SC-1 Porometer Calibration Quick Start Guide

For more information on calibration, see the video at www.decagon.com/porocal or the SC-1 User's Manual

When should I calibrate my Leaf Porometer?

- Every day
- If environmental conditions change more than 15° C.

Precautions:

- DO NOT get water on the leaf porometer clip. If you do, be sure to dry thoroughly before calibrating or making a measurement.
- AVOID leaves that are wet or heavy with dew.
- NEVER breathe or blow on the sensor.
- ONLY use desiccant for the most stable readings.

Before Starting:

1. You must calibrate the porometer under field conditions.
2. The sensor head, calibration block and DI water must be in thermal equilibrium with the environment. This may take 10 minutes or more if the sensor head starts at a very different temperature (e.g. air conditioned vehicle or office).
3. Assemble a complete calibration kit:
    - Calibration plate
    - Filter paper
    - Distilled water
    - Tweezers
    - White agitation beads

Calibrating the Sensor:

1. Use the "Menu" button to select the Configuration menu

- Select the Calibration submenu and then Calibrate.

2. Enter sensor serial number found on cable tag

3. Leave the sensor head closed and wave in air to mix air in sensor head with the white agitation bead inside.

4. Wetting the filter paper

Wetting the filter paper correctly is critical to a good calibration. The filter paper must be wet, but have no excess water.

- Saturate filter paper with one drop of DI water from dropper bottle.
- Using tweezers, give the filter paper several sharp flicks of the wrist to knock off any excess water.
- Once you have wet the filter paper, DO NOT re-wet during the calibration process.
- If the filter paper dries and falls off the calibration plate, re-wet and re-start the calibration at the beginning.
- See user manual and online video at www.decagon.com/porocal for more detailed information on wetting the filter paper correctly.

SC-1 Porometer Calibration Quick Start Guide

For more information on calibration, see the video at www.decagon.com/porocal or the SC-1 User's Manual

When should I calibrate my Leaf Porometer?

- Every day
- If environmental conditions change more than 15° C.

Precautions:

- DO NOT get water on the leaf porometer clip. If you do, be sure to dry thoroughly before calibrating or making a measurement.
- AVOID leaves that are wet or heavy with dew.
- NEVER breathe or blow on the sensor.
- ONLY use desiccant for the most stable readings.

Before Starting:

1. You must calibrate the porometer under field conditions.
2. The sensor head, calibration block and DI water must be in thermal equilibrium with the environment. This may take 10 minutes or more if the sensor head starts at a very different temperature (e.g. air conditioned vehicle or office).
3. Assemble a complete calibration kit:
    - Calibration plate
    - Filter paper
    - Distilled water
    - Tweezers
    - White agitation beads

Calibrating the Sensor:

1. Use the "Menu" button to select the Configuration menu

- Select the Calibration submenu and then Calibrate.

2. Enter sensor serial number found on cable tag

3. Leave the sensor head closed and wave in air to mix air in sensor head with the white agitation bead inside.

4. Wetting the filter paper

Wetting the filter paper correctly is critical to a good calibration. The filter paper must be wet, but have no excess water.

- Saturate filter paper with one drop of DI water from dropper bottle.
- Using tweezers, give the filter paper several sharp flicks of the wrist to knock off any excess water.
- Once you have wet the filter paper, DO NOT re-wet during the calibration process.
- If the filter paper dries and falls off the calibration plate, re-wet and re-start the calibration at the beginning.
- See user manual and online video at www.decagon.com/porocal for more detailed information on wetting the filter paper correctly.

5. Lay the filter paper over the hole in the calibration plate on the side marked "Filter Paper"

- The filter paper must lay flat across the hole.
- The filter paper must cover the entire hole.
- Check to make sure that no water wicks into the hole from the filter paper.

6. Attach sensor head

- Moist filter must be in place and flat.
- Orient calibration plate with "Metal Block" toward the aluminum side of leaf clip.
- Calibration plate must be inserted until aluminum block seats firmly against the hard stop.
- Once a reading starts, the sensor head must be oriented such that the desiccant cap is facing downwards so the bead is out of the diffusion path.

7. Calibration measurements

- Follow instructions in #6 above to attach sensor head.
- 30 second measurement will start.
- Hold the sensor head still or set it down during the 30 second measurements.
- When the measurement is finished, you will need to equilibrate (#8 below) and re-attach sensor head (#6 above) to start another calibration measurement.
- You will need to repeat the calibration measurement up to 10 times until stable measurements are achieved.
- The Leaf Porometer will alert you when the calibration is complete.
- If the you take 10 calibration measurements and don't achieve stable readings, see Calibration chapter in user manual for troubleshooting tips.

8. Equilibrate

- Sensors must be equilibrated.
- Leave the sensor head closed and wave in air to mix air in sensor head with the white bead inside.
- When the indicator bar reaches "EQB", you will be prompted to attach the sensor head and begin a calibration measurement.

9. Accuracy Verification

It is always a good idea to verify that the calibration was effective. If you wish to do this, go to the measurement menu and make a measurement on the calibration plate. The verification should be conducted immediately after the calibration has finished, and without re-wetting the filter paper. The measured conductance should be close to 240 mmol/m^2 s.

DECAGON® DEVICES

13957 | 20-01-15

Decagon Devices, Inc.
2365 NE Hopkins CT
Pullman, WA 99163 USA
www.decagon.com

5. Lay the filter paper over the hole in the calibration plate on the side marked "Filter Paper"

- The filter paper must lay flat across the hole.
- The filter paper must cover the entire hole.
- Check to make sure that no water wicks into the hole from the filter paper.

6. Attach sensor head

- Moist filter must be in place and flat.
- Orient calibration plate with "Metal Block" toward the aluminum side of leaf clip.
- Calibration plate must be inserted until aluminum block seats firmly against the hard stop.
- Once a reading starts, the sensor head must be oriented such that the desiccant cap is facing downwards so the bead is out of the diffusion path.

7. Calibration measurements

- Follow instructions in #6 above to attach sensor head.
- 30 second measurement will start.
- Hold the sensor head still or set it down during the 30 second measurements.
- When the measurement is finished, you will need to equilibrate (#8 below) and re-attach sensor head (#6 above) to start another calibration measurement.
- You will need to repeat the calibration measurement up to 10 times until stable measurements are achieved.
- The Leaf Porometer will alert you when the calibration is complete.
- If the you take 10 calibration measurements and don't achieve stable readings, see Calibration chapter in user manual for troubleshooting tips.

8. Equilibrate

- Sensors must be equilibrated.
- Leave the sensor head closed and wave in air to mix air in sensor head with the white bead inside.
- When the indicator bar reaches "EQB", you will be prompted to attach the sensor head and begin a calibration measurement.

9. Accuracy Verification

It is always a good idea to verify that the calibration was effective. If you wish to do this, go to the measurement menu and make a measurement on the calibration plate. The verification should be conducted immediately after the calibration has finished, and without re-wetting the filter paper. The measured conductance should be close to 240 mmol/m^2 s.

DECAGON® DEVICES

© 2015 All rights reserved.
13957 | 20-01-15

Decagon Devices, Inc.
2365 NE Hopkins CT
Pullman, WA 99163 USA
www.decagon.com