255-620-A

User Manual

255-620-A

Evaporation Pan Automatic Refill System

Phone (530) 823-7185
Email nova@novalynx.com **Website** www.novalynx.com

Receiving and Unpacking

Carefully unpack all components and compare to the packing list. Notify NovaLynx Corporation immediately concerning any discrepancy. Inspect equipment to detect any damage that may have occurred during shipment. In the event of damage, any claim for loss must be filed immediately with the carrier by the consignee. Damages to equipment sent via Parcel Post or UPS require the consignee to contact NovaLynx Corporation for instructions.

Returns

If equipment is to be returned to the factory for any reason, call NovaLynx between 8:00 a.m. and 4:00 p.m. Pacific Time to request a Return Authorization Number (RA#). Include with the returned equipment a description of the problem and the name, address, and daytime phone number of the sender. Carefully pack the equipment to prevent damage or additional damage during the return shipment. Call NovaLynx for packing instructions in the case of delicate or sensitive items. If packing facilities are not available take the equipment to the nearest Post Office, UPS, or other freight service and obtain assistance with the packaging. Please write the RA# on the outside of the box.

Warranty

NovaLynx Corporation warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from the date of shipment from the factory. NovaLynx Corporation's obligations under this warranty are limited to, at NovaLynx's option: (i) replacing; or (ii) repairing; any product determined to be defective. In no case shall NovaLynx Corporation's liability exceed product's original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by NovaLynx Corporation, or that has been subjected to misuse, negligence, or accident. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.

Address

NovaLynx Corporation
431 Crown Point Circle, Suite 120
Grass Valley, CA 95945-9531 USA
Phone: (530) 823-7185
Email: nova@novalynx.com
Website: www.novalynx.com

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1 FORWARD

Thank you for purchasing NovaLynx products. NovaLynx has been designing and manufacturing weather instruments since 1988. NovaLynx represents several well-known brands of quality manufacturers, including Gill Instruments, RM Young, Kipp & Zonen, and Vaisala. It is our hope that our products will meet all your monitoring requirements.

2 INTRODUCTION

The **255-620-A Evaporation Pan Automatic Refill System** is designed for use with the NovaLynx 255-200 Class A Evaporation Pan and 255-100 Analog Output Evaporation Gauge. When used together with a monitoring system (logger), a fully-automated evaporation monitoring station can track evaporation without daily visits to the site to take manual readings.

The automatic refill system consists of a programmable timer and float valve. The programmable timer starts the refill cycle, while the float valve cuts off the water when the maximum fill level is reached. After a few minutes the timer shuts off its internal valve to ensure that no more water is added. The cycle repeats (usually after an interval of a week).

The refill system can operate over a wide range of inlet water pressure: 14 to 690 kPa (2 to 100 PSI). The system should not be used in applications where the temperature will drop below 3°C (37°F) because freezing could damage the valve. Where freezing weather is expected, the system should be removed, drained and stored indoors. For long-term storage, the batteries should be removed.

The timer is supplied with the battery installed. Instructions for battery replacement are included.

3 SPECIFICATIONS

255-260-A Automatic Refill System	
Power	One 9V alkaline battery (included)
Operating Temperature	3°C to 50°C (37.4°F to 122°F)
Operating Humidity	0 to 100% RH
Construction	Housing: high grade polystyrene
	Hose fitting: brass
Connection	Standard garden hose thread
Dimensions	20 x 15 x 10 cm (8" x 6" x 4")
Weight / Shipping (bracket)	1.8 kg / 3.2 kg (4 lbs / 7 lbs)

4 PROGRAMMING

The ideal depth of water in an evaporation pan, for consistency, is between 2 and 3 inches below the rim (i.e. 7" to 8" deep). Experiments have shown that the height of the rim of the pan above the water surface affects the rate of evaporation. In order that the records from all stations will be comparable, the pan should be filled to a level 2 inches below the rim, and refilled when the water has receded 1 inch (3 inches below the rim).

The automatic refill system operates close to this ideal, but some variance will occur due to mechanical limits, water pressure variations, and differing rates of evaporation. The timer unit must be programmed to suit the average of the environment where the evaporation pan will be used. Under conditions of moderate rates of evaporation (~0.14"/day), the refill cycle can be set to repeat once a week. Where evaporation is more rapid, the cycle may need to occur more frequently. If the average rate of evaporation is known, one can approximately calculate how long it will take for the level to drop an inch in the pan, and set the refill timer accordingly.

Instructions for setting and maintaining the timer are detailed in the Aquauno Video-2 Brochure included with your order, and also available here: https://novalynx.com/manuals/255-620-A-manual.pdf

Please set the following parameters:

			EXAMPLE
1.	**Current Time**	Set local time (using military time)	HH:MM
2.	**Program 1**		
	1st Opening	Set a start time	07:00
	1st Closing	Set the stop time (= start + 10 minutes)	07:10
		Note: *Increase the stop time if needed for low pressure systems.*	
3.	**Program 2**	Do not enable program 2	
4.	**Weekly Program**	Select a day of the week	Day 1

5 OPERATING CYCLE EXAMPLE

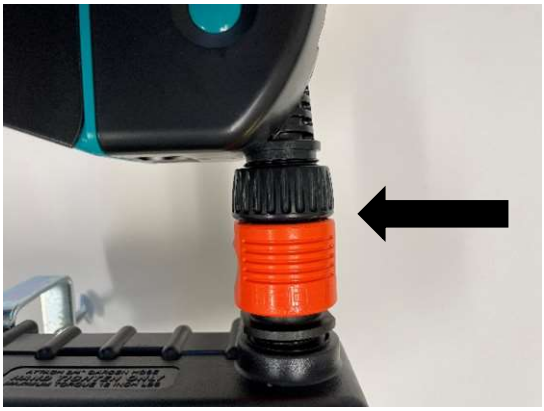
1. At the programmed time (7:00 am), the timer will open its valve and water will begin to fill the pan.
2. When the pan fills to about 9 inches deep, the float valve will stop the flow of water.
3. After 10 minutes (7:10 am) the timer will close its valve to stop the cycle.
4. One week later the cycle will repeat.

