

## YSI Calibration Sheets

Calibration Sheet ( <u>2 point pH calibration</u> )			
<b>Date/Time</b>			
<b>Name of Operator</b>			
<b>Sonde Serial Number</b>			
<b>Parameter</b>	<b>Buffer Standard Used</b>	<b>Pre-Calibration</b>	<b>Post-Calibration</b>
<b>Specific Conductivity (<math>\mu\text{S/cm}</math>)</b>	12880	_____ $\mu\text{S/cm}$ _____ $^{\circ}\text{C}$	_____ $\mu\text{S/cm}$ _____ $^{\circ}\text{C}$
<b>pH Buffer Point #1</b>	Buffer Value 4.00    7.00    10.00	pH= _____	N/A
		_____ mV _____ $^{\circ}\text{C}$	N/A
<b>pH Buffer Point #2</b>	Buffer Value 4.00    7.00    10.00	pH= _____	pH= _____
		_____ mV _____ $^{\circ}\text{C}$	_____ mV _____ $^{\circ}\text{C}$
<b>Dissolved Oxygen (% Sat)</b>	N/A	_____ % _____ $^{\circ}\text{C}$	_____ % _____ $^{\circ}\text{C}$
<b>Observations/Comments</b>			

pH 7 mV value = 0 mV +/- 50 mV (note: A value of +50 or -50 mV in buffer 7 does not indicate a bad sensor)

pH 4 mV value = +165 to +180 from 7 buffer mV value

pH 10 mV value = -165 to -180 from 7 buffer mV value

The mV span between pH 4 and 7 and 7 and 10 mV values should be  $\approx$  165 to 180 mV. 177 is the ideal distance. The slope can be 55 to 60 mV per pH unit with an ideal of 59 mV per pH unit. If the mV span between pH 4 and 7 or 7 and 10 drops below 160, clean the sensor and try to recalibrate.

**Calibration Sheet (3 point pH calibration)**

<b>Date/Time</b>			
<b>Name of Operator</b>			
<b>Sonde Serial Number</b>			
<b>Parameter</b>	<b>Buffer Standard Used</b>	<b>Pre-Calibration</b>	<b>Post-Calibration</b>
<b>Specific Conductivity (<math>\mu\text{S/cm}</math>)</b>	12880	_____ $\mu\text{S/cm}$	_____ $\mu\text{S/cm}$
		_____ $^{\circ}\text{C}$	_____ $^{\circ}\text{C}$
<b>pH Buffer Point #1</b>	Buffer Value 4.00 7.00 10.00	pH= _____	N/A
		_____ mV	
<b>pH Buffer Point #2</b>	Buffer Value 4.00 7.00 10.00	_____ $^{\circ}\text{C}$	N/A
		pH= _____	N/A
<b>pH Buffer Point #3</b> <b>If monitoring in salt or brackish water)</b>	Buffer Value 4.00 7.00 10.00	_____ mV	_____ mV
		_____ $^{\circ}\text{C}$	_____ $^{\circ}\text{C}$
<b>Dissolved Oxygen (% Sat)</b>	N/A	_____ % _____ $^{\circ}\text{C}$	_____ % _____ $^{\circ}\text{C}$
<b>Observations/Comments</b>			

pH 7 mV value = 0 mV +/- 50 mV (note: A value of +50 or -50 mV in buffer 7 does not indicate a bad sensor)

pH 4 mV value = +165 to +180 from 7 buffer mV value

pH 10 mV value = -165 to -180 from 7 buffer mV value

The mV span between pH 4 and 7 and 7 and 10 mV values should be  $\approx$  165 to 180 mV. 177 is the ideal distance. The slope can be 55 to 60 mV per pH unit with an ideal of 59 mV per pH unit. If the mV span between pH 4 and 7 or 7 and 10 drops below 160, clean the sensor and try to recalibrate.

Probe Sensor	Calibration Frequency	Special Storage Requirements Time Duration	
		0-14 days	+15 days
<b>Dissolved Oxygen</b>	Daily during sampling	Regular Storage*	Store in pH 4 buffer solution in the calibration cup with all sensors fully submerged. Replace DO membrane after long-term storage.
<b>pH</b>	Monthly to Bi-monthly	Regular Storage*	Store in pH 4 buffer solution in the calibration cup with all sensors fully submerged. Check to ensure no evaporation has occurred.
<b>Conductivity</b>	Monthly to Bi-monthly	Regular Storage*	Store in pH 4 buffer solution in the calibration cup with all sensors fully submerged. Conductivity sensor and openings should be brushed before and after storage
<b>Temperature</b>	N/A	Regular Storage*	No special storage required

\*Regular Storage Requirements:

*Transport Sleeve with a saturated sponge (tap water) or Calibration Cup with small amount of tap water*

### **Short-Term Storage**

The sleeve provided is for short-term storage only (less than 30 days). Keep a small amount of moisture (tap water) in the sleeve by saturating the sponge; just enough for 100% saturated air environment but not enough for any of sensors to be submerged in assess water.

### **Long-Term Storage**

If time between sampling is greater than two weeks it is recommended to fill the calibration cup fully with pH 4 buffer solution ensuring all sensors are fully submerged. Previously used solution can be used for storage purposes and can be saved and re-used again for future storage.

Ensure that the calibration cup is fully sealed so no evaporation can take place and sensor does not dry out.

Note that the lifespan of the pH sensor is between 18-24 months, depending on care and proper handling. Change in temperature of the probes must be done gradual (winter sampling) to protect the pH sensor. Use tap water for storage, Do Not store pH sensor in distilled or deionized water as the glass sensor may become damaged.

Conductivity sensor and openings should be brushed before and after storage.

## Record of YSI Professional Plus Maintenance

Maintenance Record			
<b>Date/Time</b>			
<b>Name of Operator</b>			
<b>Sonde Serial Number</b>			
Sensor	Completed (Y, N, NA)	Description	Notes
pH		Sensor cleaned	
		Refill solution if necessary	
		Sensor replaced (12-24 months)	
		Other:	
Dissolved Oxygen		Sensor cleaned	
		Sensor guard removed and checked for bubbles	
		Membrane cap change	
		Buff cathode	
		Other:	
Conductivity		Brushed conductivity openings	
		Sensor changed	
		Other:	
Temperature		Sensor cleaned	
		Other:	
<b>Winter Maintenance</b>	<b>Actions</b>	<b>Completed (Y, N, N/A)</b>	
	pH and DO Sensor Preparation		
	Batteries Removed		