



# Testing HGM 300 with Gas Verification Kit Using PC Software

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This procedure describes the use of gas verification kits with the HGM PC software.

## MATERIALS REQUIRED

- Reference gas
- Variable flow regulator
- Approximately 5 feet of 3/16" tubing
- Plastic stem connector
- Computer with HGM 300 software installed (available at [www.mybacharach.com](http://www.mybacharach.com))



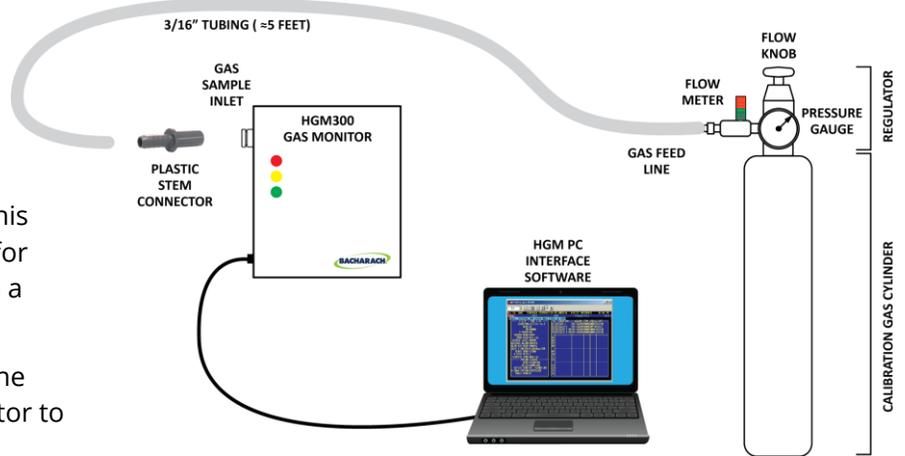
## PROCEDURE

1. Power up the HGM. The green LED on the monitor will blink until the warm-up cycle is complete.
  2. Connect the variable regulator to the reference cylinder and connect the tubing to the variable regulator. Connect the plastic stem connector to the other side of the tubing.
  3. Connect the RS232 cable from the PC to the HGM's RS232 connector located in lower left side of the monitor.
- NOTE:** For instructions on PC software and setup, see the instruction manual.
4. Launch the PC software. A series of beeps will sound as the software reads all the HGM registers.
  5. Verify Rezero Mode is set to auto by reading the system parameter list. If it is not set to Auto, do the following:
    - a. Select the "Edit Pull down Menu".
    - b. Choose the "System" item from the selection list.
    - c. Change the Rezero Mode to "Auto".
    - d. Press the Enter key to update the setting.
      - The program should respond with "System Data Updated".
      - (On version 1.0 software it is necessary to select the "HGM Pull down Menu" and then send the setup in order to confirm the changes)
  6. Select the "HGM Pull down Menu" and choose the setup item from the menu list. This will update the setup from the HGM.
  7. Select the "Edit Menu" and choose "Zones" from the menu item list.
  8. Select zone by pressing the Enter key. Modify the parameters for Zone 1:
    - a. Change the refrigerant selection to the reference cylinder type
    - b. Change the distance to 5 ft.
    - c. Press the Enter key, then the ESC key.
    - d. Verify that the PC software recognizes that the HGM Zone data was updated.

**NOTE: Be sure to wait for response from the PC software.** Selecting another menu before the response is echoed will cause the communications to timeout. On version 1.0 software it is necessary to select the "HGM pull down menu" and then send the item to the setup in order to confirm the changes.

9. Select "HGM Menu" and choose "Zone Hold" from the menu list.

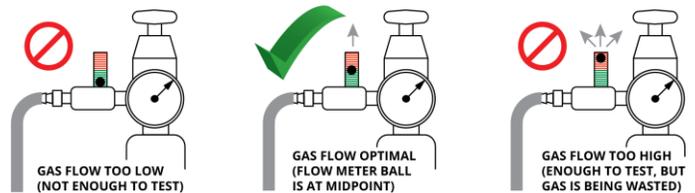
10. Select Zone 1 by pressing the Enter key. Wait for the PC software to display the message, "Holding on Zone".
11. Select "Diagnostic Menu" and choose "Sensors" from the menu item list. This will display all of the diagnostic data for the HGM. Verify that the unit is not in a purge cycle.
12. Connect the stem connector end of the tubing from the reference gas regulator to Zone 1 on the HGM manifold.



**NOTE:** The HGM fault light may illuminate until gas starts to flow from the cylinder.

13. Press the Enter key on the PC keyboard to update the PC software reading from the HGM 300. The HGM will beep to indicate the sensor readings have been updated. Ensure that the HGM 300 is not in purge mode.
14. Open the flow regulator knob (turn clockwise) to provide sample gas, adjusting the flow so the flow meter ball is at its midpoint (optimal).

Press the Enter key on the PC keyboard to update the PC software reading from the HGM 300.



15. Allow the gas to flow for 1 minute. Continue to press the Enter key on the PC keyboard while observing the first PPM reading (6<sup>th</sup> line) from the sensor data menu.

This value will eventually stabilize to (typically) within  $\pm 5$  ppm of final reading. If a purge cycle interrupts the process, the reading will go to 0, but should return to approximately the cylinder value when flow returns to Zone 1. The reading should be within specifications of the actual concentration listed on the cylinder.

Remove the sample hose from the unit.

16. Close the regulator of the reference cylinder (turn counter clockwise until fully closed). Return Zone 1 parameters (length, refrigerant, hold time) to desired operating values.
17. If the reading in step 15 is not within specifications of the actual concentration listed on the cylinder, verify:
  - The tubing is securely connected to the cylinder and Zone 1 input port
  - The proper gas is selected (step 8a)
  - The unit is in hold mode for Zone 1 (step 9)
  - That ample time was given to stabilize and the reading was not taken during a purge cycle.

If the unit still does not measure within specifications of the concentration listed on the cylinder, please contact Bacharach Customer Service at 1-800-736-4666 or via [help@mybacharach.com](mailto:help@mybacharach.com).



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