

General Information

- Use an NIST (National Institute for Standards and Technology) reference thermometer to calibrate the carbonation tester thermometer at or near the sample testing temperature.
- Use an NIST certified dead weight tester or an NIST certified pressure gauge calibrator.
- **Do not turn the hex nut when calibrating the thermometer.** The hex nut immediately below the head of the thermometer is used to hold the thermometer while turning the head to calibrate.

Calibration—Thermometer

- Submerge both the carbonation tester thermometer and the NIST reference thermometer in an insulated ice cold bath of water. Allow the ice cold bath to reach thermal equilibrium by gently stirring the water bath until the temperature readings don't change.
- If the two thermometer readings differ by any detectable amount, the carbonation tester thermometer must be calibrated. Adjust the tester thermometer by securing the hex nut immediately under the head of the thermometer. **DO NOT TURN THE HEX NUT WITH THE WRENCH.** While holding the thermometer hex nut securely turn the head of the thermometer with your hand until its reading matches the NIST reference thermometer.

Calibration—Pressure Gauge

Pressure gauge calibration can be verified by two methods: the use of an NIST certified dead weight tester or an NIST certified electronic pressure gauge calibrator.

Dead weight tester—accuracy less than 0.5%

- Install the pressure gauge per manufacture instructions and pressurize the gauge.
- Carefully rotate the disk several times while gently tapping the pressure gauge.
- The pressure gauge is to be calibrated at 10, 15, 20, 25, and 30 psig.

Electronic pressure gauge calibrator—accuracy less than 0.5%

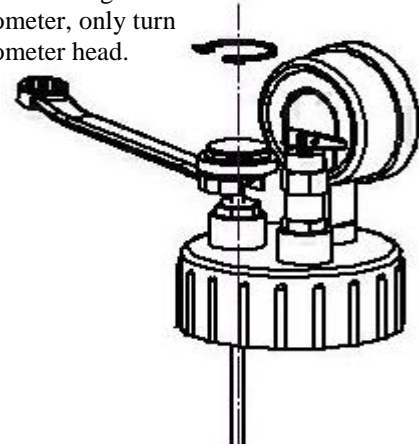
- Install the pressure gauge per manufacture instructions and pressurize the gauge with compressed air.
- As the pressure gauge is pressurized allow for the pressure to stabilize. Compare the electronic calibrator reading to the pressure gauge and adjust as needed.
- The pressure gauge is to be calibrated at 10, 15, 20, 25, and 30 psig.

Note

- Gauge readings may not be equal, but variation is uniform throughout the entire range of the scale of the gauge.

If the gauge pressure readings are not equal, and variation is uneven throughout the pressure range, replace the gauge.

When calibrating the thermometer, only turn thermometer head.



Carbonation Tester Operating Instructions

- Ensure that the pressure gauge and thermometer are calibrated prior to conducting a carbonation test.
- Chill both halves of the carbonation tester in an ice cold water bath. Do not submerge the pressure gauge or thermometer.
- Open the relief valve by flipping the yellow toggle to a vertical position.
- Empty the contents of the carbonation tester
- Tilt the canister to 45 degrees and fill the canister to the scribed line located inside the canister. The fountain drink should flow steadily down the side of the canister to minimize foaming.
- Place the canister on a horizontal surface and carefully screw on the cap.
- Once the cap bottoms close the relief valve and tighten the cap a quarter turn.
- Gently swirl the tester until a pressure of 5 psig \pm 1 psig is indicated on the gauge.
- Purge the carbonation gas by opening the relief valve; the pressure should drop down to zero
- Close the relief valve
- Vigorously shake the carbonation tester for 30 seconds
- Determine the volume (%) of carbonation from the canister chart by reading the value at the temperature/pressure intersection.
- Open the relief valve and empty the contents of the tester
- Wash the tester in a warm mild detergent and then dry thoroughly