Application Note: A 24

VALTRONICS

CO_2 Sample Draw Calibration Instructions

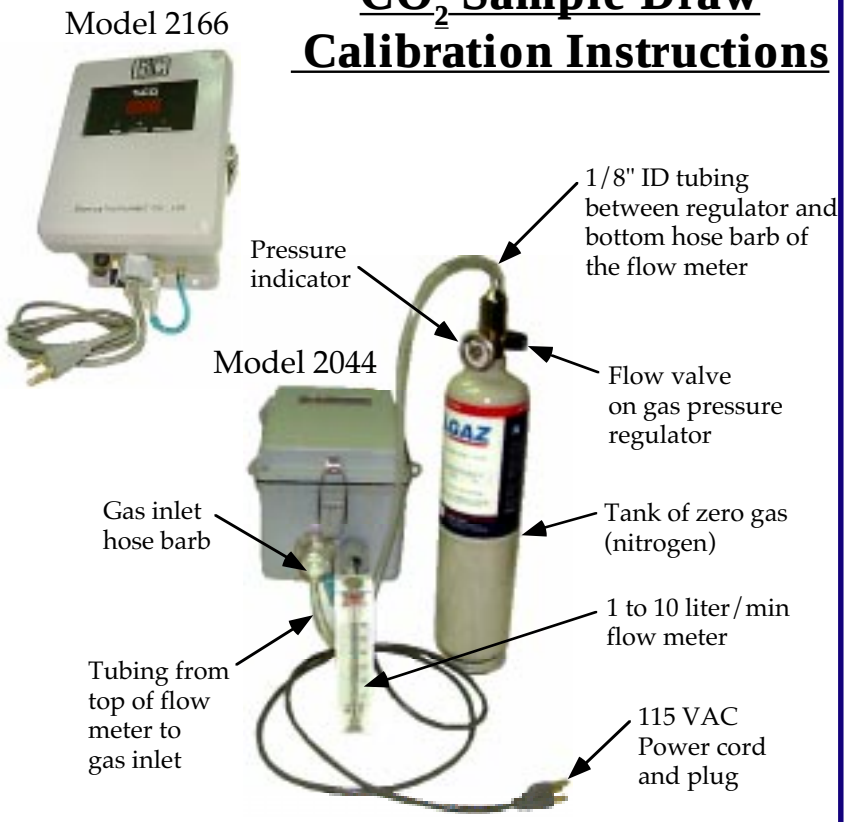
Valtronics
CO_2 Sample Draw
Calibration Kit:

2 cylinders of calibration gas:
- one of 99.8% Nitrogen
- one of CO_2 (concentration dependent on order)

Regulator:
- reuseable 6 LPM
- with on/off valve

Flow meter - 1-10 LPM
Tubing
Twin-pack carrying case

To order please call (209) 754-0707
or FAX (209) 754-0104



Gas calibration should be done a minimum of once every six months.
A calibration log where you record the unit's voltage and mA readings BEFORE any adjusments are made will help you to decide if the period between calibrations should be longer or shorter (App. Note A26)

CALIBRATION INSTRUCTIONS: Application Note **A7** for Model **2044** and **A67** for **2166**

1. Connect plastic tubing from flow meter outlet (top connection) to gas inlet on unit to be tested.
2. With the flow meter in an upright position,measure flow rate of pump. (should be in the range of 4-6 LPM) For a **Model 2166** you turn the **pump off**, skip to step 3.
3. Remove protective cap from top of nitrogen cylinder. Push and thread pressure regulator valve onto cylinder outlet.
4. Connect plastic tubing from pressure regulator outlet to flow meter inlet. (bottom connection of flow meter). Outlet of flow meter to gas inlet (hydrophobic filter on 2166).
5. Make sure unit to be tested is turned on and has had a 5 minute warm-up.
6. Connect voltmeter to 0-1 VDC signal output.(0-**5 VDC** output for a **Model 2166**)
7. Make sure flow meter is in an upright position. Open flow valve slowly while observing flow meter.
8. Adjust the flow to match level measured in step #2. (for a Model 2166 this should be about 2 to 3 LPM at inlet hose barb on water trap or 0.3 to 0.4 LPM at inlet side of hydrophobic filter)
9. After 3 minutes of continuous nitrogen flow, observe signal output and perform zero adjustment if required.
10. Turn off flow valve and remove pressure regulator valve from nitrogen cylinder.
11. Replace nitrogen cylinder with cylinder containing appropriate span gas. (Near mid-range value - Example: for 0 - 3000 ppm unit, use 1000 ppm or 0.1% span gas.)
12. Open flow valve and observe signal output. (see scale data for voltage reading)
13. Allow sample to flow until final indication is obtained. Adjust span potentiometer if required. (see scale data for voltage reading for the span gas used)
14. Turn off flow valve and remove pressure regulator from cylinder.

