

User's Guide

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RG-952
WIND SCREEN FOR PRECIPITATION GAUGES

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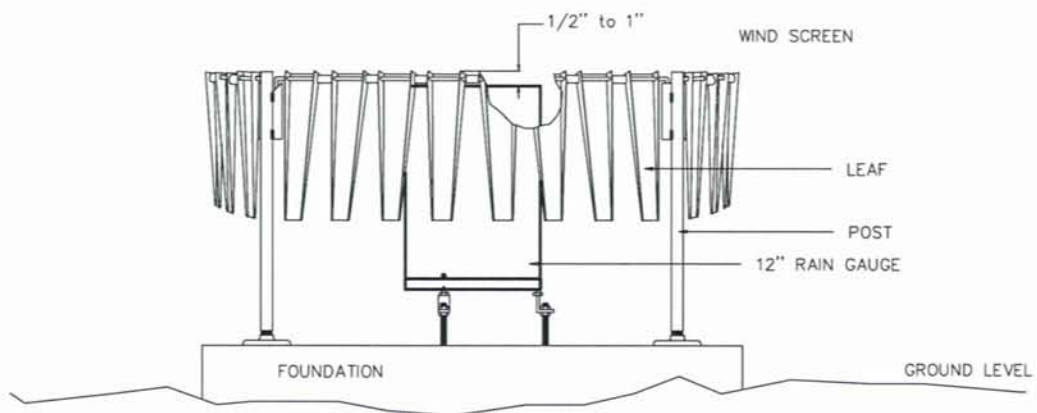
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WARNING: These products are not designed for use in, and should not be used for, human applications.

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MODEL RG-952 EQUIPMENT CONFIGURATION AND IDENTIFICATION



RG-952 Wind Screen Instruction Manual

1.0 INTRODUCTION

1.1 Omega produces an Alter style wind screen for use with a precipitation gauge to improve the catch of the rain gauge. The wind screen features thirty-two leaves that hang freely and that swing as the wind moves past them. The leaves are evenly spaced around a forty-eight inch diameter ring that is built in four sections. By placing the wind screen around the rain gauge, updrafts around the rain gauge funnel are minimized. Wind is deflected due to the inward movement of the wind screen leaves. The wind screen design generates turbulent air patterns across the top of the rain gauge causing rain to fall into the rain gauge funnel rather than being blown past the gauge.

1.2 The standard wind screen is Model RG-952. The four rings are installed onto four rigid posts made of galvanized pipe. The posts are sized so that the top of the wind screen is within one inch of the top of the rain gauge. For best results, the top edge of the rain gauge funnel should be 1/2" to 1" below the top edge of the wind screen leaves. The posts for Model RG-952 are twenty-four inches in length.

1.3 Most wind screens are installed onto the concrete pad that also supports the rain gauge. In some cases, however, the wind screen is installed onto its own concrete piers or even onto wooden supports. Care must be taken to ensure that the wind screen and rain gauge are both properly installed.

2.0 SPECIFICATIONS

2.1	Type:	Alter
	Materials:	Zinc plated and galvanized steel
	Leaves:	32
	Size:	3" wide x 16" long
	Rings:	4
	Posts:	4
	Spacers:	3/4" EMT
	Installed Diameter:	48"
	Installed Height:	24"
	Weight:	40 lbs
	Shipping:	45 lbs

3.0 INSTALLATION

3.1 Omega recommends that the rain gauge installation be completed before attempting to install the wind screen. If a single concrete or wooden foundation is to be employed it should be large enough to account for the four foot diameter of the wind screen. Spacing between the wind screen posts is thirty-four inches. Extra spacing may

be considered to provide enough area to walk around the wind screen for service of both the rain gauge and the wind screen. Sites where there is open ground between the wind screen and the rain gauge must be maintained to prevent weeds and grass from growing into and interfering with the rain gauge and the wind screen leaves. An access path of gravel is highly recommended to permit access to the rain gauge during wet conditions for emergency service.

3.2 Caution: The wind screen leaves have very sharp edges. Use leather gloves when handling the rings with the leaves installed. Avoid brushing against the leaves while servicing the rain gauge. For some situations it may be best to remove the wind screen from around the rain gauge to avoid accidental injury.

