



Rain Gages

NOAA NATIONAL WEATHER SERVICE

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4-Inch Gage

Types of Rain Gages

There are many types of gages for measuring rainfall. Here are just a few examples:

- **8-inch Gage:** Comprised of a large diameter outer can, a smaller diameter measuring tube, a funnel and the support structure. The outer can and funnel are 8 inches in diameter, and are designed so precipitation is directed into the smaller measuring tube. The measuring tube is 20 inches tall, and holds 2 inches of liquid precipitation. This 10 to 1 ratio allows rainfall to be measured to the nearest hundredth of an inch.
- **4-inch Gage:** Similar in concept to the 8-inch gage, only the outer can and funnel are both 4 inches in diameter. The inside measuring tube is 10 inches tall and holds 1 inch of liquid precipitation.
- **Fischer-Porter Recording Gage:** This type of gage records the amount of rain by weighing the precipitation it has collected at a set time interval. The gage essentially consists of a collection bucket, a weighing system, and a recording device. Rainfall is measured to the nearest 0.10 inch, and up to 19.5 inches total before needing to be emptied. Every 15 minutes the weight of the collection bucket is measured and the recording device will punch a hole in a paper tape scroll to mark the amount of rain.



Fischer-Porter Gage

Considerations for Placing a Rain Gage



- In open areas, try to place the gage at least twice as far away from obstacles as they are high.
- In open areas, place the gage 2 feet above the ground (to decrease wind speed and increase gage catch).
- In developed areas, try to place the gage at least as far away from obstacles as they are high.
- In developed areas, place the gage 5 feet above the ground (to decrease impact of nearby obstacles).
- Ideally place the gage equidistant from the nearest trees.
- Avoid placing it under trees or any structures.
- Avoid placing it near sprinklers, steep slopes, or anything that may artificially increase or decrease gage catch (e.g. a solid fence that may create updrafting during strong winds).
- Make sure the gage is level.
- Make the top of the post slanted, rounded or pointed to reduce rain splashing back into the gage.

On the web:

Community Collaborative Rain, Hail and Snow Network www.cocorahs.org
 National Weather Service Quad Cities www.weather.gov/quadcities
 National Weather Service Cooperative Observer Program www.nws.noaa.gov/om/coop