

255-620-B

User Manual

255-620-B

Evaporation Pan Automatic Refill System



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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.

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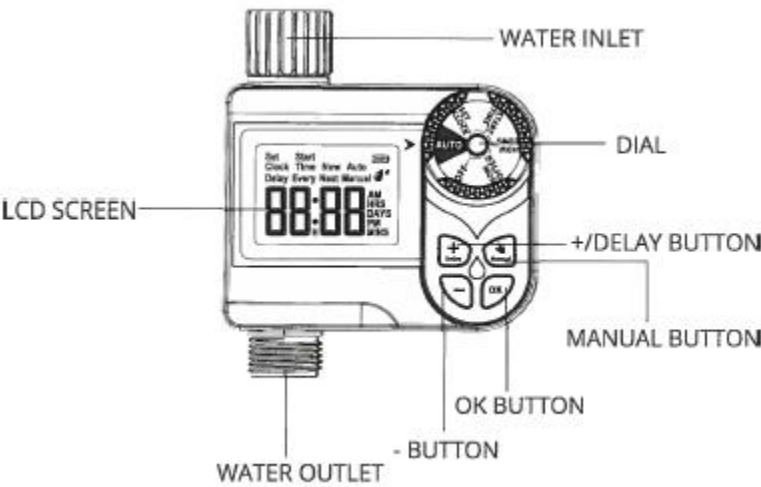
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Dial Functions	
AUTO	Timer is on/off automatically
OFF	Timer is off
SET CLOCK	Set up current time
START TIME	Set up what time to start filling
HOW LONG	Set up filling duration
HOW OFTEN	Set up filling frequency



Button Functions	
+/DELAY BUTTON	Set up time, system, rain delay
- BUTTON	Set up time and system
MANUAL BUTTON	Set up manual filling
OK BUTTON	Confirm setup

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-B 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 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, and differing rates of evaporation.*

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 rotating ball valve design of the 255-620-B is ideal for use with low pressure external water tanks as well as pressurized water supply systems. The valve operates from 0 to 120 PSI (0 to 8 Bar).

3 PRECAUTIONS

- Use only with clear cold water.
- Clean the inlet filter as required to extend the product lifetime. Replace if worn.
- Orient the display to face North, to keep sunlight off the LCD screen.
- When freezing weather is expected, remove, drain, and store the system indoors.
- For long-term storage, remove the batteries.
- See **Appendix A** for special instructions before **first use** or after **long storage**.

* 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.

4 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.

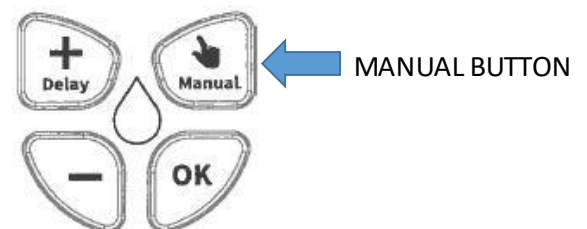
Orient the display to face North to keep sunlight off the LCD.

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.



MANUAL MODE: Set the dial to AUTO. Press the Manual button.

Operate the timer in manual mode in order to bleed air out of the system. It will run water for 10 minutes and stop. This will probably not fill the pan completely, but for the moment leave it as is. After another 10 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. The manual mode filling time can be increased by pressing the + button.

5 PROGRAMMING

The timer is supplied with 2 AA batteries installed. Check the battery status icon in the upper-right corner of the display. Replace the batteries if the low battery indicator displays.



1. SET CLOCK

- Turn the dial to SET CLOCK.
- Press the +/- buttons to set the current time.
- Press the OK button to switch between hours and minutes.
- Turn the dial to save the changes.

2. START TIME (Set the start time near midnight, when there is little evaporation)

- Turn the dial to START TIME.
- Press the +/- buttons to set the start time.
- Press the OK button to switch between hours and minutes.
- Turn the dial to save the changes.

3. HOW LONG (Varies depending on water pressure and evaporation rate: 10-30 minutes typical)

- Turn the dial to HOW LONG.
- Press the +/- buttons to set the duration.
- Turn the dial to save the changes.

4. HOW OFTEN (Set to 7 DAYS, typical*)

- Turn dial to HOW OFTEN.
- Press the +/- buttons to set the days.
- Turn the dial to save the changes.