3.3 Notice that one of the wind screen rings has a shortened rod on one side. This is the GATE quadrant of the wind screen. There is also a post that has a 45 cut on one of its side pieces. The short rod of the gate ring is to be placed into the cut pipe. The configuration is designed so that the gate ring can be lifted out of the support pipe and swung to one side allowing access to the rain gauge. By using the cut pipe support and the shortened rod, the gate ring only requires slight lifting to open the gate. Plan the installation so that the gate is at the desired entrance to the rain gauge.

3.4 Installations that will have a concrete foundation may be designed so that the posts are placed directly into the concrete. In order to correctly space the posts, assemble the wind screen and temporarily install it at its desired location. Should the posts be too short to obtain the correct height, pipe couplings and extension pipes may be added onto the posts. Each post has a 3/4" NPT thread at the end. If the posts are to be directly embedded into the concrete, use a floor flange on the end of each post as an anchor to help prevent it from pulling out of the concrete. Short pieces of pipe with threaded couplers may also be embedded into the concrete, allowing the posts to be threaded directly into the concrete. The posts should be leveled vertically during installation.

3.5 After the mounting flanges and posts have been installed, the quadrant rings and leaf assemblies must be lifted into place. This process is best performed by two people. The two ends of the quadrant ring must be placed into the short pieces of pipe that are welded onto the posts. The posts may need to be flexed slightly if there are alignment problems with the posts' positions. The installed ring should have the flat sides of the leaves facing toward the rain gauge.

3.6 After each ring has been installed, inspect each leaf to determine that there is freedom of movement.

4.0 THEORY OF OPERATION

4.1 Rain gauges measure rainfall by collecting the falling rain drops into a funnel. During storms, there are occasions where the wind will cause the falling rain to be blown past the rain gauge funnel causing the measurement to be low. Updrafts will also affect the rain collection by blowing the rain drops away from the funnel. The design of

the Alter style wind screen prevents strong updrafts and induces turbulence around the rain gauge funnel. These actions aid to reduce air flow streams over the rain gauge funnel and result in better collection of the rain drops during windy conditions. Significant increases in the gauge catch are noted whenever the rain drops are very small.

5.0 MAINTENANCE

5.1 Maintenance of the wind screen is limited to routine cleanings and inspections. Keep the area around the wind screen free of plant growth, weeds, etc., that may prevent the leaves from moving freely. Remove any debris and dirt that may have accumulated onto the surfaces of the leaves. Inspect the wind screen parts for rust. Wire brush rusted areas and spray paint or cold galvanize to reduce the occurrence of rust. Check the posts and flanges for loose mounting hardware.

