260-2510

User Manual

260-2510

Standard Rain and Snow Gauge

260-2510 Standard Rain and Snow Gauge
with
260-2510S Tripod Support

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

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1 FORWARD

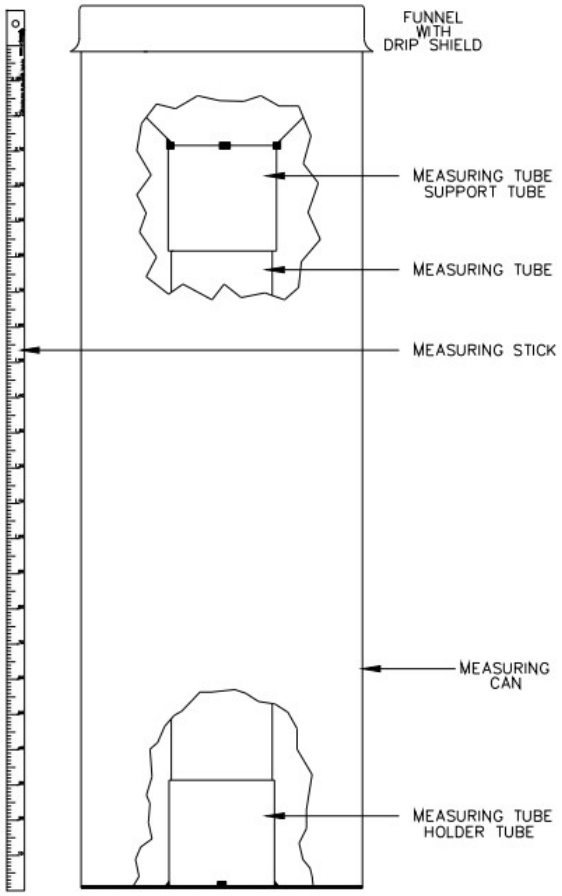
Thank you for purchasing NovaLynx products. NovaLynx has been designing and manufacturing weather instruments since 1988. NovaLynx represents several well-known brands of quality manufacturers, including Gill Instruments, RM Young, Kipp & Zonen, and Vaisala. It is our hope that our products will meet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

2 INTRODUCTION

The **260-2510 Standard Rain and Snow Gauge** is a National Weather Service type all-aluminum rain gauge with a total capacity of 20" of rainfall. The gauge has no moving parts. An epoxy laminate measuring stick with English and metric markings is included.

The upper portion of the funnel is cylindrical in shape and is turned to a fine edge. Rainwater falling into the funnel is delivered into a measuring tube. The ratio of the funnel diameter to that of the tube is 10 to 1, so that 1 inch of rain fills the measuring tube with 10 inches of water. The measuring stick is used to accurately determine (within 0.01") the amount of water in the measuring tube. Any excess water that overflows the measuring tube is captured in the measuring can.

In winter, the funnel and measuring tube are removed so that rain/sleet/snow/hail are collected by the measuring can only. The amount of precipitation is measured by melting the ice and then pouring the water into the measuring tube. The measuring stick is lowered to the bottom of the tube, then lifted out to read the depth. This is done as many times as necessary and the measurements are added together.



260-2510 Standard Rain Gauge Cutaway View

3 SPECIFICATIONS

260-2510 Standard Rain and Snow Gauge	
Orifice	8" (200 mm)
Capacity	20" (500 mm)
Resolution	0.01" or 0.2 mm
Construction	White powder coated aluminum body
	Black anodized aluminum funnel, measuring tube
	Epoxy laminate measuring stick
Dimensions	8.25" diameter x 24.75" height (210 x 630 mm)
Weight / Shipping (gauge)	7 lbs / 8 lbs (3.2 kg / 3.6 kg)

260-2510S Tripod Support	
Construction	Zinc plated steel
Weight / Shipping (tripod)	8 lbs / 10 lbs (3.6 kg / 4.5 kg)

4 SITE SELECTION

The location of the rain gauge is very important to the successful operation of the instrument. The most accurate measurements are made in relatively sheltered areas protected from gusts and turbulent wind. Open spaces between buildings and trees offer some shelter from wind effects; however, the rain gauge should be situated at least twice the distance from such objects as their height.

Wind effects on catch losses are more pronounced during snow storms than during rain storms. Where snowfall constitutes more than 80% of annual precipitation, and in areas that are open with no nearby structures, a wind screen such as the **260-952 Alter-Type Wind Screen** is recommended to minimize wind effects.

260-952 Wind Screen

The screen consists of 32 free-swinging metal leaves evenly spaced around a 48" diameter ring. The ring is divided into four quadrants, one of which swings open to permit access to the rain gauge. In locations with heavy snowfall, the gauge and screen should be mounted well above the average local snow level.

Good locations do not always remain obstruction free. Vegetation can grow quickly, changing an excellent exposure into a poor one. Sites should be inspected regularly in order to properly maintain the exposure of the gauge.