EVERY 1 DAY

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
EVERY WEEK							

EVERY 2 DAY

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
WEEK ONE							
WEEK TWO							

EVERY 3 DAY

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
WEEK ONE							
WEEK TWO							

EVERY 7 DAY

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
WEEK ONE							
WEEK TWO							

5. START REFILL SYSTEM

- Turn the dial to AUTO.
- When NOT filling, the display switches between the current time and the next filling time.
- When filling, the display shows the remaining time of the current program.

6. STOP REFILL SYSTEM

- Turn dial to OFF

* 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.

6 SPECIFICATIONS

255-260-B Automatic Refill System	
Inlet / Outlet Thread	3/4" NH (pure brass)
Watering Frequency	1 to 12 hours or 1-7 days
Watering Duration	1 to 240 minutes
Working Pressure	0-120 PSI (0-8 Bar)
Maximum Flow Rate	10 GPM (35 Liters per minute)
Working Temperature	38°F to 120°F (3°C to 50°C)
Waterproof and Dustproof	IP55
Battery	Two AA alkaline batteries (included)
Battery Life	Approx. 1 year
Timer Dimensions	4.45"W x 4.66"H x 2.79"D (11 x 12 x 7 cm)
Float Dimensions	7.4"W x 6.0"H x 5.6"D (19 x 15 x 14 cm)
Overall Weight / Shipping	1.8 lb / 4 lb (0.8 kg / 1.8 kg)

7 BATTERY REPLACEMENT

Replace the batteries if the low battery indicator displays.



IMPORTANT: Make sure your hands and the timer are dry when you replace the batteries.

1. Turn the dial to "OFF."
2. Wipe off any moisture around the battery tray on the back of the timer.
3. Pull out the battery case from the back of the timer. Dry any moisture in or around the compartment.
4. Remove the depleted batteries.
5. Insert two new AA alkaline batteries, observing the correct polarity.
7. Fully replace the tray.
8. Re-program the current time and schedule.

APPENDIX A (FIRST USE / AFTER STORAGE)

Instructions for First Use or After Long Storage

1. Install the batteries and connect the timer to the water supply. Turn the faucet on fully.
2. Set the timer dial to "AUTO."
3. Press the "MANUAL" button to start manual watering mode.
4. Turn the timer on for at least five seconds. Then, turn it off.
5. Repeat steps 2–4 about five times until the water flows smoothly.

APPENDIX B (TROUBLESHOOTING)

Leaks from the hose connection.	Solutions
Filter washer lost or damaged.	Ensure the filter is clean and undamaged.
Incorrect faucet installation.	Check whether the faucet and hose are 3/4" NH thread. Make sure all connections are hand-tight and not cross-threaded.
Water pressure is too high.	The water pressure should be 0-120 PSI (0-8.0 bar).
The evaporation pan does not fill completely (8.5 to 9.5 inches)	
The filter is clogged.	Clean or replace the filter.
The inlet pressure is low.	Turn the dial to HOW LONG and increase the time. Return the dial to AUTO.
The inlet pressure is insufficient.	In a gravity-fed system, it may be necessary to raise the tank.
The system cannot keep up with rate of evaporation.	Turn the dial to HOW OFTEN and decrease the days between filling. Return the dial to AUTO.
The watering program does not work as preset.	
The timer dial is not set to the AUTO position.	Turn the dial to the AUTO position.
The battery power is low.	Replace the batteries if the low battery indicator flashes.
The Rain Delay is on.	To cancel the rain delay, press and hold the DELAY button for three seconds with the dial at the AUTO position.
The CLOCK, START TIME, HOW LONG, and HOW OFTEN are incorrect.	Turn the dial to each position and ensure that all settings are correct.
The timer valve never turns on.	
The timer dial is in the OFF position.	Turn the dial to the AUTO position.
Battery power is low.	Replace the batteries if the low battery indicator flashes.
The hose faucet is off.	Turn on the faucet.
The timer valve never turns off.	
Manual watering is on.	To cancel manual watering, turn the dial to OFF, then back to AUTO.
The ball valve can become obstructed by impurities such as stones, hairs, and other foreign matter.	To reset the ball valve:
	Step 1: Attach the timer to a faucet and open the faucet to maximum.
	Step 2: Manually turn the timer on for more than five seconds, then turn it off.
	Repeat this process more than five times until water gets through the valve properly.
LCD screen does not display properly.	
The battery is dead or not installed properly.	Replace with new batteries (Section 7).
There is moisture behind the screen.	The fog may disappear when the temperature rises.
The screen appears dark and difficult to read.	Make sure the screen is facing away from the sun and allow it to cool down.