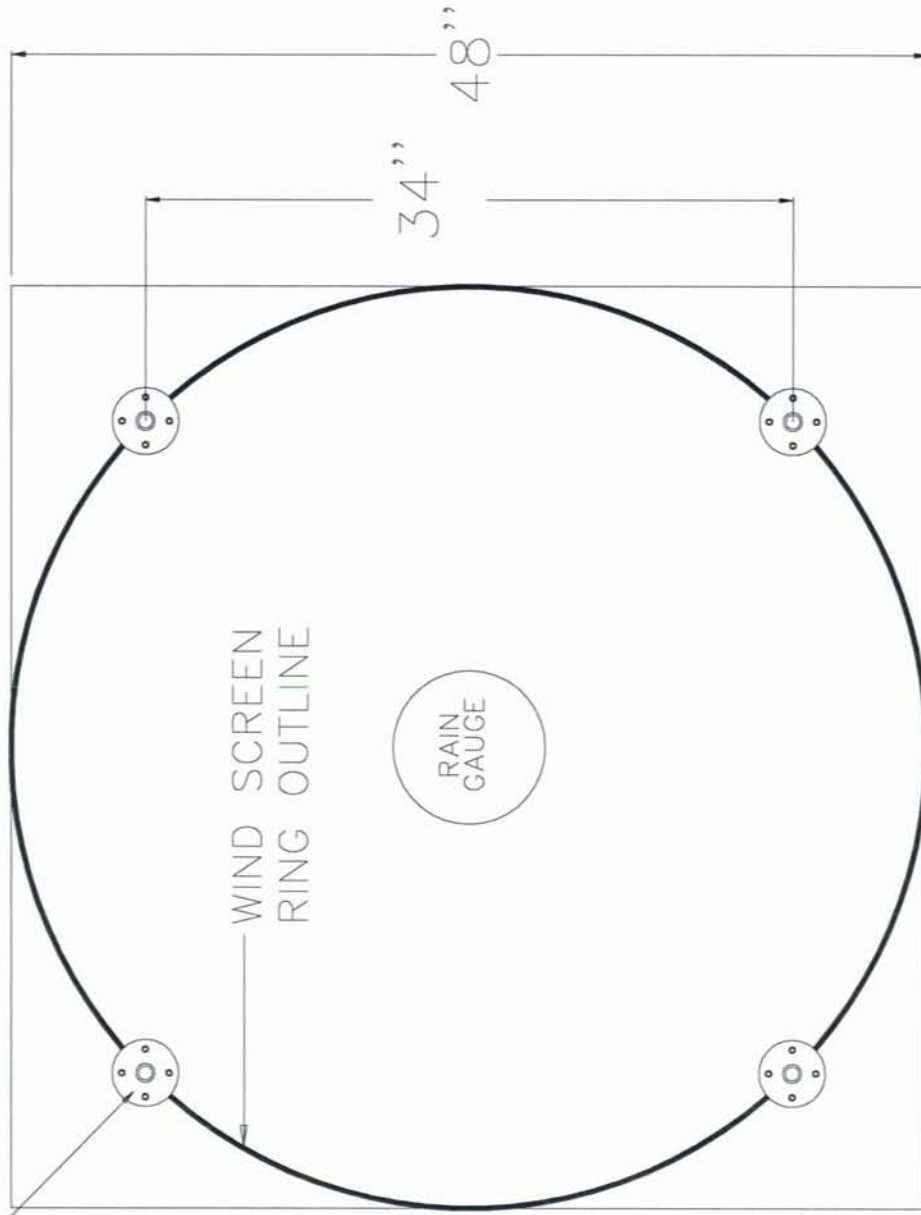
6.0 DRAWINGS

6.1 The following pages contain drawings showing the wind screen parts and installation details. Refer to these drawings for information during installation and maintenance procedures.

WIND SCREEN MODEL RG-952
PARTS LIST

PART NO.	QTY	DESCRIPTION
10000124	32	LEAF
10000125	28	SPACER
10000205	3	POST, STANDARD, 24 INCH
10000206	1	POST, GATE, 24 INCH
10000128	3	ROD, QUADRANT, STANDARD
10000129	1	ROD, QUADRANT, GATE

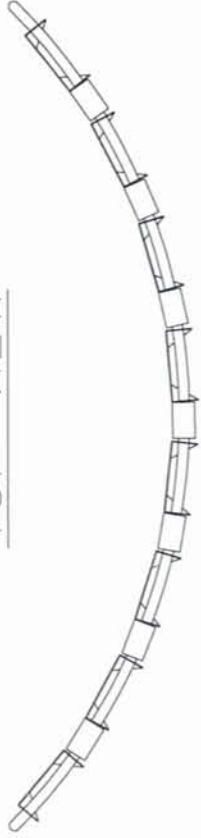
OPTIONAL MOUNTING FLANGES



FOUNDATION IS CONCRETE OR WOOD DECKING
AT 36" X 36" OR 48" X 48" TO A DEPTH OF 18"

		C
TITLE		
OUTLINE, INSTALLATION DETAIL		
WIND SCREEN FOUNDATION		
MODEL USAGE RG-952		
BY	SCALE	SHEET 1 OF 1
RG	DWG. NO.	
DATE 10-22-96	1:1	961025

TOP VIEW



SPACER

LEAF

RING

2"



FRONT VIEW

- NOTES: 1. TYPICAL OF THREE QUADRANTS.
2. GATE QUADRANT HAS LEFT VERTICAL ROD THAT IS 2" SHORTER.

