



## 3R RGA01 Windshield for Rain Gauge

### User Manual

10/09/2015 Rev. A

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# 1 General Information

## 1.1 About this manual

This manual provides all the information needed to install, configure, operate and maintain the 3R RGA01 Windshield for Rain Gauge.

Make sure you read and understand all the information given in this manual prior to use the product since an inappropriate use may cause measuring errors or even damage the product.

## 1.2 Important considerations

Throughout the manual, important considerations are highlighted as follows:



**Warning:** Alerts of a serious hazard. Read and follow the instructions carefully because there is a high risk of injury or even death.



**Caution:** Warns of a potential hazard. Read and follow the instructions carefully because the product could be damaged or important data could be lost.



**Note:** Highlights important information on using the product.

## 1.3 Feedback

Darrera welcomes any comment or suggestion to improve this manual. If you find any error, please feel free to contact us indicating the chapter, section and page number so we can correct it. Contact details can be found on the cover of this manual and in our website at [www.darrera.com](http://www.darrera.com).

## 1.4 Recycling

From Darrera we encourage you to recycle all possible materials according to current regulations in your country. Further information on recycling can be found at the Department of Environment of your country.



Products labeled with this symbol must be separate from other household waste and sent to specific collection facilities for recovery and recycling.

## 1.5 Warranty

Darrera hereby represents and warrants the product to be free of defects in material and workmanship for a period of 12 months from the date of delivery. However, if any defect is found during this period, Darrera will repair or replace, at its own option, the product or part thereof free of charge. This service warranty shall be valid for a period of 6 months not cumulative with the original warranty of the product.

Warranty will not be applicable in the following cases:

1. Damage caused by incorrect handling.
2. Inappropriate installation or use in unsuitable conditions.
3. If the product has been banged, dismantled or repaired by unauthorized service personnel.
4. Lightning strike, fire, water, accident or any other similar circumstance.

## 1.6 Returns policy

In case the product may need to be returned to Darrera, please contact your local distributor first. A Return Merchandise Authorization (RMA) number must be obtained prior to returning any product.

For the full RMA conditions, please visit our website at [www.darrera.com](http://www.darrera.com).

## 2 Introduction

### 2.1 Product overview

The 3R RGA01 is a windshield for rain gauge that allows to increase the accuracy of the measurements thanks to the leaves suspended around the ring. They minimize the formation of strong updrafts that can distort the trajectories of precipitation particles falling toward the rain gauge. In addition, the oscillation of the leaves prevents birds from landing on the mouth of the funnel.

The system has a rugged design and is the first in the market entirely made of mirror polished 304 stainless steel to ensure high resistance to weathering. It can be supplied painted in white, aviation red, military green, etc. The set consists of 1 ring divided into 4 pieces, 4 posts, 32 leaves, leaf spacers and mounting hardware.



Image 1. Product overview



## 3 Installation

### 3.1 Package inspection

Before unpacking the product, inspect the package for any signs of damage that may have occurred during shipping. If the package is damaged, fill in a claim against the carrier company and report the damage in detail.

### 3.2 Unpacking the product

Unpack the product in a clean and dry area and check that the following items are not missing:

1. 1 ring divided into 4 pieces.
2. 4 posts.
3. 32 leaves.
4. 28 wide leaf spacers.
5. 8 thin leaf spacers.
6. 8 hex bolts.
7. 1 hex key.
8. 16 anchor bolts.



**Caution:** Beware of damaging any part of the product when unpacking.

### 3.3 Selecting the best location

Finding a suitable location for installing the rain gauge with the windshield is essential for getting representative measurements. The location should represent the general field of interest and be free from turbulences and any source of magnetic fields, such as electric motors, radio transmitters, radars, etc. Any terrain edge or object near to the rain gauge may have a negative impact on the measurements.

### 3.4 Installation procedure

Make sure you read and follow all the instructions given below in order to avoid measuring errors caused by an inappropriate installation.



**Warning:** Comply with all the applicable safety regulations when installing the product.

### 3.4.1 Clearance distance

In order to avoid measuring errors, the rain gauge must be installed vertically in an open area at a minimum distance of 2 times the height of the closest object.

