



Operating Instructions

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Calibration Span Reference for HAZ-DUST IV Cat. No. 770-140

The Calibration Span Reference light-scattering device provides a constant value (known as a "K" factor). Use the Calibration Span Reference to check factory calibration of the HAZ-DUST IV instrument. Calibration should be checked the first time the instrument is used, once each month with normal usage, and after an instrument has been dropped or damaged. Instruments should be sent to SKC annually for recalibration.

Calibration Procedure

1. Ensure sensor optics are clean and battery is fully charged (*see instrument operating instructions*). Calibration must be performed in a clean environment.
2. Activate the instrument LCD by pressing ON/OFF.
3. Insert the thoracic sampling inlet into the sensor head. Attach the filter cassette to the sensor head. Attach the air intake tubing to the filter cassette.
4. Activate the internal pump as follows:
 - a. Select **Run** from Main Menu.
 - b. Select **Run - Continue**.
 - c. Select **Yes** and allow instrument to run for two minutes to stabilize.
 - d. Press **Enter** after at least two minutes have elapsed to stop the pump.
5. Perform the auto-zero process as follows for the HAZ-DUST IV:
 - a. Insert the zeroing filter into the thoracic sampling inlet.
 - b. Select **Auto-Zero** from Main Menu. The Auto-Zero screen will appear briefly.
 - c. Select **Auto-Zero**. The Auto-Zero screen will remain during the process. The Main Menu will display once the process is complete.
6. Remove the thoracic sampling inlet from the sensor head. Disconnect the air intake tubing.
7. Insert the Calibration Span Reference into the sensor head (*Figure 1 on reverse side*).
8. Activate the internal sampling pump by repeating Steps 4.a through 4.d. The internal sampling pump should remain running.

9. Observe the concentration value shown on the instrument LCD. Calculate the "K" value using the procedure below. The values should match within $\pm 10\%$.
 - a. **Agree within $\pm 10\%$** , the instrument has passed the calibration check.
 - b. **Do not agree within $\pm 10\%$** , repeat the above procedure to rule out error, then contact SKC technical support and return the instrument for recalibration.
10. Remove the Calibration Span Reference, reattach the air intake tubing, and replace the sampling inlet. Run unit for 2 minutes with zero filter and perform auto-zero.



Figure 1. Insert Calibration Span Reference into sensor head.

Calculating the "K" Value

1. Follow Steps 1 through 6 for calibrating the instrument (*see reverse side*).
2. Repeat Steps 7 through 9 three times and average the results displayed on the LCD. That average value is the "K" value. Record the "K" value on the Calibration Span Reference and use it for subsequent calibrations. Write the serial number of the instrument on the Calibration Span Reference.

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