Gas Purity Tester

PN: T-03-027

Operation Caution

Caustic solution is used in the operation of this instrument. This solution may cause severe burns to the operator if not handled with care. Wear goggles and protective clothing while operating this instrument.

Preparation of Caustic Solution

A 20% solution of either Potassium Hydroxide or Sodium Hydroxide is recommended for air testing*.

To make a 20% solution:

- Slowly add 100 grams of Potassium or Sodium Hydroxide crystals to 500 cc's of distilled water
- Store in a sealed jar

The Hydroxide solution may also be purchased from any laboratory or chemical supply company.

**A weaker solution may be used, but the tests will take longer and fewer tests can be performed.*

Operation Resources

For a step-by-step instruction video on how to operate the **T-03-027 Zahm Gas Purity Tester**, click here.

For written step-by-step instructions on how to operate the **T-03-027 Zahm Gas Purity Tester**, continue to the next page.

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Instructions

1. **Attach** a hose from the CO2 gas supply that is to be tested to the nipple of the absorption burette. Use care when attaching the hose so as not to break the calibrated stem of the absorption burette. If using the 1/100th calibrated burette, place your finger on top of the stem and push gently downward onto the support block to prevent stem from breaking when attaching the hose. Make sure that the gas supply is regulated to below 10 psi before releasing gas into the Purity Tester.
2. **Open** both cocks and allow the gas to sweep through the absorption burette and caustic reservoir to completely displace air in the glassware. If preferred, the bulb may be filled with water and the water displaced with the gas to be tested.
3. **After** the sample has been taken, close the cock on the absorption burette first and then close the cock on the caustic reservoir.
4. **Pour** the caustic solution into the reservoir to the line indicated on the bulb (approximately 105cc).
5. **Open** the cock on the caustic reservoir and allow the solution to flow down into the absorption burette. Absorption of the CO2 gas now takes place until only air in the sample remains, the small bubble of which may be moved around by tilting the Purity Tester slightly, thereby insuring complete absorption of the gas.
6. **Close** the cock on the caustic reservoir and turn the instrument 90 degrees so that it rests on its other frame side. In this position, the unabsorbed gas enters the calibrated neck where the volume is directly indicated. The percentage purity of CO2 gas is 99% plus 1/10 of 1% for each division as indicated by the level above the bottom graduation (using the standard absorption burette). There are four other types of absorption burettes available which are listed below.
7. **After** the test is completed, empty the caustic solution from the Purity Tester. Place the Purity Tester over a container and open both cocks to allow the caustic to drain out. Rinse out all traces of the caustic with warm water and dry the glassware before returning the tester to its case.

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