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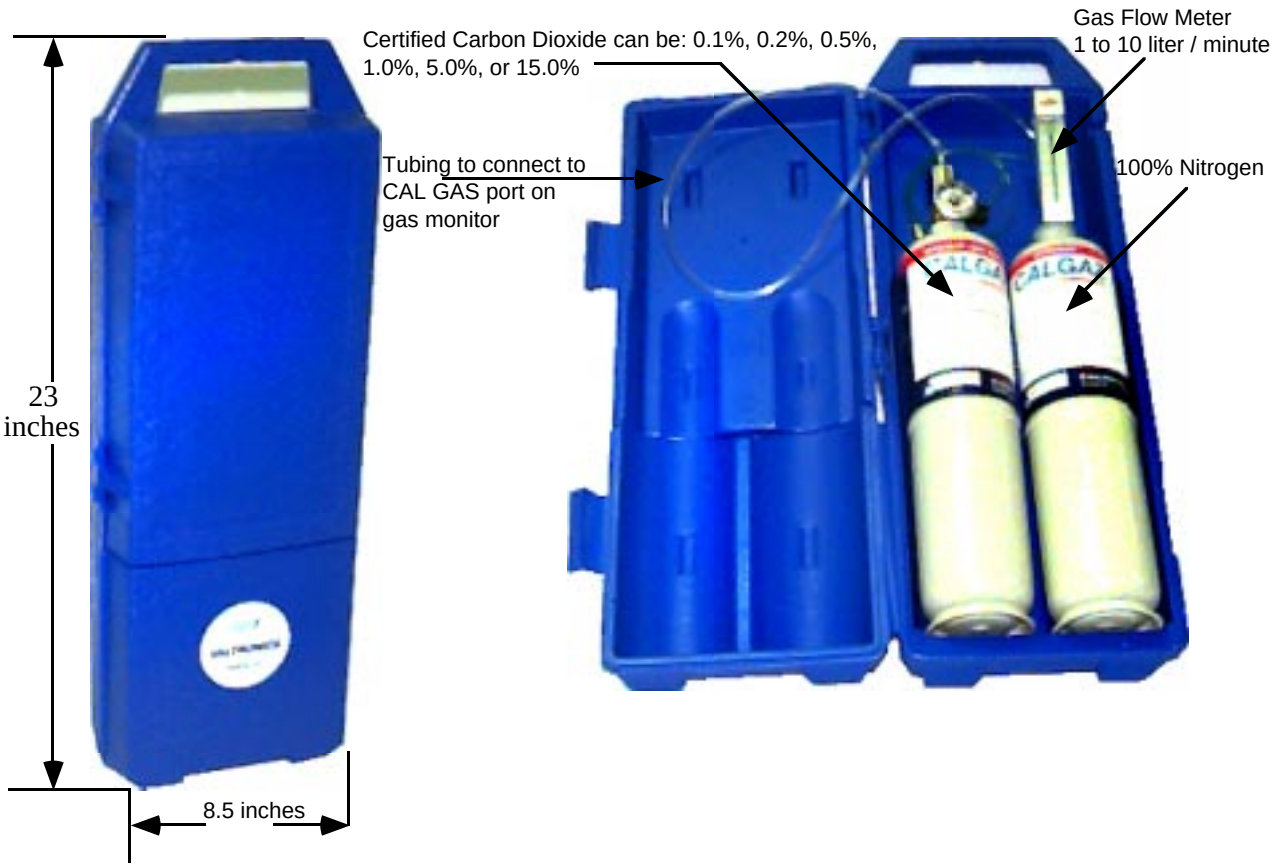

Notes:

- See **Application Note A7** or **A67** for 2166, for replacement filter and pump parts.
- **Sample Draw (SD) Field Calibration Kits are available. Please call for a quote.**
  they consist of: one tank with an 8 hour supply of 99.8% N_2
  one tank with an 8 hour supply of 1000 ppm CO_2
  a pressure regulator, flow meter, and carrying case
  Concentrations of 0.1% (1000 ±20 ppm certified) CO_2, 0.2%, 0.5%, 1%, 5%, and 15% are in stock. These are all certified to be ±2% of reading.
  1000±20 ppm of R-12 is in stock for Models 2012, 2023, and 2024 O.E.M. sensor.
- **Replacement gas tanks** are available upon request. Please call for a quote.
  These 14" high tanks contain 3.6 ft^3 or 103 liters @70°F and 1000 PSIG.
- Special gases and concentrations may be ordered with 3-6 week lead times depending on the specific gas ordered.
- All volume discounts are based upon a single shipment
- Prices are subject to change without notice.

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