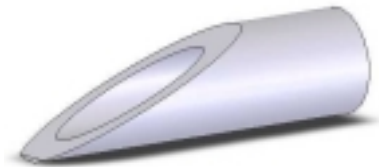
- 2) The Pump Control Unit Should be mounted as close as possible to the bulk storage container as possible and no more than 15 feet of suction line should be used. This will reduce the amount of time needed to prime the pump the first time it is used.

The electronics inside the Pump Control Unit have been encapsulated in urethane. *Care should be used to avoid allowing fluid to enter the enclosure to prevent the fluid from false triggering the pumping system.*

- 3) Insert the switch extension cord into the pump system and extend the float switch assembly to the machine reservoir. **DO NOT CUT THE SWITCH EXTENSION CORD.** Excess cord can be left rolled up.
- 4) Place the 1/4" hose clamp over one end of the hose and attach the hose to the barbed outlet of the pump. Fasten the hose clamp over the tubing to secure the hose to the fitting. Extend the hose to the machine reservoir.
- 5) Attach a short piece of tubing to the suction fitting of the pump and secure that fitting with the 1/4" hose clamp. This is important to prevent air infiltration into the fluid lines. The other end of the suction line should be placed into the bulk storage. Insure that the inlet of the suction let will remain submerged in the fluid even as the container empties.
- 6) Electrical Power should be 110volt or 220 volts (approx.) and appropriate for the pump control model you are installing. The system can operate on either 50 or 60 Hertz. 220 volt installations may require “hard-wiring” or installation of a suitable power plug. Installation of a Ground Fault Interrupt is recommended.

### **Installation of the Float Switch Assembly:**

- 7) Remove the cap from the machine reservoir and the machine suction tube. It may be a good idea to retain the cap for replacement should the fill station be no longer required. Insert the tube from the machine into one of the holes on the top of the Float Switch Assembly. It may help to cut the end of the tubing at a steep angle to get the tubing started in the hole.



- 8) Insert the tubing from the Pump Control Module into the other hole. Again, it may help to cut the tubing at a steep angle to get the tubing started.
- 9) Plug the Float Switch Assembly electrical connection into the switch extension cord.
- 10) Insert the float switch assembly into the machine reservoir, with the float situated towards the bottom of the reservoir and tighten the float switch onto the reservoir. It is imperative that the float on the switch is free from obstruction and that during the fill cycle the fluid entering the machine reservoir does not spray directly onto the float. Failure to observe this notice may cause improper operation of the refill system.

### **Testing for Proper Operation:**

When power is applied to the Pump Control Module the Blue Power Indicator will illuminate. When the float on the float switch assembly falls signifying a need to refill the machine reservoir the yellow “Call for Pump” will illuminate. The control module will then turn on the pump and illuminate the Green “Pump On” light. Under normal circumstances the yellow and green light will always be on together.

The pump system will fill the container within 4-5 inches of the top and then stop filling until the fluid level in the machine reservoir has lowered approximately 1 to 2 inches. This system allows for plenty of time to refill the bulk storage container by providing significant fluid in the machine reservoir at all times.

**Troubleshooting:**

SYMPTOM	SUGGESTION
Blue Power Light does not illuminate and pump does not function	Insure proper power is connected to Pump Control Module. There are no serviceable parts in the Module.
Pump is Not Pumping Blue Power Light - On Yellow Call for Pump Light - On Green Pump light – On  *Float switch is calling for refill	Heat Safety switch tripped typically caused by pump running in excess of 10 minutes continuous. Wait 30 minutes and try again.  Pump damaged. Return to factory for evaluation.
Pump is Not Pumping Blue Power Light – On Yellow Call for Pump Light – Off Green Pump Light – On  *Float switch not calling for refill	Internal safety switch is tripped and Float Switch is NOT calling for fluid. Disconnect power for 30minutes and try again.  Pump damaged. Return to factory for evaluation.
Pump runs continuous Blue Power Light – On Yellow Call for Pump Light – On Green Pump Light – On  *Over-filling container	Check for free movement of float switch  Check for fluid that may be shorting out the Float Switch Assembly, specifically around connections to the extension cord and pump control module. Fluid around the electrical connections will cause a false trigger of the pump system. Check fluids around connectors and the length of the connecting wire. Unplug float-switch at the pump, if the pump remains “ON”, fluid is inside the pump control – disconnect power, with Float-switch plug out, allow liquid to drain through the hole and dry out.
Pumps runs but will not prime	Pump is dry. This system utilizes a magnetically driven piston pump that uses the fluid as a lubricant and buffer. Disconnect inlet line and put a few drops of water in the suction end of the pump. Dry operation shall will damage pump.

**Warranty:**

Automatic Refill Station is backed by a lifetime warranty when installed according to manufacturer instructions and the pump station is not allowed to run without fluid. Defective product must be returned for evaluation and warranty service. Liability limited to repair or replacement of the pump system at Manufacturers sole discretion.