NOTE: The 255-200 Class A Evaporation Pan is 10 inches deep. When the automatic refill system is installed on the rim of the pan and the water turned on, the pan will fill to a depth of 8.5 to 9.5 inches, depending on the water pressure. An inch of water is approximately 8 gallons.

6 ASSEMBLY AND INSTALLATION

The programmable timer connects to the float valve by means of a quick-connect hose fitting. Simply align the two parts, and press firmly together. You should hear a "click" when the orange collar on the fitting snaps into place. The fitting can swivel, making it easy to see the face of the timer when it is installed on the evaporation pan.

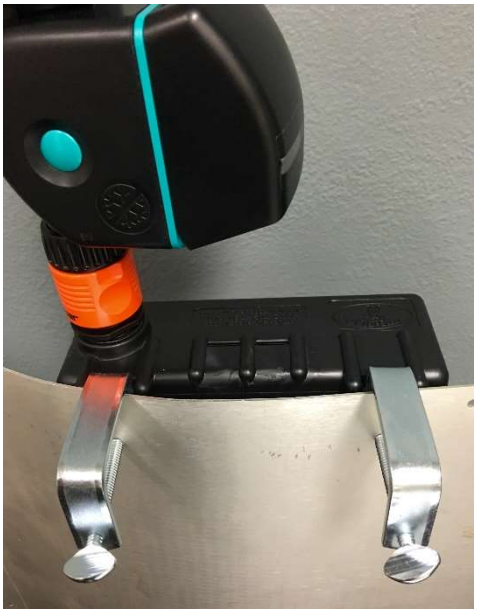
Not Connected



Connected

If it is necessary to remove the timer from the float valve, grasp the orange collar and push it down toward the float to release the quick-connect fitting.

The float housing has two screw-type clamps. Open the clamps, place the float housing on the inside of the pan so that it rests on the clamp arms, then tighten the clamps. The assembly should be firmly attached to the evaporation pan.

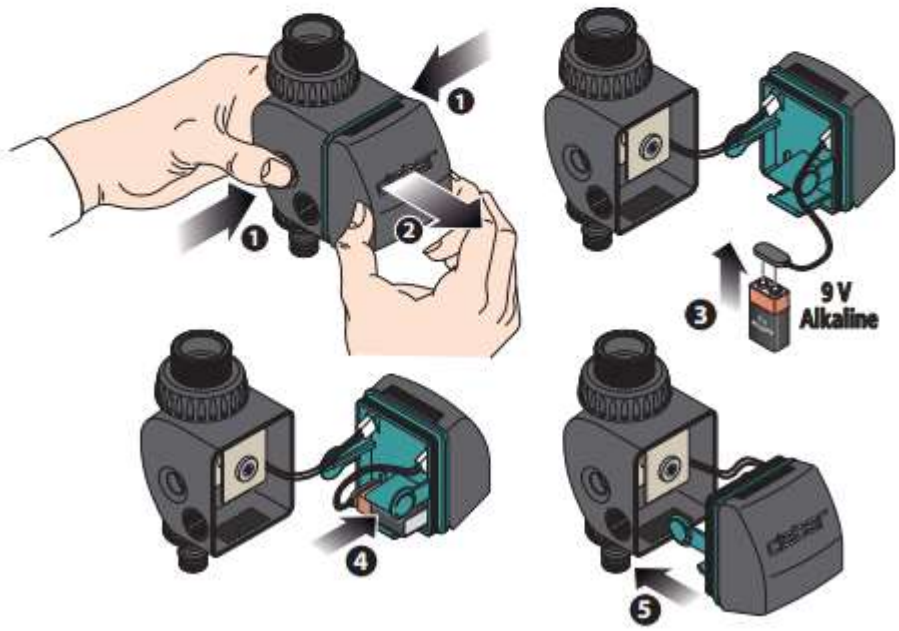


Connect a garden hose to your water supply and flush the hose to ensure no debris will get into the timer. Attach the hose to the 90° elbow on the top of the timer housing. Turn on the water supply.

Operate the timer in manual mode in order to bleed air out of the system. It will run water for 15 minutes and stop. This will probably not fill the pan completely, but for the moment leave it as is. After another 15 minutes or so, come back to the pan and check for leaks. There should be no water dripping into the pan. If there is a leak, check your connections.

When satisfied that there are no leaks, operate the system manually until the pan fills to the appropriate level.

7 BATTERY REPLACEMENT

To install or replace the battery, proceed as follows (*fig.2*):

- Press the two side buttons on the black housing simultaneously (❶) to release the front panel (❷).
- Insert new 9V Alkaline battery (❸) and position the battery into holder (❹).
- Slide front panel back into the housing, ensuring side buttons click into place (❺).