5 INSTALLATION

Tripod Support 260-2510S

To ensure best accuracy the rain gauge must be mounted as level as possible. The gauge may be placed on any level surface, but will require supports to ensure it cannot tip over during high winds.

The NovaLynx 260-2510S Tripod Support (sold separately) is recommended to support and brace the rain gauge. The tripod may be bolted down for extra stability.

Preparation

1. Remove the measuring stick from the gauge. Store the measuring stick in a location where it will be protected from the weather. Either hang the measuring stick from the small hole in the upper end, or lay it on a flat surface, so that it doesn't develop a bend in the middle.
2. Remove the funnel from the body of the rain gauge by lifting straight up.
3. Remove any packing materials that may be inside the gauge.
4. Make sure the measuring tube is resting inside the measuring tube holder, and that the open end of the measuring tube is facing upwards.
5. Replace the funnel.
6. Place the rain gauge in the tripod support.
7. Use a carpenter's level across the top of the funnel to ensure the rain gauge is level. Adjust the tripod support as needed.

6 OPERATION

Prior to the onset of a storm, prepare the rain gauge by making sure it is empty of debris. Clean out all twigs, leaves, insects, sediment, etc. Rinse the parts with clean water and dry them.

Rain Storms: If temperatures during the storm are expected to be above freezing, re-assemble the measuring tube and funnel onto the gauge, and place the gauge in the tripod support.

Ice/Snow Storms: If the storm is expected to include sleet/snow/hail, do not install the funnel or measuring tube. Place only the outer body of the rain gauge in the tripod support. Store the funnel, measuring tube, and measuring stick indoors.

Note: Whether the collected precipitation is rain or snow, there is the possibility that the water collected in the gauge will freeze if night-time temperatures are low enough. Since water expands when it freezes, the body of the rain gauge or measuring tube may be damaged. Damage due to freezing is not covered under the warranty. To prevent damage due to freezing, an anti-freeze may be added, which will mix with the rain & snow and lower its freezing point. Follow local regulations in the handling and disposal of any anti-freeze products. Ensure that wildlife cannot ingest the anti-freeze, because some products are poisonous. Be sure to record the amount of anti-freeze that is added, so that it may be deducted from the total.

7 MEASUREMENT

Ideally, plan to read the gauge at the same time each day when precipitation occurs. Severe storms may prevent reading at regular intervals, so the gauge has been designed to capture over-flow from the measuring tube. The gauge is capable of holding a total of 20 inches (50 cm) of rain. It must be read and emptied frequently enough so that it never over-flows.

It will be helpful to have two clean plastic buckets when making the rain gauge measurement. Bring these and the measuring stick to the site either at the regular measuring time, or following the storm. In situations where snow is being measured, it may be necessary to bring a heat source to melt the snow in the gauge.

1. Pick out any debris such as leaves or twigs that may have landed in the rain gauge. If the material is wet, shake the water off into the gauge.
2. If the gauge has any ice or snow in it, use a heater to melt it, but do not let it come to a boil. Do not destroy the paint on the rain gauge while heating the gauge.
3. To measure rainfall, insert the measuring stick through the orifice of the collector funnel and allow it to extend to the bottom of the measuring tube. Remove the stick immediately. The precipitation collected in the measuring tube will "wet" the stick. Read, record and report the liquid measurement to inches and hundredths (i.e., 1.34 inch).
4. If the rainfall was greater than the measuring tube capacity, there will be some water in the measuring can, which is the body of the rain gauge. Remove the funnel. Without spilling, lift the measuring tube out of the gauge and empty it into a bucket. Collect all the measured water in this bucket until all measurements are done, in case it is necessary to re-measure.
5. Pour water from the measuring can into the measuring tube, being careful not to lose any. It isn't necessary to fill the measuring tube to the top. (***Note:*** *The funnel can be placed on the top of the measuring tube, and the whole assembly supported over an empty bucket to catch spills.*) Make sure the measuring tube is vertical while using the measuring stick to read the level. Record the amount. After measuring, pour the water into the first bucket.

6. Repeat the process (Step 5) until the remaining water is measured. After all the water from the rain gauge body is measured, plus any spill from the second bucket, add all the measurements together to obtain the total.

IMPORTANT: If anti-freeze was added to the rain gauge prior to the storm, deduct the amount from the rain gauge total. The anti-freeze/water mixture must be disposed of in a legally-approved manner.

8 MAINTENANCE

Do not allow water to freeze inside the rain gauge. The expansion caused by freezing may deform the body, and possibly cause it to leak, in which case it must be replaced.

After reading the rain gauge, rinse out any sediment that has collected in the measurement tube or outer chamber. Use a bottle brush, if needed, to loosen the sediment.

If the gauge is used only seasonally, do not leave it unattended, as it may collect water which will be a breeding location for mosquitoes. Instead, clean the gauge and store it indoors until needed.

Trim back any vegetation that might affect the accuracy of the gauge.

ASSEMBLY DRAWING