



**INTRODUCTION**

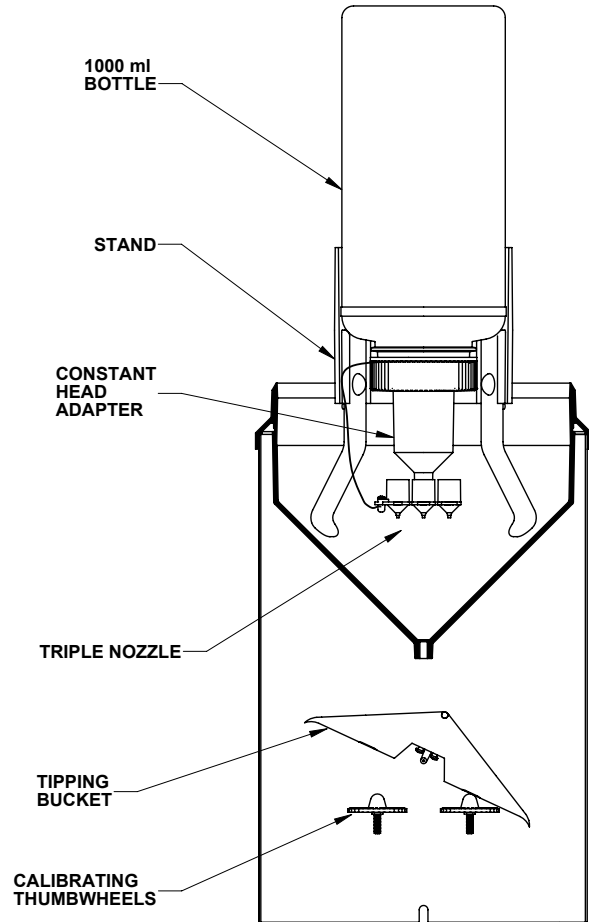
The Model 52260 Rain Gauge Calibrator offers a convenient way to determine rain gauge accuracy. The calibrator includes a water bottle with constant head adapter and flow nozzles for various flow rates.

**MATERIALS SUPPLIED**

- Calibrated water bottle. 1000 ml
- Bottle stand
- Constant-head adapter
- Nozzles for various flow rates (see table)

**CALIBRATION PROCEDURE**

1. The rain gauge must be properly leveled before calibration.
2. Connect rain gauge to electronic counter. If counter is not available, bucket tips may be counted visually.
3. Select the appropriate nozzle for the desired rainfall rate. (Refer to chart below). Attach nozzle to constant-head adapter.
4. Fill water bottle to desired level. Maximum accuracy is obtained by using a laboratory balance to weigh the water (1 ml = 1 gm). Reasonable accuracy may be obtained by using the bottle graduations (1000 ml is the top of rough band on the bottle). Attach adapter with nozzle.
5. Position bottle stand in rain gauge funnel. Carefully invert calibration bottle and place into stand. Water should flow from nozzle. Position so that water streams out against funnel sides, not directly down hole in funnel bottom.
6. Allow water in bottle to flow through rain gauge until empty. Record bucket tips or rainfall value. With the Young Model 52202 rain gauge, the bucket should tip once for each 2 ml of water. For example, 1000 ml should give a count of 500. A count of 502 indicates error of 0.4%.
7. If the error is outside of specifications, adjust the rain gauge calibrating thumbwheels to bring the rain gauge into specification. Screws should be adjusted equally.



**Notes:**

- For best results, the calibration test should use the largest water volume possible (1000 ml).
- Multiple tests may be performed and the results averaged.
- The constant head-adaptor ensures that the flow rate remains constant regardless of water level in the bottle.
- Normal operational characteristics of tipping bucket rain gauges will produce larger errors at higher rainfall rates.

**NOZZLE, FLOW RATE NOMINAL VALUES**

<u>Orifice Number</u>	<u>Approx Flow Rate</u>	<u>Nominal Rainfall Rate for Collector Size</u>		
		<u>200 cm<sup>2</sup></u>	<u>100 cm<sup>2</sup></u>	<u>8" Diameter</u>
50 (.032 in Dia)	1000 ml/hr	50 mm/hr	100 mm/hr	30.8 mm/hr
75 (.040 in Dia)	1500 ml/hr	75 mm/hr	150 mm/hr	46.2 mm/hr
100 (.045 in Dia)	2000 ml/hr	100 mm/hr	200 mm/hr	61.7 mm/hr

\* Flow rates may vary due to conditions present during calibration.