



## SURFACE WATER QUALITY STEWARDSHIP TOOLBOX

# Quick Reference YSI Pro Plus Calibration

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### Perform a calibration within 24 hours before a site visit

This is an example of calibration instructions of one specific model of a YSI meter (i.e., YSI Pro Plus). ENV has summarized YSI quick reference information to show a calibration procedure example.

Always refer to the manual that came with your instrument for detailed calibration and instrument care instructions.

#### CONDUCTIVITY CALIBRATION

1. Select the **Cal.** hotkey on the keypad.
2. Highlight **CONDUCTIVITY** using the arrow keys and press Enter ↵.
  - i. For Conductivity, a second menu will offer the option of calibrating **Specific Conductance, Conductance, or Salinity**. Calibrating one option automatically calibrates the other two.
  - ii. Select **SPECIFIC CONDUCTANCE** and press Enter ↵. An additional sub-menu will require you to select the units for calibration. Select **µS/cm**. Note: Specific conductance is conductivity automatically corrected/compensated to 25°C. If the meter has options to set to other specific compensation temperatures, ensure it is set to and reported at a 25°C.
3. Rinse the sensor first by placing enough Conductance Calibration Standard fluid (1413 µS/cm) to submerge the sensor into a clean, dry or pre-rinsed container (provided). Note: residual water in a container and or other contamination of the sensor can affect calibration and thus cleaning and rinsing sensors with calibration standard is an important first step. Discard rinse.
4. Refill calibration cup with new unexpired calibration solution and submerge the probes, making sure the black sensor in the oval indent is fully immersed. Tilt and tap the container to make sure that no air bubbles are trapped in the indent. Allow at least one minute for the temperature and readings to stabilize.
5. Write down the "Actual Reading" as the pre-calibration reading in the calibration log.
6. Use the arrow keys to highlight **Calibration Value**, press Enter ↵, then use the number pad to enter the value **1413 µS/cm**. Once the value of the calibration is set, highlight **ENTER** on the screen and press Enter ↵.

7. Then highlight Accept Calibration and press Enter ↵ to calibrate. This will take you to the main screen.
8. From the main screen, write down the SpC reading as the post-calibration readings in the calibration log.

### **DISSOLVED OXYGEN CALIBRATION**

The Pro Plus offers three options for calibrating dissolved oxygen. The first is an air calibration method in % saturation (the method that will be used). The second calibrates in mg/L to a solution with a known DO concentration. Calibration of either option (% or mg/L) will automatically calibrate the other. The third option is a zero calibration. **The following procedure is the % saturation calibration, the easiest of the three methods to perform and the method used for this program.**

1. Dry the sensor gently with a KimWipe so that the membrane has no droplets on it.
2. Ensuring the probe is vertical with cable side down throughout calibration, unscrew top cap of calibration/storage sleeve and pour in a small amount of water, just enough to cover the base of the probe. **Ensure that the DO and temperature sensors are NOT immersed in water.** Loosely screw on top cap (only engage a thread or two to ensure atmospheric venting).
3. Turn on device, if it is not already, and wait 10 minutes for the DO sensor to stabilize.
4. Press the **Cal** key on the keypad, then highlight **DO** and press Enter ↵.
5. Highlight **DO %** then press Enter ↵.
6. Write down the “Actual Reading” in % saturation as the pre-calibration reading in your calibration log.
7. Select **Accept Calibration**. This will take you back to the main screen.
8. Write down the DO % reading from the main screen as the post-calibration reading in your calibration log. DO should read 100% but can immediately change to ~1-3% above or below 100%. This is acceptable.

**\*\* During calibration, we use DO %. In the field, record all measurements in mg/L as well \*\***

**Note\* temperature is not calibrated prior to each sample trip but is factory calibrated. If you notice anomalies with the temperature sensor readings, please get your meter evaluated, as temperature affects other readings (e.g., SpC).**