

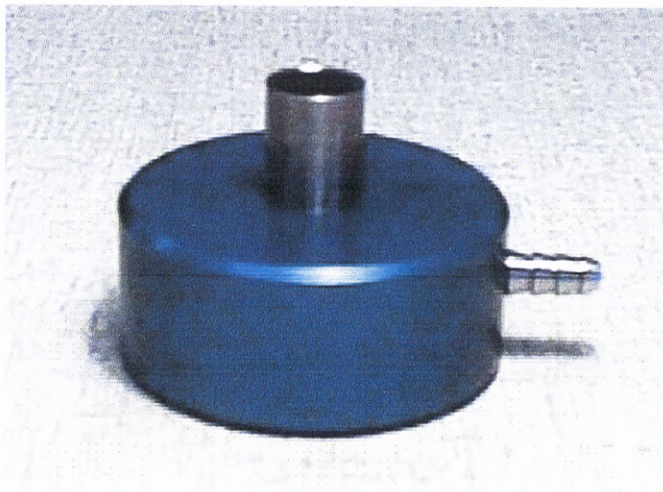
## APPENDIX A: PEM™ FLOW CALIBRATION INSTRUCTIONS

---

A correct flow calibration of the PEM™ requires a special attachment known as the Flow Calibration Cap (Figure 4). The PEM™ flow calibration cap is intended to provide for a single inlet to the PEM™ sampler to which a flow meter can be attached. The calibration cap is used by pressing the cap onto the nozzle cap of the PEM™. A flow meter is attached to the ½-inch diameter inlet tube on top of the calibration cap. The barbed fitting on the side of the cap is for the purpose of attaching a pressure gauge. Measuring the pressure between the flow meter and the PEM™ is only necessary if there is a large pressure drop across the flow meter. If the flow meter has a low pressure drop, such as a mass flow meter, bubble flow meter, or a laminar flow element meter, the pressure at the calibration cap does not need to be measured, and the pressure tap can be closed off with a rubber policeman.

The steps in using the PEM™ Flow Calibration Cap are:

1. Connect a flow meter to the inlet of the flow calibration cap
2. Turn on pump connected to the PEM™
3. Place the calibration cap on the PEM™ (be sure O-ring is properly seated in the O-ring groove inside the calibration cap)
4. Check PEM™ flow rate with a flow meter connected to the flow calibration cap



**Figure 5. Flow Calibration Cap**