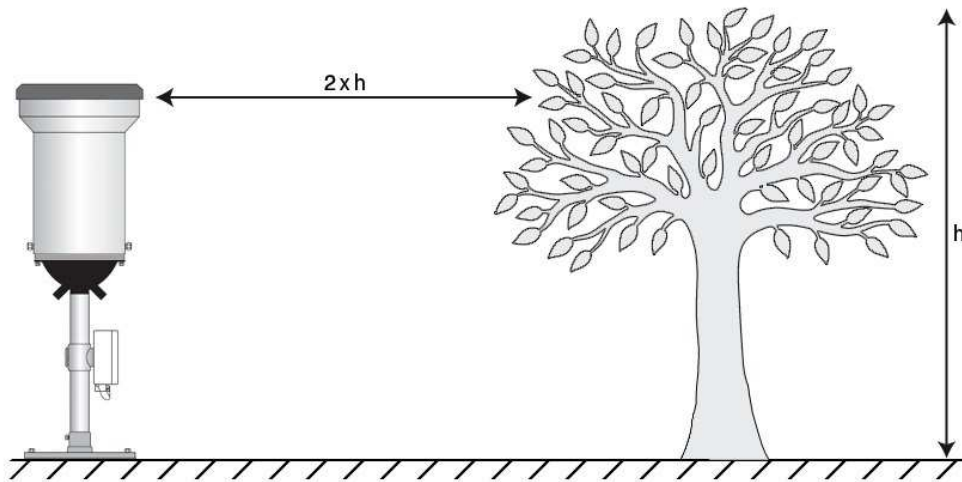


Figure 1. Minimum clearance distance

### 3.4.2 Foundation size

It is recommended to use a concrete foundation with a size of at least 1.5 x 1.5 meters to install the windshield. A larger foundation may be desirable to allow an easier access to the windshield and the rain gauge.

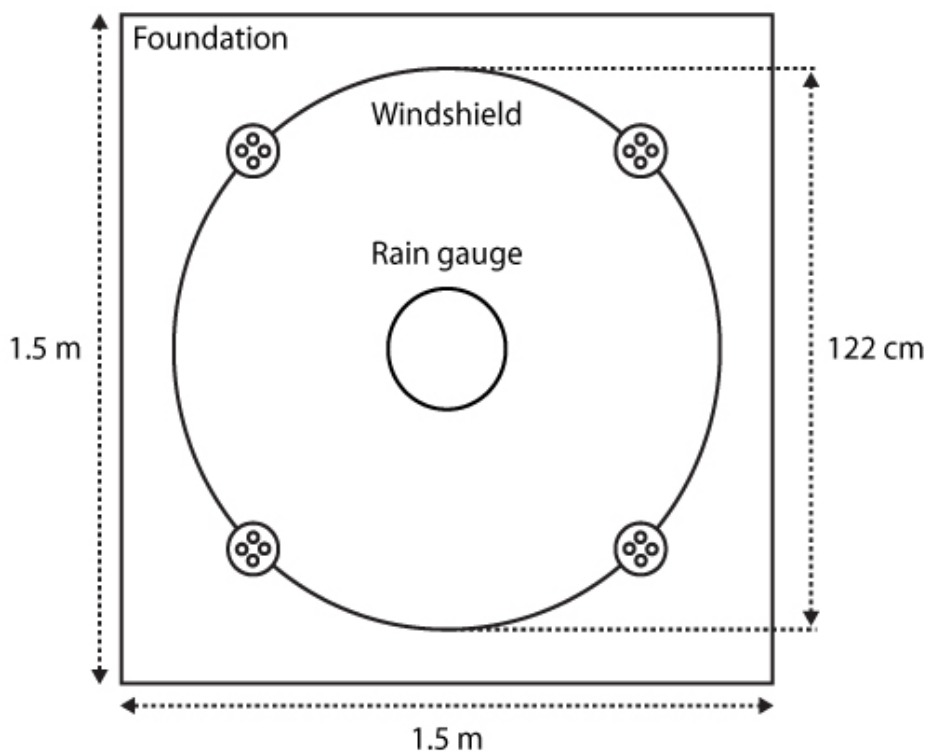


Figure 2. Foundation size

### 3.4.3 Ring assembly

The 3R RGA01 is supplied with a ring divided into 4 pieces. On each piece, insert a thin leaf spacer and then alternate the leaves with wide leaf spacers as shown in the image below. Make sure the flat side of the leaves faces the rain gauge.



Image 2. Ring assembly



**Warning:** The leaves are very sharp. Always wear gloves while handling them.



**Note:** Assemble the ring upside down on the floor before attaching the posts.



Image 3. Ring fully assembled

### 3.4.4 Posts assembly

The 3R RGA01 is supplied with 4 posts of 1 meter in height each. Attach them to the ring and secure them by using the included hex bolts and key.



Image 4. Posts assembly

Mark the base of the posts on the foundation and drill the corresponding holes so that the windshield can be secured by using the included anchor bolts.



**Note:** Make sure the rain gauge is installed so that the top edge of the funnel is 2.5 cm below the top edge of the leaves.

### 3.5 Final inspection

Once the windshield is completely installed, verify that each leaf moves freely in both directions.

## 4 Maintenance

The 3R RGA01 does not need any meticulous maintenance apart from periodic cleaning to avoid accumulation of dust, dirt or insects.



**Caution:** Do not try to clean the windshield with alcohol. Use a microfiber cloth dipped in water or a neutral cleaning agent.

## 5 Technical Specifications

### 5.1 Mechanical specifications

- Material: mirror polished 304 stainless steel
- Dimensions: Ø 122 x 100 cm
- Weight: 22 Kg