		C	
TITLE ASSEMBLY, QUADRANT PRECIP WIND SCREEN			
MODEL USAGE RG-952		SHEET 1 OF 1	
BY	RCN	SCALE DWG. NO.	
DATE	10-22-96	1:1	961026



STANDARD POST

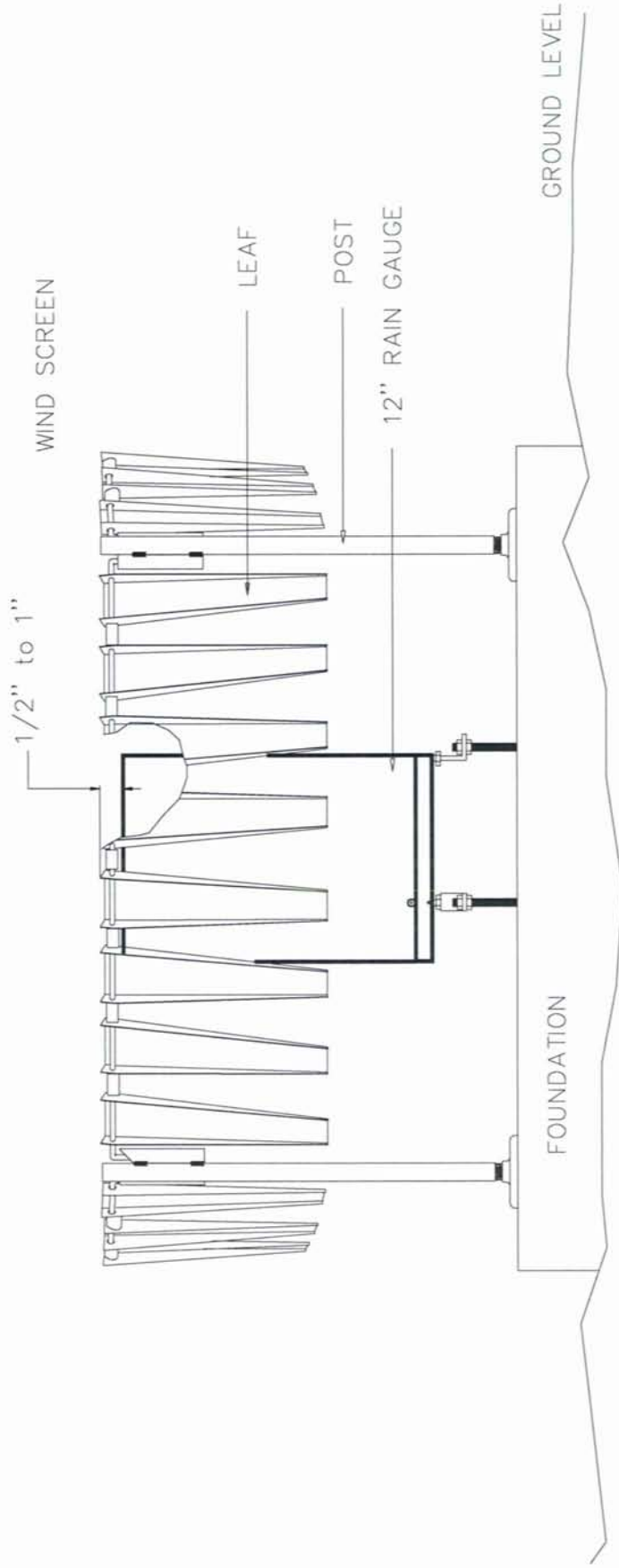
GATE POST

GATE QUADRANT

3/4 NPT

OPTIONAL MOUNTING FLANGE

C	
TITLE ASSEMBLY, WIND SCREEN FOR PRECIP GAUGES	
MODEL USAGE RG-952	SHEET 1 OF 1
BY RCN	SCALE DWG. NO
DATE 10-22-96	1:1
961027	



- NOTES: 1. RAIN GAUGE SHOWN IN BOLD LINES.
2. CUTAWAY SHOWS SPACING BETWEEN TOP OF WIND SCREEN AND TOP OF RAIN GAUGE.

C		TITLE		OUTLINE, WIND SCREEN WITH 12" RAIN GAUGE	
MODEL USAGE RG-952		BY		RCN	
DATE 10-22-96		SCALE		DWG. NO.	
1:1		961028		SHEET 1 OF 1	



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OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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